

| Item no.   | Part | Payment   | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|----------------|----------|-----------------|--------|
|            |      | Reference |           |  |                |          |                 |        |
|            |      |           |           |  |                |          | Brought Forward |        |
|            | H1   |           |           | <b>SUPPLY AND ERECT PRECAST ELEMENTS</b>   |                |          |                 |        |
|            | H1   |           |           | <b>Refer to Dwg 2A-C6-159, 2A-C6-160 and 2A-C6-161</b>   |                |          |                 |        |
| 2.H1.5.729 | H1   | 20.017    |           | Precast slab Type 1  | No             | 12       |                 |        |
| 2.H1.5.730 | H1   | 20.017    |           | Precast slab Type 2  | No             | 6        |                 |        |
|            | H1   |           |           | <b>ANCILLARY WORKS</b>   |                |          |                 |        |
| 2.H1.5.731 | H1   | 24.008    |           | Ladders, complete and installed as per drawing Reg. No.2A-C6-126   | No             | 6        |                 |        |
| 2.H1.5.732 | H1   | 24.010    |           | Manhole cover and lids, complete and installed as per drawing Reg. No.2A-C6-120/121/122  | No             | 6        |                 |        |
| 2.H1.5.733 | H1   | 20.021 c) |           | Roof slab inlet ventilator as per drawing Reg. No.2A-C6-123/124  | No             | 3        |                 |        |
| 2.H1.5.734 | H1   | 20.021 c) |           | Roof slab outlet ventilator as per drawing Reg. No.2A-C6-123/124   | No             | 3        |                 |        |
| 2.H1.5.735 | H1   | 20.021 c) |           | Steel bars as per drawing Reg. No.2A-C6-125  | No             | 3        |                 |        |
| 2.H1.5.736 | H1   | 20.021 c) |           | 160mm diam uPVC pipe cast into concrete wall for the sump  | No             | 6        |                 |        |
| 2.H1.5.737 | H1   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 200mm        | No             | 3        |                 |        |
| 2.H1.5.738 | H1   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 1600mm       | No             | 6        |                 |        |
| 2.H1.5.739 | H1   | 20.021 c) |           | Sleeves to be grouted after the installation of cables to ensure no seepage 160mm diam x 0.3mm thick   | no             | 6        |                 |        |
| 2.H1.5.740 | H1   | 20.021 c) |           | Portable aluminium steps complete, as per drawing 2A-C6-125  | no             | 3        |                 |        |
| 2.H1.5.741 | H1   | 20.021 c) |           | Drilling for dowels and including grouting in of dowels, per one chamber complete, as per drawing 2A-C6-125. (Dowel material included in 20.007) | no             | 3        |                 |        |
| 2.H1.5.742 | H1   | 20.021 c) |           | 10mm Neoprene, as per drawing 2A-C6-125  | m <sup>2</sup> | 3        |                 |        |
|            | H1   |           |           | <b>SPECIFIC ITEMS OF WORK</b>  |                |          |                 |        |
|            | H1   |           |           | <b>SEALING STRIPS, JOINT SEALANT, ETC</b>  |                |          |                 |        |
| 2.H1.5.743 | H1   | 33.014    |           | 15mm Joint sealing not exceeding 300mm high as per drawing Reg. No.2A-C6-125   | m              | 103      |                 |        |
|            | H1   |           |           | <b>CONSTRUCTION OF STONE DRAIN AND EROSION PROTECTION</b>  |                |          |                 |        |
|            | H1   |           |           | <b>Foundation trench excavation and backfilling</b>  |                |          |                 |        |
| 2.H1.5.744 | H1   | 21.001(b) |           | In all other classes of material   | m3             | 103      |                 |        |
| 2.H1.5.745 | H1   | 21.002    |           | Surface preparation for bedding the gabions  | m2             | 86       |                 |        |
| 2.H1.5.746 | H1   | 21.005    |           | Geotextile fabric (type and grade indicated on the Drawings)   | m2             | 83       |                 |        |
| 2.H1.5.747 | H1   | 21.003(a) |           | Galvanised gabions cages (Refer to drawings for dimentions)  | m3             | 11       |                 |        |
| 2.H1.5.748 | H1   | 21.003(c) |           | Galvanised gabions mattresses (Refer to drawings for dimentions)   | m3             | 12       |                 |        |
| 2.H1.5.749 | H1   | 27.009    |           | Rip-rap  | m3             | 5        |                 |        |
|            |      |           |           |  |                |          | Carried Forward |        |

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|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            |      |           |           |   |      |          | Brought Forward |        |
|            | H1   |           |           | <b>OUTLET MANIFOLDS</b><br><i>(Break Pressure Reservoir)</i>  |      |          |                 |        |
|            | H1   |           |           | REFER TO DRAWING <b>2G-C5-061</b> and <b>2G-C5-062</b>  |      |          |                 |        |
|            | H1   |           |           | MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION) |      |          |                 |        |
|            | H1   |           |           | <b>PN16</b>   |      |          |                 |        |
| 2.H1.5.750 | H1   | 32.003    |           | Item 1  | No   | 1        |                 |        |
| 2.H1.5.751 | H1   | 32.003    |           | Item 2  | No   | 2        |                 |        |
| 2.H1.5.752 | H1   | 32.003    |           | Item 3  | No   | 1        |                 |        |
| 2.H1.5.753 | H1   | 32.003    |           | Item 4  | No   | 1        |                 |        |
| 2.H1.5.754 | H1   | 32.003    |           | Item 5  | No   | 1        |                 |        |
|            | H1   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b>  |      |          |                 |        |
|            | H1   |           |           | <b>PN16</b>   |      |          |                 |        |
| 2.H1.5.755 | H1   | 33.007    |           | Item 1  | No   | 1        |                 |        |
| 2.H1.5.756 | H1   | 33.007    |           | Item 2  | No   | 2        |                 |        |
| 2.H1.5.757 | H1   | 33.007    |           | Item 3  | No   | 1        |                 |        |
| 2.H1.5.758 | H1   | 33.007    |           | Item 4  | No   | 1        |                 |        |
| 2.H1.5.759 | H1   | 33.007    |           | Item 5  | No   | 1        |                 |        |
|            | H1   |           |           | REFER TO DRAWING <b>2G-C5-063</b> and <b>2G-C5-064</b>  |      |          |                 |        |
|            | H1   |           |           | MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION) |      |          |                 |        |
|            | H1   |           |           | <b>PN16</b>   |      |          |                 |        |
| 2.H1.5.760 | H1   | 32.003    |           | Item 1  | No   | 1        |                 |        |
| 2.H1.5.761 | H1   | 32.003    |           | Item 2  | No   | 2        |                 |        |
| 2.H1.5.762 | H1   | 32.003    |           | Item 3  | No   | 1        |                 |        |
| 2.H1.5.763 | H1   | 32.003    |           | Item 4  | No   | 1        |                 |        |
| 2.H1.5.764 | H1   | 32.003    |           | Item 5  | No   | 1        |                 |        |
|            | H1   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b>  |      |          |                 |        |
|            | H1   |           |           | <b>PN16</b>   |      |          |                 |        |
| 2.H1.5.765 | H1   | 33.007    |           | Item 1  | No   | 1        |                 |        |
| 2.H1.5.766 | H1   | 33.007    |           | Item 2  | No   | 2        |                 |        |
| 2.H1.5.767 | H1   | 33.007    |           | Item 3  | No   | 1        |                 |        |
| 2.H1.5.768 | H1   | 33.007    |           | Item 4  | No   | 1        |                 |        |
| 2.H1.5.769 | H1   | 33.007    |           | Item 5  | No   | 1        |                 |        |
|            |      |           |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | REFER TO DRAWING <b>2G-C5-065</b> and <b>2G-C5-066</b>   |      |          |                 |        |
|            | H1   |           |           | <b>MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |                 |        |
|            | H1   |           |           | <b>PN16</b>  |      |          |                 |        |
| 2.H1.5.770 | H1   | 32.003    |           | Item 1   | No   | 1        |                 |        |
| 2.H1.5.771 | H1   | 32.003    |           | Item 2   | No   | 2        |                 |        |
| 2.H1.5.772 | H1   | 32.003    |           | Item 3   | No   | 1        |                 |        |
| 2.H1.5.773 | H1   | 32.003    |           | Item 4   | No   | 1        |                 |        |
| 2.H1.5.774 | H1   | 32.003    |           | Item 5   | No   | 1        |                 |        |
|            | H1   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b>   |      |          |                 |        |
|            | H1   |           |           | <b>PN16</b>  |      |          |                 |        |
| 2.H1.5.775 | H1   | 33.007    |           | Item 1   | No   | 1        |                 |        |
| 2.H1.5.776 | H1   | 33.007    |           | Item 2   | No   | 2        |                 |        |
| 2.H1.5.777 | H1   | 33.007    |           | Item 3   | No   | 1        |                 |        |
| 2.H1.5.778 | H1   | 33.007    |           | Item 4   | No   | 1        |                 |        |
| 2.H1.5.779 | H1   | 33.007    |           | Item 5   | No   | 1        |                 |        |
|            | H1   |           |           | <b>PART H1.5: Valve installations and chambers - Carried forward to Summary of Bills</b>   |      |          |                 |        |

| Item no.  | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate | Amount          |
|-----------|------|-------------------|-----------|--|------|----------|------|-----------------|
|           |      |                   |           |  |      |          |      |                 |
|           | H1   |                   |           | <b>PART H1.6: Crossings</b>  |      |          |      |                 |
|           | H1   |                   |           | <b>PIPE JACKING</b>  |      |          |      |                 |
|           | H1   |                   |           | <b>PIPE JACKING @ CH 0.243 km</b>  |      |          |      |                 |
|           | H1   |                   |           | <b>REFER TO DRAWING NO 2H-C5-001 &amp; 2A-C6-115</b>   |      |          |      |                 |
|           | H1   |                   |           | <b>Design, supply and deliver pipes to be jacked</b>   |      |          |      |                 |
| 2.H1.6.1  | H1   | 10.001            |           | Road P16/2 crossing in 2000mm ND jacked concrete sleeve  | m    | 41       |      |                 |
|           | H1   |                   |           | <b>Jacking of pipes</b>  |      |          |      |                 |
| 2.H1.6.2  | H1   | 10.002            |           | Road P16/2 crossing in 2000mm ND jacked concrete sleeve  | m    | 41       |      |                 |
|           | H1   |                   |           | <b>Excavation for jacking (See Table 10/1 of section 10 of specification)</b>  |      |          |      |                 |
| 2.H1.6.3  | H1   | 10.003            |           | Soft   | m3   | 124      |      |                 |
| 2.H1.6.4  | H1   | 10.003            |           | Intermediate   | m3   | 33       |      |                 |
| 2.H1.6.5  | H1   | 10.003            |           | Hard   | m3   | 76       |      |                 |
| 2.H1.6.6  | H1   | 10.004            |           | Pit excavation (receiving and launching)   | Sum  | 1        |      |                 |
| 2.H1.6.7  | H1   | 10.005            |           | Extra-over items 10.004 for excavation for jacking through unidentified obstructions   | PS   | 1        |      | 398 380         |
| 2.H1.6.8  | H1   | 10.006            |           | Stabilisation of unstable areas and grouting   | Sum  | 1        |      |                 |
| 2.H1.6.9  | H1   | 10.007            |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |      |                 |
| 2.H1.6.10 | H1   | 10.008            |           | Grouting of annulus  | m3   | 44       |      |                 |
|           | H1   |                   |           | <b>OVERHAUL</b>  |      |          |      |                 |
| 2.H1.6.11 | H1   | 25.018(b)         |           | Between 3km up to and including 5km  | m3   | 116      |      |                 |
| 2.H1.6.12 | H1   | 25.018(c)         |           | Between 5km up to and including 7km  | m3   | 116      |      |                 |
| 2.H1.6.13 | H1   | 25.018(d)         |           | Between 7km up to and including 9km  | m3   | 0        |      |                 |
|           | H1   |                   |           | <b>MISCELLANEOUS</b>   |      |          |      |                 |
| 2.H1.6.14 | H1   | 20.021(c)         |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket | m    | 78       |      |                 |
|           | H1   |                   |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |      |                 |
|           | H1   |                   |           | <b>Temporary traffic-control facilities</b>  |      |          |      |                 |
| 2.H1.6.15 | H1   | 25.007(a)         |           | Flagmen  | sum  | 1        |      |                 |
| 2.H1.6.16 | H1   | 25.007(b)         |           | Road signs   | sum  | 1        |      |                 |
| 2.H1.6.17 | H1   | 25.007(c)         |           | Flicker lights   | sum  | 1        |      |                 |
| 2.H1.6.18 | H1   | 25.007(d)         |           | Delineators  | sum  | 1        |      |                 |
| 2.H1.6.19 | H1   | 25.007(e)         |           | Barricading  | sum  | 1        |      |                 |
| 2.H1.6.20 | H1   | 25.007(f)         |           | Two-way communication devices  | sum  | 1        |      |                 |
| 2.H1.6.21 | H1   | 25.007(g)         |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |      |                 |
| 2.H1.6.22 | H1   | 25.007(h)         |           | All other items not listed above   | sum  | 1        |      |                 |
|           |      |                   |           |  |      |          |      | Carried Forward |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount  |
|-----------|------|-----------|-----------|--|------|----------|-----------------|---------|
|           |      | Reference |           |  |      |          |                 |         |
|           |      |           |           |  |      |          | Brought Forward |         |
|           | H1   |           |           | <b>PIPE JACKING</b>  |      |          |                 |         |
|           | H1   |           |           | <b>PIPE JACKING @ CH 15.822 km</b>   |      |          |                 |         |
|           | H1   |           |           | <b>REFER TO DRAWING NO 2H-C4-014 &amp; 2A-C6-115</b>   |      |          |                 |         |
|           | H1   |           |           | <b>Design, supply and deliver pipes to be jacked</b>   |      |          |                 |         |
| 2.H1.6.23 | H1   | 10.001    |           | Railway overpass crossing in 2000mm ND jacked concrete sleeve  | m    | 40       |                 |         |
|           | H1   |           |           | <b>Jacking of pipes</b>  |      |          |                 |         |
| 2.H1.6.24 | H1   | 10.002    |           | Railway overpass crossing in 2000mm ND jacked concrete sleeve  | m    | 40       |                 |         |
|           | H1   |           |           | <b>Excavation for jacking (See Table 10/1 of section 10 of specification)</b>  |      |          |                 |         |
| 2.H1.6.25 | H1   | 10.003    |           | Soft   | m3   | 162      |                 |         |
| 2.H1.6.26 | H1   | 10.003    |           | Intermediate   | m3   | 28       |                 |         |
| 2.H1.6.27 | H1   | 10.003    |           | Hard   | m3   | 41       |                 |         |
| 2.H1.6.28 | H1   | 10.004    |           | Pit excavation (receiving and launching)   | Sum  | 1        |                 |         |
| 2.H1.6.29 | H1   | 10.005    |           | Extra-over items 10.004 for excavation for jacking through unidentified obstructions   | PS   | 1        |                 | 398 380 |
| 2.H1.6.30 | H1   | 10.006    |           | Stabilisation of unstable areas and grouting   | Sum  | 1        |                 |         |
| 2.H1.6.31 | H1   | 10.007    |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |                 |         |
| 2.H1.6.32 | H1   | 10.008    |           | Grouting of annulus  | m3   | 44       |                 |         |
|           | H1   |           |           | <b>OVERHAUL</b>  |      |          |                 |         |
| 2.H1.6.33 | H1   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 115      |                 |         |
| 2.H1.6.34 | H1   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 115      |                 |         |
| 2.H1.6.35 | H1   | 25.018(d) |           | Between 7km up to and including 9km  | m3   | 0        |                 |         |
|           | H1   |           |           | <b>MISCELLANEOUS</b>   |      |          |                 |         |
| 2.H1.6.36 | H1   | 20.021(c) |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket | m    | 80       |                 |         |
|           | H1   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |                 |         |
|           | H1   |           |           | <b>Temporary traffic-control facilities</b>  |      |          |                 |         |
| 2.H1.6.37 | H1   | 25.007(a) |           | Flagmen  | sum  | 1        |                 |         |
| 2.H1.6.38 | H1   | 25.007(b) |           | Road signs   | sum  | 1        |                 |         |
| 2.H1.6.39 | H1   | 25.007(c) |           | Flicker lights   | sum  | 1        |                 |         |
| 2.H1.6.40 | H1   | 25.007(d) |           | Delineators  | sum  | 1        |                 |         |
| 2.H1.6.41 | H1   | 25.007(e) |           | Barricading  | sum  | 1        |                 |         |
| 2.H1.6.42 | H1   | 25.007(f) |           | Two-way communication devices  | sum  | 1        |                 |         |
| 2.H1.6.43 | H1   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |                 |         |
| 2.H1.6.44 | H1   | 25.007(h) |           | All other items not listed above   | sum  | 1        |                 |         |
|           |      |           |           |  |      |          | Carried Forward |         |

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|-----------|------|-----------|-----------|--|------|----------|-----------------|---------|
|           |      | Reference |           |  |      |          |                 |         |
|           |      |           |           |  |      |          | Brought Forward |         |
|           | H1   |           |           | <b>PIPE JACKING</b>  |      |          |                 |         |
|           | H1   |           |           | <b>PIPE JACKING @ CH 18.393 km</b>   |      |          |                 |         |
|           | H1   |           |           | <b>REFER TO DRAWING NO 2H-C5-002 &amp; 2A-C6-115</b>   |      |          |                 |         |
|           | H1   |           |           | <b>Design, supply and deliver pipes to be jacked</b>   |      |          |                 |         |
| 2.H1.6.45 | H1   | 10.001    |           | Road D336 crossing in 2000mm ND jacked concrete sleeve   | m    | 40       |                 |         |
|           | H1   |           |           | <b>Jacking of pipes</b>  |      |          |                 |         |
| 2.H1.6.46 | H1   | 10.002    |           | Road D336 crossing in 2000mm ND jacked concrete sleeve   | m    | 40       |                 |         |
|           | H1   |           |           | <b>Excavation for jacking (See Table 10/1 of section 10 of specification)</b>  |      |          |                 |         |
| 2.H1.6.47 | H1   | 10.003    |           | Soft   | m3   | 145      |                 |         |
| 2.H1.6.48 | H1   | 10.003    |           | Intermediate   | m3   | 26       |                 |         |
| 2.H1.6.49 | H1   | 10.003    |           | Hard   | m3   | 59       |                 |         |
| 2.H1.6.50 | H1   | 10.004    |           | Pit excavation (receiving and launching)   | Sum  | 1        |                 |         |
| 2.H1.6.51 | H1   | 10.005    |           | Extra-over items 10.004 for excavation for jacking through unidentified obstructions   | PS   | 1        |                 | 398 380 |
| 2.H1.6.52 | H1   | 10.006    |           | Stabilisation of unstable areas and grouting   | Sum  | 1        |                 |         |
| 2.H1.6.53 | H1   | 10.007    |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |                 |         |
| 2.H1.6.54 | H1   | 10.008    |           | Grouting of annulus  | m3   | 44       |                 |         |
|           | H1   |           |           | <b>OVERHAUL</b>  |      |          |                 |         |
| 2.H1.6.55 | H1   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 115      |                 |         |
| 2.H1.6.56 | H1   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 115      |                 |         |
| 2.H1.6.57 | H1   | 25.018(d) |           | Between 7km up to and including 9km  | m3   | 0        |                 |         |
|           | H1   |           |           | <b>MISCELLANEOUS</b>   |      |          |                 |         |
| 2.H1.6.58 | H1   | 20.021(c) |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket | m    | 80       |                 |         |
|           | H1   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |                 |         |
|           | H1   |           |           | <b>Temporary traffic-control facilities</b>  |      |          |                 |         |
| 2.H1.6.59 | H1   | 25.007(a) |           | Flagmen  | sum  | 1        |                 |         |
| 2.H1.6.60 | H1   | 25.007(b) |           | Road signs   | sum  | 1        |                 |         |
| 2.H1.6.61 | H1   | 25.007(c) |           | Flicker lights   | sum  | 1        |                 |         |
| 2.H1.6.62 | H1   | 25.007(d) |           | Delineators  | sum  | 1        |                 |         |
| 2.H1.6.63 | H1   | 25.007(e) |           | Barricading  | sum  | 1        |                 |         |
| 2.H1.6.64 | H1   | 25.007(f) |           | Two-way communication devices  | sum  | 1        |                 |         |
| 2.H1.6.65 | H1   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |                 |         |
| 2.H1.6.66 | H1   | 25.007(h) |           | All other items not listed above   | sum  | 1        |                 |         |
|           |      |           |           |  |      |          | Carried Forward |         |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount  |
|-----------|------|-----------|-----------|--|------|----------|-----------------|---------|
|           |      | Reference |           |  |      |          |                 |         |
|           |      |           |           |  |      |          | Brought Forward |         |
|           | H1   |           |           | <b>PIPE JACKING</b>  |      |          |                 |         |
|           | H1   |           |           | <b>PIPE JACKING @ CH 23.284 km</b>   |      |          |                 |         |
|           | H1   |           |           | <b>REFER TO DRAWING NO 2H-C4-019 &amp; 2A-C6-115</b>   |      |          |                 |         |
|           | H1   |           |           | <b>Design, supply and deliver pipes to be jacked</b>   |      |          |                 |         |
| 2.H1.6.67 | H1   | 10.001    |           | Railway overpass crossing in 2000mm ND jacked concrete sleeve  | m    | 29       |                 |         |
|           | H1   |           |           | <b>Jacking of pipes</b>  |      |          |                 |         |
| 2.H1.6.68 | H1   | 10.002    |           | Railway overpass crossing in 2000mm ND jacked concrete sleeve  | m    | 29       |                 |         |
|           | H1   |           |           | <b>Excavation for jacking (See Table 10/1 of section 10 of specification)</b>  |      |          |                 |         |
| 2.H1.6.69 | H1   | 10.003    |           | Soft   | m3   | 136      |                 |         |
| 2.H1.6.70 | H1   | 10.003    |           | Intermediate   | m3   | 13       |                 |         |
| 2.H1.6.71 | H1   | 10.003    |           | Hard   | m3   | 19       |                 |         |
| 2.H1.6.72 | H1   | 10.004    |           | Pit excavation (receiving and launching)   | Sum  | 1        |                 |         |
| 2.H1.6.73 | H1   | 10.005    |           | Extra-over items 10.004 for excavation for jacking through unidentified obstructions   | PS   | 1        |                 | 398 380 |
| 2.H1.6.74 | H1   | 10.006    |           | Stabilisation of unstable areas and grouting   | Sum  | 1        |                 |         |
| 2.H1.6.75 | H1   | 10.007    |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |                 |         |
| 2.H1.6.76 | H1   | 10.008    |           | Grouting of annulus  | m3   | 32       |                 |         |
|           | H1   |           |           | <b>OVERHAUL</b>  |      |          |                 |         |
| 2.H1.6.77 | H1   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 167      |                 |         |
| 2.H1.6.78 | H1   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 167      |                 |         |
|           | H1   |           |           | <b>MISCELLANEOUS</b>   |      |          |                 |         |
| 2.H1.6.79 | H1   | 20.021(c) |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket | m    | 58       |                 |         |
|           | H1   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |                 |         |
|           | H1   |           |           | <b>Temporary traffic-control facilities</b>  |      |          |                 |         |
| 2.H1.6.80 | H1   | 25.007(a) |           | Flagmen  | sum  | 1        |                 |         |
| 2.H1.6.81 | H1   | 25.007(b) |           | Road signs   | sum  | 1        |                 |         |
| 2.H1.6.82 | H1   | 25.007(c) |           | Flicker lights   | sum  | 1        |                 |         |
| 2.H1.6.83 | H1   | 25.007(d) |           | Delineators  | sum  | 1        |                 |         |
| 2.H1.6.84 | H1   | 25.007(e) |           | Barricading  | sum  | 1        |                 |         |
| 2.H1.6.85 | H1   | 25.007(f) |           | Two-way communication devices  | sum  | 1        |                 |         |
| 2.H1.6.86 | H1   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |                 |         |
| 2.H1.6.87 | H1   | 25.007(h) |           | All other items not listed above   | sum  | 1        |                 |         |
|           |      |           |           |  |      |          | Carried Forward |         |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount  |
|------------|------|-----------|-----------|--|------|----------|-----------------|---------|
|            |      | Reference |           |  |      |          |                 |         |
|            |      |           |           |  |      |          | Brought Forward |         |
|            | H1   |           |           | <b>PIPE JACKING</b>  |      |          |                 |         |
|            | H1   |           |           | <b>PIPE JACKING @ CH 30.805 km</b>   |      |          |                 |         |
|            | H1   |           |           | <b>REFER TO DRAWING NO 2H-C5-003 &amp; 2A-C6-115</b>   |      |          |                 |         |
|            | H1   |           |           | <b>Design, supply and deliver pipes to be jacked</b>   |      |          |                 |         |
| 2.H1.6.88  | H1   | 10.001    |           | Road D2701 crossing in 2000mm ND jacked concrete sleeve  | m    | 38       |                 |         |
|            | H1   |           |           | <b>Jacking of pipes</b>  |      |          |                 |         |
| 2.H1.6.89  | H1   | 10.002    |           | Road D2701 crossing in 2000mm ND jacked concrete sleeve  | m    | 38       |                 |         |
|            | H1   |           |           | <b>Excavation for jacking (See Table 10/1 of section 10 of specification)</b>  |      |          |                 |         |
| 2.H1.6.90  | H1   | 10.003    |           | Soft   | m3   | 15       |                 |         |
| 2.H1.6.91  | H1   | 10.003    |           | Intermediate   | m3   | 62       |                 |         |
| 2.H1.6.92  | H1   | 10.003    |           | Hard   | m3   | 143      |                 |         |
| 2.H1.6.93  | H1   | 10.004    |           | Pit excavation (receiving and launching)   | Sum  | 1        |                 |         |
| 2.H1.6.94  | H1   | 10.005    |           | Extra-over items 10.004 for excavation for jacking through unidentified obstructions   | PS   | 1        |                 | 398 380 |
| 2.H1.6.95  | H1   | 10.006    |           | Stabilisation of unstable areas and grouting   | Sum  | 1        |                 |         |
| 2.H1.6.96  | H1   | 10.007    |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |                 |         |
| 2.H1.6.97  | H1   | 10.008    |           | Grouting of annulus  | m3   | 42       |                 |         |
|            | H1   |           |           | <b>OVERHAUL</b>  |      |          |                 |         |
| 2.H1.6.98  | H1   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 109      |                 |         |
| 2.H1.6.99  | H1   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 109      |                 |         |
| 2.H1.6.100 | H1   | 25.018(d) |           | Between 7km up to and including 9km  | m3   | 0        |                 |         |
|            | H1   |           |           | <b>MISCELLANEOUS</b>   |      |          |                 |         |
| 2.H1.6.101 | H1   | 20.021(c) |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket | m    | 76       |                 |         |
|            | H1   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |                 |         |
|            | H1   |           |           | <b>Temporary traffic-control facilities</b>  |      |          |                 |         |
| 2.H1.6.102 | H1   | 25.007(a) |           | Flagmen  | sum  | 1        |                 |         |
| 2.H1.6.103 | H1   | 25.007(b) |           | Road signs   | sum  | 1        |                 |         |
| 2.H1.6.104 | H1   | 25.007(c) |           | Flicker lights   | sum  | 1        |                 |         |
| 2.H1.6.105 | H1   | 25.007(d) |           | Delineators  | sum  | 1        |                 |         |
| 2.H1.6.106 | H1   | 25.007(e) |           | Barricading  | sum  | 1        |                 |         |
| 2.H1.6.107 | H1   | 25.007(f) |           | Two-way communication devices  | sum  | 1        |                 |         |
| 2.H1.6.108 | H1   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |                 |         |
| 2.H1.6.109 | H1   | 25.007(h) |           | All other items not listed above   | sum  | 1        |                 |         |
|            |      |           |           |  |      |          | Carried Forward |         |



| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount  |
|------------|------|-----------|-----------|--|------|----------|-----------------|---------|
|            |      | Reference |           |  |      |          |                 |         |
|            |      |           |           |  |      |          | Brought Forward |         |
|            | H1   |           |           | <b>PIPE JACKING</b>  |      |          |                 |         |
|            | H1   |           |           | <b>PIPE JACKING @ CH 31.817 km</b>   |      |          |                 |         |
|            | H1   |           |           | <b>REFER TO DRAWING NO 2H-C4-026 &amp; 2A-C6-115</b>   |      |          |                 |         |
|            | H1   |           |           | <b>Design, supply and deliver pipes to be jacked</b>   |      |          |                 |         |
| 2.H1.6.110 | H1   | 10.001    |           | Railway overpass crossing in 2000mm ND jacked concrete sleeve  | m    | 34       |                 |         |
|            | H1   |           |           | <b>Jacking of pipes</b>  |      |          |                 |         |
| 2.H1.6.111 | H1   | 10.002    |           | Railway overpass crossing in 2000mm ND jacked concrete sleeve  | m    | 34       |                 |         |
|            | H1   |           |           | <b>Excavation for jacking (See Table 10/1 of section 10 of specification)</b>  |      |          |                 |         |
| 2.H1.6.112 | H1   | 10.003    |           | Soft   | m3   | 30       |                 |         |
| 2.H1.6.113 | H1   | 10.003    |           | Intermediate   | m3   | 66       |                 |         |
| 2.H1.6.114 | H1   | 10.003    |           | Hard   | m3   | 99       |                 |         |
| 2.H1.6.115 | H1   | 10.004    |           | Pit excavation (receiving and launching)   | Sum  | 1        |                 |         |
| 2.H1.6.116 | H1   | 10.005    |           | Extra-over items 10.004 for excavation for jacking through unidentified obstructions   | PS   | 1        |                 | 398 380 |
| 2.H1.6.117 | H1   | 10.006    |           | Stabilisation of unstable areas and grouting   | Sum  | 1        |                 |         |
| 2.H1.6.118 | H1   | 10.007    |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |                 |         |
| 2.H1.6.119 | H1   | 10.008    |           | Grouting of annulus  | m3   | 37       |                 |         |
|            | H1   |           |           | <b>OVERHAUL</b>  |      |          |                 |         |
| 2.H1.6.120 | H1   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 195      |                 |         |
| 2.H1.6.121 | H1   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 195      |                 |         |
| 2.H1.6.122 | H1   | 25.018(d) |           | Between 7km up to and including 9km  | m3   | 0        |                 |         |
|            | H1   |           |           | <b>MISCELLANEOUS</b>   |      |          |                 |         |
| 2.H1.6.123 | H1   | 20.021(c) |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket | m    | 68       |                 |         |
|            | H1   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |                 |         |
|            | H1   |           |           | <b>Temporary traffic-control facilities</b>  |      |          |                 |         |
| 2.H1.6.124 | H1   | 25.007(a) |           | Flagmen  | sum  | 1        |                 |         |
| 2.H1.6.125 | H1   | 25.007(b) |           | Road signs   | sum  | 1        |                 |         |
| 2.H1.6.126 | H1   | 25.007(c) |           | Flicker lights   | sum  | 1        |                 |         |
| 2.H1.6.127 | H1   | 25.007(d) |           | Delineators  | sum  | 1        |                 |         |
| 2.H1.6.128 | H1   | 25.007(e) |           | Barricading  | sum  | 1        |                 |         |
| 2.H1.6.129 | H1   | 25.007(f) |           | Two-way communication devices  | sum  | 1        |                 |         |
| 2.H1.6.130 | H1   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |                 |         |
| 2.H1.6.131 | H1   | 25.007(h) |           | All other items not listed above   | sum  | 1        |                 |         |
|            |      |           |           |  |      |          | Carried Forward |         |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount  |
|------------|------|-----------|-----------|--|------|----------|-----------------|---------|
|            |      | Reference |           |  |      |          |                 |         |
|            |      |           |           |  |      |          | Brought Forward |         |
|            | H1   |           |           | <b>PIPE JACKING</b>  |      |          |                 |         |
|            | H1   |           |           | <b>PIPE JACKING @ CH 33.510 km</b>   |      |          |                 |         |
|            | H1   |           |           | <b>REFER TO DRAWING NO 2H-C4-027 &amp; 2A-C6-115</b>   |      |          |                 |         |
|            | H1   |           |           | <b>Design, supply and deliver pipes to be jacked</b>   |      |          |                 |         |
| 2.H1.6.132 | H1   | 10.001    |           | Railway overpass crossing in 2000mm ND jacked concrete sleeve  | m    | 29       |                 |         |
|            | H1   |           |           | <b>Jacking of pipes</b>  |      |          |                 |         |
| 2.H1.6.133 | H1   | 10.002    |           | Railway overpass crossing in 2000mm ND jacked concrete sleeve  | m    | 29       |                 |         |
|            | H1   |           |           | <b>Excavation for jacking (See Table 10/1 of section 10 of specification)</b>  |      |          |                 |         |
| 2.H1.6.134 | H1   | 10.003    |           | Soft   | m3   | 98       |                 |         |
| 2.H1.6.135 | H1   | 10.003    |           | Intermediate   | m3   | 28       |                 |         |
| 2.H1.6.136 | H1   | 10.003    |           | Hard   | m3   | 42       |                 |         |
| 2.H1.6.137 | H1   | 10.004    |           | Pit excavation (receiving and launching)   | Sum  | 1        |                 |         |
| 2.H1.6.138 | H1   | 10.005    |           | Extra-over items 10.004 for excavation for jacking through unidentified obstructions   | PS   | 1        |                 | 398 380 |
| 2.H1.6.139 | H1   | 10.006    |           | Stabilisation of unstable areas and grouting   | Sum  | 1        |                 |         |
| 2.H1.6.140 | H1   | 10.007    |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |                 |         |
| 2.H1.6.141 | H1   | 10.008    |           | Grouting of annulus  | m3   | 39       |                 |         |
|            | H1   |           |           | <b>OVERHAUL</b>  |      |          |                 |         |
| 2.H1.6.142 | H1   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 167      |                 |         |
| 2.H1.6.143 | H1   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 167      |                 |         |
| 2.H1.6.144 | H1   | 25.018(d) |           | Between 7km up to and including 9km  | m3   | 0        |                 |         |
|            | H1   |           |           | <b>MISCELLANEOUS</b>   |      |          |                 |         |
| 2.H1.6.145 | H1   | 20.021(c) |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket | m    | 58       |                 |         |
|            | H1   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |                 |         |
|            | H1   |           |           | <b>Temporary traffic-control facilities</b>  |      |          |                 |         |
| 2.H1.6.146 | H1   | 25.007(a) |           | Flagmen  | sum  | 1        |                 |         |
| 2.H1.6.147 | H1   | 25.007(b) |           | Road signs   | sum  | 1        |                 |         |
| 2.H1.6.148 | H1   | 25.007(c) |           | Flicker lights   | sum  | 1        |                 |         |
| 2.H1.6.149 | H1   | 25.007(d) |           | Delineators  | sum  | 1        |                 |         |
| 2.H1.6.150 | H1   | 25.007(e) |           | Barricading  | sum  | 1        |                 |         |
| 2.H1.6.151 | H1   | 25.007(f) |           | Two-way communication devices  | sum  | 1        |                 |         |
| 2.H1.6.152 | H1   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |                 |         |
| 2.H1.6.153 | H1   | 25.007(h) |           | All other items not listed above   | sum  | 1        |                 |         |
|            |      |           |           |  |      |          | Carried Forward |         |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | <b>ROAD CROSSINGS</b>  |      |          |                 |        |
|            | H1   |           |           | <b>ROAD CROSSINGS @ CH 0.244 km</b>  |      |          |                 |        |
|            | H1   |           |           | <b>REFER TO DRAWING NO 2H-C4-002</b>   |      |          |                 |        |
|            | H1   |           |           | <b>PATCHING OF EXISTING ROADS</b>  |      |          |                 |        |
| 2.H1.6.154 | H1   | 26.018(a) |           | Sawing asphalt layers for patching: to an average depth not exceeding 50 mm  | m    | 20       |                 |        |
| 2.H1.6.155 | H1   | 26.019(a) |           | Excavation in existing pavements for patching in: Asphalt layers   | m3   | 2        |                 |        |
| 2.H1.6.156 | H1   | 26.019(b) |           | Excavation in existing pavements for patching in: Sub base layers  | m3   | 4        |                 |        |
| 2.H1.6.157 | H1   | 26.019(c) |           | Excavation in existing pavements for patching in: Base layers  | m3   | 5        |                 |        |
| 2.H1.6.158 | H1   | 26.020(a) |           | Backfilling of excavations for patching with: Continuously graded asphalt base (A-E2) - 150mm thick  | t    | 11       |                 |        |
| 2.H1.6.159 | H1   | 26.020(b) |           | Backfilling of excavations for patching with: Continuously graded asphalt surfacing (A-E2) - 45mm thick  | t    | 3        |                 |        |
| 2.H1.6.160 | H1   | 26.020(d) |           | Backfilling of excavations for patching with: Cement stabilized crushed stone (G1 stabilized with 2.5% cement)   | m3   | 5        |                 |        |
| 2.H1.6.161 | H1   | 26.020(e) |           | Backfilling of excavations for patching with: Cement stabilized selected layer (G5 stabilized with cement to form C4, compacted to 95% of Modified AASHTO density) | m3   | 4        |                 |        |
| 2.H1.6.162 | H1   | 26.021    |           | Tack coat of 30% stable-grade emulsion   | l    | 16       |                 |        |
|            | H1   |           |           | <b>PROVISION OF SOILCRETE/CEMENT STABILISED SOIL</b>   |      |          |                 |        |
|            | H1   |           |           | <b>Provision of cement stabilised soil</b>   |      |          |                 |        |
| 2.H1.6.163 | H1   | 15.003(d) |           | Material from the nearest borrow pit with screening  | m3   | 20       |                 |        |
| 2.H1.6.164 | H1   | 15.003(e) |           | Cement for stabilisation of soil   | m3   | 1        |                 |        |
|            | H1   |           |           | <b>Placing of Bedding Material, Soilcrete, Fertile Soil and Main Backfill</b>  |      |          |                 |        |
| 2.H1.6.165 | H1   | 15.002(b) |           | Cement stabilised soil bed and bedding cradle  | m3   | 21       |                 |        |
|            | H1   |           |           | <b>OVERHAUL</b>  |      |          |                 |        |
| 2.H1.6.166 | H1   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 9        |                 |        |
| 2.H1.6.167 | H1   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 9        |                 |        |
| 2.H1.6.168 | H1   | 25.018(d) |           | Between 7km up to and including 9km  | m3   | 0        |                 |        |
|            | H1   |           |           | <b>MATERIAL FROM COMMERCIAL SOURCES</b>  |      |          |                 |        |
| 2.H1.6.169 | H1   | 15.006(e) |           | G1 material from commercial sources  | m3   | 5        |                 |        |
|            | H1   |           |           | <b>FORMWORK</b>  |      |          |                 |        |
|            | H1   |           |           | <b>STRAIGHT ROUGH</b>  |      |          |                 |        |
| 2.H1.6.170 | H1   | 20.001    |           | Vertical sides of concrete encasement  | m2   | 45       |                 |        |
|            | H1   |           |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H1.6.171 | H1   | 20.007    |           | Steel bars (irrespective of grade or diameter)   | t    | 2.2      |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | <b>CONCRETE</b>  |      |          |                 |        |
|            | H1   |           |           | <b>CONCRETE 15MPa/19mm in:</b>   |      |          |                 |        |
| 2.H1.6.172 | H1   | 20.011(a) |           | Blinding layer of 50mm minimum thickness   | m2   | 23       |                 |        |
| 2.H1.6.173 | H1   | 20.011(b) |           | Mass concrete filling where required by the engineer   | m3   | 0        |                 |        |
|            | H1   |           |           | <b>STRENGTH CONCRETE, 30MPa/19mm in:</b>   |      |          |                 |        |
| 2.H1.6.174 | H1   | 20.012    |           | Concrete encasement.   | m3   | 29       |                 |        |
|            | H1   |           |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H1.6.175 | H1   | 20.013(a) |           | Wood floated finish  | m2   | 23       |                 |        |
|            | H1   |           |           | <b>ACCOMMODATION OF TRAFFIC AND TEMPORARY DEVIATIONS</b>   |      |          |                 |        |
|            | H1   |           |           | <b>Accommodation of traffic and maintaining temporary deviations for:</b>  |      |          |                 |        |
| 2.H1.6.176 | H1   | 26.023(c) |           | Reinstatement of existing roads at crossings (full width deviation)  | km   | 0.10     |                 |        |
|            | H1   |           |           | <b>Relocating of traffic-control facilities for</b>  |      |          |                 |        |
| 2.H1.6.177 | H1   | 25.008(b) |           | Full width deviations where the pipe crosses the road  | Sum  | 1        |                 |        |
| 2.H1.6.178 | H1   | 25.017    |           | Watering of temporary deviations   | Sum  | 1        |                 |        |
| 2.H1.6.179 | H1   | 26.025    |           | <b>Treatment of old roads and temporary deviations</b>   | km   | 0.10     |                 |        |
|            | H1   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |                 |        |
|            | H1   |           |           | <b>Temporary traffic-control facilities</b>  |      |          |                 |        |
| 2.H1.6.180 | H1   | 25.007(a) |           | Flagmen  | sum  | 1        |                 |        |
| 2.H1.6.181 | H1   | 25.007(b) |           | Road signs   | sum  | 1        |                 |        |
| 2.H1.6.182 | H1   | 25.007(c) |           | Flicker lights   | sum  | 1        |                 |        |
| 2.H1.6.183 | H1   | 25.007(d) |           | Delineators  | sum  | 1        |                 |        |
| 2.H1.6.184 | H1   | 25.007(e) |           | Barricading  | sum  | 1        |                 |        |
| 2.H1.6.185 | H1   | 25.007(f) |           | Two-way communication devices  | sum  | 1        |                 |        |
| 2.H1.6.186 | H1   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |                 |        |
| 2.H1.6.187 | H1   | 25.007(h) |           | All other items not listed above   | sum  | 1        |                 |        |
|            | H1   |           |           | <b>ROAD CROSSINGS</b>  |      |          |                 |        |
|            | H1   |           |           | <b>ROAD CROSSINGS @ CH 7.773 km</b>  |      |          |                 |        |
|            | H1   |           |           | <b>REFER TO DRAWING NO 2H-C4-007</b>   |      |          |                 |        |
|            | H1   |           |           | <b>PATCHING OF EXISTING ROADS</b>  |      |          |                 |        |
| 2.H1.6.188 | H1   | 26.019(b) |           | Excavation in existing pavements for patching in: Sub base layers  | m3   | 9        |                 |        |
| 2.H1.6.189 | H1   | 26.020(g) |           | Backfilling of excavations for patching with: Selected backfill (G7 compacted to 95% of Modified AASHTO density)               | m3   | 4        |                 |        |
| 2.H1.6.190 | H1   | 26.020(h) |           | Backfilling of excavations for patching with: Gravel Wearing Course (As specified compacted to 95% of Modified AASHTO density) | m3   | 5        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            |      |           |           |   |      |          | Brought Forward |        |
|            | H1   |           |           | <b>PROVISION OF SOILCRETE/CEMENT STABILISED SOIL</b>                          |      |          |                 |        |
|            | H1   |           |           | <b>Provision of cement stabilised soil</b>                                    |      |          |                 |        |
| 2.H1.6.191 | H1   | 15.003(d) |           | Material from the nearest borrow pit with screening                           | m3   | 53       |                 |        |
| 2.H1.6.192 | H1   | 15.003(e) |           | Cement for stabilisation of soil  | m3   | 3        |                 |        |
|            | H1   |           |           | <b>Placing of Bedding Material, Soilcrete, Fertile Soil and Main Backfill</b> |      |          |                 |        |
| 2.H1.6.193 | H1   | 15.002(b) |           | Cement stabilised soil bed and bedding cradle                                 | m3   | 56       |                 |        |
|            | H1   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H1.6.194 | H1   | 25.018(b) |           | Between 3km up to and including 5km   | m3   | 9        |                 |        |
| 2.H1.6.195 | H1   | 25.018(c) |           | Between 5km up to and including 7km   | m3   | 9        |                 |        |
| 2.H1.6.196 | H1   | 25.018(d) |           | Between 7km up to and including 9km   | m3   | 0        |                 |        |
|            | H1   |           |           | <b>Accommodation of traffic and maintaining temporary deviations for:</b>     |      |          |                 |        |
| 2.H1.6.197 | H1   | 26.023(c) |           | Reinstatement of existing roads at crossings (full width deviation)           | km   | 0.10     |                 |        |
|            | H1   |           |           | <b>ACCOMMODATION OF TRAFFIC AND TEMPORARY DEVIATIONS</b>                      |      |          |                 |        |
|            | H1   |           |           | <b>Relocating of traffic-control facilities for</b>                           |      |          |                 |        |
| 2.H1.6.198 | H1   | 25.008(b) |           | Full width deviations where the pipe crosses the road                         | Sum  | 1        |                 |        |
| 2.H1.6.199 | H1   | 25.017    |           | Watering of temporary deviations  | Sum  | 1        |                 |        |
| 2.H1.6.200 | H1   | 26.025    |           | Treatment of old roads and temporary deviations                               | km   | 0.10     |                 |        |
|            | H1   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>                                   |      |          |                 |        |
|            | H1   |           |           | <b>Temporary traffic-control facilities</b>                                   |      |          |                 |        |
| 2.H1.6.201 | H1   | 25.007(a) |           | Flagmen   | sum  | 1        |                 |        |
| 2.H1.6.202 | H1   | 25.007(b) |           | Road signs  | sum  | 1        |                 |        |
| 2.H1.6.203 | H1   | 25.007(c) |           | Flicker lights  | sum  | 1        |                 |        |
| 2.H1.6.204 | H1   | 25.007(d) |           | Delineators   | sum  | 1        |                 |        |
| 2.H1.6.205 | H1   | 25.007(e) |           | Barricading   | sum  | 1        |                 |        |
| 2.H1.6.206 | H1   | 25.007(f) |           | Two-way communication devices   | sum  | 1        |                 |        |
| 2.H1.6.207 | H1   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities         | sum  | 1        |                 |        |
| 2.H1.6.208 | H1   | 25.007(h) |           | All other items not listed above  | sum  | 1        |                 |        |
|            | H1   |           |           | <b>ROAD CROSSINGS</b>   |      |          |                 |        |
|            | H1   |           |           | <b>ROAD CROSSINGS @ CH 18.34 km</b>   |      |          |                 |        |
|            | H1   |           |           | <b>REFER TO DRAWING NO 2H-C4-016</b>  |      |          |                 |        |
|            | H1   |           |           | <b>PATCHING OF EXISTING ROADS</b>   |      |          |                 |        |
| 2.H1.6.209 | H1   | 26.018(a) |           | Sawing asphalt layers for patching: to an average depth not exceeding 50 mm   | m    | 20       |                 |        |
| 2.H1.6.210 | H1   | 26.019(a) |           | Excavation in existing pavements for patching in: Asphalt layers              | m3   | 2        |                 |        |
|            |      |           |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.6.211 | H1   | 26.019(b) |           | Excavation in existing pavements for patching in: Sub base layers  | m3   | 4        |                 |        |
| 2.H1.6.212 | H1   | 26.019(c) |           | Excavation in existing pavements for patching in: Base layers  | m3   | 5        |                 |        |
| 2.H1.6.213 | H1   | 26.020(a) |           | Backfilling of excavations for patching with: Continuously graded asphalt base (A-E2) - 150mm thick  | t    | 11       |                 |        |
| 2.H1.6.214 | H1   | 26.020(b) |           | Backfilling of excavations for patching with: Continuously graded asphalt surfacing (A-E2) - 45mm thick  | t    | 3        |                 |        |
| 2.H1.6.215 | H1   | 26.020(d) |           | Backfilling of excavations for patching with: Cement stabilized crushed stone (G1 stabilized with 2.5% cement)   | m3   | 5        |                 |        |
| 2.H1.6.216 | H1   | 26.020(e) |           | Backfilling of excavations for patching with: Cement stabilized selected layer (G5 stabilized with cement to form C4, compacted to 95% of Modified AASHTO density) | m3   | 4        |                 |        |
| 2.H1.6.217 | H1   | 26.021    |           | Tack coat of 30% stable-grade emulsion   | l    | 16       |                 |        |
|            | H1   |           |           | <b>PROVISION OF SOILCRETE/CEMENT STABILISED SOIL</b>   |      |          |                 |        |
|            | H1   |           |           | <b>Provision of cement stabilised soil</b>   |      |          |                 |        |
| 2.H1.6.218 | H1   | 15.003(d) |           | Material from the nearest borrow pit with screening  | m3   | 21       |                 |        |
| 2.H1.6.219 | H1   | 15.003(e) |           | Cement for stabilisation of soil   | m3   | 2        |                 |        |
|            | H1   |           |           | <b>Placing of Bedding Material, Soilcrete, Fertile Soil and Main Backfill</b>  |      |          |                 |        |
| 2.H1.6.220 | H1   | 15.002(b) |           | Cement stabilised soil bed and bedding cradle  | m3   | 22       |                 |        |
|            | H1   |           |           | <b>OVERHAUL</b>  |      |          |                 |        |
| 2.H1.6.221 | H1   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 9        |                 |        |
| 2.H1.6.222 | H1   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 9        |                 |        |
| 2.H1.6.223 | H1   | 25.018(d) |           | Between 7km up to and including 9km  | m3   | 0        |                 |        |
|            | H1   |           |           | <b>MATERIAL FROM COMMERCIAL SOURCES</b>  |      |          |                 |        |
| 2.H1.6.224 | H1   | 15.006(e) |           | G1 material from commercial sources  | m3   | 5        |                 |        |
|            | H1   |           |           | <b>FORMWORK</b>  |      |          |                 |        |
|            | H1   |           |           | <b>STRAIGHT ROUGH</b>  |      |          |                 |        |
| 2.H1.6.225 | H1   | 20.001    |           | Vertical sides of concrete encasement  | m2   | 45       |                 |        |
|            | H1   |           |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H1.6.226 | H1   | 20.007    |           | Steel bars (irrespective of grade or diameter)   | t    | 2.2      |                 |        |
|            | H1   |           |           | <b>CONCRETE</b>  |      |          |                 |        |
|            | H1   |           |           | <b>CONCRETE 15MPa/19mm in:</b>   |      |          |                 |        |
| 2.H1.6.227 | H1   | 20.011(a) |           | Blinding layer of 50mm minimum thickness   | m2   | 23       |                 |        |
|            | H1   |           |           | <b>STRENGTH CONCRETE, 30MPa/19mm in:</b>   |      |          |                 |        |
| 2.H1.6.228 | H1   | 20.012    |           | Concrete encasement.   | m3   | 29       |                 |        |
|            | H1   |           |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H1.6.229 | H1   | 20.013(a) |           | Wood floated finish  | m2   | 23       |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | <b>ACCOMMODATION OF TRAFFIC AND TEMPORARY DEVIATIONS</b>   |      |          |                 |        |
|            | H1   |           |           | <b>Accommodation of traffic and maintaining temporary deviations for:</b>  |      |          |                 |        |
| 2.H1.6.230 | H1   | 26.023(c) |           | Reinstatement of existing roads at crossings (full width deviation)  | km   | 0.10     |                 |        |
|            | H1   |           |           | <b>Relocating of traffic-control facilities for</b>  |      |          |                 |        |
| 2.H1.6.231 | H1   | 25.008(b) |           | Full width deviations where the pipe crosses the road  | Sum  | 1        |                 |        |
| 2.H1.6.232 | H1   | 25.017    |           | Watering of temporary deviations   | Sum  | 1        |                 |        |
| 2.H1.6.233 | H1   | 26.025    |           | <b>Treatment of old roads and temporary deviations</b>   | km   | 0.10     |                 |        |
|            | H1   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |                 |        |
|            | H1   |           |           | <b>Temporary traffic-control facilities</b>  |      |          |                 |        |
| 2.H1.6.234 | H1   | 25.007(a) |           | Flagmen  | sum  | 1        |                 |        |
| 2.H1.6.235 | H1   | 25.007(b) |           | Road signs   | sum  | 1        |                 |        |
| 2.H1.6.236 | H1   | 25.007(c) |           | Flicker lights   | sum  | 1        |                 |        |
| 2.H1.6.237 | H1   | 25.007(d) |           | Delineators  | sum  | 1        |                 |        |
| 2.H1.6.238 | H1   | 25.007(e) |           | Barricading  | sum  | 1        |                 |        |
| 2.H1.6.239 | H1   | 25.007(f) |           | Two-way communication devices  | sum  | 1        |                 |        |
| 2.H1.6.240 | H1   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |                 |        |
| 2.H1.6.241 | H1   | 25.007(h) |           | All other items not listed above   | sum  | 1        |                 |        |
|            | H1   |           |           | <b>ROAD CROSSINGS</b>  |      |          |                 |        |
|            | H1   |           |           | <b>ROAD CROSSINGS @ CH 30.806 km</b>   |      |          |                 |        |
|            | H1   |           |           | <b>REFER TO DRAWING NO 2H-C4-025</b>   |      |          |                 |        |
|            | H1   |           |           | <b>PATCHING OF EXISTING ROADS</b>  |      |          |                 |        |
| 2.H1.6.242 | H1   | 26.018(a) |           | Sawing asphalt layers for patching: to an average depth not exceeding 50 mm  | m    | 20       |                 |        |
| 2.H1.6.243 | H1   | 26.019(a) |           | Excavation in existing pavements for patching in: Asphalt layers   | m3   | 2        |                 |        |
| 2.H1.6.244 | H1   | 26.019(b) |           | Excavation in existing pavements for patching in: Sub base layers  | m3   | 4        |                 |        |
| 2.H1.6.245 | H1   | 26.019(c) |           | Excavation in existing pavements for patching in: Base layers  | m3   | 5        |                 |        |
| 2.H1.6.246 | H1   | 26.020(a) |           | Backfilling of excavations for patching with: Continuously graded asphalt base (A-E2) - 150mm thick  | t    | 10.15    |                 |        |
| 2.H1.6.247 | H1   | 26.020(b) |           | Backfilling of excavations for patching with: Continuously graded asphalt surfacing (A-E2) - 45mm thick  | t    | 3        |                 |        |
| 2.H1.6.248 | H1   | 26.020(d) |           | Backfilling of excavations for patching with: Cement stabilized crushed stone (G1 stabilized with 2.5% cement)   | m3   | 5        |                 |        |
| 2.H1.6.249 | H1   | 26.020(e) |           | Backfilling of excavations for patching with: Cement stabilized selected layer (G5 stabilized with cement to form C4, compacted to 95% of Modified AASHTO density) | m3   | 4        |                 |        |
| 2.H1.6.250 | H1   | 26.021    |           | Tack coat of 30% stable-grade emulsion   | l    | 16       |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            |      |           |           |   |      |          | Brought Forward |        |
|            | H1   |           |           | <b>PROVISION OF SOILCRETE/CEMENT STABILISED SOIL</b>                          |      |          |                 |        |
|            | H1   |           |           | <b>Provision of cement stabilised soil</b>                                    |      |          |                 |        |
| 2.H1.6.251 | H1   | 15.003(d) |           | Material from the nearest borrow pit with screening                           | m3   | 26       |                 |        |
| 2.H1.6.252 | H1   | 15.003(e) |           | Cement for stabilisation of soil  | m3   | 2        |                 |        |
|            | H1   |           |           | <b>Placing of Bedding Material, Soilcrete, Fertile Soil and Main Backfill</b> |      |          |                 |        |
| 2.H1.6.253 | H1   | 15.002(b) |           | Cement stabilised soil bed and bedding cradle                                 | m3   | 27       |                 |        |
|            | H1   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H1.6.254 | H1   | 25.018(b) |           | Between 3km up to and including 5km   | m3   | 9        |                 |        |
| 2.H1.6.255 | H1   | 25.018(c) |           | Between 5km up to and including 7km   | m3   | 9        |                 |        |
|            | H1   |           |           | <b>MATERIAL FROM COMMERCIAL SOURCES</b>                                       |      |          |                 |        |
| 2.H1.6.256 | H1   | 15.006(e) |           | G1 material from commercial sources   | m3   | 5        |                 |        |
|            | H1   |           |           | <b>FORMWORK</b>   |      |          |                 |        |
|            | H1   |           |           | <b>STRAIGHT ROUGH</b>   |      |          |                 |        |
| 2.H1.6.257 | H1   | 20.001    |           | Vertical sides of concrete encasement   | m2   | 45       |                 |        |
|            | H1   |           |           | <b>REINFORCEMENT</b>  |      |          |                 |        |
| 2.H1.6.258 | H1   | 20.007    |           | Steel bars (irrespective of grade or diameter)                                | t    | 2.2      |                 |        |
|            | H1   |           |           | <b>CONCRETE</b>   |      |          |                 |        |
|            | H1   |           |           | <b>CONCRETE 15MPa/19mm in:</b>  |      |          |                 |        |
| 2.H1.6.259 | H1   | 20.011(a) |           | Blinding layer of 50mm minimum thickness                                      | m2   | 23       |                 |        |
|            | H1   |           |           | <b>STRENGTH CONCRETE, 30MPa/19mm in:</b>                                      |      |          |                 |        |
| 2.H1.6.260 | H1   | 20.012    |           | Concrete encasement.  | m3   | 29       |                 |        |
|            | H1   |           |           | <b>UNFORMED SURFACE FINISHES</b>  |      |          |                 |        |
| 2.H1.6.261 | H1   | 20.013(a) |           | Wood floated finish   | m2   | 23       |                 |        |
|            | H1   |           |           | <b>ACCOMMODATION OF TRAFFIC AND TEMPORARY DEVIATIONS</b>                      |      |          |                 |        |
|            | H1   |           |           | <b>Accommodation of traffic and maintaining temporary deviations for:</b>     |      |          |                 |        |
| 2.H1.6.262 | H1   | 26.023(c) |           | Reinstatement of existing roads at crossings (full width deviation)           | km   | 0.10     |                 |        |
|            | H1   |           |           | <b>Relocating of traffic-control facilities for</b>                           |      |          |                 |        |
| 2.H1.6.263 | H1   | 25.008(b) |           | Full width deviations where the pipe crosses the road                         | Sum  | 1        |                 |        |
| 2.H1.6.264 | H1   | 25.017    |           | Watering of temporary deviations  | Sum  | 1        |                 |        |
| 2.H1.6.265 | H1   | 26.025    |           | Treatment of old roads and temporary deviations                               | km   | 0.10     |                 |        |
|            | H1   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>                                   |      |          |                 |        |
|            | H1   |           |           | <b>Temporary traffic-control facilities</b>                                   |      |          |                 |        |
| 2.H1.6.266 | H1   | 25.007(a) |           | Flagmen   | sum  | 1        |                 |        |
|            |      |           |           |   |      |          | Carried Forward |        |



| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.6.267 | H1   | 25.007(b) |           | Road signs   | sum  | 1        |                 |        |
| 2.H1.6.268 | H1   | 25.007(c) |           | Flicker lights   | sum  | 1        |                 |        |
| 2.H1.6.269 | H1   | 25.007(d) |           | Delineators  | sum  | 1        |                 |        |
| 2.H1.6.270 | H1   | 25.007(e) |           | Barricading  | sum  | 1        |                 |        |
| 2.H1.6.271 | H1   | 25.007(f) |           | Two-way communication devices  | sum  | 1        |                 |        |
| 2.H1.6.272 | H1   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |                 |        |
| 2.H1.6.273 | H1   | 25.007(h) |           | All other items not listed above   | sum  | 1        |                 |        |
|            | H1   |           |           | <b>ROAD CROSSINGS</b>  |      |          |                 |        |
|            | H1   |           |           | <b>ROAD CROSSINGS @ CH 63.238 km</b>   |      |          |                 |        |
|            | H1   |           |           | <b>REFER TO DRAWING NO 2H-C5-004</b>   |      |          |                 |        |
|            | H1   |           |           | <b>Design, supply, deliver and install pipes</b>   |      |          |                 |        |
| 2.H1.6.274 | H1   | 10.001    |           | Provincial gravel crossing in 2000mm ND concrete sleeve  | m    | 27       |                 |        |
| 2.H1.6.275 | H1   | 10.007    |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |                 |        |
| 2.H1.6.276 | H1   | 10.008    |           | Grouting of annulus  | m3   | 36       |                 |        |
|            | H1   |           |           | <b>MISCELLANEOUS</b>   |      |          |                 |        |
| 2.H1.6.277 | H1   | 20.021(c) |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket   | m    | 54       |                 |        |
|            | H1   |           |           | <b>PATCHING OF EXISTING ROADS</b>  |      |          |                 |        |
| 2.H1.6.278 | H1   | 26.019(b) |           | Excavation in existing pavements for patching in: Sub base layers  | m3   | 29       |                 |        |
| 2.H1.6.279 | H1   | 26.020(g) |           | Backfilling of excavations for patching with: Selected backfill (G7 compacted to 95% of Modified AASHTO density)               | m3   | 13       |                 |        |
| 2.H1.6.280 | H1   | 26.020(h) |           | Backfilling of excavations for patching with: Gravel Wearing Course (As specified compacted to 95% of Modified AASHTO density) | m3   | 17       |                 |        |
|            | H1   |           |           | <b>PROVISION OF SOILCRETE/CEMENT STABILISED SOIL</b>   |      |          |                 |        |
|            | H1   |           |           | <b>Provision of cement stabilised soil</b>   |      |          |                 |        |
| 2.H1.6.281 | H1   | 15.003(d) |           | Material from the nearest borrow pit with screening  | m3   | 73       |                 |        |
| 2.H1.6.282 | H1   | 15.003(e) |           | Cement for stabilisation of soil   | m3   | 4        |                 |        |
|            | H1   |           |           | <b>Placing of Bedding Material, Soilcrete, Fertile Soil and Main Backfill</b>  |      |          |                 |        |
| 2.H1.6.283 | H1   | 15.002(b) |           | Cement stabilised soil bed and bedding cradle  | m3   | 76       |                 |        |
|            | H1   |           |           | <b>OVERHAUL</b>  |      |          |                 |        |
| 2.H1.6.284 | H1   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 29       |                 |        |
| 2.H1.6.285 | H1   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 29       |                 |        |
|            | H1   |           |           | <b>FORMWORK</b>  |      |          |                 |        |
|            | H1   |           |           | <b>STRAIGHT ROUGH</b>  |      |          |                 |        |
| 2.H1.6.286 | H1   | 20.001    |           | Vertical sides of concrete encasement  | m2   | 114      |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            |      |           |           |   |      |          | Brought Forward |        |
|            | H1   |           |           | <b>REINFORCEMENT</b>  |      |          |                 |        |
| 2.H1.6.287 | H1   | 20.007    |           | Steel bars (irrespective of grade or diameter)                            | t    | 3        |                 |        |
|            | H1   |           |           | <b>CONCRETE</b>   |      |          |                 |        |
|            | H1   |           |           | <b>CONCRETE 15MPa/19mm in:</b>  |      |          |                 |        |
| 2.H1.6.288 | H1   | 20.011(a) |           | Blinding layer of 50mm minimum thickness                                  | m2   | 73       |                 |        |
|            | H1   |           |           | <b>STRENGTH CONCRETE, 30MPa/19mm in:</b>                                  |      |          |                 |        |
| 2.H1.6.289 | H1   | 20.012    |           | Concrete encasement.  | m3   | 107      |                 |        |
|            | H1   |           |           | <b>UNFORMED SURFACE FINISHES</b>  |      |          |                 |        |
| 2.H1.6.290 | H1   | 20.013(a) |           | Wood floated finish   | m2   | 73       |                 |        |
|            | H1   |           |           | <b>ACCOMMODATION OF TRAFFIC AND TEMPORARY DEVIATIONS</b>                  |      |          |                 |        |
|            | H1   |           |           | <b>Accommodation of traffic and maintaining temporary deviations for:</b> |      |          |                 |        |
| 2.H1.6.291 | H1   | 26.023(c) |           | Reinstatement of existing roads at crossings (full width deviation)       | km   | 0.10     |                 |        |
|            | H1   |           |           | <b>Relocating of traffic-control facilities for</b>                       |      |          |                 |        |
| 2.H1.6.292 | H1   | 25.008(b) |           | Full width deviations where the pipe crosses the road                     | Sum  | 1        |                 |        |
| 2.H1.6.293 | H1   | 25.017    |           | Watering of temporary deviations  | Sum  | 1        |                 |        |
| 2.H1.6.294 | H1   | 26.025    |           | Treatment of old roads and temporary deviations                           | km   | 0.10     |                 |        |
|            | H1   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>                               |      |          |                 |        |
|            | H1   |           |           | <b>Temporary traffic-control facilities</b>                               |      |          |                 |        |
| 2.H1.6.295 | H1   | 25.007(a) |           | Flagmen   | sum  | 1        |                 |        |
| 2.H1.6.296 | H1   | 25.007(b) |           | Road signs  | sum  | 1        |                 |        |
| 2.H1.6.297 | H1   | 25.007(c) |           | Flicker lights  | sum  | 1        |                 |        |
| 2.H1.6.298 | H1   | 25.007(d) |           | Delineators   | sum  | 1        |                 |        |
| 2.H1.6.299 | H1   | 25.007(e) |           | Barricading   | sum  | 1        |                 |        |
| 2.H1.6.300 | H1   | 25.007(f) |           | Two-way communication devices   | sum  | 1        |                 |        |
| 2.H1.6.301 | H1   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities     | sum  | 1        |                 |        |
| 2.H1.6.302 | H1   | 25.007(h) |           | All other items not listed above  | sum  | 1        |                 |        |
|            |      |           |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | <b>ROAD CROSSINGS</b>  |      |          |                 |        |
|            | H1   |           |           | <b>ROAD CROSSINGS @ CH 69.929 km</b>   |      |          |                 |        |
|            | H1   |           |           | <b>REFER TO DRAWING NO 2H-C5-005</b>   |      |          |                 |        |
|            | H1   |           |           | <b>Design, supply, deliver and install pipes</b>   |      |          |                 |        |
| 2.H1.6.303 | H1   | 10.001    |           | Provincial gravel crossing in 2000mm ND concrete sleeve  | m    | 39       |                 |        |
| 2.H1.6.304 | H1   | 10.007    |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |                 |        |
| 2.H1.6.305 | H1   | 10.008    |           | Grouting of annulus  | m3   | 61       |                 |        |
|            | H1   |           |           | <b>MISCELLANEOUS</b>   |      |          |                 |        |
| 2.H1.6.306 | H1   | 20.021(c) |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket   | m    | 78       |                 |        |
|            | H1   |           |           | <b>PATCHING OF EXISTING ROADS</b>  |      |          |                 |        |
| 2.H1.6.307 | H1   | 26.019(b) |           | Excavation in existing pavements for patching in: Sub base layers  | m3   | 40       |                 |        |
| 2.H1.6.308 | H1   | 26.020(g) |           | Backfilling of excavations for patching with: Selected backfill (G7 compacted to 95% of Modified AASHTO density)               | m3   | 18       |                 |        |
| 2.H1.6.309 | H1   | 26.020(h) |           | Backfilling of excavations for patching with: Gravel Wearing Course (As specified compacted to 95% of Modified AASHTO density) | m3   | 23       |                 |        |
|            | H1   |           |           | <b>PROVISION OF SOILCRETE/CEMENT STABILISED SOIL</b>   |      |          |                 |        |
|            | H1   |           |           | <b>Provision of cement stabilised soil</b>   |      |          |                 |        |
| 2.H1.6.310 | H1   | 15.003(d) |           | Material from the nearest borrow pit with screening  | m3   | 109      |                 |        |
| 2.H1.6.311 | H1   | 15.003(e) |           | Cement for stabilisation of soil   | m3   | 5        |                 |        |
|            | H1   |           |           | <b>Placing of Bedding Material, Soilcrete, Fertile Soil and Main Backfill</b>  |      |          |                 |        |
| 2.H1.6.312 | H1   | 15.002(b) |           | Cement stabilised soil bed and bedding cradle  | m3   | 114      |                 |        |
|            | H1   |           |           | <b>OVERHAUL</b>  |      |          |                 |        |
| 2.H1.6.313 | H1   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 40       |                 |        |
| 2.H1.6.314 | H1   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 40       |                 |        |
| 2.H1.6.315 | H1   | 25.018(d) |           | Between 7km up to and including 9km  | m3   | 0        |                 |        |
|            | H1   |           |           | <b>ACCOMMODATION OF TRAFFIC AND TEMPORARY DEVIATIONS</b>   |      |          |                 |        |
|            | H1   |           |           | <b>Accommodation of traffic and maintaining temporary deviations for:</b>  |      |          |                 |        |
| 2.H1.6.316 | H1   | 26.023(c) |           | Reinstatement of existing roads at crossings (full width deviation)  | km   | 0.10     |                 |        |
|            | H1   |           |           | <b>Relocating of traffic-control facilities for</b>  |      |          |                 |        |
| 2.H1.6.317 | H1   | 25.008(b) |           | Full width deviations where the pipe crosses the road  | Sum  | 1        |                 |        |
| 2.H1.6.318 | H1   | 25.017    |           | Watering of temporary deviations   | Sum  | 1        |                 |        |
| 2.H1.6.319 | H1   | 26.025    |           | Treatment of old roads and temporary deviations  | km   | 0.10     |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment    | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|------------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference  |           |   |      |          |                 |        |
|            |      |            |           |   |      |          | Brought Forward |        |
|            | H1   |            |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>                           |      |          |                 |        |
|            | H1   |            |           | <b>Temporary traffic-control facilities</b>                           |      |          |                 |        |
| 2.H1.6.320 | H1   | 25.007(a)  |           | Flagmen   | sum  | 1        |                 |        |
| 2.H1.6.321 | H1   | 25.007(b)  |           | Road signs  | sum  | 1        |                 |        |
| 2.H1.6.322 | H1   | 25.007(c)  |           | Flicker lights  | sum  | 1        |                 |        |
| 2.H1.6.323 | H1   | 25.007(d)  |           | Delineators   | sum  | 1        |                 |        |
| 2.H1.6.324 | H1   | 25.007(e)  |           | Barricading   | sum  | 1        |                 |        |
| 2.H1.6.325 | H1   | 25.007(f)  |           | Two-way communication devices   | sum  | 1        |                 |        |
| 2.H1.6.326 | H1   | 25.007(g)  |           | Personnel to manage and maintain temporary traffic-control facilities | sum  | 1        |                 |        |
| 2.H1.6.327 | H1   | 25.007(h)  |           | All other items not listed above                                      | sum  | 1        |                 |        |
|            | H1   |            |           | <b>STREAM CROSSINGS</b>   |      |          |                 |        |
|            | H1   |            |           | <b>Refer to 2A-C6-110 and 2A-C6-117 to drawing</b>                    |      |          |                 |        |
|            | H1   |            |           | <b>PIPE ENCASEMENT @ CH 20.919 km</b>                                 |      |          |                 |        |
|            | H1   |            |           | <b>FORMWORK</b>   |      |          |                 |        |
|            | H1   |            |           | <b>STRAIGHT ROUGH</b>   |      |          |                 |        |
| 2.H1.6.328 | H1   | 20.001     |           | Vertical sides of concrete encasement                                 | m2   | 170      |                 |        |
|            | H1   |            |           | <b>REINFORCEMENT</b>  |      |          |                 |        |
| 2.H1.6.329 | H1   | 20.007     |           | Steel bars (irrespective of grade or diameter)                        | t    | 8        |                 |        |
|            | H1   |            |           | <b>CONCRETE</b>   |      |          |                 |        |
|            | H1   |            |           | <b>CONCRETE 15MPa/19mm in:</b>  |      |          |                 |        |
| 2.H1.6.330 | H1   | 20.011(a)  |           | Blinding layer of 50mm minimum thickness                              | m2   | 89       |                 |        |
|            | H1   |            |           | <b>STRENGTH CONCRETE, 30MPa/19mm in:</b>                              |      |          |                 |        |
| 2.H1.6.331 | H1   | 20.012     |           | Concrete encasement.  | m3   | 106      |                 |        |
|            | H1   |            |           | <b>UNFORMED SURFACE FINISHES</b>                                      |      |          |                 |        |
| 2.H1.6.332 | H1   | 20.013(a)  |           | Wood floated finish   | m2   | 89       |                 |        |
|            | H1   |            |           | <b>CONSTRUCTION OF EROSION PROTECTION</b>                             |      |          |                 |        |
|            | H1   |            |           | <b>Foundation trench excavation and backfilling</b>                   |      |          |                 |        |
| 2.H1.6.333 | H1   | 21.001(b)  |           | In all other classes of material                                      | m3   | 475      |                 |        |
| 2.H1.6.334 | H1   | 21.002     |           | Surface preparation for bedding the gabions                           | m2   | 209      |                 |        |
| 2.H1.6.335 | H1   | 21.005     |           | Geotextile fabric (type and grade indicated on the Drawings)          | m2   | 490      |                 |        |
| 2.H1.6.336 | H1   | 21.003(a)  |           | Galvanised gabions cages<br>(Refer to drawings for dimentions)        | m3   | 40       |                 |        |
| 2.H1.6.337 | H1   | 21.003(c)  |           | Galvanised gabions mattresses<br>(Refer to drawings for dimentions)   | m3   | 51       |                 |        |
| 2.H1.6.338 | H1   | 27.009     |           | Rip-rap   | m3   | 0        |                 |        |
|            | H1   |            |           | <b>Crushed stone</b>  |      |          |                 |        |
| 2.H1.6.339 | H1   | 15.008 (a) |           | Supply and place crushed stone for Layer no 1                         | m3   | 34       |                 |        |
| 2.H1.6.340 | H1   | 15.008 (c) |           | Supply and place well graded compacted dump rock for Layer no 2       | m3   | 34       |                 |        |
|            |      |            |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment    | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|------------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference  |           |  |      |          |                 |        |
|            |      |            |           |  |      |          | Brought Forward |        |
|            | H1   |            |           | <b>Geotextile</b>  |      |          |                 |        |
| 2.H1.6.341 | H1   | 15.008 (b) |           | Supply and place geotextile for Layer no 1                                 | m2   | 250      |                 |        |
| 2.H1.6.342 | H1   | 15.008 (d) |           | Supply and place geotextile for Layer no 2                                 | m2   | 266      |                 |        |
|            | H1   |            |           | <b>OVERHAUL</b>  |      |          |                 |        |
| 2.H1.6.343 | H1   | 25.018(b)  |           | Between 3km up to and including 5km  | m3   | 300      |                 |        |
| 2.H1.6.344 | H1   | 25.018(c)  |           | Between 5km up to and including 7km  | m3   | 300      |                 |        |
| 2.H1.6.345 | H1   | 25.018(d)  |           | Between 7km up to and including 9km  | m3   | 0        |                 |        |
|            | H1   |            |           | <b>STREAM CROSSINGS</b>  |      |          |                 |        |
|            | H1   |            |           | <b>Refer to 2A-C6-110 and 2A-C6-117 to drawing</b>                         |      |          |                 |        |
|            | H1   |            |           | <b>PIPE ENCASEMENT @ CH 36.200 km</b>                                      |      |          |                 |        |
|            | H1   |            |           | <b>FORMWORK</b>  |      |          |                 |        |
|            | H1   |            |           | <b>STRAIGHT ROUGH</b>  |      |          |                 |        |
| 2.H1.6.346 | H1   | 20.001     |           | Vertical sides of concrete encasement                                      | m2   | 81       |                 |        |
|            | H1   |            |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H1.6.347 | H1   | 20.007     |           | Steel bars (irrespective of grade or diameter)                             | t    | 3.8      |                 |        |
|            | H1   |            |           | <b>CONCRETE</b>  |      |          |                 |        |
|            | H1   |            |           | <b>CONCRETE 15MPa/19mm in:</b>   |      |          |                 |        |
| 2.H1.6.348 | H1   | 20.011(a)  |           | Blinding layer of 50mm minimum thickness                                   | m2   | 43       |                 |        |
|            | H1   |            |           | <b>STRENGTH CONCRETE, 30MPa/19mm in:</b>                                   |      |          |                 |        |
| 2.H1.6.349 | H1   | 20.012     |           | Concrete encasement.   | m3   | 50       |                 |        |
|            | H1   |            |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H1.6.350 | H1   | 20.013(a)  |           | Wood floated finish  | m2   | 45       |                 |        |
|            | H1   |            |           | <b>CONSTRUCTION OF EROSION PROTECTION</b>                                  |      |          |                 |        |
|            | H1   |            |           | <b>Foundation trench excavation and backfilling</b>                        |      |          |                 |        |
| 2.H1.6.351 | H1   | 21.001(b)  |           | In all other classes of material   | m3   | 330      |                 |        |
| 2.H1.6.352 | H1   | 21.002     |           | Surface preparation for bedding the gabions                                | m2   | 460      |                 |        |
| 2.H1.6.353 | H1   | 21.005     |           | Geotextile fabric (type and grade indicated on the Drawings)               | m2   | 275      |                 |        |
| 2.H1.6.354 | H1   | 21.003(a)  |           | Galvanised gabions cages<br><i>(Refer to drawings for dimentions)</i>      | m3   | 120      |                 |        |
| 2.H1.6.355 | H1   | 21.003(c)  |           | Galvanised gabions mattresses<br><i>(Refer to drawings for dimentions)</i> | m3   | 30       |                 |        |
| 2.H1.6.356 | H1   | 27.009     |           | Rip-rap  | m3   | 5        |                 |        |
|            | H1   |            |           | <b>Crushed stone</b>   |      |          |                 |        |
| 2.H1.6.357 | H1   | 15.008 (a) |           | Supply and place crushed stone for Layer no 1                              | m3   | 20       |                 |        |
| 2.H1.6.358 | H1   | 15.008 (c) |           | Supply and place well graded compacted dump rock for Layer no 2            | m3   | 30       |                 |        |
|            |      |            |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment    | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|------------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference  |           |   |      |          |                 |        |
|            |      |            |           |   |      |          | Brought Forward |        |
|            | H1   |            |           | <b>Geotextile</b>   |      |          |                 |        |
| 2.H1.6.359 | H1   | 15.008 (b) |           | Supply and place geotextile for Layer no 1                          | m2   | 125      |                 |        |
| 2.H1.6.360 | H1   | 15.008 (d) |           | Supply and place geotextile for Layer no 2                          | m2   | 130      |                 |        |
|            | H1   |            |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H1.6.361 | H1   | 25.018(b)  |           | Between 3km up to and including 5km                                 | m3   | 248      |                 |        |
| 2.H1.6.362 | H1   | 25.018(c)  |           | Between 5km up to and including 7km                                 | m3   | 248      |                 |        |
| 2.H1.6.363 | H1   | 25.018(d)  |           | Between 7km up to and including 9km                                 | m3   | 0        |                 |        |
|            | H1   |            |           | <b>STREAM CROSSINGS</b>   |      |          |                 |        |
|            | H1   |            |           | <b>Refer to 2A-C6-110 and 2A-C6-117 to drawing</b>                  |      |          |                 |        |
|            | H1   |            |           | <b>PIPE ENCASEMENT @ CH 41.350 km</b>                               |      |          |                 |        |
|            | H1   |            |           | <b>FORMWORK</b>   |      |          |                 |        |
|            | H1   |            |           | <b>STRAIGHT ROUGH</b>   |      |          |                 |        |
| 2.H1.6.364 | H1   | 20.001     |           | Vertical sides of concrete encasement                               | m2   | 122      |                 |        |
|            | H1   |            |           | <b>REINFORCEMENT</b>  |      |          |                 |        |
| 2.H1.6.365 | H1   | 20.007     |           | Steel bars (irrespective of grade or diameter)                      | t    | 5.7      |                 |        |
|            | H1   |            |           | <b>CONCRETE</b>   |      |          |                 |        |
|            | H1   |            |           | <b>CONCRETE 15MPa/19mm in:</b>                                      |      |          |                 |        |
| 2.H1.6.366 | H1   | 20.011(a)  |           | Blinding layer of 50mm minimum thickness                            | m2   | 64       |                 |        |
|            | H1   |            |           | <b>STRENGTH CONCRETE, 30MPa/19mm in:</b>                            |      |          |                 |        |
| 2.H1.6.367 | H1   | 20.012     |           | Concrete encasement.  | m3   | 75       |                 |        |
|            | H1   |            |           | <b>UNFORMED SURFACE FINISHES</b>                                    |      |          |                 |        |
| 2.H1.6.368 | H1   | 20.013(a)  |           | Wood floated finish   | m2   | 64       |                 |        |
|            | H1   |            |           | <b>CONSTRUCTION OF EROSION PROTECTION</b>                           |      |          |                 |        |
|            | H1   |            |           | <b>Foundation trench excavation and backfilling</b>                 |      |          |                 |        |
| 2.H1.6.369 | H1   | 21.001(b)  |           | In all other classes of material                                    | m3   | 495      |                 |        |
| 2.H1.6.370 | H1   | 21.002     |           | Surface preparation for bedding the gabions                         | m2   | 690      |                 |        |
| 2.H1.6.371 | H1   | 21.005     |           | Geotextile fabric (type and grade indicated on the Drawings)        | m2   | 408      |                 |        |
| 2.H1.6.372 | H1   | 21.003(a)  |           | Galvanised gabions cages<br>(Refer to drawings for dimentions)      | m3   | 180      |                 |        |
| 2.H1.6.373 | H1   | 21.003(c)  |           | Galvanised gabions mattresses<br>(Refer to drawings for dimentions) | m3   | 45       |                 |        |
| 2.H1.6.374 | H1   | 27.009     |           | Rip-rap   | m3   | 5        |                 |        |
|            | H1   |            |           | <b>Crushed stone</b>  |      |          |                 |        |
| 2.H1.6.375 | H1   | 15.008 (a) |           | Supply and place crushed stone for Layer no 1                       | m3   | 25       |                 |        |
| 2.H1.6.376 | H1   | 15.008 (c) |           | Supply and place well graded compacted dump rock for Layer no 2     | m3   | 45       |                 |        |
|            |      |            |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment    | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|------------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference  |           |  |      |          |                 |        |
|            |      |            |           |  |      |          | Brought Forward |        |
|            | H1   |            |           | <b>Geotextile</b>  |      |          |                 |        |
| 2.H1.6.377 | H1   | 15.008 (b) |           | Supply and place geotextile for Layer no 1                                 | m2   | 185      |                 |        |
| 2.H1.6.378 | H1   | 15.008 (d) |           | Supply and place geotextile for Layer no 2                                 | m2   | 195      |                 |        |
|            | H1   |            |           | <b>OVERHAUL</b>  |      |          |                 |        |
| 2.H1.6.379 | H1   | 25.018(b)  |           | Between 3km up to and including 5km  | m3   | 372      |                 |        |
| 2.H1.6.380 | H1   | 25.018(c)  |           | Between 5km up to and including 7km  | m3   | 372      |                 |        |
| 2.H1.6.381 | H1   | 25.018(d)  |           | Between 7km up to and including 9km  | m3   | 0        |                 |        |
|            | H1   |            |           | <b>STREAM CROSSINGS</b>  |      |          |                 |        |
|            | H1   |            |           | <b>Refer to 2A-C6-110 and 2A-C6-117 to drawing</b>                         |      |          |                 |        |
|            | H1   |            |           | <b>PIPE ENCASEMENT @ CH 41.98 km</b>                                       |      |          |                 |        |
|            | H1   |            |           | <b>FORMWORK</b>  |      |          |                 |        |
|            | H1   |            |           | <b>STRAIGHT ROUGH</b>  |      |          |                 |        |
| 2.H1.6.382 | H1   | 20.001     |           | Vertical sides of concrete encasement                                      | m2   | 810      |                 |        |
|            | H1   |            |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H1.6.383 | H1   | 20.007     |           | Steel bars (irrespective of grade or diameter)                             | t    | 38       |                 |        |
|            | H1   |            |           | <b>CONCRETE</b>  |      |          |                 |        |
|            | H1   |            |           | <b>CONCRETE 15MPa/19mm in:</b>   |      |          |                 |        |
| 2.H1.6.384 | H1   | 20.011(a)  |           | Blinding layer of 50mm minimum thickness                                   | m2   | 425      |                 |        |
|            | H1   |            |           | <b>STRENGTH CONCRETE, 30MPa/19mm in:</b>                                   |      |          |                 |        |
| 2.H1.6.385 | H1   | 20.012     |           | Concrete encasement.   | m3   | 495      |                 |        |
|            | H1   |            |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H1.6.386 | H1   | 20.013(a)  |           | Wood floated finish  | m2   | 425      |                 |        |
|            | H1   |            |           | <b>CONSTRUCTION OF EROSION PROTECTION</b>                                  |      |          |                 |        |
|            | H1   |            |           | <b>Foundation trench excavation and backfilling</b>                        |      |          |                 |        |
| 2.H1.6.387 | H1   | 21.001(b)  |           | In all other classes of material   | m3   | 3290     |                 |        |
| 2.H1.6.388 | H1   | 21.002     |           | Surface preparation for bedding the gabions                                | m2   | 4600     |                 |        |
| 2.H1.6.389 | H1   | 21.005     |           | Geotextile fabric (type and grade indicated on the Drawings)               | m2   | 2703     |                 |        |
| 2.H1.6.390 | H1   | 21.003(a)  |           | Galvanised gabions cages<br><i>(Refer to drawings for dimentions)</i>      | m3   | 1200     |                 |        |
| 2.H1.6.391 | H1   | 21.003(c)  |           | Galvanised gabions mattresses<br><i>(Refer to drawings for dimentions)</i> | m3   | 300      |                 |        |
| 2.H1.6.392 | H1   | 27.009     |           | Rip-rap  | m3   | 20       |                 |        |
|            | H1   |            |           | <b>Crushed stone</b>   |      |          |                 |        |
| 2.H1.6.393 | H1   | 15.008 (a) |           | Supply and place crushed stone for Layer no 1                              | m3   | 165      |                 |        |
| 2.H1.6.394 | H1   | 15.008 (c) |           | Supply and place well graded compacted dump rock for Layer no 2            | m3   | 275      |                 |        |
|            |      |            |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment    | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|------------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference  |           |   |      |          |                 |        |
|            |      |            |           |   |      |          | Brought Forward |        |
|            | H1   |            |           | <b>Geotextile</b>   |      |          |                 |        |
| 2.H1.6.395 | H1   | 15.008 (b) |           | Supply and place geotextile for Layer no 1                        | m2   | 1210     |                 |        |
| 2.H1.6.396 | H1   | 15.008 (d) |           | Supply and place geotextile for Layer no 2                        | m2   | 1290     |                 |        |
|            | H1   |            |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H1.6.397 | H1   | 25.018(b)  |           | Between 3km up to and including 5km                               | m3   | 2477     |                 |        |
| 2.H1.6.398 | H1   | 25.018(c)  |           | Between 5km up to and including 7km                               | m3   | 2477     |                 |        |
| 2.H1.6.399 | H1   | 25.018(d)  |           | Between 7km up to and including 9km                               | m3   | 0        |                 |        |
|            | H1   |            |           | <b>PART H1.6: Crossings - Carried forward to Summary of Bills</b> |      |          |                 |        |



| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate | Amount |
|-----------|------|-----------|-----------|--|------|----------|------|--------|
|           |      | Reference |           |  |      |          |      |        |
|           | H1   |           |           | <b>PART H1.7: Landscaping and Rehabilitation</b>                                       |      |          |      |        |
|           | H1   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |      |        |
| 2.H1.7.1  | H1   | 47.001    |           | Shaping  | m2   | 3286120  |      |        |
| 2.H1.7.2  | H1   | 47.002    |           | Ripping  | ha   | 329      |      |        |
| 2.H1.7.3  | H1   | 47.003    |           | Trimming   | m2   | 3286120  |      |        |
| 2.H1.7.4  | H1   | 47.004    |           | Scarifying   | ha   | 329      |      |        |
| 2.H1.7.5  | H1   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 329000   |      |        |
| 2.H1.7.6  | H1   | 47.011    |           | Preparing topsoil for seeding  | m2   | 3286120  |      |        |
| 2.H1.7.7  | H1   | 47.012    |           | Hydro-seeding  | ha   | 296      |      |        |
| 2.H1.7.8  | H1   | 47.013    |           | Hand-seeding   | ha   | 33       |      |        |
| 2.H1.7.9  | H1   | 47.015    |           | Temporary re-vegetation  | ha   | 33       |      |        |
|           | H1   |           |           | <b>Provision of seed</b>   |      |          |      |        |
| 2.H1.7.10 | H1   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 329      |      |        |
| 2.H1.7.11 | H1   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 329      |      |        |
| 2.H1.7.12 | H1   | 47.010    |           | Seed type - Chloris gayana   | kg   | 3290     |      |        |
| 2.H1.7.13 | H1   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 987      |      |        |
| 2.H1.7.14 | H1   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 3948     |      |        |
| 2.H1.7.15 | H1   | 47.010    |           | Seed type - Enneapogon chenchroides  | kg   | 329      |      |        |
| 2.H1.7.16 | H1   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 658      |      |        |
| 2.H1.7.17 | H1   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 165      |      |        |
| 2.H1.7.18 | H1   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 987      |      |        |
| 2.H1.7.19 | H1   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 987      |      |        |
| 2.H1.7.20 | H1   | 47.010    |           | Seed type - Panicum maximum  | kg   | 1152     |      |        |
| 2.H1.7.21 | H1   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 329      |      |        |
| 2.H1.7.22 | H1   | 47.016    |           | Provision of temporary erosion control measures  | ha   | 329      |      |        |
| 2.H1.7.23 | H1   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures                                  | sum  | 1        |      |        |
| 2.H1.7.24 | H1   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |      |        |
|           | H1   |           |           | <b>PART H1.7: Landscaping and Rehabilitation - Carried forward to Summary of Bills</b> |      |          |      |        |

| Item no.  | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|           |      |                   |           |  |      |          |                 |        |
|           | H1   |                   |           | <b>PART H1.8: Fencing</b>  |      |          |                 |        |
|           | H1   |                   |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H1.8.1  | H1   | 6.001             |           | Clearing the fence line, 1m wide strip   | m    | 164 139  |                 |        |
|           | H1   |                   |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H1.8.2  | H1   | 6.004(a)          |           | Seven strand stock proof fence (1,25m high)  | m    | 147 700  |                 |        |
| 2.H1.8.3  | H1   | 6.004(b)          |           | Sixteen strand game proof fencing (1.8m high)  | m    | 4 180    |                 |        |
| 2.H1.8.4  | H1   | 6.004(c)          |           | Twenty-one strand game proof fencing (2.4m high)   | m    | 10 360   |                 |        |
| 2.H1.8.5  | H1   | 6.004(d)          |           | Bonnox (or equal approved) (1.8 m high)  | m    | 2 080    |                 |        |
| 2.H1.8.6  | H1   | 6.004(e)          |           | Bonnox (or equal approved) (2.4 m high)  | m    | 4 180    |                 |        |
|           | H1   |                   |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H1.8.7  | H1   | 6.007             |           | All types of gates   | No   | 155      |                 |        |
|           | H1   |                   |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b> |      |          |                 |        |
| 2.H1.8.8  | H1   | 6.002(a)          |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 147 700  |                 |        |
| 2.H1.8.9  | H1   | 6.002(b)          |           | Sixteen strand game proof fencing (1.8m high) as per drawing 2A-C6-100                       | m    | 4 180    |                 |        |
| 2.H1.8.10 | H1   | 6.002(c)          |           | Twenty-one strand game proof fencing (2.4m high) as per drawing 2A-C6-102                    | m    | 10 360   |                 |        |
| 2.H1.8.11 | H1   | 6.002(d)          |           | Bonnox (or equal approved) (1.8 m high) as per drawing 2A-C6-118                             | m    | 2 080    |                 |        |
| 2.H1.8.12 | H1   | 6.002(e)          |           | Bonnox (or equal approved) (2.4 m high) as per drawing 2A-C6-119                             | m    | 4 180    |                 |        |
|           | H1   |                   |           | <b>Supply, erect and maintain gates during contract period</b>                               |      |          |                 |        |
| 2.H1.8.13 | H1   | 6.005(a)          |           | 1.2m high gates for stock proof fences   | No   | 79       |                 |        |
| 2.H1.8.14 | H1   | 6.005(b)          |           | 1.8m high gates for game fences  | No   | 17       |                 |        |
| 2.H1.8.15 | H1   | 6.005(c)          |           | 2.4m high gates for game fences  | No   | 36       |                 |        |
| 2.H1.8.16 | H1   | 6.005(d)          |           | 1.8m high gates for bonnox fences  | No   | 8        |                 |        |
| 2.H1.8.17 | H1   | 6.005(e)          |           | 2.4m high gates for bonnex fences  | No   | 17       |                 |        |
|           | H1   |                   |           | <b>Remove fencing installed under this contract and re-erect at another position</b>         |      |          |                 |        |
| 2.H1.8.18 | H1   | 6.003(a)          |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 1 000    |                 |        |
| 2.H1.8.19 | H1   | 6.003(b)          |           | Sixteen strand game proof fencing (1.8m high) as per drawing 2A-C6-100                       | m    | 1 000    |                 |        |
| 2.H1.8.20 | H1   | 6.003(c)          |           | Twenty-one strand game proof fencing (2.4m high) as per drawing 2A-C6-102                    | m    | 1 000    |                 |        |
| 2.H1.8.21 | H1   | 6.003(d)          |           | Bonnox (or equal approved) (1.8 m high) as per drawing 2A-C6-118                             | m    | 1 000    |                 |        |
| 2.H1.8.22 | H1   | 6.003(e)          |           | Bonnox (or equal approved) (2.4 m high) as per drawing 2A-C6-119                             | m    | 1 000    |                 |        |
|           | H1   |                   |           | <b>Remove gates installed under this contract and re-erect at another position</b>           |      |          |                 |        |
| 2.H1.8.23 | H1   | 6.006(a)          |           | 1.2m high gates for stock proof fences   | No   | 22       |                 |        |
|           |      |                   |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           |      |           |           |   |      |          | Brought Forward |        |
| 2.H1.8.24 | H1   | 6.006(b)  |           | 1.8m high gates for game fences                                 | No   | 5        |                 |        |
| 2.H1.8.25 | H1   | 6.006(c)  |           | 2.4m high gates for game fences                                 | No   | 11       |                 |        |
| 2.H1.8.26 | H1   | 6.006(d)  |           | 1.8m high gates for bonnox fences                               | No   | 3        |                 |        |
| 2.H1.8.27 | H1   | 6.006(e)  |           | 2.4m high gates for bonnex fences                               | No   | 5        |                 |        |
|           | H1   |           |           | <b>PART H1.8: Fencing - Carried forward to Summary of Bills</b> |      |          |                 |        |

| Item no.  | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|           |      |                   |           |  |      |          |                 |        |
|           | H1   |                   |           | <b>PART H1.9: Borrow pits and Spoil Areas</b>  |      |          |                 |        |
|           | H1   |                   |           | <b>BORROW PIT E</b>  |      |          |                 |        |
|           | H1   |                   |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H1.9.1  | H1   | 14.001            |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|           | H1   |                   |           | <b>Removal of agricultural material and overburden</b>   |      |          |                 |        |
| 2.H1.9.2  | H1   | 14.002            |           | Removal and replacement of topsoil   | m3   | 23 660   |                 |        |
| 2.H1.9.3  | H1   | 14.003            |           | Removal and replacement of fertile soil  | m3   | 70 982   |                 |        |
| 2.H1.9.4  | H1   | 14.004            |           | Removal and replacement of overburden  | m3   | 23 660   |                 |        |
|           | H1   |                   |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.5  | H1   | 14.006            |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 25800    |                 |        |
|           | H1   |                   |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H1.9.6  | H1   | 8.001             |           | Dealing with water   | Sum  | 1        |                 |        |
| 2.H1.9.7  | H1   | 8.002             |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H1.9.8  | H1   | 8.003             |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H1.9.9  | H1   | 8.004             |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|           | H1   |                   |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H1.9.10 | H1   | 6.001             |           | Clearing the fence line, 1m wide strip   | m    | 2 259    |                 |        |
|           | H1   |                   |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H1.9.11 | H1   | 6.004(a)          |           | Seven strand stock proof fence (1,25m high)  | m    | 2 259    |                 |        |
|           | H1   |                   |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H1.9.12 | H1   | 6.007             |           | All types of gates   | No   | 2        |                 |        |
|           | H1   |                   |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b>   |      |          |                 |        |
| 2.H1.9.13 | H1   | 6.002(a)          |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101   | m    | 2 259    |                 |        |
|           | H1   |                   |           | <b>Supply, erect and maintain gates during contract period</b>   |      |          |                 |        |
| 2.H1.9.14 | H1   | 6.005(a)          |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|           | H1   |                   |           | <b>Remove fencing installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H1.9.15 | H1   | 6.003(a)          |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101   | m    | 2 259    |                 |        |
|           | H1   |                   |           | <b>Remove gates installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H1.9.16 | H1   | 6.006(a)          |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|           | H1   |                   |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H1.9.17 | H1   | 47.001            |           | Shaping  | m2   | 157 737  |                 |        |
| 2.H1.9.18 | H1   | 47.002            |           | Ripping  | ha   | 16       |                 |        |
|           |      |                   |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.9.19 | H1   | 47.003    |           | Trimming   | m2   | 157 737  |                 |        |
| 2.H1.9.20 | H1   | 47.004    |           | Scarifying   | ha   | 16       |                 |        |
| 2.H1.9.21 | H1   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 16 000   |                 |        |
| 2.H1.9.22 | H1   | 47.011    |           | Preparing topsoil for seeding  | m2   | 157 737  |                 |        |
| 2.H1.9.23 | H1   | 47.012    |           | Hydro-seeding  | ha   | 14.40    |                 |        |
| 2.H1.9.24 | H1   | 47.013    |           | Hand-seeding   | ha   | 1.60     |                 |        |
| 2.H1.9.25 | H1   | 47.015    |           | Temporary re-vegetation  | ha   | 1.60     |                 |        |
|           | H1   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H1.9.26 | H1   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 16       |                 |        |
| 2.H1.9.27 | H1   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 16       |                 |        |
| 2.H1.9.28 | H1   | 47.010    |           | Seed type - Chloris gayana   | kg   | 160      |                 |        |
| 2.H1.9.29 | H1   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 48       |                 |        |
| 2.H1.9.30 | H1   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 192      |                 |        |
| 2.H1.9.31 | H1   | 47.010    |           | Seed type - Eneapogon chenchroides   | kg   | 16       |                 |        |
| 2.H1.9.32 | H1   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 32       |                 |        |
| 2.H1.9.33 | H1   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 8        |                 |        |
| 2.H1.9.34 | H1   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 48       |                 |        |
| 2.H1.9.35 | H1   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 48       |                 |        |
| 2.H1.9.36 | H1   | 47.010    |           | Seed type - Panicum maximum  | kg   | 56       |                 |        |
| 2.H1.9.37 | H1   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 16       |                 |        |
| 2.H1.9.38 | H1   | 47.016    |           | Provision of temporary erosion control measures  | ha   | 16       |                 |        |
| 2.H1.9.39 | H1   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures  | sum  | 1        |                 |        |
| 2.H1.9.40 | H1   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |                 |        |
|           | H1   |           |           | <b>BORROW PIT 28</b>   |      |          |                 |        |
|           | H1   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H1.9.41 | H1   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|           | H1   |           |           | <b>Removal of agricultural material and overburden</b>   |      |          |                 |        |
| 2.H1.9.42 | H1   | 14.002    |           | Removal and replacement of topsoil   | m3   | 8 080    |                 |        |
| 2.H1.9.43 | H1   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 24 250   |                 |        |
| 2.H1.9.44 | H1   | 14.004    |           | Removal and replacement of overburden  | m3   | 8 080    |                 |        |
|           | H1   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.45 | H1   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 52 500   |                 |        |
|           | H1   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H1.9.46 | H1   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
|           |      |           |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.9.47 | H1   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H1.9.48 | H1   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H1.9.49 | H1   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|           | H1   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H1.9.50 | H1   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 1 810    |                 |        |
|           | H1   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H1.9.51 | H1   | 6.004(a)  |           | Seven strand stock proof fence (1,25m high)  | m    | 1 810    |                 |        |
|           | H1   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H1.9.52 | H1   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|           | H1   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b> |      |          |                 |        |
| 2.H1.9.53 | H1   | 6.002(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 1 810    |                 |        |
|           | H1   |           |           | <b>Supply, erect and maintain gates during contract period</b>                               |      |          |                 |        |
| 2.H1.9.54 | H1   | 6.005(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|           | H1   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>         |      |          |                 |        |
| 2.H1.9.55 | H1   | 6.003(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 1 810    |                 |        |
|           | H1   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>           |      |          |                 |        |
| 2.H1.9.56 | H1   | 6.006(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|           | H1   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H1.9.57 | H1   | 47.001    |           | Shaping  | m2   | 53 890   |                 |        |
| 2.H1.9.58 | H1   | 47.002    |           | Ripping  | ha   | 5.4      |                 |        |
| 2.H1.9.59 | H1   | 47.003    |           | Trimming   | m2   | 53 890   |                 |        |
| 2.H1.9.60 | H1   | 47.004    |           | Scarifying   | ha   | 5.4      |                 |        |
| 2.H1.9.61 | H1   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 5 400    |                 |        |
| 2.H1.9.62 | H1   | 47.011    |           | Preparing topsoil for seeding  | m2   | 53 883   |                 |        |
| 2.H1.9.63 | H1   | 47.012    |           | Hydro-seeding  | ha   | 4.9      |                 |        |
| 2.H1.9.64 | H1   | 47.013    |           | Hand-seeding   | ha   | 0.5      |                 |        |
| 2.H1.9.65 | H1   | 47.015    |           | Temporary re-vegetation  | ha   | 0.5      |                 |        |
|           | H1   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H1.9.66 | H1   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 6        |                 |        |
| 2.H1.9.67 | H1   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 6        |                 |        |
| 2.H1.9.68 | H1   | 47.010    |           | Seed type - Chloris gayana   | kg   | 54       |                 |        |
| 2.H1.9.69 | H1   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 17       |                 |        |
| 2.H1.9.70 | H1   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 65       |                 |        |
|           |      |           |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.9.71 | H1   | 47.010    |           | Seed type - Enneapogon chenchroides  | kg   | 6        |                 |        |
| 2.H1.9.72 | H1   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 11       |                 |        |
| 2.H1.9.73 | H1   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 3        |                 |        |
| 2.H1.9.74 | H1   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 17       |                 |        |
| 2.H1.9.75 | H1   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 17       |                 |        |
| 2.H1.9.76 | H1   | 47.010    |           | Seed type - Panicum maximum  | kg   | 19       |                 |        |
| 2.H1.9.77 | H1   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 6        |                 |        |
| 2.H1.9.78 | H1   | 47.016    |           | Provision of temporary erosion control measures  | ha   | 6        |                 |        |
| 2.H1.9.79 | H1   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures  | sum  | 1        |                 |        |
| 2.H1.9.80 | H1   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |                 |        |
|           | H1   |           |           | <b>BORROW PIT 33</b>   |      |          |                 |        |
|           | H1   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H1.9.81 | H1   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|           | H1   |           |           | <b>Removal of agricultural material and overburden</b>   |      |          |                 |        |
| 2.H1.9.82 | H1   | 14.002    |           | Removal and replacement of topsoil   | m3   | 12 380   |                 |        |
| 2.H1.9.83 | H1   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 37 130   |                 |        |
| 2.H1.9.84 | H1   | 14.004    |           | Removal and replacement of overburden  | m3   | 12 380   |                 |        |
|           | H1   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.85 | H1   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 51 715   |                 |        |
|           | H1   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H1.9.86 | H1   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
| 2.H1.9.87 | H1   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H1.9.88 | H1   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H1.9.89 | H1   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|           | H1   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H1.9.90 | H1   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 820      |                 |        |
|           | H1   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H1.9.91 | H1   | 6.004(a)  |           | Seven strand stock proof fence (1,25m high)  | m    | 820      |                 |        |
|           | H1   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H1.9.92 | H1   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|           | H1   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b>   |      |          |                 |        |
| 2.H1.9.93 | H1   | 6.002(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101   | m    | 820      |                 |        |
|           | H1   |           |           | <b>Supply, erect and maintain gates during contract period</b>   |      |          |                 |        |
|           |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.9.94  | H1   | 6.005(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b> |      |          |                 |        |
| 2.H1.9.95  | H1   | 6.003(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                 | m    | 820      |                 |        |
|            | H1   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H1.9.96  | H1   | 6.006(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|            | H1   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H1.9.97  | H1   | 47.001    |           | Shaping  | m2   | 82 510   |                 |        |
| 2.H1.9.98  | H1   | 47.002    |           | Ripping  | ha   | 8.3      |                 |        |
| 2.H1.9.99  | H1   | 47.003    |           | Trimming   | m2   | 82 510   |                 |        |
| 2.H1.9.100 | H1   | 47.004    |           | Scarifying   | ha   | 8.3      |                 |        |
| 2.H1.9.101 | H1   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 8 300    |                 |        |
| 2.H1.9.102 | H1   | 47.011    |           | Preparing topsoil for seeding  | m2   | 82 510   |                 |        |
| 2.H1.9.103 | H1   | 47.012    |           | Hydro-seeding  | ha   | 7.5      |                 |        |
| 2.H1.9.104 | H1   | 47.013    |           | Hand-seeding   | ha   | 0.8      |                 |        |
| 2.H1.9.105 | H1   | 47.015    |           | Temporary re-vegetation  | ha   | 0.8      |                 |        |
|            | H1   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H1.9.106 | H1   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 9        |                 |        |
| 2.H1.9.107 | H1   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 9        |                 |        |
| 2.H1.9.108 | H1   | 47.010    |           | Seed type - Chloris gayana   | kg   | 83       |                 |        |
| 2.H1.9.109 | H1   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 25       |                 |        |
| 2.H1.9.110 | H1   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 100      |                 |        |
| 2.H1.9.111 | H1   | 47.010    |           | Seed type - Enneapogon chenchroides  | kg   | 9        |                 |        |
| 2.H1.9.112 | H1   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 17       |                 |        |
| 2.H1.9.113 | H1   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 5        |                 |        |
| 2.H1.9.114 | H1   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 25       |                 |        |
| 2.H1.9.115 | H1   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 25       |                 |        |
| 2.H1.9.116 | H1   | 47.010    |           | Seed type - Panicum maximum  | kg   | 30       |                 |        |
| 2.H1.9.117 | H1   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 9        |                 |        |
| 2.H1.9.118 | H1   | 47.016    |           | Provision of temporary erosion control measures                                      | ha   | 9        |                 |        |
| 2.H1.9.119 | H1   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures                                | sum  | 1        |                 |        |
| 2.H1.9.120 | H1   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |                 |        |
|            | H1   |           |           | <b>BORROW PIT 41</b>   |      |          |                 |        |
|            | H1   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H1.9.121 | H1   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |



| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | <b>Removal of agricultural material and overburden</b>   |      |          |                 |        |
| 2.H1.9.122 | H1   | 14.002    |           | Removal and replacement of topsoil   | m3   | 8 200    |                 |        |
| 2.H1.9.123 | H1   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 24 590   |                 |        |
| 2.H1.9.124 | H1   | 14.004    |           | Removal and replacement of overburden  | m3   | 8 200    |                 |        |
|            | H1   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.125 | H1   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 42 800   |                 |        |
|            | H1   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H1.9.126 | H1   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
| 2.H1.9.127 | H1   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H1.9.128 | H1   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H1.9.129 | H1   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H1.9.130 | H1   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 2 350    |                 |        |
|            | H1   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H1.9.131 | H1   | 6.004(a)  |           | Seven strand stock proof fence (1,25m high)  | m    | 2 350    |                 |        |
|            | H1   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H1.9.132 | H1   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b>   |      |          |                 |        |
| 2.H1.9.133 | H1   | 6.002(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101   | m    | 2 350    |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain gates during contract period</b>   |      |          |                 |        |
| 2.H1.9.134 | H1   | 6.005(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H1.9.135 | H1   | 6.003(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101   | m    | 2 350    |                 |        |
|            | H1   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H1.9.136 | H1   | 6.006(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|            | H1   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H1.9.137 | H1   | 47.001    |           | Shaping  | m2   | 54 640   |                 |        |
| 2.H1.9.138 | H1   | 47.002    |           | Ripping  | ha   | 5.5      |                 |        |
| 2.H1.9.139 | H1   | 47.003    |           | Trimming   | m2   | 54 640   |                 |        |
| 2.H1.9.140 | H1   | 47.004    |           | Scarifying   | ha   | 5.5      |                 |        |
| 2.H1.9.141 | H1   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 5 500    |                 |        |
| 2.H1.9.142 | H1   | 47.011    |           | Preparing topsoil for seeding  | m2   | 54 640   |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.9.143 | H1   | 47.012    |           | Hydro-seeding  | ha   | 5        |                 |        |
| 2.H1.9.144 | H1   | 47.013    |           | Hand-seeding   | ha   | 0.5      |                 |        |
| 2.H1.9.145 | H1   | 47.015    |           | Temporary re-vegetation  | ha   | 0.5      |                 |        |
|            | H1   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H1.9.146 | H1   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 6        |                 |        |
| 2.H1.9.147 | H1   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 6        |                 |        |
| 2.H1.9.148 | H1   | 47.010    |           | Seed type - Chloris gayana   | kg   | 55       |                 |        |
| 2.H1.9.149 | H1   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 17       |                 |        |
| 2.H1.9.150 | H1   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 67       |                 |        |
| 2.H1.9.151 | H1   | 47.010    |           | Seed type - Enneapogon chenchroides  | kg   | 6        |                 |        |
| 2.H1.9.152 | H1   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 11       |                 |        |
| 2.H1.9.153 | H1   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 3        |                 |        |
| 2.H1.9.154 | H1   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 17       |                 |        |
| 2.H1.9.155 | H1   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 17       |                 |        |
| 2.H1.9.156 | H1   | 47.010    |           | Seed type - Panicum maximum  | kg   | 20       |                 |        |
| 2.H1.9.157 | H1   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 6        |                 |        |
| 2.H1.9.158 | H1   | 47.016    |           | Provision of temporary erosion control measures  | ha   | 6        |                 |        |
| 2.H1.9.159 | H1   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures  | sum  | 1        |                 |        |
| 2.H1.9.160 | H1   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |                 |        |
|            | H1   |           |           | <b>BORROW PIT 38</b>   |      |          |                 |        |
|            | H1   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H1.9.161 | H1   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>Removal of agricultural material and overburden</b>   |      |          |                 |        |
| 2.H1.9.162 | H1   | 14.002    |           | Removal and replacement of topsoil   | m3   | 12 140   |                 |        |
| 2.H1.9.163 | H1   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 36 420   |                 |        |
| 2.H1.9.164 | H1   | 14.004    |           | Removal and replacement of overburden  | m3   | 12 140   |                 |        |
|            | H1   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.165 | H1   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 50 260   |                 |        |
|            | H1   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H1.9.166 | H1   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
| 2.H1.9.167 | H1   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H1.9.168 | H1   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H1.9.169 | H1   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H1.9.170 | H1   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 2 100    |                 |        |
|            | H1   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H1.9.171 | H1   | 6.004(a)  |           | Seven strand stock proof fence (1,25m high)  | m    | 2 100    |                 |        |
|            | H1   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H1.9.172 | H1   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b> |      |          |                 |        |
| 2.H1.9.173 | H1   | 6.002(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 2 100    |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain gates during contract period</b>                               |      |          |                 |        |
| 2.H1.9.174 | H1   | 6.005(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>         |      |          |                 |        |
| 2.H1.9.175 | H1   | 6.003(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 2 100    |                 |        |
|            | H1   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>           |      |          |                 |        |
| 2.H1.9.176 | H1   | 6.006(a)  |           | 1.2m high gates for stock proof fences   | No   | 1        |                 |        |
|            | H1   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H1.9.177 | H1   | 47.001    |           | Shaping  | m2   | 80 930   |                 |        |
| 2.H1.9.178 | H1   | 47.002    |           | Ripping  | ha   | 8.1      |                 |        |
| 2.H1.9.179 | H1   | 47.003    |           | Trimming   | m2   | 80 930   |                 |        |
| 2.H1.9.180 | H1   | 47.004    |           | Scarifying   | ha   | 8.1      |                 |        |
| 2.H1.9.181 | H1   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 8 100    |                 |        |
| 2.H1.9.182 | H1   | 47.011    |           | Preparing topsoil for seeding  | m2   | 80 930   |                 |        |
| 2.H1.9.183 | H1   | 47.012    |           | Hydro-seeding  | ha   | 7.3      |                 |        |
| 2.H1.9.184 | H1   | 47.013    |           | Hand-seeding   | ha   | 0.8      |                 |        |
| 2.H1.9.185 | H1   | 47.015    |           | Temporary re-vegetation  | ha   | 0.8      |                 |        |
|            | H1   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H1.9.186 | H1   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 9        |                 |        |
| 2.H1.9.187 | H1   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 9        |                 |        |
| 2.H1.9.188 | H1   | 47.010    |           | Seed type - Chloris gayana   | kg   | 81       |                 |        |
| 2.H1.9.189 | H1   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 25       |                 |        |
| 2.H1.9.190 | H1   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 98       |                 |        |
| 2.H1.9.191 | H1   | 47.010    |           | Seed type - Enneapogon chenchroides  | kg   | 9        |                 |        |
| 2.H1.9.192 | H1   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 17       |                 |        |
| 2.H1.9.193 | H1   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 5        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.9.194 | H1   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 25       |                 |        |
| 2.H1.9.195 | H1   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 25       |                 |        |
| 2.H1.9.196 | H1   | 47.010    |           | Seed type - Panicum maximum  | kg   | 29       |                 |        |
| 2.H1.9.197 | H1   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 9        |                 |        |
| 2.H1.9.198 | H1   | 47.016    |           | Provision of temporary erosion control measures  | ha   | 8.1      |                 |        |
| 2.H1.9.199 | H1   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures  | sum  | 1        |                 |        |
| 2.H1.9.200 | H1   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |                 |        |
|            | H1   |           |           | <b>BORROW PIT 39A</b>  |      |          |                 |        |
|            | H1   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H1.9.201 | H1   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>Removal of agricultural material and overburden</b>   |      |          |                 |        |
| 2.H1.9.202 | H1   | 14.002    |           | Removal and replacement of topsoil   | m3   | 11 250   |                 |        |
| 2.H1.9.203 | H1   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 33 760   |                 |        |
| 2.H1.9.204 | H1   | 14.004    |           | Removal and replacement of overburden  | m3   | 11 250   |                 |        |
|            | H1   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.205 | H1   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 26 700   |                 |        |
|            | H1   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H1.9.206 | H1   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
| 2.H1.9.207 | H1   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H1.9.208 | H1   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H1.9.209 | H1   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H1.9.210 | H1   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 970      |                 |        |
|            | H1   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H1.9.211 | H1   | 6.004(c)  |           | Twenty-one strand game proof fencing (2.4m high)   | m    | 485      |                 |        |
| 2.H1.9.212 | H1   | 6.004(e)  |           | Bonnox (or equal approved) (2.4 m high)  | m    | 485      |                 |        |
|            | H1   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H1.9.213 | H1   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b>   |      |          |                 |        |
| 2.H1.9.214 | H1   | 6.002(c)  |           | Twenty-one strand game proof fencing (2.4m high) as per drawing 2A-C6-102  | m    | 485      |                 |        |
| 2.H1.9.215 | H1   | 6.002(e)  |           | Bonnox (or equal approved) (2.4 m high) as per drawing 2A-C6-119   | m    | 485      |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain gates during contract period</b>   |      |          |                 |        |
| 2.H1.9.216 | H1   | 6.005(c)  |           | 2.4m high gates for game fences  | No   | 1        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.9.217 | H1   | 6.005(e)  |           | 2.4m high gates for bonnex fences  | No   | 1        |                 |        |
|            | H1   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b> |      |          |                 |        |
| 2.H1.9.218 | H1   | 6.003(c)  |           | Twenty-one strand game proof fencing (2.4m high) as per drawing 2A-C6-102            | m    | 485      |                 |        |
| 2.H1.9.219 | H1   | 6.003(e)  |           | Bonnox (or equal approved) (2.4 m high) as per drawing 2A-C6-119                     | m    | 485      |                 |        |
|            | H1   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H1.9.220 | H1   | 6.006(c)  |           | 2.4m high gates for game fences  | No   | 1        |                 |        |
| 2.H1.9.221 | H1   | 6.006(e)  |           | 2.4m high gates for bonnex fences  | No   | 1        |                 |        |
|            | H1   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H1.9.222 | H1   | 47.001    |           | Shaping  | m2   | 75 020   |                 |        |
| 2.H1.9.223 | H1   | 47.002    |           | Ripping  | ha   | 7.5      |                 |        |
| 2.H1.9.224 | H1   | 47.003    |           | Trimming   | m2   | 75 020   |                 |        |
| 2.H1.9.225 | H1   | 47.004    |           | Scarifying   | ha   | 7.5      |                 |        |
| 2.H1.9.226 | H1   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 7 500    |                 |        |
| 2.H1.9.227 | H1   | 47.011    |           | Preparing topsoil for seeding  | m2   | 75 020   |                 |        |
| 2.H1.9.228 | H1   | 47.012    |           | Hydro-seeding  | ha   | 6.8      |                 |        |
| 2.H1.9.229 | H1   | 47.013    |           | Hand-seeding   | ha   | 0.7      |                 |        |
| 2.H1.9.230 | H1   | 47.015    |           | Temporary re-vegetation  | ha   | 0.7      |                 |        |
|            | H1   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H1.9.231 | H1   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 8        |                 |        |
| 2.H1.9.232 | H1   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 8        |                 |        |
| 2.H1.9.233 | H1   | 47.010    |           | Seed type - Chloris gayana   | kg   | 80       |                 |        |
| 2.H1.9.234 | H1   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 23       |                 |        |
| 2.H1.9.235 | H1   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 90       |                 |        |
| 2.H1.9.236 | H1   | 47.010    |           | Seed type - Enneapogon chenchroides  | kg   | 8        |                 |        |
| 2.H1.9.237 | H1   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 16       |                 |        |
| 2.H1.9.238 | H1   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 4        |                 |        |
| 2.H1.9.239 | H1   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 23       |                 |        |
| 2.H1.9.240 | H1   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 23       |                 |        |
| 2.H1.9.241 | H1   | 47.010    |           | Seed type - Panicum maximum  | kg   | 27       |                 |        |
| 2.H1.9.242 | H1   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 8        |                 |        |
| 2.H1.9.243 | H1   | 47.016    |           | Provision of temporary erosion control measures                                      | ha   | 7.5      |                 |        |
| 2.H1.9.244 | H1   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures                                | sum  | 1        |                 |        |
| 2.H1.9.245 | H1   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | <b>BORROW PIT 44</b>   |      |          |                 |        |
|            | H1   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H1.9.246 | H1   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>Removal of agricultural material and overburden</b>   |      |          |                 |        |
| 2.H1.9.247 | H1   | 14.002    |           | Removal and replacement of topsoil   | m3   | 7 620    |                 |        |
| 2.H1.9.248 | H1   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 22 860   |                 |        |
| 2.H1.9.249 | H1   | 14.004    |           | Removal and replacement of overburden  | m3   | 7 620    |                 |        |
|            | H1   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.250 | H1   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 32 415   |                 |        |
|            | H1   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H1.9.251 | H1   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
| 2.H1.9.252 | H1   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H1.9.253 | H1   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H1.9.254 | H1   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H1.9.255 | H1   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 1 030    |                 |        |
|            | H1   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H1.9.256 | H1   | 6.004(c)  |           | Twenty-one strand game proof fencing (2.4m high)   | m    | 515      |                 |        |
| 2.H1.9.257 | H1   | 6.004(e)  |           | Bonnox (or equal approved) (2.4 m high)  | m    | 515      |                 |        |
|            | H1   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H1.9.258 | H1   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b>   |      |          |                 |        |
| 2.H1.9.259 | H1   | 6.002(c)  |           | Twenty-one strand game proof fencing (2.4m high) as per drawing 2A-C6-102  | m    | 515      |                 |        |
| 2.H1.9.260 | H1   | 6.002(e)  |           | Bonnox (or equal approved) (2.4 m high) as per drawing 2A-C6-119   | m    | 515      |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain gates during contract period</b>   |      |          |                 |        |
| 2.H1.9.261 | H1   | 6.005(c)  |           | 2.4m high gates for game fences  | No   | 1        |                 |        |
| 2.H1.9.262 | H1   | 6.005(e)  |           | 2.4m high gates for bonnex fences  | No   | 1        |                 |        |
|            | H1   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H1.9.263 | H1   | 6.003(c)  |           | Twenty-one strand game proof fencing (2.4m high) as per drawing 2A-C6-102  | m    | 515      |                 |        |
| 2.H1.9.264 | H1   | 6.003(e)  |           | Bonnox (or equal approved) (2.4 m high) as per drawing 2A-C6-119   | m    | 515      |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b> |      |          |                 |        |
| 2.H1.9.265 | H1   | 6.006(c)  |           | 2.4m high gates for game fences  | No   | 1        |                 |        |
| 2.H1.9.266 | H1   | 6.006(e)  |           | 2.4m high gates for bonnex fences  | No   | 1        |                 |        |
|            | H1   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H1.9.267 | H1   | 47.001    |           | Shaping  | m2   | 50 800   |                 |        |
| 2.H1.9.268 | H1   | 47.002    |           | Ripping  | ha   | 5        |                 |        |
| 2.H1.9.269 | H1   | 47.003    |           | Trimming   | m2   | 50 800   |                 |        |
| 2.H1.9.270 | H1   | 47.004    |           | Scarifying   | ha   | 5        |                 |        |
| 2.H1.9.271 | H1   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 5 000    |                 |        |
| 2.H1.9.272 | H1   | 47.011    |           | Preparing topsoil for seeding  | m2   | 50 800   |                 |        |
| 2.H1.9.273 | H1   | 47.012    |           | Hydro-seeding  | ha   | 4.60     |                 |        |
| 2.H1.9.274 | H1   | 47.013    |           | Hand-seeding   | ha   | 0.50     |                 |        |
| 2.H1.9.275 | H1   | 47.015    |           | Temporary re-vegetation  | ha   | 0.50     |                 |        |
|            | H1   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H1.9.276 | H1   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 5        |                 |        |
| 2.H1.9.277 | H1   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 5        |                 |        |
| 2.H1.9.278 | H1   | 47.010    |           | Seed type - Chloris gayana   | kg   | 10       |                 |        |
| 2.H1.9.279 | H1   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 15       |                 |        |
| 2.H1.9.280 | H1   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 60       |                 |        |
| 2.H1.9.281 | H1   | 47.010    |           | Seed type - Eneapogon chenchroides   | kg   | 5        |                 |        |
| 2.H1.9.282 | H1   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 10       |                 |        |
| 2.H1.9.283 | H1   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 3        |                 |        |
| 2.H1.9.284 | H1   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 15       |                 |        |
| 2.H1.9.285 | H1   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 15       |                 |        |
| 2.H1.9.286 | H1   | 47.010    |           | Seed type - Panicum maximum  | kg   | 18       |                 |        |
| 2.H1.9.287 | H1   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 5        |                 |        |
| 2.H1.9.288 | H1   | 47.016    |           | Provision of temporary erosion control measures                                    | ha   | 5        |                 |        |
| 2.H1.9.289 | H1   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures                              | sum  | 1        |                 |        |
| 2.H1.9.290 | H1   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |                 |        |
|            | H1   |           |           | <b>BORROW PIT 43</b>   |      |          |                 |        |
|            | H1   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H1.9.291 | H1   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>Removal of agricultural material and overburden</b>                             |      |          |                 |        |
| 2.H1.9.292 | H1   | 14.002    |           | Removal and replacement of topsoil   | m3   | 7 180    |                 |        |
| 2.H1.9.293 | H1   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 21 530   |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.9.294 | H1   | 14.004    |           | Removal and replacement of overburden  | m3   | 7 180    |                 |        |
|            | H1   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.295 | H1   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 45 810   |                 |        |
|            | H1   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H1.9.296 | H1   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
| 2.H1.9.297 | H1   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H1.9.298 | H1   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H1.9.299 | H1   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H1.9.300 | H1   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 1 180    |                 |        |
|            | H1   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H1.9.301 | H1   | 6.004(c)  |           | Twenty-one strand game proof fencing (2.4m high)   | m    | 590      |                 |        |
| 2.H1.9.302 | H1   | 6.004(e)  |           | Bonnox (or equal approved) (2.4 m high)  | m    | 590      |                 |        |
|            | H1   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H1.9.303 | H1   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b>   |      |          |                 |        |
| 2.H1.9.304 | H1   | 6.002(c)  |           | Twenty-one strand game proof fencing (2.4m high) as per drawing 2A-C6-102  | m    | 590      |                 |        |
| 2.H1.9.305 | H1   | 6.002(e)  |           | Bonnox (or equal approved) (2.4 m high) as per drawing 2A-C6-119   | m    | 590      |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain gates during contract period</b>   |      |          |                 |        |
| 2.H1.9.306 | H1   | 6.005(c)  |           | 2.4m high gates for game fences  | No   | 1        |                 |        |
| 2.H1.9.307 | H1   | 6.005(e)  |           | 2.4m high gates for bonnex fences  | No   | 1        |                 |        |
|            | H1   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H1.9.308 | H1   | 6.003(c)  |           | Twenty-one strand game proof fencing (2.4m high) as per drawing 2A-C6-102  | m    | 590      |                 |        |
| 2.H1.9.309 | H1   | 6.003(e)  |           | Bonnox (or equal approved) (2.4 m high) as per drawing 2A-C6-119   | m    | 590      |                 |        |
|            | H1   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H1.9.310 | H1   | 6.006(c)  |           | 2.4m high gates for game fences  | No   | 1        |                 |        |
| 2.H1.9.311 | H1   | 6.006(e)  |           | 2.4m high gates for bonnex fences  | No   | 1        |                 |        |
|            | H1   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H1.9.312 | H1   | 47.001    |           | Shaping  | m2   | 47 860   |                 |        |
| 2.H1.9.313 | H1   | 47.002    |           | Ripping  | ha   | 4.8      |                 |        |
| 2.H1.9.314 | H1   | 47.003    |           | Trimming   | m2   | 47 860   |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |



| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.9.315 | H1   | 47.004    |           | Scarifying   | ha   | 4.8      |                 |        |
| 2.H1.9.316 | H1   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 5 000    |                 |        |
| 2.H1.9.317 | H1   | 47.011    |           | Preparing topsoil for seeding  | m2   | 47 860   |                 |        |
| 2.H1.9.318 | H1   | 47.012    |           | Hydro-seeding  | ha   | 4.3      |                 |        |
| 2.H1.9.319 | H1   | 47.013    |           | Hand-seeding   | ha   | 0.5      |                 |        |
| 2.H1.9.320 | H1   | 47.015    |           | Temporary re-vegetation  | ha   | 0.5      |                 |        |
|            | H1   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H1.9.321 | H1   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 5        |                 |        |
| 2.H1.9.322 | H1   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 5        |                 |        |
| 2.H1.9.323 | H1   | 47.010    |           | Seed type - Chloris gayana   | kg   | 50       |                 |        |
| 2.H1.9.324 | H1   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 15       |                 |        |
| 2.H1.9.325 | H1   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 58       |                 |        |
| 2.H1.9.326 | H1   | 47.010    |           | Seed type - Eneapogon chenchroides   | kg   | 5        |                 |        |
| 2.H1.9.327 | H1   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 10       |                 |        |
| 2.H1.9.328 | H1   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 3        |                 |        |
| 2.H1.9.329 | H1   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 15       |                 |        |
| 2.H1.9.330 | H1   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 15       |                 |        |
| 2.H1.9.331 | H1   | 47.010    |           | Seed type - Panicum maximum  | kg   | 17       |                 |        |
| 2.H1.9.332 | H1   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 5        |                 |        |
| 2.H1.9.333 | H1   | 47.016    |           | Provision of temporary erosion control measures  | ha   | 4.8      |                 |        |
| 2.H1.9.334 | H1   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures  | sum  | 1        |                 |        |
| 2.H1.9.335 | H1   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |                 |        |
|            | H1   |           |           | <b>BORROW PIT 53</b>   |      |          |                 |        |
|            | H1   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H1.9.336 | H1   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>Removal of agricultural material and overburden</b>   |      |          |                 |        |
| 2.H1.9.337 | H1   | 14.002    |           | Removal and replacement of topsoil   | m3   | 3 960    |                 |        |
| 2.H1.9.338 | H1   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 11 890   |                 |        |
| 2.H1.9.339 | H1   | 14.004    |           | Removal and replacement of overburden  | m3   | 3 960    |                 |        |
|            | H1   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.340 | H1   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 25 110   |                 |        |
|            | H1   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H1.9.341 | H1   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.9.342 | H1   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H1.9.343 | H1   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H1.9.344 | H1   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H1.9.345 | H1   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 2 690    |                 |        |
|            | H1   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H1.9.346 | H1   | 6.004(c)  |           | Twenty-one strand game proof fencing (2.4m high)   | m    | 1 345    |                 |        |
| 2.H1.9.347 | H1   | 6.004(e)  |           | Bonnox (or equal approved) (2.4 m high)  | m    | 1 345    |                 |        |
|            | H1   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H1.9.348 | H1   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b> |      |          |                 |        |
| 2.H1.9.349 | H1   | 6.002(c)  |           | Twenty-one strand game proof fencing (2.4m high) as per drawing 2A-C6-102                    | m    | 1 345    |                 |        |
| 2.H1.9.350 | H1   | 6.002(e)  |           | Bonnox (or equal approved) (2.4 m high) as per drawing 2A-C6-119                             | m    | 1 345    |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain gates during contract period</b>                               |      |          |                 |        |
| 2.H1.9.351 | H1   | 6.005(c)  |           | 2.4m high gates for game fences  | No   | 1        |                 |        |
| 2.H1.9.352 | H1   | 6.005(e)  |           | 2.4m high gates for bonnex fences  | No   | 1        |                 |        |
|            | H1   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>         |      |          |                 |        |
| 2.H1.9.353 | H1   | 6.003(c)  |           | Twenty-one strand game proof fencing (2.4m high) as per drawing 2A-C6-102                    | m    | 1 345    |                 |        |
| 2.H1.9.354 | H1   | 6.003(e)  |           | Bonnox (or equal approved) (2.4 m high) as per drawing 2A-C6-119                             | m    | 1 345    |                 |        |
|            | H1   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>           |      |          |                 |        |
| 2.H1.9.355 | H1   | 6.006(c)  |           | 2.4m high gates for game fences  | No   | 1        |                 |        |
| 2.H1.9.356 | H1   | 6.006(e)  |           | 2.4m high gates for bonnex fences  | No   | 1        |                 |        |
|            | H1   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H1.9.357 | H1   | 47.001    |           | Shaping  | m2   | 26 420   |                 |        |
| 2.H1.9.358 | H1   | 47.002    |           | Ripping  | ha   | 2.6      |                 |        |
| 2.H1.9.359 | H1   | 47.003    |           | Trimming   | m2   | 26 420   |                 |        |
| 2.H1.9.360 | H1   | 47.004    |           | Scarifying   | ha   | 2.6      |                 |        |
| 2.H1.9.361 | H1   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 2 700    |                 |        |
| 2.H1.9.362 | H1   | 47.011    |           | Preparing topsoil for seeding  | m2   | 26 420   |                 |        |
| 2.H1.9.363 | H1   | 47.012    |           | Hydro-seeding  | ha   | 2.3      |                 |        |
| 2.H1.9.364 | H1   | 47.013    |           | Hand-seeding   | ha   | 0.3      |                 |        |
| 2.H1.9.365 | H1   | 47.015    |           | Temporary re-vegetation  | ha   | 0.3      |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H1.9.366 | H1   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 3        |                 |        |
| 2.H1.9.367 | H1   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 3        |                 |        |
| 2.H1.9.368 | H1   | 47.010    |           | Seed type - Chloris gayana   | kg   | 26       |                 |        |
| 2.H1.9.369 | H1   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 8        |                 |        |
| 2.H1.9.370 | H1   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 32       |                 |        |
| 2.H1.9.371 | H1   | 47.010    |           | Seed type - Eneapogon chenchroides   | kg   | 3        |                 |        |
| 2.H1.9.372 | H1   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 6        |                 |        |
| 2.H1.9.373 | H1   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 2        |                 |        |
| 2.H1.9.374 | H1   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 8        |                 |        |
| 2.H1.9.375 | H1   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 8        |                 |        |
| 2.H1.9.376 | H1   | 47.010    |           | Seed type - Panicum maximum  | kg   | 10       |                 |        |
| 2.H1.9.377 | H1   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 3        |                 |        |
| 2.H1.9.378 | H1   | 47.016    |           | Provision of temporary erosion control measures  | ha   | 3        |                 |        |
| 2.H1.9.379 | H1   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures  | sum  | 1        |                 |        |
| 2.H1.9.380 | H1   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |                 |        |
|            | H1   |           |           | <b>BORROW PIT J</b>  |      |          |                 |        |
|            | H1   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H1.9.381 | H1   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>Removal of agricultural material and overburden</b>   |      |          |                 |        |
| 2.H1.9.382 | H1   | 14.002    |           | Removal and replacement of topsoil   | m3   | 16 900   |                 |        |
| 2.H1.9.383 | H1   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 50 700   |                 |        |
| 2.H1.9.384 | H1   | 14.004    |           | Removal and replacement of overburden  | m3   | 16 900   |                 |        |
|            | H1   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.385 | H1   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 48 480   |                 |        |
|            | H1   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H1.9.386 | H1   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
| 2.H1.9.387 | H1   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H1.9.388 | H1   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H1.9.389 | H1   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H1.9.390 | H1   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 990      |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H1.9.391 | H1   | 6.004(a)  |           | Seven strand stock proof fence (1,25m high)  | m    | 990      |                 |        |
|            | H1   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H1.9.392 | H1   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b> |      |          |                 |        |
| 2.H1.9.393 | H1   | 6.002(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 990      |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain gates during contract period</b>                               |      |          |                 |        |
| 2.H1.9.394 | H1   | 6.005(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>         |      |          |                 |        |
| 2.H1.9.395 | H1   | 6.003(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 990      |                 |        |
|            | H1   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>           |      |          |                 |        |
| 2.H1.9.396 | H1   | 6.006(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|            | H1   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H1.9.397 | H1   | 47.001    |           | Shaping  | m2   | 112 660  |                 |        |
| 2.H1.9.398 | H1   | 47.002    |           | Ripping  | ha   | 11.3     |                 |        |
| 2.H1.9.399 | H1   | 47.003    |           | Trimming   | m2   | 112 660  |                 |        |
| 2.H1.9.400 | H1   | 47.004    |           | Scarifying   | ha   | 11.3     |                 |        |
| 2.H1.9.401 | H1   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 13 000   |                 |        |
| 2.H1.9.402 | H1   | 47.011    |           | Preparing topsoil for seeding  | m2   | 112 660  |                 |        |
| 2.H1.9.403 | H1   | 47.012    |           | Hydro-seeding  | ha   | 10.1     |                 |        |
| 2.H1.9.404 | H1   | 47.013    |           | Hand-seeding   | ha   | 1.2      |                 |        |
| 2.H1.9.405 | H1   | 47.015    |           | Temporary re-vegetation  | ha   | 1.2      |                 |        |
|            | H1   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H1.9.406 | H1   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 12       |                 |        |
| 2.H1.9.407 | H1   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 12       |                 |        |
| 2.H1.9.408 | H1   | 47.010    |           | Seed type - Chloris gayana   | kg   | 113      |                 |        |
| 2.H1.9.409 | H1   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 34       |                 |        |
| 2.H1.9.410 | H1   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 136      |                 |        |
| 2.H1.9.411 | H1   | 47.010    |           | Seed type - Enneapogon chenchroides  | kg   | 12       |                 |        |
| 2.H1.9.412 | H1   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 23       |                 |        |
| 2.H1.9.413 | H1   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 6        |                 |        |
| 2.H1.9.414 | H1   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 34       |                 |        |
| 2.H1.9.415 | H1   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 34       |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.9.416 | H1   | 47.010    |           | Seed type - Panicum maximum  | kg   | 40       |                 |        |
| 2.H1.9.417 | H1   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 12       |                 |        |
| 2.H1.9.418 | H1   | 47.016    |           | Provision of temporary erosion control measures  | ha   | 12       |                 |        |
| 2.H1.9.419 | H1   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures  | sum  | 1        |                 |        |
| 2.H1.9.420 | H1   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |                 |        |
|            | H1   |           |           | <b>BORROW PIT H</b>  |      |          |                 |        |
|            | H1   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H1.9.421 | H1   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>Removal of agricultural material and overburden</b>   |      |          |                 |        |
| 2.H1.9.422 | H1   | 14.002    |           | Removal and replacement of topsoil   | m3   | 26 640   |                 |        |
| 2.H1.9.423 | H1   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 79 910   |                 |        |
| 2.H1.9.424 | H1   | 14.004    |           | Removal and replacement of overburden  | m3   | 26 640   |                 |        |
|            | H1   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.425 | H1   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 500      |                 |        |
|            | H1   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H1.9.426 | H1   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
| 2.H1.9.427 | H1   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H1.9.428 | H1   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H1.9.429 | H1   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H1.9.430 | H1   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 2 300    |                 |        |
|            | H1   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H1.9.431 | H1   | 6.004(a)  |           | Seven strand stock proof fence (1,25m high)  | m    | 2 300    |                 |        |
|            | H1   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H1.9.432 | H1   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b>   |      |          |                 |        |
| 2.H1.9.433 | H1   | 6.002(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101   | m    | 2 300    |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain gates during contract period</b>   |      |          |                 |        |
| 2.H1.9.434 | H1   | 6.005(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H1.9.435 | H1   | 6.003(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101   | m    | 2 300    |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b> |      |          |                 |        |
| 2.H1.9.436 | H1   | 6.006(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|            | H1   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H1.9.437 | H1   | 47.001    |           | Shaping  | m2   | 177 580  |                 |        |
| 2.H1.9.438 | H1   | 47.002    |           | Ripping  | ha   | 17.8     |                 |        |
| 2.H1.9.439 | H1   | 47.003    |           | Trimming   | m2   | 177 580  |                 |        |
| 2.H1.9.440 | H1   | 47.004    |           | Scarifying   | ha   | 17.8     |                 |        |
| 2.H1.9.441 | H1   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 18 000   |                 |        |
| 2.H1.9.442 | H1   | 47.011    |           | Preparing topsoil for seeding  | m2   | 177 580  |                 |        |
| 2.H1.9.443 | H1   | 47.012    |           | Hydro-seeding  | ha   | 16       |                 |        |
| 2.H1.9.444 | H1   | 47.013    |           | Hand-seeding   | ha   | 1.8      |                 |        |
| 2.H1.9.445 | H1   | 47.015    |           | Temporary re-vegetation  | ha   | 1.8      |                 |        |
|            | H1   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H1.9.446 | H1   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 18       |                 |        |
| 2.H1.9.447 | H1   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 18       |                 |        |
| 2.H1.9.448 | H1   | 47.010    |           | Seed type - Chloris gayana   | kg   | 178      |                 |        |
| 2.H1.9.449 | H1   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 54       |                 |        |
| 2.H1.9.450 | H1   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 214      |                 |        |
| 2.H1.9.451 | H1   | 47.010    |           | Seed type - Eneapogon chenchroides   | kg   | 18       |                 |        |
| 2.H1.9.452 | H1   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 36       |                 |        |
| 2.H1.9.453 | H1   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 9        |                 |        |
| 2.H1.9.454 | H1   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 54       |                 |        |
| 2.H1.9.455 | H1   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 54       |                 |        |
| 2.H1.9.456 | H1   | 47.010    |           | Seed type - Panicum maximum  | kg   | 63       |                 |        |
| 2.H1.9.457 | H1   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 18       |                 |        |
| 2.H1.9.458 | H1   | 47.016    |           | Provision of temporary erosion control measures                                    | ha   | 17.8     |                 |        |
| 2.H1.9.459 | H1   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures                              | sum  | 1        |                 |        |
| 2.H1.9.460 | H1   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |                 |        |
|            | H1   |           |           | <b>SPOIL SITE I</b>  |      |          |                 |        |
|            | H1   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H1.9.461 | H1   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>Removal of agricultural material and overburden</b>                             |      |          |                 |        |
| 2.H1.9.462 | H1   | 14.002    |           | Removal and replacement of topsoil   | m3   | 2 320    |                 |        |
| 2.H1.9.463 | H1   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 6 960    |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.464 | H1   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 35 000   |                 |        |
|            | H1   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H1.9.465 | H1   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
| 2.H1.9.466 | H1   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H1.9.467 | H1   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H1.9.468 | H1   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H1.9.469 | H1   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 360      |                 |        |
|            | H1   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H1.9.470 | H1   | 6.004(a)  |           | Seven strand stock proof fence (1,25m high)  | m    | 360      |                 |        |
|            | H1   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H1.9.471 | H1   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b>   |      |          |                 |        |
| 2.H1.9.472 | H1   | 6.002(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101   | m    | 360      |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain gates during contract period</b>   |      |          |                 |        |
| 2.H1.9.473 | H1   | 6.005(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H1.9.474 | H1   | 6.003(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101   | m    | 360      |                 |        |
|            | H1   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H1.9.475 | H1   | 6.006(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|            | H1   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H1.9.476 | H1   | 47.001    |           | Shaping  | m2   | 15 460   |                 |        |
| 2.H1.9.477 | H1   | 47.002    |           | Ripping  | ha   | 1.5      |                 |        |
| 2.H1.9.478 | H1   | 47.003    |           | Trimming   | m2   | 15 460   |                 |        |
| 2.H1.9.479 | H1   | 47.004    |           | Scarifying   | ha   | 1.5      |                 |        |
| 2.H1.9.480 | H1   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 1 600    |                 |        |
| 2.H1.9.481 | H1   | 47.011    |           | Preparing topsoil for seeding  | m2   | 15 460   |                 |        |
| 2.H1.9.482 | H1   | 47.012    |           | Hydro-seeding  | ha   | 1.3      |                 |        |
| 2.H1.9.483 | H1   | 47.013    |           | Hand-seeding   | ha   | 0.2      |                 |        |
| 2.H1.9.484 | H1   | 47.015    |           | Temporary re-vegetation  | ha   | 0.2      |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H1.9.485 | H1   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 2        |                 |        |
| 2.H1.9.486 | H1   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 2        |                 |        |
| 2.H1.9.487 | H1   | 47.010    |           | Seed type - Chloris gayana   | kg   | 15       |                 |        |
| 2.H1.9.488 | H1   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 5        |                 |        |
| 2.H1.9.489 | H1   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 18       |                 |        |
| 2.H1.9.490 | H1   | 47.010    |           | Seed type - Eneapogon chenchroides   | kg   | 2        |                 |        |
| 2.H1.9.491 | H1   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 3        |                 |        |
| 2.H1.9.492 | H1   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 1        |                 |        |
| 2.H1.9.493 | H1   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 5        |                 |        |
| 2.H1.9.494 | H1   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 5        |                 |        |
| 2.H1.9.495 | H1   | 47.010    |           | Seed type - Panicum maximum  | kg   | 6        |                 |        |
| 2.H1.9.496 | H1   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 2        |                 |        |
| 2.H1.9.497 | H1   | 47.016    |           | Provision of temporary erosion control measures  | ha   | 2        |                 |        |
| 2.H1.9.498 | H1   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures  | sum  | 1        |                 |        |
| 2.H1.9.499 | H1   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |                 |        |
|            | H1   |           |           | <b>SPOIL SITE 5</b>  |      |          |                 |        |
|            | H1   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H1.9.500 | H1   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>Removal of agricultural material and overburden</b>   |      |          |                 |        |
| 2.H1.9.501 | H1   | 14.002    |           | Removal and replacement of topsoil   | m3   | 1 278    |                 |        |
| 2.H1.9.502 | H1   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 3 834    |                 |        |
|            | H1   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.503 | H1   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 17 165   |                 |        |
|            | H1   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H1.9.504 | H1   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
| 2.H1.9.505 | H1   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H1.9.506 | H1   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H1.9.507 | H1   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H1.9.508 | H1   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 500      |                 |        |
|            | H1   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H1.9.509 | H1   | 6.004(a)  |           | Seven strand stock proof fence (1,25m high)  | m    | 500      |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |



| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H1.9.510 | H1   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b> |      |          |                 |        |
| 2.H1.9.511 | H1   | 6.002(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 500      |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain gates during contract period</b>                               |      |          |                 |        |
| 2.H1.9.512 | H1   | 6.005(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>         |      |          |                 |        |
| 2.H1.9.513 | H1   | 6.003(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 500      |                 |        |
|            | H1   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>           |      |          |                 |        |
| 2.H1.9.514 | H1   | 6.006(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|            | H1   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H1.9.515 | H1   | 47.001    |           | Shaping  | m2   | 8 519    |                 |        |
| 2.H1.9.516 | H1   | 47.002    |           | Ripping  | ha   | 1        |                 |        |
| 2.H1.9.517 | H1   | 47.003    |           | Trimming   | m2   | 8 519    |                 |        |
| 2.H1.9.518 | H1   | 47.004    |           | Scarifying   | ha   | 1        |                 |        |
| 2.H1.9.519 | H1   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 1 000    |                 |        |
| 2.H1.9.520 | H1   | 47.011    |           | Preparing topsoil for seeding  | m2   | 8 519    |                 |        |
| 2.H1.9.521 | H1   | 47.012    |           | Hydro-seeding  | ha   | 0.85     |                 |        |
| 2.H1.9.522 | H1   | 47.013    |           | Hand-seeding   | ha   | 0.10     |                 |        |
| 2.H1.9.523 | H1   | 47.015    |           | Temporary re-vegetation  | ha   | 0.10     |                 |        |
|            | H1   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H1.9.524 | H1   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 1        |                 |        |
| 2.H1.9.525 | H1   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 1        |                 |        |
| 2.H1.9.526 | H1   | 47.010    |           | Seed type - Chloris gayana   | kg   | 10       |                 |        |
| 2.H1.9.527 | H1   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 3        |                 |        |
| 2.H1.9.528 | H1   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 12       |                 |        |
| 2.H1.9.529 | H1   | 47.010    |           | Seed type - Enneapogon chenchroides  | kg   | 1        |                 |        |
| 2.H1.9.530 | H1   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 2        |                 |        |
| 2.H1.9.531 | H1   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 1        |                 |        |
| 2.H1.9.532 | H1   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 3        |                 |        |
| 2.H1.9.533 | H1   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 3        |                 |        |
| 2.H1.9.534 | H1   | 47.010    |           | Seed type - Panicum maximum  | kg   | 4        |                 |        |
| 2.H1.9.535 | H1   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 1        |                 |        |
| 2.H1.9.536 | H1   | 47.016    |           | Provision of temporary erosion control measures  | ha   | 1        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.9.537 | H1   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures  | sum  | 1        |                 |        |
| 2.H1.9.538 | H1   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |                 |        |
|            | H1   |           |           | <b>SPOIL SITE M</b>  |      |          |                 |        |
|            | H1   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H1.9.539 | H1   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>Removal of agricultural material and overburden</b>   |      |          |                 |        |
| 2.H1.9.540 | H1   | 14.002    |           | Removal and replacement of topsoil   | m3   | 650      |                 |        |
| 2.H1.9.541 | H1   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 1 949    |                 |        |
|            | H1   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.542 | H1   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 2 850    |                 |        |
|            | H1   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H1.9.543 | H1   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
| 2.H1.9.544 | H1   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H1.9.545 | H1   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H1.9.546 | H1   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H1.9.547 | H1   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 400      |                 |        |
|            | H1   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H1.9.548 | H1   | 6.004(a)  |           | Seven strand stock proof fence (1,25m high)  | m    | 400      |                 |        |
|            | H1   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H1.9.549 | H1   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b>   |      |          |                 |        |
| 2.H1.9.550 | H1   | 6.002(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101   | m    | 400      |                 |        |
|            | H1   |           |           | <b>Supply, erect and maintain gates during contract period</b>   |      |          |                 |        |
| 2.H1.9.551 | H1   | 6.005(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|            | H1   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H1.9.552 | H1   | 6.003(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101   | m    | 400      |                 |        |
|            | H1   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H1.9.553 | H1   | 6.006(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|            | H1   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H1.9.554 | H1   | 47.001    |           | Shaping  | m2   | 4 330    |                 |        |
| 2.H1.9.555 | H1   | 47.002    |           | Ripping  | ha   | 1        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.9.556 | H1   | 47.003    |           | Trimming   | m2   | 4 330    |                 |        |
| 2.H1.9.557 | H1   | 47.004    |           | Scarifying   | ha   | 1        |                 |        |
| 2.H1.9.558 | H1   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 1 000    |                 |        |
| 2.H1.9.559 | H1   | 47.011    |           | Preparing topsoil for seeding  | m2   | 4 330    |                 |        |
| 2.H1.9.560 | H1   | 47.012    |           | Hydro-seeding  | ha   | 0.43     |                 |        |
| 2.H1.9.561 | H1   | 47.013    |           | Hand-seeding   | ha   | 0.10     |                 |        |
| 2.H1.9.562 | H1   | 47.015    |           | Temporary re-vegetation  | ha   | 0.10     |                 |        |
|            | H1   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H1.9.563 | H1   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 1        |                 |        |
| 2.H1.9.564 | H1   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 1        |                 |        |
| 2.H1.9.565 | H1   | 47.010    |           | Seed type - Chloris gayana   | kg   | 10       |                 |        |
| 2.H1.9.566 | H1   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 3        |                 |        |
| 2.H1.9.567 | H1   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 12       |                 |        |
| 2.H1.9.568 | H1   | 47.010    |           | Seed type - Eriopogon chenchroides   | kg   | 1        |                 |        |
| 2.H1.9.569 | H1   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 2        |                 |        |
| 2.H1.9.570 | H1   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 1        |                 |        |
| 2.H1.9.571 | H1   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 3        |                 |        |
| 2.H1.9.572 | H1   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 3        |                 |        |
| 2.H1.9.573 | H1   | 47.010    |           | Seed type - Panicum maximum  | kg   | 4        |                 |        |
| 2.H1.9.574 | H1   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 1        |                 |        |
| 2.H1.9.575 | H1   | 47.016    |           | Provision of temporary erosion control measures  | ha   | 1        |                 |        |
| 2.H1.9.576 | H1   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures  | sum  | 1        |                 |        |
| 2.H1.9.577 | H1   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |                 |        |
|            | H1   |           |           | <b>SPOIL SITE E - ON PIPELINE</b>  |      |          |                 |        |
|            | H1   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.578 | H1   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 950      |                 |        |
|            | H1   |           |           | <b>SPOIL SITE 2 - ON PIPELINE (CH 50 625)</b>  |      |          |                 |        |
|            | H1   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.579 | H1   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 1 145    |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|            |      |                   |           |  |      |          | Brought Forward |        |
|            | H1   |                   |           | <b>SPOIL SITE 3 - ON PIPELINE (CH 74 750)</b>  |      |          |                 |        |
|            | H1   |                   |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H1.9.580 | H1   | 14.006            |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 3 800    |                 |        |
|            | H1   |                   |           | <b>PART H1.9: Borrow pits and Spoil Areas<br/>- Carried forward to Summary of Bills</b>  |      |          |                 |        |

| Item no.     | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|              |      |                   |           |  |      |          |                 |        |
|              | H1   |                   |           | <b>PART H1.10: Ancillary Works</b>   |      |          |                 |        |
|              | H1   |                   |           | <b>PART H1.10.1: INSTRUMENTATION HUT (Repeater A)</b>  |      |          |                 |        |
|              | H1   |                   |           | <b>EARTHWORKS</b>  |      |          |                 |        |
|              | H1   |                   |           | <b>REFER TO DRAWING 2G-C7-150</b>  |      |          |                 |        |
| 2.H1.10.1.1  | H1   | 9.010             |           | Excavation by hand   | m3   | 3        |                 |        |
| 2.H1.10.1.2  | H1   | 9.009             |           | Rip and recompact 150mm insitu material to 93% Mod AASHTO  | m2   | 40       |                 |        |
|              | H1   |                   |           | <b>SOIL POISONING</b>  |      |          |                 |        |
| 2.H1.10.1.3  | H1   | 46.011            |           | Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming (Supply of herbicide and ant poison shall be paid for in the provisional sums) | m2   | 40       |                 |        |
|              | H1   |                   |           | <b>FORMWORK</b>  |      |          |                 |        |
|              | H1   |                   |           | <b>ROUGH FORMWORK</b>  |      |          |                 |        |
|              | H1   |                   |           | <b>Narrow widths up to 300mm</b>   |      |          |                 |        |
| 2.H1.10.1.4  | H1   | 20.005            |           | To apron and surfacebed  | m    | 38       |                 |        |
|              | H1   |                   |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|              | H1   |                   |           | <b>Horizontal surfaces for visible surface including 20mm chamfers and drip grooves on a exposed corners to:</b>   |      |          |                 |        |
| 2.H1.10.1.5  | H1   | 20.002            |           | Underside of slabs (Incl. Shelf)   | m2   | 21       |                 |        |
|              | H1   |                   |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H1.10.1.6  | H1   | 20.002            |           | Upstand beams  | m2   | 9        |                 |        |
| 2.H1.10.1.7  | H1   | 20.002            |           | Vertical sides of suspended slabs (incl. Shelf)  | m2   | 4        |                 |        |
|              | H1   |                   |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H1.10.1.8  | H1   | 20.007            |           | Steel bars (irrespective of grade or diameter)   | t    | 1        |                 |        |
| 2.H1.10.1.9  | H1   | 20.008            |           | Mesh ref 395 high-tensile welded mesh  | m2   | 2        |                 |        |
|              | H1   |                   |           | <b>CONCRETE</b>  |      |          |                 |        |
|              | H1   |                   |           | <b>Strength concrete grade 30/19</b>   |      |          |                 |        |
| 2.H1.10.1.10 | H1   | 20.012            |           | Surface bed, shelf, roof, ramp and apron   | m3   | 12       |                 |        |
|              | H1   |                   |           | <b>Unformed surface finishes</b>   |      |          |                 |        |
| 2.H1.10.1.11 | H1   | 20.013(a)         |           | Wood floated finish  | m2   | 48       |                 |        |
| 2.H1.10.1.12 | H1   | 20.013(b)         |           | Steel floated finish (shelf & top of beams)  | m2   | 5        |                 |        |
|              | H1   |                   |           | <b>AGGREGATE</b>   |      |          |                 |        |
| 2.H1.10.1.13 | H1   | 20.014            |           | 19mm stone balast  | m3   | 0.8      |                 |        |
|              | H1   |                   |           | <b>JOINTS</b>  |      |          |                 |        |
| 2.H1.10.1.14 | H1   | 20.016            |           | Construction joints, including shutters to apron   | m    | 13       |                 |        |
| 2.H1.10.1.15 | H1   | 20.016            |           | 75mm deep x 10mm wide expansion joint including shutter, 10mm soft board joint filler and sealant per detail C4 drawing 2A-C6-002  | m    | 22       |                 |        |
|              |      |                   |           |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.10.1.16 | H1   | 20.016    |           | 2 Layers 0.6mm thick galvanised plate, including smooth plaster to the tops of brick walls   | m2   | 4        |                 |        |
|              | H1   |           |           | <b>MASONRY</b>   |      |          |                 |        |
|              | H1   |           |           | <b>BRICKWORK OF NFX BRICKS (14 MPA NOMINAL COMPRESSIVE STRENGTH) IN CLASS I MORTAR</b>   |      |          |                 |        |
| 2.H1.10.1.17 | H1   | 46.004(a) |           | One brick walls for structure  | m2   | 45       |                 |        |
|              | H1   |           |           | <b>FACE BRICKWORK</b>  |      |          |                 |        |
|              | H1   |           |           | <b>Face brickwork pointed with recessed horizontal and vertical joints. The cost for the supply and delivery of facebrick shall be paid for in Provisional Sums. All other costs related to the installation of the facebrick shall be included in this item (includes all other material). Samples of facebrick to be approved by the Engineer/Architect.</b> |      |          |                 |        |
| 2.H1.10.1.18 | H1   | 46.004(h) |           | Extra over brickwork for face brickwork  | m2   | 90       |                 |        |
|              | H1   |           |           | <b>MASONRY REINFORCING</b>   |      |          |                 |        |
| 2.H1.10.1.19 | H1   | 46.004(f) |           | Fabric reinforcement and building into joints of one brick walls   | m    | 200      |                 |        |
| 2.H1.10.1.20 | H1   | 46.004(f) |           | Masonry reinforcing (3 no R8 bars) on 230mm wall   | m    | 4        |                 |        |
|              | H1   |           |           | <b>METALWORK</b>   |      |          |                 |        |
|              | H1   |           |           | <b>Supply and fabrication of steel</b>   |      |          |                 |        |
| 2.H1.10.1.21 | H1   | 24.001    |           | 1000mm x 1000mm 3CR12 louvre per drawing 86490 complete including shop details, supply and installation  | No   | 1        |                 |        |
| 2.H1.10.1.22 | H1   | 46.005(c) |           | Doors: double transformer door (2400mm x 1800mm) with insect proofing and louvres, locking mechanism, supplied, installed and painted. All as per dwg. 2G-C7-150   | No   | 1        |                 |        |
|              | H1   |           |           | <b>MISCELLANEOUS TRADES, FIXTURES AND APPLIANCES</b>   |      |          |                 |        |
| 2.H1.10.1.23 | H1   | 46.011    |           | Epoxy sealant to shelf   | m2   | 1.8      |                 |        |
| 2.H1.10.1.24 | H1   | 46.011    |           | 110 ribbed HDPE sleeves supplied and installed per supplier's specification, including draw wire (ducting from draw box to interior of instrumentation hut)  | m    | 15       |                 |        |
| 2.H1.10.1.25 | H1   | 46.011    |           | Polyurethane waterproofing   | m2   | 23       |                 |        |
| 2.H1.10.1.26 | H1   | 46.011    |           | 100mm thick Isoboard   | m2   | 15       |                 |        |
| 2.H1.10.1.27 | H1   | 46.011    |           | Waterpermeable fabric  | m2   | 23       |                 |        |
| 2.H1.10.1.28 | H1   | 46.011    |           | 80 ND uPVC drainage pipes cast into upstand beams (Weep holes)   | m    | 3        |                 |        |
| 2.H1.10.1.29 | H1   | 46.012    |           | Draw box per detail C10 drawing 2A-C6-003, complete  | no   | 1        |                 |        |
|              | H1   |           |           | <b>FIRE</b>  |      |          |                 |        |
| 2.H1.10.1.30 | H1   | 46.011    |           | Supply, delivery and installation of SABS Approved 5kg CO2 fire extinguisher complete with wall bracket and wooden backing board   | No   | 2        |                 |        |
| 2.H1.10.1.31 | H1   | 46.011    |           | Supply and installation of SABS Approved 190mm x 380mm single sided, wall mounted photo luminescent safety signs   | no   | 2        |                 |        |
|              |      |           |           |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              |      |           |           |  |      |          | Brought Forward |        |
|              | H1   |           |           | <b>PART H1.10.2: INSTRUMENTATION HUT (Repeater B)</b>  |      |          |                 |        |
|              | H1   |           |           | <b>EARTHWORKS</b>  |      |          |                 |        |
|              | H1   |           |           | <b>REFER TO DRAWING 2G-C7-150</b>  |      |          |                 |        |
| 2.H1.10.2.1  | H1   | 9.010     |           | Excavation by hand   | m3   | 3        |                 |        |
| 2.H1.10.2.2  | H1   | 9.009     |           | Rip and recompact 150mm insitu material to 93% Mod AASHTO  | m2   | 40       |                 |        |
|              | H1   |           |           | <b>SOIL POISONING</b>  |      |          |                 |        |
| 2.H1.10.2.3  | H1   | 46.011    |           | Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming (Supply of herbicide and ant poison shall be paid for in the provisional sums) | m2   | 40       |                 |        |
|              | H1   |           |           | <b>FORMWORK</b>  |      |          |                 |        |
|              | H1   |           |           | <b>ROUGH FORMWORK</b>  |      |          |                 |        |
|              | H1   |           |           | <b>Narrow widths up to 300mm</b>   |      |          |                 |        |
| 2.H1.10.2.4  | H1   | 20.005    |           | To apron and surfacebed  | m    | 38       |                 |        |
|              | H1   |           |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|              | H1   |           |           | <b>Horizontal surfaces for visible surface including 20mm chamfers and drip grooves on a exposed corners to:</b>   |      |          |                 |        |
| 2.H1.10.2.5  | H1   | 20.002    |           | Underside of slabs (Incl. Shelf)   | m2   | 21       |                 |        |
|              | H1   |           |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H1.10.2.6  | H1   | 20.002    |           | Upstand beams  | m2   | 9        |                 |        |
| 2.H1.10.2.7  | H1   | 20.002    |           | Vertical sides of suspended slabs (incl. Shelf)  | m2   | 4        |                 |        |
|              | H1   |           |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H1.10.2.8  | H1   | 20.007    |           | Steel bars (irrespective of grade or diameter)   | t    | 1        |                 |        |
| 2.H1.10.2.9  | H1   | 20.008    |           | Mesh ref 395 high-tensile welded mesh  | m2   | 2        |                 |        |
|              | H1   |           |           | <b>CONCRETE</b>  |      |          |                 |        |
|              | H1   |           |           | <b>Strength concrete grade 30/19</b>   |      |          |                 |        |
| 2.H1.10.2.10 | H1   | 20.012    |           | Surface bed, shelf, roof, ramp and apron   | m3   | 12       |                 |        |
|              | H1   |           |           | <b>Unformed surface finishes</b>   |      |          |                 |        |
| 2.H1.10.2.11 | H1   | 20.013(a) |           | Wood floated finish  | m2   | 48       |                 |        |
| 2.H1.10.2.12 | H1   | 20.013(b) |           | Steel floated finish (shelf & top of beams)  | m2   | 5        |                 |        |
|              | H1   |           |           | <b>AGGREGATE</b>   |      |          |                 |        |
| 2.H1.10.2.13 | H1   | 20.014    |           | 19mm stone balast  | m3   | 0.8      |                 |        |
|              | H1   |           |           | <b>JOINTS</b>  |      |          |                 |        |
| 2.H1.10.2.14 | H1   | 20.016    |           | Construction joints, including shutters to apron   | m    | 13       |                 |        |
| 2.H1.10.2.15 | H1   | 20.016    |           | 75mm deep x 10mm wide expansion joint including shutter, 10mm soft board joint filler and sealant per detail C4 drawing 2A-C6-002  | m    | 22       |                 |        |
|              |      |           |           |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.10.2.16 | H1   | 20.016    |           | 2 Layers 0.6mm thick galvanised plate, including smooth plaster to the tops of brick walls   | m2   | 4        |                 |        |
|              | H1   |           |           | <b>MASONRY</b>   |      |          |                 |        |
|              | H1   |           |           | <b>BRICKWORK OF NFX BRICKS (14 MPA NOMINAL COMPRESSIVE STRENGTH) IN CLASS I MORTAR</b>   |      |          |                 |        |
| 2.H1.10.2.17 | H1   | 46.004(a) |           | One brick walls for structure  | m2   | 45       |                 |        |
|              | H1   |           |           | <b>FACE BRICKWORK</b>  |      |          |                 |        |
|              | H1   |           |           | <b>Face brickwork pointed with recessed horizontal and vertical joints. The cost for the supply and delivery of facebrick shall be paid for in Provisional Sums. All other costs related to the installation of the facebrick shall be included in this item (includes all other material). Samples of facebrick to be approved by the Engineer/Architect.</b> |      |          |                 |        |
| 2.H1.10.2.18 | H1   | 46.004(h) |           | Extra over brickwork for face brickwork  | m2   | 90       |                 |        |
|              | H1   |           |           | <b>MASONRY REINFORCING</b>   |      |          |                 |        |
| 2.H1.10.2.19 | H1   | 46.004(f) |           | Fabric reinforcement and building into joints of one brick walls   | m    | 200      |                 |        |
| 2.H1.10.2.20 | H1   | 46.004(f) |           | Masonry reinforcing (3 no R8 bars) on 230mm wall   | m    | 4        |                 |        |
|              | H1   |           |           | <b>METALWORK</b>   |      |          |                 |        |
|              | H1   |           |           | <b>Supply and fabrication of steel</b>   |      |          |                 |        |
| 2.H1.10.2.21 | H1   | 24.001    |           | 1000mm x 1000mm 3CR12 louvre per drawing 86490 complete including shop details, supply and installation  | No   | 1        |                 |        |
| 2.H1.10.2.22 | H1   | 46.005(c) |           | Doors: double transformer door (2400mm x 1800mm) with insect proofing and louvres, locking mechanism, supplied, installed and painted. All as per dwg. 2G-C7-150   | No   | 1        |                 |        |
|              | H1   |           |           | <b>MISCELLANEOUS TRADES, FIXTURES AND APPLIANCES</b>   |      |          |                 |        |
| 2.H1.10.2.23 | H1   | 46.011    |           | Epoxy sealant to shelf   | m2   | 1.8      |                 |        |
| 2.H1.10.2.24 | H1   | 46.011    |           | 110 ribbed HDPE sleeves supplied and installed per supplier's specification, including draw wire (ducting from draw box to interior of instrumentation hut)  | m    | 15       |                 |        |
| 2.H1.10.2.25 | H1   | 46.011    |           | Polyurethane waterproofing   | m2   | 23       |                 |        |
| 2.H1.10.2.26 | H1   | 46.011    |           | 100mm thick Isoboard   | m2   | 15       |                 |        |
| 2.H1.10.2.27 | H1   | 46.011    |           | Waterpermeable fabric  | m2   | 23       |                 |        |
| 2.H1.10.2.28 | H1   | 46.011    |           | 80 ND uPVC drainage pipes cast into upstand beams (Weep holes)   | m    | 3        |                 |        |
| 2.H1.10.2.29 | H1   | 46.012    |           | Draw box per detail C10 drawing 2A-C6-003, complete  | no   | 1        |                 |        |
|              | H1   |           |           | <b>FIRE</b>  |      |          |                 |        |
| 2.H1.10.2.30 | H1   | 46.011    |           | Supply, delivery and installation of SABS Approved 5kg CO2 fire extinguisher complete with wall bracket and wooden backing board   | No   | 2        |                 |        |
| 2.H1.10.2.31 | H1   | 46.011    |           | Supply and installation of SABS Approved 190mm x 380mm single sided, wall mounted photo luminescent safety signs   | no   | 2        |                 |        |
|              |      |           |           |  |      |          | Carried Forward |        |



| Item no.     | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|              |      |                   |           |  |      |          |                 |        |
|              |      |                   |           |  |      |          | Brought Forward |        |
|              | H1   |                   |           | <b>PART H1.10.3: INSTRUMENTATION HUT (Repeater C)</b>  |      |          |                 |        |
|              | H1   |                   |           | <b>EARTHWORKS</b>  |      |          |                 |        |
|              | H1   |                   |           | <b>REFER TO DRAWING 2G-C7-150</b>  |      |          |                 |        |
| 2.H1.10.3.1  | H1   | 9.010             |           | Excavation by hand   | m3   | 3        |                 |        |
| 2.H1.10.3.2  | H1   | 9.009             |           | Rip and recompact 150mm insitu material to 93% Mod AASHTO  | m2   | 40       |                 |        |
|              | H1   |                   |           | <b>SOIL POISONING</b>  |      |          |                 |        |
| 2.H1.10.3.3  | H1   | 46.011            |           | Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming (Supply of herbicide and ant poison shall be paid for in the provisional sums) | m2   | 40       |                 |        |
|              | H1   |                   |           | <b>FORMWORK</b>  |      |          |                 |        |
|              | H1   |                   |           | <b>ROUGH FORMWORK</b>  |      |          |                 |        |
|              | H1   |                   |           | <b>Narrow widths up to 300mm</b>   |      |          |                 |        |
| 2.H1.10.3.4  | H1   | 20.005            |           | To apron and surfacebed  | m    | 38       |                 |        |
|              | H1   |                   |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|              | H1   |                   |           | <b>Horizontal surfaces for visible surface including 20mm chamfers and drip grooves on a exposed corners to:</b>   |      |          |                 |        |
| 2.H1.10.3.5  | H1   | 20.002            |           | Underside of slabs (Incl. Shelf)   | m2   | 21       |                 |        |
|              | H1   |                   |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H1.10.3.6  | H1   | 20.002            |           | Upstand beams  | m2   | 9        |                 |        |
| 2.H1.10.3.7  | H1   | 20.002            |           | Vertical sides of suspended slabs (incl. Shelf)  | m2   | 4        |                 |        |
|              | H1   |                   |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H1.10.3.8  | H1   | 20.007            |           | Steel bars (irrespective of grade or diameter)   | t    | 1        |                 |        |
| 2.H1.10.3.9  | H1   | 20.008            |           | Mesh ref 395 high-tensile welded mesh  | m2   | 2        |                 |        |
|              | H1   |                   |           | <b>CONCRETE</b>  |      |          |                 |        |
|              | H1   |                   |           | <b>Strength concrete grade 30/19</b>   |      |          |                 |        |
| 2.H1.10.3.10 | H1   | 20.012            |           | Surface bed, shelf, roof, ramp and apron   | m3   | 12       |                 |        |
|              | H1   |                   |           | <b>Unformed surface finishes</b>   |      |          |                 |        |
| 2.H1.10.3.11 | H1   | 20.013(a)         |           | Wood floated finish  | m2   | 48       |                 |        |
| 2.H1.10.3.12 | H1   | 20.013(b)         |           | Steel floated finish (shelf & top of beams)  | m2   | 5        |                 |        |
|              | H1   |                   |           | <b>AGGREGATE</b>   |      |          |                 |        |
| 2.H1.10.3.13 | H1   | 20.014            |           | 19mm stone balast  | m3   | 0.8      |                 |        |
|              | H1   |                   |           | <b>JOINTS</b>  |      |          |                 |        |
| 2.H1.10.3.14 | H1   | 20.016            |           | Construction joints, including shutters to apron   | m    | 13       |                 |        |
| 2.H1.10.3.15 | H1   | 20.016            |           | 75mm deep x 10mm wide expansion joint including shutter, 10mm soft board joint filler and sealant per detail C4 drawing 2A-C6-002  | m    | 22       |                 |        |
|              |      |                   |           |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              |      |           |           |  |      |          | Brought Forward |        |
| 2.H1.10.3.16 | H1   | 20.016    |           | 2 Layers 0.6mm thick galvanised plate, including smooth plaster to the tops of brick walls   | m2   | 4        |                 |        |
|              | H1   |           |           | <b>MASONRY</b>   |      |          |                 |        |
|              | H1   |           |           | <b>BRICKWORK OF NFX BRICKS (14 MPA NOMINAL COMPRESSIVE STRENGTH) IN CLASS I MORTAR</b>   |      |          |                 |        |
| 2.H1.10.3.17 | H1   | 46.004(a) |           | One brick walls for structure  | m2   | 45       |                 |        |
|              | H1   |           |           | <b>FACE BRICKWORK</b>  |      |          |                 |        |
|              | H1   |           |           | <b>Face brickwork pointed with recessed horizontal and vertical joints. The cost for the supply and delivery of facebrick shall be paid for in Provisional Sums. All other costs related to the installation of the facebrick shall be included in this item (includes all other material). Samples of facebrick to be approved by the Engineer/Architect.</b> |      |          |                 |        |
| 2.H1.10.3.18 | H1   | 46.004(h) |           | Extra over brickwork for face brickwork  | m2   | 90       |                 |        |
|              | H1   |           |           | <b>MASONRY REINFORCING</b>   |      |          |                 |        |
| 2.H1.10.3.19 | H1   | 46.004(f) |           | Fabric reinforcement and building into joints of one brick walls   | m    | 200      |                 |        |
| 2.H1.10.3.20 | H1   | 46.004(f) |           | Masonry reinforcing (3 no R8 bars) on 230mm wall   | m    | 4        |                 |        |
|              | H1   |           |           | <b>METALWORK</b>   |      |          |                 |        |
|              | H1   |           |           | <b>Supply and fabrication of steel</b>   |      |          |                 |        |
| 2.H1.10.3.21 | H1   | 24.001    |           | 1000mm x 1000mm 3CR12 louvre per drawing 86490 complete including shop details, supply and installation  | No   | 1        |                 |        |
| 2.H1.10.3.22 | H1   | 46.005(c) |           | Doors: double transformer door (2400mm x 1800mm) with insect proofing and louvres, locking mechanism, supplied, installed and painted. All as per dwg. 2G-C7-150   | No   | 1        |                 |        |
|              | H1   |           |           | <b>MISCELLANEOUS TRADES, FIXTURES AND APPLIANCES</b>   |      |          |                 |        |
| 2.H1.10.3.23 | H1   | 46.011    |           | Epoxy sealant to shelf   | m2   | 1.8      |                 |        |
| 2.H1.10.3.24 | H1   | 46.011    |           | 110 ribbed HDPE sleeves supplied and installed per supplier's specification, including draw wire (ducting from draw box to interior of instrumentation hut)  | m    | 15       |                 |        |
| 2.H1.10.3.25 | H1   | 46.011    |           | Polyurethane waterproofing   | m2   | 23       |                 |        |
| 2.H1.10.3.26 | H1   | 46.011    |           | 100mm thick Isoboard   | m2   | 15       |                 |        |
| 2.H1.10.3.27 | H1   | 46.011    |           | Waterpermeable fabric  | m2   | 23       |                 |        |
| 2.H1.10.3.28 | H1   | 46.011    |           | 80 ND uPVC drainage pipes cast into upstand beams (Weep holes)   | m    | 3        |                 |        |
| 2.H1.10.3.29 | H1   | 46.012    |           | Draw box per detail C10 drawing 2A-C6-003, complete  | no   | 1        |                 |        |
|              | H1   |           |           | <b>FIRE</b>  |      |          |                 |        |
| 2.H1.10.3.30 | H1   | 46.011    |           | Supply, delivery and installation of SABS Approved 5kg CO2 fire extinguisher complete with wall bracket and wooden backing board   | No   | 2        |                 |        |
| 2.H1.10.3.31 | H1   | 46.011    |           | Supply and installation of SABS Approved 190mm x 380mm single sided, wall mounted photo luminescent safety signs   | no   | 2        |                 |        |
|              | H1   |           |           | <b>PART H1.10: Ancillary Works - Carried forward to Summary of Bills</b>   |      |          |                 |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            | H1   |           |           | <b>PART H1.11: Fibre Earthworks</b>   |      |          |                 |        |
|            | H1   |           |           | <b>SITE CLEARANCE</b>   |      |          |                 |        |
|            | H1   |           |           | <b>Removal of fertile soil</b>  |      |          |                 |        |
| 2.H1.11.1  | H1   | 7.005(a)  |           | For pipelines, temporary stockpile alongside the pipeline and construction servitude  | m3   | 11 105   |                 |        |
|            | H1   |           |           | <b>DEALING WITH WATER</b>   |      |          |                 |        |
| 2.H1.11.2  | H1   | 8.001     |           | Dealing with water  | Sum  | 1        |                 |        |
| 2.H1.11.3  | H1   | 8.002     |           | Treatment of water  | Sum  | 1        |                 |        |
| 2.H1.11.4  | H1   | 8.003     |           | Water monitoring  | Sum  | 1        |                 |        |
| 2.H1.11.5  | H1   | 8.004     |           | Sampling equipment and reagents for the Engineer  | Sum  | 1        |                 |        |
|            | H1   |           |           | <b>PIPE TRENCH EXCAVATIONS</b>  |      |          |                 |        |
|            | H1   |           |           | <b>EXCAVATE IN ALL MATERIALS TO SPECIFIED LEVELS AND BATTERED SLOPES, INCLUDING TEMPORARY STOCKPILING AND LEVELLING ALONGSIDE EXCAVATIONS WITHIN THE CONFINES OF THE PIPE SERVITUDE</b> |      |          |                 |        |
|            | H1   |           |           | <b>Classified trench excavations:</b>   |      |          |                 |        |
|            | H1   |           |           | <b>Within the freehaul distance</b>   |      |          |                 |        |
| 2.H1.11.6  | H1   | 9.012     |           | Up to 1m deep   | m3   | 9 250    |                 |        |
| 2.H1.11.7  | H1   | 9.012     |           | Over 1m and up to 2m deep   | m3   | 150      |                 |        |
|            | H1   |           |           | <b>Un-Classified trench excavations:</b>  |      |          |                 |        |
|            | H1   |           |           | <b>Within the freehaul distance</b>   |      |          |                 |        |
| 2.H1.11.8  | H1   | 9.012     |           | Up to 1m deep   | m3   | 130      |                 |        |
| 2.H1.11.9  | H1   | 9.012     |           | Over 1m and up to 2m deep   | m3   | 25       |                 |        |
| 2.H1.11.10 | H1   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting)   | m3   | 50       |                 |        |
| 2.H1.11.11 | H1   | 9.020     |           | Compaction of trench bottom   | m2   | 37 000   |                 |        |
|            | H1   |           |           | <b>EXCAVATION ANCILLARIES</b>   |      |          |                 |        |
| 2.H1.11.12 | H1   | 9.016     |           | Excavation and disposal of unsuitable/surplus material from trench bottom to designated spoil sites   | m3   | 10       |                 |        |
| 2.H1.11.13 | H1   | 9.015     |           | Excavate by hand in soft material to expose existing services   | m3   | 48       |                 |        |
| 2.H1.11.14 | H1   | 9.021     |           | Excavation by hand  | m3   | 50       |                 |        |
|            | H1   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H1.11.15 | H1   | 9.023(a)  |           | Between 1km up to and including 3km   | m3   | 25       |                 |        |
| 2.H1.11.16 | H1   | 9.023(b)  |           | Between 3km up to and including 5km   | m3   | 25       |                 |        |
| 2.H1.11.17 | H1   | 9.023(c)  |           | Between 5km up to and including 7km   | m3   | 25       |                 |        |
| 2.H1.11.18 | H1   | 9.023(d)  |           | Between 7km up to and including 9km   | m3   | 25       |                 |        |
| 2.H1.11.19 | H1   | 9.023(e)  |           | Between 9km up to and including 11km  | m3   | 25       |                 |        |
|            |      |           |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H1   |           |           | <b>EXISTING SERVICES THAT INTERSECT OR ADJOIN A PIPE TRENCH</b>  |      |          |                 |        |
| 2.H1.11.20 | H1   | 9.018(a)  |           | Services that intersect a pipe trench  | No   | 25       |                 |        |
| 2.H1.11.21 | H1   | 9.018(b)  |           | Services that adjoin a trench  | m    | 5 100    |                 |        |
| 2.H1.11.22 | H1   | 9.022     |           | Slurry trenches / curtain walls  | m2   | 415      |                 |        |
|            | H1   |           |           | <b>BACKFILLING AND BEDDING</b>   |      |          |                 |        |
|            | H1   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>                      |      |          |                 |        |
|            | H1   |           |           | <b>Provision of bed material</b>   |      |          |                 |        |
| 2.H1.11.23 | H1   | 15.003(a) |           | Material without screening from trenches   | m3   | 660      |                 |        |
| 2.H1.11.24 | H1   | 15.003(b) |           | Material with screening from trenches  | m3   | 2 625    |                 |        |
| 2.H1.11.25 | H1   | 15.003(c) |           | Material from the nearest borrow pit without screening   | m3   | 85       |                 |        |
| 2.H1.11.26 | H1   | 15.003(d) |           | Material from the nearest borrow pit with screening  | m3   | 340      |                 |        |
|            | H1   |           |           | <b>Provision of selected fill blanket</b>  |      |          |                 |        |
| 2.H1.11.27 | H1   | 15.006(a) |           | Material without screening from trenches   | m3   | 995      |                 |        |
| 2.H1.11.28 | H1   | 15.006(b) |           | Material with screening from trenches  | m3   | 3 965    |                 |        |
| 2.H1.11.29 | H1   | 15.006(c) |           | Material from the nearest borrow pit without screening   | m3   | 90       |                 |        |
| 2.H1.11.30 | H1   | 15.006(d) |           | Material from the nearest borrow pit with screening  | m3   | 350      |                 |        |
| 2.H1.11.31 | H1   | 15.006(e) |           | Material from commercial sources   | m3   | 10       |                 |        |
|            | H1   |           |           | <b>Provision of main backfill material</b>   |      |          |                 |        |
| 2.H1.11.32 | H1   | 15.007(a) |           | Backfill material from trench excavation   | m3   | 50       |                 |        |
| 2.H1.11.33 | H1   | 15.007(b) |           | Backfill material from the nearest borrow pit  | m3   | 350      |                 |        |
|            | H1   |           |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>                                      |      |          |                 |        |
| 2.H1.11.34 | H1   | 15.001    |           | Bed material   | m3   | 3 710    |                 |        |
| 2.H1.11.35 | H1   | 15.001    |           | Selected fill blanket  | m3   | 5 410    |                 |        |
| 2.H1.11.36 | H1   | 15.001    |           | Main backfill  | m3   | 400      |                 |        |
| 2.H1.11.37 | H1   | 15.001    |           | Fertile soil   | m3   | 11 105   |                 |        |
|            | H1   |           |           | <b>PROVISION OF MATERIAL TO REPLACE UNSUITABLE MATERIAL FROM TRENCH BOTTOM OR TO PROVIDE SUPPORTING EARTHWORKS</b> |      |          |                 |        |
| 2.H1.11.38 | H1   | 15.011(b) |           | From borrow pits   | m3   | 10       |                 |        |
|            | H1   |           |           | <b>Placing of Material</b>   |      |          |                 |        |
| 2.H1.11.39 | H1   | 15.012    |           | Placing of material to replace unsuitable material from trench bottom or to provide supporting earthworks          | m3   | 10       |                 |        |
|            | H1   |           |           | <b>SUBSOIL DRAINAGE</b>  |      |          |                 |        |
|            | H1   |           |           | <b>Crushed stone</b>   |      |          |                 |        |
| 2.H1.11.40 | H1   | 15.008(a) |           | Supply and place crushed stone for Layer no 1  | m3   | 65       |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            |      |           |           |   |      |          | Brought Forward |        |
| 2.H1.11.41 | H1   | 15.008(c) |           | Supply and place well graded compacted dump rock for Layer no 2                 | m3   | 105      |                 |        |
|            | H1   |           |           | <b>Geotextile</b>   |      |          |                 |        |
| 2.H1.11.42 | H1   | 15.008(b) |           | Supply and place geotextile for Layer no 1                                      | m2   | 1 125    |                 |        |
| 2.H1.11.43 | H1   | 15.008(d) |           | Supply and place geotextile for Layer no 2                                      | m2   | 1 305    |                 |        |
|            | H1   |           |           | <b>ENCASING OF PIPES IN CONCRETE</b>  |      |          |                 |        |
| 2.H1.11.44 | H1   | 15.009(a) |           | Concrete strength grade 30/19   | m3   | 20       |                 |        |
| 2.H1.11.45 | H1   | 15.009(b) |           | Reinforcement   | t    | 2        |                 |        |
|            | H1   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H1.11.46 | H1   | 15.010(a) |           | Between 1km up to and including 3km   | m3   | 11       |                 |        |
| 2.H1.11.47 | H1   | 15.010(b) |           | Between 3km up to and including 5km   | m3   | 11       |                 |        |
| 2.H1.11.48 | H1   | 15.010(c) |           | Between 5km up to and including 7km   | m3   | 11       |                 |        |
| 2.H1.11.49 | H1   | 15.010(d) |           | Between 7km up to and including 9km   | m3   | 11       |                 |        |
| 2.H1.11.50 | H1   | 15.010(e) |           | Between 9km up to and including 11km  | m3   | 11       |                 |        |
|            | H1   |           |           | <b>PART H1.11: Fibre Earthworks Total - Carried forward to Summary of Bills</b> |      |          |                 |        |
|            | H1   |           |           | <b>PART H1: BPR TO OFF TAKE C - CH0 TO CH82</b>                                 |      |          |                 |        |

| Item no.  | Part | Payment       | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|---------------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference     |           |  |      |          |                 |        |
|           | H2   |               |           | <b>PART H2: OFF TAKE C TO OFF TAKE B (13KM) - CH82 TO CH95</b>   |      |          |                 |        |
|           | H2   |               |           | <b>PART H2.1: Preliminary and General (Secondary)</b>  |      |          |                 |        |
|           | H2   |               |           | <b>PRELIMINARY AND GENERAL (SECONDARY)</b>   |      |          |                 |        |
|           | H2   | 1.002         |           | <b>FIXED CHARGES - GENERAL OBLIGATIONS</b>   |      |          |                 |        |
| 2.H2.1.1  | H2   |               | X         | Head Office Contract Management and Overheads  | Sum  | 1        |                 |        |
| 2.H2.1.2  | H2   |               | X         | General Site Supervision and Overheads   | Sum  | 1        |                 |        |
| 2.H2.1.3  | H2   |               | X         | Method statements (1.10.1)   | Sum  | 1        |                 |        |
| 2.H2.1.4  | H2   |               | X         | Competency training (1.10.2.4)   | Sum  | 1        |                 |        |
| 2.H2.1.5  | H2   |               | X         | Returns and reporting (1.10.3)   | Sum  | 1        |                 |        |
| 2.H2.1.6  | H2   |               | X         | Management meetings (1.10.4)   | Sum  | 1        |                 |        |
| 2.H2.1.7  | H2   |               | X         | Integration management (1.10.5)  | Sum  | 1        |                 |        |
| 2.H2.1.8  | H2   |               | X         | Programming Requirements (1.9)   | Sum  | 1        |                 |        |
| 2.H2.1.9  | H2   |               | X         | Quality Management (1.10.2)  | Sum  | 1        |                 |        |
| 2.H2.1.10 | H2   |               | X         | Socio Economic Requirements (1.11)   | Sum  | 1        |                 |        |
| 2.H2.1.11 | H2   |               | X         | Occupational Health and Safety Requirements (1.12)   | Sum  | 1        |                 |        |
| 2.H2.1.12 | H2   |               | X         | Environmental Requirements (1.13)  | Sum  | 1        |                 |        |
|           | H2   |               |           | <b>Any other charges not included elsewhere. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 2.H2.1.13 | H2   |               | X         | .....  | Sum  | 1        |                 |        |
| 2.H2.1.14 | H2   |               | X         | .....  | Sum  | 1        |                 |        |
| 2.H2.1.15 | H2   |               | X         | .....  | Sum  | 1        |                 |        |
| 2.H2.1.16 | H2   |               | X         | .....  | Sum  | 1        |                 |        |
|           | H2   | 1.003 & 1.004 |           | <b>FIXED CHARGES - FACILITIES FOR THE CONTRACTOR (1.8)</b>   |      |          |                 |        |
| 2.H2.1.17 | H2   |               | X         | Transport of Staff and Labour (1.8.1.4)  | Sum  | 1        |                 |        |
| 2.H2.1.18 | H2   |               | X         | Construction Establishment Fencing (1.8.3.1)   | Sum  | 1        |                 |        |
| 2.H2.1.19 | H2   |               | X         | Lighting of Construction Establishment Areas (1.8.3.2)   | Sum  | 1        |                 |        |
| 2.H2.1.20 | H2   |               | X         | Electrical power and distribution (1.8.3.4)  | Sum  | 1        |                 |        |
| 2.H2.1.21 | H2   |               | X         | Standby power (1.8.3.4)  | Sum  | 1        |                 |        |
| 2.H2.1.22 | H2   |               | X         | Communications (1.8.3.7)   | Sum  | 1        |                 |        |
|           | H2   |               |           | <b>Office, Accommodation and Other Site facilities</b>   |      |          |                 |        |
| 2.H2.1.23 | H2   |               | X         | Accommodation for staff and workforce (1.8.3.8b)   | Sum  | 1        |                 |        |
| 2.H2.1.24 | H2   |               | X         | Offices (1.8.3.8c)   | Sum  | 1        |                 |        |
| 2.H2.1.25 | H2   |               | X         | Other establishment facilities (1.8.3.8d)  | Sum  | 1        |                 |        |
| 2.H2.1.26 | H2   |               | X         | Storage (1.8.3.8e)   | Sum  | 1        |                 |        |
|           |      |               |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           |      |           |           |  |      |          | Brought Forward |        |
|           | H2   |           |           | <b>Other services</b>  |      |          |                 |        |
| 2.H2.1.27 | H2   |           | X         | Medical (1.8.3.12)   | Sum  | 1        |                 |        |
| 2.H2.1.28 | H2   |           | X         | Sanitation and Cleaning (1.8.3.13)   | Sum  | 1        |                 |        |
| 2.H2.1.29 | H2   |           | X         | Access control and security (1.8.3.14)   | Sum  | 1        |                 |        |
|           | H2   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 2.H2.1.30 | H2   |           | X         | .....  | Sum  | 1        |                 |        |
| 2.H2.1.31 | H2   |           | X         | .....  | Sum  | 1        |                 |        |
| 2.H2.1.32 | H2   |           | X         | .....  | Sum  | 1        |                 |        |
| 2.H2.1.33 | H2   |           | X         | .....  | Sum  | 1        |                 |        |
|           | H2   | 1.004     |           | <b>FIXED CHARGES - SPECIFIC EQUIPMENT</b>  |      |          |                 |        |
| 2.H2.1.34 | H2   |           | X         | Equipment for construction and maintenance of the Contractor's work areas  | Sum  | 1        |                 |        |
| 2.H2.1.35 | H2   |           | X         | Minor equipment and small tools  | Sum  | 1        |                 |        |
| 2.H2.1.36 | H2   |           | X         | Equipment for dust and emissions control and monitoring in compliance with environmental requirement   | Sum  | 1        |                 |        |
| 2.H2.1.37 | H2   |           | X         | Construction services including electrical power, compressed air, water, communications, etc.  | Sum  | 1        |                 |        |
| 2.H2.1.38 | H2   |           | X         | Equipment for blasting and rock support  | Sum  | 1        |                 |        |
| 2.H2.1.39 | H2   |           | X         | Equipment for earthworks, trenching and backfilling  | Sum  | 1        |                 |        |
| 2.H2.1.40 | H2   |           | X         | Equipment for borrowing, processing of materials, transport of materials and spoiling of materials   | Sum  | 1        |                 |        |
| 2.H2.1.41 | H2   |           | X         | Equipment for crange, winches, lifting and pipe handling   | Sum  | 1        |                 |        |
| 2.H2.1.42 | H2   |           | X         | Equipment for welding, weld testing and coatings   | Sum  | 1        |                 |        |
| 2.H2.1.43 | H2   |           | X         | Equipment for site transporting, lifting, placing and fixing of structural steel work  | Sum  | 1        |                 |        |
| 2.H2.1.44 | H2   |           | X         | Equipment for site transporting, placing, fixing and finishing of concrete work, formwork and reinforcement  | Sum  | 1        |                 |        |
| 2.H2.1.45 | H2   |           | X         | Equipment for processing concrete (Batch plant)  | Sum  | 1        |                 |        |
| 2.H2.1.46 | H2   |           | X         | Equipment for dealing with water   | Sum  | 1        |                 |        |
| 2.H2.1.47 | H2   |           | X         | Equipment for pipe jacking and grouting  | Sum  | 1        |                 |        |
| 2.H2.1.48 | H2   | 1.004(d)  | X         | Establishment and de-establishment for Pipe Jacking  | Sum  | 1        |                 |        |
| 2.H2.1.49 | H2   | 1.004(a)  | X         | Fixed related charges for relocation of pipe work front to different location as instructed by Engineer (Within 5km). Including provision for the loss of production     | No   | 1        |                 |        |
|           | H2   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 2.H2.1.50 | H2   |           | X         | .....  | Sum  | 1        |                 |        |
| 2.H2.1.51 | H2   |           | X         | .....  | Sum  | 1        |                 |        |
|           |      |           |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment       | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|---------------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference     |           |   |      |          |                 |        |
|           |      |               |           |   |      |          | Brought Forward |        |
| 2.H2.1.52 | H2   |               | X         | .....   | Sum  | 1        |                 |        |
| 2.H2.1.53 | H2   |               | X         | .....   | Sum  | 1        |                 |        |
|           | H2   | 1.006         |           | <b>TIME RELATED CHARGES - GENERAL OBLIGATIONS</b>   |      |          |                 |        |
| 2.H2.1.54 | H2   |               | X         | Head Office Contract Management and Overheads (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.55 | H2   |               | X         | General Site Supervision and Overheads (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.56 | H2   |               | X         | Method Statements (1.10.1) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.57 | H2   |               | X         | Competency training (1.10.2.4) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.58 | H2   |               | X         | Returns and reporting (1.10.3) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.59 | H2   |               | X         | Management meetings (1.10.4) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.60 | H2   |               | X         | Integration management (1.10.5) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.61 | H2   |               | X         | Programming Requirements (1.9) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.62 | H2   |               | X         | Quality Management (1.10.2) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.63 | H2   |               | X         | Socio Economic Requirements (1.11) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.64 | H2   |               | X         | Occupational Health and Safety (1.12) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.65 | H2   |               | X         | Environmental Requirements (1.13) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.66 | H2   | 1.006(d)      | X         | General charges for Pipe Jacking and Grouting (Duration ..... days)   | Sum  | 1        |                 |        |
| 2.H2.1.67 | H2   | 1.006(a)      | X         | Time related charges for relocation of pipe work front to different location as instructed by Engineer (General Obligations) (Within 5km). Including provision for the loss of production | No   | 1        |                 |        |
|           | H2   |               |           | <b>Any other charges not included elsewhere. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b>                      |      |          |                 |        |
| 2.H2.1.68 | H2   |               | X         | .....   | Sum  | 1        |                 |        |
| 2.H2.1.69 | H2   |               | X         | .....   | Sum  | 1        |                 |        |
| 2.H2.1.70 | H2   |               | X         | .....   | Sum  | 1        |                 |        |
|           | H2   | 1.007 & 1.008 |           | <b>TIME RELATED CHARGES - FACILITIES FOR THE CONTRACTOR (1.8)</b>   |      |          |                 |        |
| 2.H2.1.71 | H2   |               | X         | Transport of Staff and Labour (1.8.1.4) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.72 | H2   |               | X         | Construction Establishment Fencing (1.8.3.1) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.73 | H2   |               | X         | Lighting of Construction Establishment Areas (1.8.3.2) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.74 | H2   |               | X         | Electrical power and distribution (1.8.3.4) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.75 | H2   |               | X         | Standby power (1.8.3.4) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
|           |      |               |           |   |      |          | Carried Forward |        |



| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           |      |           |           |   |      |          | Brought Forward |        |
| 2.H2.1.76 | H2   |           | X         | Communications (1.8.3.7)<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
|           | H2   |           |           | <b>Office, Accommodation and Other Site facilities</b>  |      |          |                 |        |
| 2.H2.1.77 | H2   |           | X         | Accommodation for staff and workforce<br>(1.8.3.8b)(Duration . . . . . Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.78 | H2   |           | X         | Offices (1.8.3.8c)<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.79 | H2   |           | X         | Other establishment facilities (1.8.3.8d)<br>(Duration . . . . . Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.80 | H2   |           | X         | Storage (1.8.3.8e)<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
|           | H2   |           |           | <b>Other services</b>   |      |          |                 |        |
| 2.H2.1.81 | H2   |           | X         | Medical (1.8.3.12)<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.82 | H2   |           | X         | Sanitation and Cleaning (1.8.3.13)<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.83 | H2   |           | X         | Access control and security (1.8.3.14)<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.84 | H2   | 1.007(d)  | X         | Facilities for for Pipe Jacking and Grouting<br>(Duration . . . . . Days)   | Sum  | 1        |                 |        |
| 2.H2.1.85 | H2   | 1.007(a)  | X         | Time related charges for relocation of pipe work front to<br>different location as instructed by Engineer (Facilities)<br>(Within 5km). Including provision for the loss of<br>production | No   | 1        |                 |        |
|           | H2   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit<br/>prices in the amount column ("Nil" to be entered if<br/>not required)</b>          |      |          |                 |        |
| 2.H2.1.86 | H2   |           | X         | .....   | Sum  | 1        |                 |        |
| 2.H2.1.87 | H2   |           | X         | .....   | Sum  | 1        |                 |        |
| 2.H2.1.88 | H2   |           | X         | .....   | Sum  | 1        |                 |        |
| 2.H2.1.89 | H2   |           | X         | .....   | Sum  | 1        |                 |        |
|           | H2   | 1.008     |           | <b>TIME RELATED CHARGES - SPECIFIC EQUIPMENT</b>  |      |          |                 |        |
| 2.H2.1.90 | H2   |           | X         | Equipment for construction and maintenance of the<br>Contractor's work areas<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.91 | H2   |           | X         | Minor equipment and small tools<br>(Duration . . . . . Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.92 | H2   |           | X         | Equipment for dust and emissions control and<br>monitoring in compliance with environmental<br>requirement<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.93 | H2   |           | X         | Construction services including electrical power,<br>compressed air, water, communications, etc. (Duration<br>. . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.94 | H2   |           | X         | Equipment for blasting and rock support<br>(Duration . . . . . Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.95 | H2   |           | X         | Equipment for earthworks, trenching and backfilling<br>(Duration . . . . . Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.96 | H2   |           | X         | Equipment for borrowing, processing of materials,<br>transport of materials and spoiling of materials<br>(Duration . . . . . Weeks)   | Sum  | 1        |                 |        |
|           |      |           |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H2.1.97  | H2   |           | X         | Equipment for craneage, winches, lifting and pipe handling<br>(Duration . . . . . Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.98  | H2   |           | X         | Equipment for welding, weld testing and coatings<br>(Duration . . . . . Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.99  | H2   |           | X         | Equipment for site transporting, lifting, placing and fixing of structural steel work<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.100 | H2   |           | X         | Equipment for site transporting, placing, fixing and finishing of concrete work, formwork and reinforcement<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.101 | H2   |           | X         | Equipment for processing concrete (Batch plant)<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H2.1.102 | H2   |           | X         | Equipment for dealing with water<br>(Duration . . . . . Weeks)   | Sum  | 1        |                 |        |
| 2.H2.1.103 | H2   |           | X         | Equipment relocation of Pipe Work Front to different location as instructed by Engineer<br>(Duration . . . . . days)   | Sum  | 1        |                 |        |
| 2.H2.1.104 | H2   | 1.008(d)  | X         | Equipment for Pipe Jacking and Grouting<br>(Duration . . . . . days)   | Sum  | 1        |                 |        |
| 2.H2.1.105 | H2   | 1.008(a)  | X         | Time related charges for relocation of pipe work front to different location as instructed by Engineer (Specific Equipment) (Within 5km). Including provision for the loss of production | No   | 1        |                 |        |
|            | H2   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b>                 |      |          |                 |        |
| 2.H2.1.106 | H2   |           | X         | .....  | Sum  | 1        |                 |        |
| 2.H2.1.107 | H2   |           | X         | .....  | Sum  | 1        |                 |        |
| 2.H2.1.108 | H2   |           | X         | .....  | Sum  | 1        |                 |        |
| 2.H2.1.109 | H2   |           | X         | .....  | Sum  | 1        |                 |        |
|            | H2   |           |           | <b>PART H2.1: Preliminary and General - Carried forward to Summary of Bills</b>  |      |          |                 |        |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate | Amount |
|-----------|------|-----------|-----------|--|------|----------|------|--------|
|           |      | Reference |           |  |      |          |      |        |
|           | H2   |           |           | <b>PART H2.2: Permanent Access Track</b>   |      |          |      |        |
|           | H2   |           |           | <b>Site Clearance</b>  |      |          |      |        |
| 2.H2.2.1  | H2   | 7.001(a)  |           | Clearing   | ha   | 5        |      |        |
|           | H2   |           |           | <b>In situ treatment of foundations:<br/>(compacted to a minimum of 90% of modified<br/>AASHTO density, or else specified differently on<br/>the drawings)</b> |      |          |      |        |
| 2.H2.2.2  | H2   | 9.009(a)  |           | Compaction of in-situ material   | m2   | 4 530    |      |        |
| 2.H2.2.3  | H2   | 9.009(b)  |           | In situ treatment by ripping   | m3   | 680      |      |        |
|           | H2   |           |           | <b>CONSTRUCTION OF EMBANKMENT AND<br/>STRUCTURE BACKFILL</b>   |      |          |      |        |
| 2.H2.2.4  | H2   | 15.014(b) |           | Rockfill processing and compaction   | m3   | 120      |      |        |
| 2.H2.2.5  | H2   | 15.008(d) |           | Supply and place geotextile complete ("Rockgrid" or<br>equal approved)   | m2   | 240      |      |        |
|           | H2   |           |           | <b>Pavement layers constructed from gravel material</b>  |      |          |      |        |
| 2.H2.2.6  | H2   | 25.001(c) |           | Gravel wearing course compacted to 95% of modified<br>AASHTO density   | m3   | 910      |      |        |
|           | H2   |           |           | <b>Overhaul on material hauled in excess of 1.0 km</b>   |      |          |      |        |
| 2.H2.2.7  | H2   | 25.018    |           | a) Between 1km up to and including 3km   | m3   | 375      |      |        |
| 2.H2.2.8  | H2   | 25.018    |           | b) Between 3km up to and including 5km   | m3   | 375      |      |        |
| 2.H2.2.9  | H2   | 25.018    |           | c) Between 5km up to and including 7km   | m3   | 375      |      |        |
|           | H2   |           |           | <b>STORMWATER</b>  |      |          |      |        |
|           | H2   |           |           | <b>Bedding for Prefabricated Culverts</b>  |      |          |      |        |
| 2.H2.2.10 | H2   | 27.003    |           | b) Class B bedding   | m3   | 100      |      |        |
|           | H2   |           |           | <b>Prefabricated Concrete Culverts</b>   |      |          |      |        |
| 2.H2.2.11 | H2   | 27.004(a) |           | i) 450mm diameter socketed concrete pipe<br>(Class D50), jointed with mortar   | m    | 75       |      |        |
|           | H2   |           |           | <b>PART H2.2: Permanent Access Track - Carried forward to Summary of Bills</b>   |      |          |      |        |

| Item no.  | Part | Payment | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|---------|-----------|--|------|----------|-----------------|--------|
|           |      |         |           |  |      |          |                 |        |
|           | H2   |         |           | <b>PART H2.3: Pipe supply, delivery, installation and testing</b>  |      |          |                 |        |
|           | H2   |         |           | <b>DETAILING AND DOCUMENTATION</b>   |      |          |                 |        |
| 2.H2.3.1  | H2   | 32.001  |           | Pipes and pipe specials: Design and documentation (As required: <b>For Employer Design</b> )                                       | Sum  | 1        |                 |        |
| 2.H2.3.2  | H2   | 37.001  |           | Corrosion protection: PQP and other documentation  | Sum  | 1        |                 |        |
|           | H2   |         |           | <b>PIPES</b>   |      |          |                 |        |
|           | H2   |         |           | <b>MANUFACTURE AND SUPPLY OF PIPES AND DELIVERY TO STORAGE ON SITE (EXCLUDING CORROSION PROTECTION)</b>                            |      |          |                 |        |
|           | H2   |         |           | <b>Grade X52; Ends prepared for site welding</b>   |      |          |                 |        |
| 2.H2.3.3  | H2   | 32.002  | X         | 1118mm OD pipe, 9mm wall thickness   | m    | 12940    |                 |        |
| 2.H2.3.4  | H2   | 32.002  | X         | 914mm OD pipe, 8mm wall thickness  | m    | 95       |                 |        |
|           | H2   |         |           | <b>SPARE PIPES</b>   |      |          |                 |        |
|           | H2   |         |           | <b>Grade X52; Ends prepared for site welding</b>   |      |          |                 |        |
| 2.H2.3.5  | H2   | 32.002  | X         | 1118mm OD pipe, 9mm wall thickness   | m    | 39       |                 |        |
|           | H2   |         |           | <b>EXTERNAL PIPE COATING (factory applied):</b>  |      |          |                 |        |
|           | H2   |         |           | Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)   |      |          |                 |        |
|           | H2   |         |           | <b>Option No. 1: Polymer Modified Bitumen (System No 229A/236)</b>   |      |          |                 |        |
| 2.H2.3.6  | H2   | 37.002  | X         | 1118mm OD pipes  | m    | 12940    |                 |        |
| 2.H2.3.7  | H2   | 37.002  | X         | 1118mm OD spare pipes  | m    | 39       |                 |        |
| 2.H2.3.8  | H2   | 37.002  | X         | 914mm OD pipes   | m    | 95       |                 |        |
|           | H2   |         |           | <b>INTERNAL PIPE LINING (factory applied)</b>  |      |          |                 |        |
|           | H2   |         |           | Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)   |      |          |                 |        |
|           | H2   |         |           | <b>Hot applied solvent free epoxy (System No 220)</b>  |      |          |                 |        |
| 2.H2.3.9  | H2   | 37.003  | X         | 1118mm OD pipes  | m    | 12940    |                 |        |
| 2.H2.3.10 | H2   | 37.003  | X         | 1118mm OD spare pipes  | m    | 39       |                 |        |
| 2.H2.3.11 | H2   | 37.003  | X         | 914mm OD pipes   | m    | 95       |                 |        |
|           | H2   |         |           | <b>PIPE SPECIALS</b>   |      |          |                 |        |
|           | H2   |         |           | <b>MANUFACTURE AND SUPPLY OF PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b>    |      |          |                 |        |
|           | H2   |         |           | <b>BEND/JOINT TYPE NO. 1: HOT APPLIED SOLVENT FREE EPOXY (System No 220) AND POLYMER MODIFIED BITUMEN COATING (System No 229A)</b> |      |          |                 |        |
|           | H2   |         |           | <b>Grade X52, Ends prepared for site welding</b>   |      |          |                 |        |
|           | H2   |         |           | <b>1118mm OD pipe, 9mm wall thickness</b>  |      |          |                 |        |
| 2.H2.3.12 | H2   | 32.003  | X         | Bend between 45 to and including 90 degrees  | No   | 2        |                 |        |
|           |      |         |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           |      |           |           |   |      |          | Brought Forward |        |
|           | H2   |           |           | <b>LAY AND WELD STEEL PIPES</b>   |      |          |                 |        |
|           | H2   |           |           | <b>Grade X52</b>  |      |          |                 |        |
| 2.H2.3.13 | H2   | 33.001    | X         | 1118mm OD pipe, 9mm wall thickness  | m    | 12940    |                 |        |
| 2.H2.3.14 | H2   | 33.001    | X         | 914mm OD pipe, 8mm wall thickness   | m    | 95       |                 |        |
|           | H2   |           |           | <b>INSTALLATION AND TESTING OF PIPE SPECIALS</b>  |      |          |                 |        |
|           | H2   |           |           | <b>Grade X52</b>  |      |          |                 |        |
|           | H2   |           |           | <b>1118mm OD pipe, 9mm wall thickness</b>   |      |          |                 |        |
| 2.H2.3.15 | H2   | 33.007    | X         | Bend between 45 to and including 90 degrees   | No   | 2        |                 |        |
|           | H2   |           |           | <b>EXTRA OVER ITEM 33.001 FOR MITRE DEFLECTIONS UP TO 11.25 DEGREE TO FORM BENDS</b>  |      |          |                 |        |
|           | H2   |           |           | <b>Grade X52</b>  |      |          |                 |        |
| 2.H2.3.16 | H2   | 33.002    | X         | 1118mm OD pipe, 9mm wall thickness  | No   | 37       |                 |        |
|           | H2   |           |           | <b>SUPPLY AND INSTALL EXTERNAL COATING AND INTERNAL LINING OF PIPE JOINTS (field applied)</b>   |      |          |                 |        |
|           | H2   |           |           | <b>BEND/JOINT TYPE NO. 1: HOT APPLIED SOLVENT FREE EPOXY (System No 220) AND POLYMER MODIFIED BITUMEN COATING (System No 276)</b>           |      |          |                 |        |
| 2.H2.3.17 | H2   | 37.004    | X         | 1118mm OD pipe  | No   | 750      |                 |        |
| 2.H2.3.18 | H2   | 37.004    | X         | 914mm OD pipes  | No   | 7        |                 |        |
|           | H2   |           |           | <b>BEDDING REQUIREMENT SPECIFIC FOR POLYMER MODIFIED BITUMEN COATING</b>  |      |          |                 |        |
| 2.H2.3.19 | H2   | 15.013    | X         | Extra over 15.003(b), 15.003(d), 15.004(b), 15.004(d), 15.005(b), 15.005(d), 15.006(b) and 15.006(d) for crushing and screening of material | m3   | 31880    |                 |        |
|           | H2   |           |           | <b>HYDROSTATIC TESTING</b>  |      |          |                 |        |
| 2.H2.3.20 | H2   | 33.008(a) |           | 1118mm OD pipe, 9mm wall thickness  | km   | 12.94    |                 |        |
| 2.H2.3.21 | H2   | 33.008(a) |           | 914mm OD pipe, 8mm wall thickness   | km   | 0.10     |                 |        |
|           | H2   |           |           | <b>PIPE LINING INTEGRITY TESTING</b>  |      |          |                 |        |
| 2.H2.3.22 | H2   | 33.009    |           | 1118mm OD as specified on drawing   | m    | 12940    |                 |        |
| 2.H2.3.23 | H2   | 33.009    |           | 914mm OD as specified on drawing  | m    | 95       |                 |        |
|           | H2   |           |           | <b>PIPE COATING INTEGRITY SURVEYS</b>   |      |          |                 |        |
| 2.H2.3.24 | H2   | 33.010    |           | 1118mm OD as specified on drawing   | m    | 12940    |                 |        |
| 2.H2.3.25 | H2   | 33.010    |           | 914mm OD as specified on drawing  | m    | 95       |                 |        |
|           | H2   |           |           | <b>MARKER POSTS</b>   |      |          |                 |        |
| 2.H2.3.26 | H2   | 33.012    |           | As detailed on the drawing No 2A-C6-114   | no   | 120      |                 |        |
|           | H2   |           |           | <b>BENCHMARK AND TRIANGULATION BEACONS</b>  |      |          |                 |        |
| 2.H2.3.27 | H2   | 33.013(a) |           | Survey  | Sum  | 1        |                 |        |
| 2.H2.3.28 | H2   | 33.013(b) |           | Benchmark and beacons   | No   | 144      |                 |        |
|           | H2   |           |           | <b>PART H2.3: Pipe Supply, Delivery and Installation - Carried forward to Summary of Bills</b>  |      |          |                 |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           | H2   |           |           | <b>PART H2.4: Pipeline Earthworks</b>   |      |          |                 |        |
|           | H2   |           |           | <b>SITE CLEARANCE</b>   |      |          |                 |        |
|           | H2   |           |           | <b>Clearing</b>   |      |          |                 |        |
| 2.H2.4.1  | H2   | 7.001(a)  |           | Clearing  | ha   | 52       |                 |        |
| 2.H2.4.2  | H2   | 7.001(b)  |           | Removal of boulders   | m3   | 2 600    |                 |        |
| 2.H2.4.3  | H2   | 7.002     |           | Grubbing and removal of trees of girth up to and including 1m   | ha   | 52       |                 |        |
| 2.H2.4.4  | H2   | 7.003     |           | Grubbing and removal of trees of girth over 1m  | No   | 195      |                 |        |
|           | H2   |           |           | <b>Removal of topsoil</b>   |      |          |                 |        |
| 2.H2.4.5  | H2   | 7.004(a)  |           | For pipelines, temporary stockpiling to windrows or stockpile alongside the pipeline and construction servitude   | m3   | 69100    |                 |        |
|           | H2   |           |           | <b>Removal of fertile soil</b>  |      |          |                 |        |
| 2.H2.4.6  | H2   | 7.005(a)  |           | For pipelines, temporary stockpile alongside the pipeline and construction servitude  | m3   | 12315    |                 |        |
| 2.H2.4.7  | H2   | 7.007     |           | Demolishing and disposal of structures and reinforced concrete  | m3   | 100      |                 |        |
| 2.H2.4.8  | H2   | 7.008     |           | Moving Existing Rock Stockpile from Previous Project/Phase to Provide Working Space   | m3   | 50       |                 |        |
| 2.H2.4.9  | H2   | 7.009     |           | Mulching  | ha   | 52       |                 |        |
|           | H2   |           |           | <b>Overhaul</b>   |      |          |                 |        |
| 2.H2.4.10 | H2   | 7.006(a)  |           | Between 1km up to and including 3km   | m3   | 2309     |                 |        |
| 2.H2.4.11 | H2   | 7.006(b)  |           | Between 3km up to and including 5km   | m3   | 1470     |                 |        |
| 2.H2.4.12 | H2   | 7.006(c)  |           | Between 5km up to and including 7km   | m3   | 420      |                 |        |
|           | H2   |           |           | <b>DEALING WITH WATER</b>   |      |          |                 |        |
| 2.H2.4.13 | H2   | 8.001     |           | Dealing with water  | Sum  | 1        |                 |        |
| 2.H2.4.14 | H2   | 8.002     |           | Treatment of water  | Sum  | 1        |                 |        |
| 2.H2.4.15 | H2   | 8.003     |           | Water monitoring  | Sum  | 1        |                 |        |
| 2.H2.4.16 | H2   | 8.004     |           | Sampling equipment and reagents for the Engineer  | Sum  | 1        |                 |        |
|           | H2   |           |           | <b>PIPE TRENCH EXCAVATIONS</b><br><b>For all works included in PART H2</b>  |      |          |                 |        |
|           | H2   |           |           | <b>EXCAVATE IN ALL MATERIALS TO SPECIFIED LEVELS AND BATTERED SLOPES, INCLUDING TEMPORARY STOCKPILING AND LEVELLING ALONGSIDE EXCAVATIONS WITHIN THE CONFINES OF THE PIPE SERVITUDE</b> |      |          |                 |        |
|           | H2   |           |           | <b>Classified trench excavations:</b>   |      |          |                 |        |
|           | H2   |           |           | <b>Within the freehaul distance</b>   |      |          |                 |        |
| 2.H2.4.17 | H2   | 9.012     |           | Over 2m and up to 3m deep   | m3   | 49 600   |                 |        |
| 2.H2.4.18 | H2   | 9.012     |           | Over 3m and up to 4m deep   | m3   | 5 030    |                 |        |
| 2.H2.4.19 | H2   | 9.012     |           | Over 4m and up to 5m deep   | m3   | 1 900    |                 |        |
| 2.H2.4.20 | H2   | 9.012     |           | Over 5m and up to 6m deep   | m3   | 510      |                 |        |
| 2.H2.4.21 | H2   | 9.012     |           | Over 6m and up to 7m deep   | m3   | 585      |                 |        |
|           |      |           |           |   |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           |      |           |           |  |      |          | Brought Forward |        |
|           | H2   |           |           | <b>Unclassified trench excavations:</b>  |      |          |                 |        |
|           | H2   |           |           | <b>Within the freehaul distance</b>  |      |          |                 |        |
| 2.H2.4.22 | H2   | 9.012     |           | Over 3m and up to 4m deep  | m3   | 150      |                 |        |
| 2.H2.4.23 | H2   | 9.012     |           | Over 4m and up to 5m deep  | m3   | 235      |                 |        |
| 2.H2.4.24 | H2   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting)  | m3   | 2 355    |                 |        |
| 2.H2.4.25 | H1   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting), within 500m from Transnet and Eskom infrastructure (railways, conveyors, and high voltage power lines). (Eskom and/or Transnet requirements and approval processes to be met by Contractor) | m3   | 1 450    |                 |        |
| 2.H2.4.26 | H2   | 9.025     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (by non-explosive means)  | m3   | 820      |                 |        |
| 2.H2.4.27 | H2   | 9.020     |           | Compaction of trench bottom  | m2   | 27 360   |                 |        |
|           | H2   |           |           | <b>EXCAVATION ANCILLARIES</b>  |      |          |                 |        |
| 2.H2.4.28 | H2   | 9.016     |           | Excavation and disposal of unsuitable/surplus material from trench bottom to designated spoil sites  | m3   | 50       |                 |        |
| 2.H2.4.29 | H2   | 9.015     |           | Excavate by hand in soft material to expose existing services  | m3   | 126      |                 |        |
| 2.H2.4.30 | H2   | 9.021     |           | Excavation by hand   | m3   | 300      |                 |        |
|           | H2   |           |           | <b>OVERHAUL</b>  |      |          |                 |        |
| 2.H2.4.31 | H2   | 9.023(a)  |           | Between 1km up to and including 3km  | m3   | 12 890   |                 |        |
| 2.H2.4.32 | H2   | 9.023(b)  |           | Between 3km up to and including 5km  | m3   | 17 160   |                 |        |
| 2.H2.4.33 | H2   | 9.023(c)  |           | Between 5km up to and including 7km  | m3   | 5 480    |                 |        |
| 2.H2.4.34 | H2   | 9.023(d)  |           | Between 7km up to and including 9km  | m3   | 2 435    |                 |        |
| 2.H2.4.35 | H2   | 9.023(e)  |           | Between 9km up to and including 11km   | m3   | 1 685    |                 |        |
| 2.H2.4.36 | H2   | 9.023(f)  |           | Between 11km up to and including 13km  | m3   | 955      |                 |        |
|           | H2   |           |           | <b>PROVIDE AND USE OF SPECIALIST TEAM AND EQUIPMENT FOR THE DETECTION OF UNDERGROUND SERVICES</b>  |      |          |                 |        |
| 2.H2.4.37 | H2   | 9.017(a)  |           | Provide the team and equipment   | Sum  | 1        |                 |        |
| 2.H2.4.38 | H2   | 9.017(b)  |           | Use, operate and maintain equipment  | day  | 8        |                 |        |
| 2.H2.4.39 | H2   | 9.017(c)  |           | Remove the team and equipment  | Sum  | 1        |                 |        |
|           | H2   |           |           | <b>EXISTING SERVICES THAT INTERSECT OR ADJOIN A PIPE TRENCH</b>  |      |          |                 |        |
| 2.H2.4.40 | H2   | 9.018(a)  |           | Services that intersect a pipe trench  | No   | 4        |                 |        |
| 2.H2.4.41 | H2   | 9.018(b)  |           | Services that adjoin a trench  | m    | 525      |                 |        |
| 2.H2.4.42 | H2   | 9.022     |           | Slurry trenches / curtain walls  | m2   | 50       |                 |        |
| 2.H2.4.43 | H2   | 9.024     |           | Excavation of test pits  | No   | 520      |                 |        |
|           |      |           |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           |      |           |           |   |      |          | Brought Forward |        |
|           | H2   |           |           | <b>BACKFILLING AND BEDDING</b>  |      |          |                 |        |
|           | H2   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b> |      |          |                 |        |
|           | H2   |           |           | <b>Provision of bed material</b>  |      |          |                 |        |
| 2.H2.4.44 | H2   | 15.003(a) |           | Material without screening from trenches  | m3   | 120      |                 |        |
| 2.H2.4.45 | H2   | 15.003(b) |           | Material with screening from trenches   | m3   | 480      |                 |        |
| 2.H2.4.46 | H2   | 15.003(c) |           | Material from the nearest borrow pit without screening  | m3   | 975      |                 |        |
| 2.H2.4.47 | H2   | 15.003(d) |           | Material from the nearest borrow pit with screening   | m3   | 3 900    |                 |        |
|           | H2   |           |           | <b>Provision of bedding cradle material</b>   |      |          |                 |        |
| 2.H2.4.48 | H2   | 15.004(a) |           | Material without screening from trenches  | m3   | 25       |                 |        |
| 2.H2.4.49 | H2   | 15.004(b) |           | Material with screening from trenches   | m3   | 100      |                 |        |
| 2.H2.4.50 | H2   | 15.004(c) |           | Material from the nearest borrow pit without screening  | m3   | 1 010    |                 |        |
| 2.H2.4.51 | H2   | 15.004(d) |           | Material from the nearest borrow pit with screening   | m3   | 4 020    |                 |        |
| 2.H2.4.52 | H2   | 15.004(e) |           | Material from commercial sources  | m3   | 150      |                 |        |
|           | H2   |           |           | <b>Provision of soilcrete</b>   |      |          |                 |        |
| 2.H2.4.53 | H2   | 15.005(a) |           | Material without screening from trenches  | m3   | 40       |                 |        |
| 2.H2.4.54 | H2   | 15.005(b) |           | Material with screening from trenches   | m3   | 45       |                 |        |
| 2.H2.4.55 | H2   | 15.005(c) |           | Material from the nearest borrow pit without screening  | m3   | 150      |                 |        |
| 2.H2.4.56 | H2   | 15.005(d) |           | Material from the nearest borrow pit with screening   | m3   | 70       |                 |        |
| 2.H2.4.57 | H2   | 15.005(e) |           | Material from commercial sources  | m3   | 50       |                 |        |
|           | H2   |           |           | <b>Provision of selected fill blanket</b>   |      |          |                 |        |
| 2.H2.4.58 | H2   | 15.006(a) |           | Material without screening from trenches  | m3   | 375      |                 |        |
| 2.H2.4.59 | H2   | 15.006(b) |           | Material with screening from trenches   | m3   | 1 495    |                 |        |
| 2.H2.4.60 | H2   | 15.006(c) |           | Material from the nearest borrow pit without screening  | m3   | 3 800    |                 |        |
| 2.H2.4.61 | H2   | 15.006(d) |           | Material from the nearest borrow pit with screening   | m3   | 15 180   |                 |        |
| 2.H2.4.62 | H2   | 15.006(e) |           | Material from commercial sources  | m3   | 250      |                 |        |
|           | H2   |           |           | <b>Provision of main backfill material</b>  |      |          |                 |        |
| 2.H2.4.63 | H2   | 15.007(a) |           | Backfill material from trench excavation  | m3   | 11 630   |                 |        |
| 2.H2.4.64 | H2   | 15.007(b) |           | Backfill material from the nearest borrow pit   | m3   | 2 870    |                 |        |
|           | H2   |           |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>                 |      |          |                 |        |
| 2.H2.4.65 | H2   | 15.001    |           | Bed material  | m3   | 5 475    |                 |        |
| 2.H2.4.66 | H2   | 15.001    |           | Bedding cradle  | m3   | 5 310    |                 |        |
| 2.H2.4.67 | H2   | 15.001    |           | Selected fill blanket   | m3   | 21 100   |                 |        |
| 2.H2.4.68 | H2   | 15.001    |           | Main backfill   | m3   | 13 270   |                 |        |
|           |      |           |           |   |      |          | Carried Forward |        |



| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           |      |           |           |  |      |          | Brought Forward |        |
| 2.H2.4.69 | H2   | 15.001    |           | Fertile soil   | m3   | 12310    |                 |        |
| 2.H2.4.70 | H2   | 47.005    |           | Top soil   | m3   | 69100    |                 |        |
| 2.H2.4.71 | H2   | 15.002(a) |           | Soilcrete bed and bedding cradle   | m3   | 71       |                 |        |
| 2.H2.4.72 | H2   | 15.002(b) |           | Cement stabilised soil bed and bedding cradle  | m3   | 142      |                 |        |
| 2.H2.4.73 | H2   | 15.002(b) |           | Cement stabilised soil collars (soilcrete)   | m3   | 142      |                 |        |
|           | H2   |           |           | <b>PROVISION OF MATERIAL TO REPLACE UNSUITABLE MATERIAL FROM TRENCH BOTTOM OR TO PROVIDE SUPPORTING EARTHWORKS</b> |      |          |                 |        |
| 2.H2.4.74 | H2   | 15.011(b) |           | From borrow pits   | m3   | 50       |                 |        |
|           | H2   |           |           | <b>Placing of Material</b>   |      |          |                 |        |
| 2.H2.4.75 | H2   | 15.012    |           | Placing of material to replace unsuitable material from trench bottom or to provide supporting earthworks          | m3   | 50       |                 |        |
|           | H2   |           |           | <b>SUBSOIL DRAINAGE</b>  |      |          |                 |        |
|           | H2   |           |           | <b>Crushed stone</b>   |      |          |                 |        |
| 2.H2.4.76 | H2   | 15.008(a) |           | Supply and place crushed stone for Layer no 1  | m3   | 320      |                 |        |
| 2.H2.4.77 | H2   | 15.008(c) |           | Supply and place well graded compacted dump rock for Layer no 2  | m3   | 530      |                 |        |
|           | H2   |           |           | <b>Geotextile</b>  |      |          |                 |        |
| 2.H2.4.78 | H2   | 15.008(b) |           | Supply and place geotextile for Layer no 1   | m2   | 2 730    |                 |        |
| 2.H2.4.79 | H2   | 15.008(d) |           | Supply and place geotextile for Layer no 2   | m2   | 2 890    |                 |        |
|           | H2   |           |           | <b>ENCASING OF PIPES IN CONCRETE</b>   |      |          |                 |        |
| 2.H2.4.80 | H2   | 15.009(a) |           | Concrete strength grade 30/19  | m3   | 20       |                 |        |
| 2.H2.4.81 | H2   | 15.009(b) |           | Reinforcement  | t    | 2        |                 |        |
|           | H2   |           |           | <b>OVERHAUL</b>  |      |          |                 |        |
| 2.H2.4.82 | H2   | 15.010(a) |           | Between 1km up to and including 3km  | m3   | 800      |                 |        |
| 2.H2.4.83 | H2   | 15.010(b) |           | Between 3km up to and including 5km  | m3   | 8470     |                 |        |
| 2.H2.4.84 | H2   | 15.010(c) |           | Between 5km up to and including 7km  | m3   | 13635    |                 |        |
| 2.H2.4.85 | H2   | 15.010(d) |           | Between 7km up to and including 9km  | m3   | 5030     |                 |        |
| 2.H2.4.86 | H2   | 15.010(e) |           | Between 9km up to and including 11km   | m3   | 2250     |                 |        |
| 2.H2.4.87 | H2   | 15.010(f) |           | Between 11km up to and including 13km  | m3   | 1550     |                 |        |
|           | H2   |           |           | <b>PART H2.4: Pipeline Earthworks - Carried forward to Summary of Bills</b>  |      |          |                 |        |

| Item no.  | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|           |      |                   |           |   |      |          |                 |        |
|           | H2   |                   |           | <b>PART H2.5: Valve installations and chambers</b>  |      |          |                 |        |
|           | H2   |                   |           | <b>SINGLE AIR VALVE INSTALLATION</b>  |      |          |                 |        |
|           | H2   |                   |           | REFER TO DRAWING <b>2A-C6-141 and 2A-C6-142</b>   |      |          |                 |        |
|           | H2   |                   |           | <b>EARTHWORKS</b>   |      |          |                 |        |
|           | H2   |                   |           | <b>ADDITIONAL EXCAVATION IN ALL MATERIALS BEYOND THE TRENCH PAYMENT LINE FOR VALVE CHAMBERS, THRUST BLOCKS, ETC</b>     |      |          |                 |        |
| 2.H2.5.1  | H2   | 9.013             |           | Excavate for valve chambers   | m3   | 170      |                 |        |
| 2.H2.5.2  | H2   | 9.014             |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting) | m3   | 1        |                 |        |
|           | H2   |                   |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.3  | H2   | 9.023(a)          |           | Between 1km up to and including 3km   | m3   | 1        |                 |        |
| 2.H2.5.4  | H2   | 9.023(b)          |           | Between 3km up to and including 5km   | m3   | 1        |                 |        |
|           | H2   |                   |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>                           |      |          |                 |        |
|           | H2   |                   |           | <b>Provision of cement stabilised soil</b>  |      |          |                 |        |
| 2.H2.5.5  | H2   | 15.003(d)         |           | Material from the nearest borrow pit with screening   | m3   | 129      |                 |        |
| 2.H2.5.6  | H2   | 15.003(e)         |           | Cement for stabilisation of soil  | m3   | 7        |                 |        |
|           | H2   |                   |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>   |      |          |                 |        |
| 2.H2.5.7  | H2   | 15.002(b)         |           | Cement stabilised soil bed and bedding cradle   | m3   | 136      |                 |        |
|           | H2   |                   |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.8  | H2   | 15.010(b)         |           | Between 3km up to and including 5km   | m3   | 68       |                 |        |
| 2.H2.5.9  | H2   | 15.010(c)         |           | Between 5km up to and including 7km   | m3   | 68       |                 |        |
|           | H2   |                   |           | <b>CONSTRUCTION OF EMBANKMENT AND STRUCTURE BACKFILL</b>  |      |          |                 |        |
| 2.H2.5.10 | H2   | 15.014(a)         |           | Structure backfilling compacted   | m3   | 198      |                 |        |
| 2.H2.5.11 | H2   | 15.014(a)         |           | Embankment backfilling compacted  | m3   | 264      |                 |        |
| 2.H2.5.12 | H2   | 15.015            |           | Finishing of slopes   | m2   | 458      |                 |        |
|           | H2   |                   |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.13 | H2   | 15.016(b)         |           | Between 3km up to and including 5km   | m3   | 147      |                 |        |
| 2.H2.5.14 | H2   | 15.016(c)         |           | Between 5km up to and including 7km   | m3   | 147      |                 |        |
|           | H2   |                   |           | <b>CONCRETE WORKS</b>   |      |          |                 |        |
|           | H2   |                   |           | <b>ROUGH FORMWORK</b>   |      |          |                 |        |
|           | H2   |                   |           | <b>Vertical surfaces</b>  |      |          |                 |        |
| 2.H2.5.15 | H2   | 20.001            |           | Sides of floor slab   | m2   | 55       |                 |        |
| 2.H2.5.16 | H2   | 20.001            |           | Sides of walls  | m2   | 193      |                 |        |
|           |      |                   |           |   |      |          | Carried Forward |        |

| Item no.  | Part | Payment     | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-------------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference   |           |  |      |          |                 |        |
|           |      |             |           |  |      |          | Brought Forward |        |
|           | H2   |             |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|           | H2   |             |           | <b>Horizontal surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H2.5.17 | H2   | 20.002      |           | Underside of slabs   | m2   | 39       |                 |        |
|           | H2   |             |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|           | H2   |             |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H2.5.18 | H2   | 20.002      |           | Walls  | m2   | 507      |                 |        |
| 2.H2.5.19 | H2   | 20.002      |           | Side of Sump walls   | m2   | 5        |                 |        |
| 2.H2.5.20 | H2   | 20.005      |           | Narrow widths - Up to 200mm high   | m    | 134      |                 |        |
|           | H2   |             |           | <b>Box-out holes/Form voids (for sleeves only)</b>   |      |          |                 |        |
|           | H2   |             |           | <b>a) Small, circular, of diameter up to and including 0.35 m</b>  |      |          |                 |        |
| 2.H2.5.21 | H2   | 20.006 (a)  |           | Over 0m deep and up to and including 0.5m deep   | No.  | 34       |                 |        |
|           | H2   |             |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H2.5.22 | H2   | 20.007      |           | Steel bars (irrespective of grade or diameter)   | t    | 21.6     |                 |        |
|           | H2   |             |           | <b>CONCRETE</b>  |      |          |                 |        |
|           | H2   |             |           | <b>CONCRETE 15 MPa/19mm in:</b>  |      |          |                 |        |
| 2.H2.5.23 | H2   | 20.011(a)   |           | Blinding layer of 50mm minimum thickness including levelling and floating.   | m2   | 174      |                 |        |
| 2.H2.5.24 | H2   | 20.011(b)   |           | Mass concrete filling where required by the engineer   | m3   | 9        |                 |        |
| 2.H2.5.25 | H2   | 46.007(b)i) |           | 100mm thick granolithic screed laid to fall to direction of sump.  | m2   | 83       |                 |        |
|           | H2   |             |           | <b>PRESCRIBED MIX CONCRETE, 35MPa/19mm (water retaining)</b>   |      |          |                 |        |
| 2.H2.5.26 | H2   | 20.010      |           | Foundations, bases, floor slabs and roof slabs   | m3   | 56       |                 |        |
| 2.H2.5.27 | H2   | 20.010      |           | Walls  | m3   | 88       |                 |        |
|           | H2   |             |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H2.5.28 | H2   | 20.013(a)   |           | Wood floated finish  | m2   | 83       |                 |        |
| 2.H2.5.29 | H2   | 20.013(b)   |           | Steel floated finish   | m2   | 162      |                 |        |
|           | H2   |             |           | <b>MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |                 |        |
|           | H2   |             |           | <b>PN40</b>  |      |          |                 |        |
| 2.H2.5.30 | H2   | 32.003      |           | Item 1   | No   | 17       |                 |        |
| 2.H2.5.31 | H2   | 32.003      |           | Item 2   | No   | 17       |                 |        |
| 2.H2.5.32 | H2   | 35.002      |           | Item 3   | No   | 17       |                 |        |
| 2.H2.5.33 | H2   | 35.002      |           | Item 4   | No   | 17       |                 |        |
|           |      |             |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           |      |           |           |   |      |          | Brought Forward |        |
|           | H2   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b>  |      |          |                 |        |
|           | H2   |           |           | <b>PN40</b>   |      |          |                 |        |
| 2.H2.5.34 | H2   | 33.004    |           | Item 1  | No   | 17       |                 |        |
| 2.H2.5.35 | H2   | 33.004    |           | Item 2  | No   | 17       |                 |        |
| 2.H2.5.36 | H2   | 33.004    |           | Item 3  | No   | 17       |                 |        |
| 2.H2.5.37 | H2   | 33.004    |           | Item 4  | No   | 17       |                 |        |
|           | H2   |           |           | <b>ITEMS CAST OR BUILT INTO CONCRETE</b>  |      |          |                 |        |
| 2.H2.5.38 | H2   | 33.005    |           | Steel pipe diameter 700mm   | No   | 17       |                 |        |
|           | H2   |           |           | <b>SUPPLY AND ERECT PRECAST ELEMENTS</b>  |      |          |                 |        |
|           | H2   |           |           | <b>Refer to Dwg 2A-C6-141 and 2A-C6-142</b>   |      |          |                 |        |
| 2.H2.5.39 | H2   | 20.017    |           | Precast slab Type 1   | No   | 34       |                 |        |
|           | H2   |           |           | <b>ANCILLARY WORKS</b>  |      |          |                 |        |
| 2.H2.5.40 | H2   | 24.008    |           | Ladders, complete and installed as per drawing Reg. No.2A-C6-126  | No   | 17       |                 |        |
| 2.H2.5.41 | H2   | 24.010    |           | Manhole cover and lids, complete and installed as per drawing Reg. No.2A-C6-120/121/122   | No   | 17       |                 |        |
| 2.H2.5.42 | H2   | 20.021 c) |           | Roof slab inlet ventilator as per drawing Reg. No.2A-C6-123/124   | No   | 17       |                 |        |
| 2.H2.5.43 | H2   | 20.021 c) |           | Roof slab outlet ventilator as per drawing Reg. No.2A-C6-123/124  | No   | 17       |                 |        |
| 2.H2.5.44 | H2   | 20.021 c) |           | 110mm diam uPVC pipe cast into concrete wall for the sump   | No   | 17       |                 |        |
| 2.H2.5.45 | H2   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 700mm | no   | 17       |                 |        |
| 2.H2.5.46 | H2   | 20.014    |           | 19mm aggregate/stone  | m3   | 11       |                 |        |
| 2.H2.5.47 | H2   | 20.021 c) |           | Vermin mesh to be applied to opening as per drawing Reg. No. 2A-C6-125  | no   | 34       |                 |        |
|           | H2   |           |           | <b>SPECIFIC ITEMS OF WORK</b>   |      |          |                 |        |
|           | H2   |           |           | <b>SEALING STRIPS, JOINT SEALANT, ETC</b>   |      |          |                 |        |
| 2.H2.5.48 | H2   | 33.014    |           | 15mm Joint sealing not exceeding 300mm high as per drawing Reg. No.2A-C6-125  | m    | 89       |                 |        |
|           | H2   |           |           | <b>CONSTRUCTION OF STONE DRAIN AND EROSION PROTECTION</b>   |      |          |                 |        |
|           | H2   |           |           | <b>Foundation trench excavation and backfilling</b>   |      |          |                 |        |
| 2.H2.5.49 | H2   | 21.001(b) |           | In all other classes of material  | m3   | 11       |                 |        |
| 2.H2.5.50 | H2   | 21.002    |           | Surface preparation for bedding the gabions   | m2   | 11       |                 |        |
| 2.H2.5.51 | H2   | 21.005    |           | Geotextile fabric (type and grade indicated on the Drawings)  | m2   | 97       |                 |        |
|           |      |           |           |   |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           |      |           |           |   |      |          | Brought Forward |        |
|           | H2   |           |           | <b>SINGLE SCOUR VALVE INSTALLATION</b><br><i>(for 900 to 1100mm diam pipeline)</i>  |      |          |                 |        |
|           | H2   |           |           | <b>REFER TO DRAWING 2A-C6-151 and 2A-C6-152</b>   |      |          |                 |        |
|           | H2   |           |           | <b>EARTHWORKS</b>   |      |          |                 |        |
|           | H2   |           |           | <b>ADDITIONAL EXCAVATION IN ALL MATERIALS BEYOND THE TRENCH PAYMENT LINE FOR VALVE CHAMBERS, THRUST BLOCKS, ETC</b>         |      |          |                 |        |
| 2.H2.5.52 | H2   | 9.013     |           | Excavate for valve chambers   | m3   | 190      |                 |        |
| 2.H2.5.53 | H2   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting)     | m3   | 57       |                 |        |
| 2.H2.5.54 | H2   | 9.016     |           | Excavation and disposal of unsuitable/surplus material from trench bottom to temporary stockpile within free haul distance. | m3   | 5        |                 |        |
| 2.H2.5.55 | H2   | 9.020     |           | Compaction of trench bottom (150mm thick)   | m2   | 46       |                 |        |
|           | H2   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.56 | H2   | 9.023(a)  |           | Between 1km up to and including 3km   | m3   | 23       |                 |        |
| 2.H2.5.57 | H2   | 9.023(b)  |           | Between 3km up to and including 5km   | m3   | 23       |                 |        |
| 2.H2.5.58 | H2   | 9.023(c)  |           | Between 5km up to and including 7km   | m3   | 23       |                 |        |
|           | H2   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>                               |      |          |                 |        |
|           | H2   |           |           | <b>Provision of bed material (G5)</b>   |      |          |                 |        |
| 2.H2.5.59 | H2   | 15.003(c) |           | Material from the nearest borrow pit without screening  | m3   | 7        |                 |        |
|           | H2   |           |           | <b>Provision of cement stabilised soil</b>  |      |          |                 |        |
| 2.H2.5.60 | H2   | 15.003(d) |           | Material from the nearest borrow pit with screening   | m3   | 29       |                 |        |
| 2.H2.5.61 | H2   | 15.003(e) |           | Cement for stabilisation of soil  | m3   | 2        |                 |        |
|           | H2   |           |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>   |      |          |                 |        |
| 2.H2.5.62 | H2   | 15.001    |           | Placing of bedding material   | m3   | 7        |                 |        |
| 2.H2.5.63 | H2   | 15.002(b) |           | Cement stabilised soil bed and bedding cradle   | m3   | 31       |                 |        |
|           | H2   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.64 | H2   | 15.010(b) |           | Between 3km up to and including 5km   | m3   | 19       |                 |        |
| 2.H2.5.65 | H2   | 15.010(c) |           | Between 5km up to and including 7km   | m3   | 19       |                 |        |
|           | H2   |           |           | <b>CONSTRUCTION OF EMBANKMENT AND STRUCTURE BACKFILL</b>  |      |          |                 |        |
| 2.H2.5.66 | H2   | 15.014(a) |           | Structure backfilling compacted   | m3   | 142      |                 |        |
| 2.H2.5.67 | H2   | 15.014(a) |           | Embankment backfilling compacted  | m3   | 40       |                 |        |
| 2.H2.5.68 | H2   | 15.014(b) |           | Rockfill processing and compaction  | m3   | 5        |                 |        |
| 2.H2.5.69 | H2   | 15.015    |           | Finishing of slopes   | m2   | 67       |                 |        |
|           |      |           |           |   |      |          | Carried Forward |        |

| Item no.  | Part | Payment    | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|------------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference  |           |   |      |          |                 |        |
|           |      |            |           |   |      |          | Brought Forward |        |
|           | H2   |            |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.70 | H2   | 15.016(b)  |           | Between 3km up to and including 5km   | m3   | 3        |                 |        |
| 2.H2.5.71 | H2   | 15.016(c)  |           | Between 5km up to and including 7km   | m3   | 3        |                 |        |
|           | H2   |            |           | <b>CONCRETE WORKS</b>   |      |          |                 |        |
|           | H2   |            |           | <b>ROUGH FORMWORK</b>   |      |          |                 |        |
|           | H2   |            |           | <b>Vertical surfaces</b>  |      |          |                 |        |
| 2.H2.5.72 | H2   | 20.001     |           | Sides of floor slab   | m2   | 12       |                 |        |
| 2.H2.5.73 | H2   | 20.001     |           | Sides of walls  | m2   | 75       |                 |        |
|           | H2   |            |           | <b>SMOOTH FORMWORK</b>  |      |          |                 |        |
|           | H2   |            |           | <b>Horizontal surfaces for visible surface including 20mm chamfers on a exposed corners to:</b> |      |          |                 |        |
| 2.H2.5.74 | H2   | 20.002     |           | Underside of slabs  | m2   | 15       |                 |        |
|           | H2   |            |           | <b>SMOOTH FORMWORK</b>  |      |          |                 |        |
|           | H2   |            |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>   |      |          |                 |        |
| 2.H2.5.75 | H2   | 20.002     |           | Walls   | m2   | 242      |                 |        |
| 2.H2.5.76 | H2   | 20.002     |           | Side of Sump walls  | m2   | 1        |                 |        |
| 2.H2.5.77 | H2   | 20.002     |           | Plinths   | m2   | 8        |                 |        |
| 2.H2.5.78 | H2   | 20.005     |           | Narrow widths - Up to 250mm high (roof slabs)   | m    | 47       |                 |        |
|           | H2   |            |           | <b>Box-out holes/Form voids (for sleeves only)</b>  |      |          |                 |        |
|           | H2   |            |           | <b>a) Small, circular, of diameter up to and including 0.35 m</b>                               |      |          |                 |        |
| 2.H2.5.79 | H2   | 20.006 (a) |           | Over 0m deep and up to and including 0.5m deep  | No.  | 4        |                 |        |
|           | H2   |            |           | <b>REINFORCEMENT</b>  |      |          |                 |        |
| 2.H2.5.80 | H2   | 20.007     |           | Steel bars (irrespective of grade or diameter)  | t    | 8.9      |                 |        |
|           | H2   |            |           | <b>CONCRETE</b>   |      |          |                 |        |
|           | H2   |            |           | <b>CONCRETE 15 MPa/19mm in:</b>   |      |          |                 |        |
| 2.H2.5.81 | H2   | 20.011(a)  |           | Blinding layer of 50mm minimum thickness including levelling and floating.                      | m2   | 40       |                 |        |
| 2.H2.5.82 | H2   | 20.011(b)  |           | Mass concrete filling where required by the engineer  | m3   | 2        |                 |        |
| 2.H2.5.83 | H2   | 46.007(b)i |           | 100mm thick granolithic screed laid to fall to direction of sump.                               | m2   | 23       |                 |        |
|           | H2   |            |           | <b>PRESCRIBED MIX CONCRETE, 35MPa/19mm (water retaining)</b>                                    |      |          |                 |        |
| 2.H2.5.84 | H2   | 20.010     |           | Foundations, bases, floor slabs and roof slabs  | m3   | 16       |                 |        |
| 2.H2.5.85 | H2   | 20.010     |           | Plinths (Including grouting between the plinth and the pipes/specials where required)           | m3   | 2        |                 |        |
| 2.H2.5.86 | H2   | 20.010     |           | Walls   | m3   | 41       |                 |        |
|           |      |            |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H2   |           |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H2.5.87  | H2   | 20.013(a) |           | Wood floated finish  | m2   | 23       |                 |        |
| 2.H2.5.88  | H2   | 20.013(b) |           | Steel floated finish   | m2   | 45       |                 |        |
|            | H2   |           |           | <b>MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |                 |        |
|            | H2   |           |           | <b>PN40</b>  |      |          |                 |        |
| 2.H2.5.89  | H2   | 32.003    |           | Item 1   | No   | 2        |                 |        |
| 2.H2.5.90  | H2   | 35.002    |           | Item 2   | No   | 4        |                 |        |
| 2.H2.5.91  | H2   | 32.003    |           | Item 3   | No   | 2        |                 |        |
| 2.H2.5.92  | H2   | 32.003    |           | Item 4   | No   | 2        |                 |        |
| 2.H2.5.93  | H2   | 32.003    |           | Item 5   | No   | 2        |                 |        |
| 2.H2.5.94  | H2   | 32.003    |           | Item 6   | No   | 2        |                 |        |
| 2.H2.5.95  | H2   | 32.003    |           | Item 7   | No   | 2        |                 |        |
| 2.H2.5.96  | H2   | 35.002    |           | Item 8   | No   | 2        |                 |        |
| 2.H2.5.97  | H2   | 32.003    |           | Item 9   | No   | 2        |                 |        |
| 2.H2.5.98  | H2   | 35.002    |           | Item 10  | No   | 2        |                 |        |
|            | H2   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b>   |      |          |                 |        |
|            | H2   |           |           | <b>PN40</b>  |      |          |                 |        |
| 2.H2.5.99  | H2   | 33.004    |           | Item 1   | No   | 2        |                 |        |
| 2.H2.5.100 | H2   | 33.004    |           | Item 2   | No   | 4        |                 |        |
| 2.H2.5.101 | H2   | 33.004    |           | Item 3   | No   | 2        |                 |        |
| 2.H2.5.102 | H2   | 33.004    |           | Item 4   | No   | 2        |                 |        |
| 2.H2.5.103 | H2   | 33.004    |           | Item 5   | No   | 2        |                 |        |
| 2.H2.5.104 | H2   | 33.004    |           | Item 6   | No   | 2        |                 |        |
| 2.H2.5.105 | H2   | 33.004    |           | Item 7   | No   | 2        |                 |        |
| 2.H2.5.106 | H2   | 33.004    |           | Item 8   | No   | 2        |                 |        |
| 2.H2.5.107 | H2   | 33.004    |           | Item 9   | No   | 2        |                 |        |
| 2.H2.5.108 | H2   | 33.004    |           | Item 10  | No   | 2        |                 |        |
|            | H2   |           |           | <b>ITEMS CAST OR BUILT INTO CONCRETE</b>   |      |          |                 |        |
| 2.H2.5.109 | H2   | 33.005    |           | Steel pipe diameter 900mm up to 1500mm   | No   | 4        |                 |        |
| 2.H2.5.110 | H2   | 33.005    |           | Steel pipe diameter 300mm  | No   | 2        |                 |        |
|            | H2   |           |           | <b>SUPPLY AND ERECT PRECAST ELEMENTS</b>   |      |          |                 |        |
|            | H2   |           |           | <b>Refer to Dwg 2A-C6-151 and 2A-C6-152</b>  |      |          |                 |        |
| 2.H2.5.111 | H2   | 20.017    |           | Precast slab Type 1  | No   | 2        |                 |        |
| 2.H2.5.112 | H2   | 20.017    |           | Precast slab Type 2  | No   | 2        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H2   |           |           | <b>ANCILLARY WORKS</b>   |      |          |                 |        |
| 2.H2.5.113 | H2   | 24.008    |           | Ladders, complete and installed as per drawing Reg. No.2A-C6-126   | No   | 4        |                 |        |
| 2.H2.5.114 | H2   | 24.010    |           | Manhole cover and lids, complete and installed as per drawing Reg. No.2A-C6-120/121/122  | No   | 4        |                 |        |
| 2.H2.5.115 | H2   | 20.021 c) |           | Roof slab inlet ventilator as per drawing Reg. No.2A-C6-123/124  | No   | 2        |                 |        |
| 2.H2.5.116 | H2   | 20.021 c) |           | Roof slab outlet ventilator as per drawing Reg. No.2A-C6-123/124   | No   | 2        |                 |        |
| 2.H2.5.117 | H2   | 20.021 c) |           | Steel bars as per drawing Reg. No.2A-C6-125  | No   | 2        |                 |        |
| 2.H2.5.118 | H2   | 20.021 c) |           | 160mm diam uPVC pipe cast into concrete wall for the sump  | No   | 4        |                 |        |
| 2.H2.5.119 | H2   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 200mm        | No   | 2        |                 |        |
| 2.H2.5.120 | H2   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 1118mm       | No   | 4        |                 |        |
| 2.H2.5.121 | H2   | 20.021 c) |           | Sleeves to be grouted after the installation of cables to ensure no seepage 160mm diam x 0.3mm thick   | no   | 4        |                 |        |
| 2.H2.5.122 | H2   | 20.021 c) |           | Drilling for dowels and including grouting in of dowels, per one chamber complete, as per drawing 2A-C6-125. (Dowel material included in 20.007) | no   | 2        |                 |        |
| 2.H2.5.123 | H2   | 20.021 c) |           | 10mm Neoprene, as per drawing 2A-C6-125  | m²   | 2        |                 |        |
|            | H2   |           |           | <b>SPECIFIC ITEMS OF WORK</b>  |      |          |                 |        |
|            | H2   |           |           | <b>SEALING STRIPS, JOINT SEALANT, ETC</b>  |      |          |                 |        |
| 2.H2.5.124 | H2   | 33.014    |           | 15mm Joint sealing not exceeding 300mm high as per drawing Reg. No.2A-C6-125   | m    | 17       |                 |        |
|            | H2   |           |           | <b>CONSTRUCTION OF STONE DRAIN AND EROSION PROTECTION</b>  |      |          |                 |        |
|            | H2   |           |           | <b>Foundation trench excavation and backfilling</b>  |      |          |                 |        |
| 2.H2.5.125 | H2   | 21.001(b) |           | In all other classes of material   | m3   | 58       |                 |        |
| 2.H2.5.126 | H2   | 21.002    |           | Surface preparation for bedding the gabions  | m2   | 49       |                 |        |
| 2.H2.5.127 | H2   | 21.005    |           | Geotextile fabric (type and grade indicated on the Drawings)   | m2   | 47       |                 |        |
| 2.H2.5.128 | H2   | 21.003(a) |           | Galvanised gabions cages<br>(Refer to drawings for dimentions)   | m3   | 7        |                 |        |
| 2.H2.5.129 | H2   | 21.003(c) |           | Galvanised gabions mattresses<br>(Refer to drawings for dimentions)  | m3   | 6        |                 |        |
| 2.H2.5.130 | H2   | 27.009    |           | Rip-rap  | m3   | 10       |                 |        |
|            | H2   |           |           | <b>DOUBLE SCOUR AND ISOLATING VALVE INSTALLATION<br/>(for 900 to 1100mm diam pipeline)</b>   |      |          |                 |        |
|            | H2   |           |           | <b>REFER TO DRAWING 2A-C6-156, 2A-C6-157 &amp; 2A-C6-158</b>   |      |          |                 |        |
|            | H2   |           |           | <b>EARTHWORKS</b>  |      |          |                 |        |
|            | H2   |           |           | <b>ADDITIONAL EXCAVATION IN ALL MATERIALS BEYOND THE TRENCH PAYMENT LINE FOR VALVE CHAMBERS, THRUST BLOCKS, ETC</b>                              |      |          |                 |        |
| 2.H2.5.131 | H2   | 9.013     |           | Excavate for valve chambers  | m3   | 183      |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |



| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            |      |           |           |   |      |          | Brought Forward |        |
| 2.H2.5.132 | H2   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting)     | m3   | 35       |                 |        |
| 2.H2.5.133 | H2   | 9.016     |           | Excavation and disposal of unsuitable/surplus material from trench bottom to temporary stockpile within free haul distance. | m3   | 5        |                 |        |
| 2.H2.5.134 | H2   | 9.020     |           | Compaction of trench bottom (150mm thick)   | m2   | 51       |                 |        |
|            | H2   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.135 | H2   | 9.023(a)  |           | Between 1km up to and including 3km   | m3   | 34       |                 |        |
| 2.H2.5.136 | H2   | 9.023(b)  |           | Between 3km up to and including 5km   | m3   | 34       |                 |        |
| 2.H2.5.137 | H2   | 9.023(c)  |           | Between 5km up to and including 7km   | m3   | 34       |                 |        |
|            | H2   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>                               |      |          |                 |        |
|            | H2   |           |           | <b>Provision of bed material (G5)</b>   |      |          |                 |        |
| 2.H2.5.138 | H2   | 15.003(c) |           | Material from the nearest borrow pit without screening  | m3   | 8        |                 |        |
|            | H2   |           |           | <b>Provision of cement stabilised soil</b>  |      |          |                 |        |
| 2.H2.5.139 | H2   | 15.003(d) |           | Material from the nearest borrow pit with screening   | m3   | 20       |                 |        |
| 2.H2.5.140 | H2   | 15.003(e) |           | Cement for stabilisation of soil  | m3   | 1        |                 |        |
|            | H2   |           |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>   |      |          |                 |        |
| 2.H2.5.141 | H2   | 15.001    |           | Placing of bedding material   | m3   | 8        |                 |        |
| 2.H2.5.142 | H2   | 15.002(b) |           | Cement stabilised soil bed and bedding cradle   | m3   | 21       |                 |        |
|            | H2   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.143 | H2   | 15.010(b) |           | Between 3km up to and including 5km   | m3   | 15       |                 |        |
| 2.H2.5.144 | H2   | 15.010(c) |           | Between 5km up to and including 7km   | m3   | 15       |                 |        |
|            | H2   |           |           | <b>CONSTRUCTION OF EMBANKMENT AND STRUCTURE BACKFILL</b>  |      |          |                 |        |
| 2.H2.5.145 | H2   | 15.014(a) |           | Structure backfilling compacted   | m3   | 96       |                 |        |
| 2.H2.5.146 | H2   | 15.014(a) |           | Embankment backfilling compacted  | m3   | 26       |                 |        |
| 2.H2.5.147 | H2   | 15.014(b) |           | Rockfill processing and compaction  | m3   | 5        |                 |        |
| 2.H2.5.148 | H2   | 15.015    |           | Finishing of slopes   | m2   | 44       |                 |        |
|            | H2   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.149 | H2   | 15.016(b) |           | Between 3km up to and including 5km   | m3   | 3        |                 |        |
| 2.H2.5.150 | H2   | 15.016(c) |           | Between 5km up to and including 7km   | m3   | 3        |                 |        |
|            | H2   |           |           | <b>CONCRETE WORKS</b>   |      |          |                 |        |
|            | H2   |           |           | <b>ROUGH FORMWORK</b>   |      |          |                 |        |
|            | H2   |           |           | <b>Vertical surfaces</b>  |      |          |                 |        |
| 2.H2.5.151 | H2   | 20.001    |           | Sides of floor slab   | m2   | 9        |                 |        |
| 2.H2.5.152 | H2   | 20.001    |           | Sides of walls  | m2   | 55       |                 |        |
|            |      |           |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment    | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|------------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference  |           |  |      |          |                 |        |
|            |      |            |           |  |      |          | Brought Forward |        |
|            | H2   |            |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|            | H2   |            |           | <b>Horizontal surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H2.5.153 | H2   | 20.002     |           | Underside of slabs   | m2   | 13       |                 |        |
|            | H2   |            |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|            | H2   |            |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H2.5.154 | H2   | 20.002     |           | Walls  | m2   | 194      |                 |        |
| 2.H2.5.155 | H2   | 20.002     |           | Side of Sump walls   | m2   | 0.5      |                 |        |
| 2.H2.5.156 | H2   | 20.002     |           | Plinths  | m2   | 4        |                 |        |
| 2.H2.5.157 | H2   | 20.005     |           | Narrow widths - Up to 250mm high (roof slabs)  | m    | 66       |                 |        |
| 2.H2.5.158 | H2   | 20.005     |           | Box out 325mm wide x 150mm thick for precast concrete panel placement surface  | m    | 4        |                 |        |
|            | H2   |            |           | <b>Box-out holes/Form voids (for sleeves only)</b>   |      |          |                 |        |
|            | H2   |            |           | <b>a) Small, circular, of diameter up to and including 0.35 m</b>  |      |          |                 |        |
| 2.H2.5.159 | H2   | 20.006 (a) |           | Over 0m deep and up to and including 0.5m deep   | No.  | 2        |                 |        |
|            | H2   |            |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H2.5.160 | H2   | 20.007     |           | Steel bars (irrespective of grade or diameter)   | t    | 8.9      |                 |        |
|            | H2   |            |           | <b>CONCRETE</b>  |      |          |                 |        |
|            | H2   |            |           | <b>CONCRETE 15 MPa/19mm in:</b>  |      |          |                 |        |
| 2.H2.5.161 | H2   | 20.011(a)  |           | Blinding layer of 50mm minimum thickness including levelling and floating.   | m2   | 47       |                 |        |
| 2.H2.5.162 | H2   | 20.011(b)  |           | Mass concrete filling where required by the engineer   | m3   | 1        |                 |        |
| 2.H2.5.163 | H2   | 46.007(b)i |           | 100mm thick granolithic screed laid to fall to direction of sump.  | m2   | 30       |                 |        |
|            | H2   |            |           | <b>PRESCRIBED MIX CONCRETE, 35MPa/19mm (water retaining)</b>   |      |          |                 |        |
| 2.H2.5.164 | H2   | 20.010     |           | Foundations, bases, floor slabs and roof slabs   | m3   | 20       |                 |        |
| 2.H2.5.165 | H2   | 20.010     |           | Plinths (Including grouting between the plinth and the pipes/specials where required)  | m3   | 1        |                 |        |
| 2.H2.5.166 | H2   | 20.010     |           | Walls  | m3   | 38       |                 |        |
|            | H2   |            |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H2.5.167 | H2   | 20.013(a)  |           | Wood floated finish  | m2   | 30       |                 |        |
| 2.H2.5.168 | H2   | 20.013(b)  |           | Steel floated finish   | m2   | 52       |                 |        |
|            | H2   |            |           | <b>MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |                 |        |
|            | H2   |            |           | <b>PN40</b>  |      |          |                 |        |
| 2.H2.5.169 | H2   | 32.003     |           | Item 1   | No   | 2        |                 |        |
| 2.H2.5.170 | H2   | 32.003     |           | Item 2   | No   | 1        |                 |        |
| 2.H2.5.171 | H2   | 32.003     |           | Item 3   | No   | 1        |                 |        |
|            |      |            |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description                                | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H2.5.172 | H2   | 35.002    |           | Item 4                                     | No   | 1        |                 |        |
| 2.H2.5.173 | H2   | 32.003    |           | Item 5                                     | No   | 1        |                 |        |
| 2.H2.5.174 | H2   | 32.003    |           | Item 6                                     | No   | 2        |                 |        |
| 2.H2.5.175 | H2   | 35.002    |           | Item 6A                                    | No   | 1        |                 |        |
| 2.H2.5.176 | H2   | 32.003    |           | Item 6B                                    | No   | 1        |                 |        |
| 2.H2.5.177 | H2   | 35.002    |           | Item 6C                                    | No   | 1        |                 |        |
| 2.H2.5.178 | H2   | 32.003    |           | Item 7                                     | No   | 1        |                 |        |
| 2.H2.5.179 | H2   | 35.002    |           | Item 8                                     | No   | 5        |                 |        |
| 2.H2.5.180 | H2   | 32.003    |           | Item 9                                     | No   | 3        |                 |        |
| 2.H2.5.181 | H2   | 32.003    |           | Item 10                                    | No   | 2        |                 |        |
| 2.H2.5.182 | H2   | 32.003    |           | Item 11                                    | No   | 2        |                 |        |
| 2.H2.5.183 | H2   | 32.003    |           | Item 12                                    | No   | 2        |                 |        |
| 2.H2.5.184 | H2   | 32.003    |           | Item 13                                    | No   | 1        |                 |        |
|            | H2   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b> |      |          |                 |        |
|            | H2   |           |           | <b>PN40</b>                                |      |          |                 |        |
| 2.H2.5.185 | H2   | 33.004    |           | Item 1                                     | No   | 2        |                 |        |
| 2.H2.5.186 | H2   | 33.004    |           | Item 2                                     | No   | 1        |                 |        |
| 2.H2.5.187 | H2   | 33.004    |           | Item 3                                     | No   | 1        |                 |        |
| 2.H2.5.188 | H2   | 33.004    |           | Item 4                                     | No   | 1        |                 |        |
| 2.H2.5.189 | H2   | 33.004    |           | Item 5                                     | No   | 1        |                 |        |
| 2.H2.5.190 | H2   | 33.004    |           | Item 6                                     | No   | 2        |                 |        |
| 2.H2.5.191 | H2   | 33.004    |           | Item 6A                                    | No   | 1        |                 |        |
| 2.H2.5.192 | H2   | 33.004    |           | Item 6B                                    | No   | 1        |                 |        |
| 2.H2.5.193 | H2   | 33.004    |           | Item 6C                                    | No   | 1        |                 |        |
| 2.H2.5.194 | H2   | 33.004    |           | Item 7                                     | No   | 1        |                 |        |
| 2.H2.5.195 | H2   | 33.004    |           | Item 8                                     | No   | 5        |                 |        |
| 2.H2.5.196 | H2   | 33.004    |           | Item 9                                     | No   | 3        |                 |        |
| 2.H2.5.197 | H2   | 33.004    |           | Item 10                                    | No   | 2        |                 |        |
| 2.H2.5.198 | H2   | 33.004    |           | Item 11                                    | No   | 2        |                 |        |
| 2.H2.5.199 | H2   | 33.004    |           | Item 12                                    | No   | 2        |                 |        |
| 2.H2.5.200 | H2   | 33.004    |           | Item 13                                    | No   | 1        |                 |        |
|            | H2   |           |           | <b>ITEMS CAST OR BUILT INTO CONCRETE</b>   |      |          |                 |        |
| 2.H2.5.201 | H2   | 33.005    |           | Steel pipe diameter 900mm up to 1500mm     | No   | 2        |                 |        |
| 2.H2.5.202 | H2   | 33.005    |           | Steel pipe diameter 300mm                  | No   | 2        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|----------------|----------|-----------------|--------|
|            |      | Reference |           |  |                |          |                 |        |
|            |      |           |           |  |                |          | Brought Forward |        |
|            | H2   |           |           | <b>SUPPLY AND ERECT PRECAST ELEMENTS</b>   |                |          |                 |        |
|            | H2   |           |           | <b>Refer to Dwg 2A-C6-156, 2A-C6-157 &amp; 2A-C6-158</b>   |                |          |                 |        |
| 2.H2.5.203 | H2   | 20.017    |           | Precast slab Type 1  | No             | 4        |                 |        |
| 2.H2.5.204 | H2   | 20.017    |           | Precast slab Type 2  | No             | 6        |                 |        |
|            | H2   |           |           | <b>ANCILLARY WORKS</b>   |                |          |                 |        |
| 2.H2.5.205 | H2   | 24.008    |           | Ladders, complete and installed as per drawing Reg. No.2A-C6-126   | No             | 2        |                 |        |
| 2.H2.5.206 | H2   | 24.010    |           | Manhole cover and lids, complete and installed as per drawing Reg. No.2A-C6-120/121/122  | No             | 2        |                 |        |
| 2.H2.5.207 | H2   | 20.021 c) |           | Roof slab inlet ventilator as per drawing Reg. No.2A-C6-123/124  | No             | 1        |                 |        |
| 2.H2.5.208 | H2   | 20.021 c) |           | Roof slab outlet ventilator as per drawing Reg. No.2A-C6-123/124   | No             | 1        |                 |        |
| 2.H2.5.209 | H2   | 20.021 c) |           | Steel bars as per drawing Reg. No.2A-C6-125  | No             | 1        |                 |        |
| 2.H2.5.210 | H2   | 20.021 c) |           | 160mm diam uPVC pipe cast into concrete wall for the sump  | No             | 2        |                 |        |
| 2.H2.5.211 | H2   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 300mm        | No             | 2        |                 |        |
| 2.H2.5.212 | H2   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 1118mm       | No             | 2        |                 |        |
| 2.H2.5.213 | H2   | 20.021 c) |           | Sleeves to be grouted after the installation of cables to ensure no seepage 160mm diam x 0.3mm thick   | No             | 2        |                 |        |
| 2.H2.5.214 | H2   | 20.021 c) |           | Portable aluminium steps complete, as per drawing 2A-C6-125  | No             | 1        |                 |        |
| 2.H2.5.215 | H2   | 20.021 c) |           | Drilling for dowels and including grouting in of dowels, per one chamber complete, as per drawing 2A-C6-125. (Dowel material included in 20.007) | No             | 1        |                 |        |
| 2.H2.5.216 | H2   | 20.021 c) |           | 10mm Neoprene, as per drawing 2A-C6-125  | m <sup>2</sup> | 1        |                 |        |
|            | H2   |           |           | <b>SPECIFIC ITEMS OF WORK</b>  |                |          |                 |        |
|            | H2   |           |           | <b>SEALING STRIPS, JOINT SEALANT, ETC</b>  |                |          |                 |        |
| 2.H2.5.217 | H2   | 33.014    |           | 15mm Joint sealing not exceeding 300mm high as per drawing Reg. No.2A-C6-125   | m              | 54       |                 |        |
|            | H2   |           |           | <b>CONSTRUCTION OF STONE DRAIN AND EROSION PROTECTION</b>  |                |          |                 |        |
|            | H2   |           |           | <b>Foundation trench excavation and backfilling</b>  |                |          |                 |        |
| 2.H2.5.218 | H2   | 21.001(b) |           | In all other classes of material   | m3             | 39       |                 |        |
| 2.H2.5.219 | H2   | 21.002    |           | Surface preparation for bedding the gabions  | m2             | 33       |                 |        |
| 2.H2.5.220 | H2   | 21.005    |           | Geotextile fabric (type and grade indicated on the Drawings)   | m2             | 32       |                 |        |
| 2.H2.5.221 | H2   | 21.003(a) |           | Galvanised gabions cages (Refer to drawings for dimentions)  | m3             | 4        |                 |        |
| 2.H2.5.222 | H2   | 21.003(c) |           | Galvanised gabions mattresses (Refer to drawings for dimentions)   | m3             | 5        |                 |        |
| 2.H2.5.223 | H2   | 27.009    |           | Rip-rap  | m3             | 5        |                 |        |
|            |      |           |           |  |                |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            |      |           |           |   |      |          | Brought Forward |        |
|            | H2   |           |           | <b>SCOUR VALVE, ISOLATING VALVE, AND AIR VALVE INSTALLATION</b><br><i>(for 900 to 1100mm diam pipeline)</i>                 |      |          |                 |        |
|            | H2   |           |           | <b>REFER TO DRAWING 2A-C6-162, 2A-C6-163 and 2A-C6-164</b>  |      |          |                 |        |
|            | H2   |           |           | <b>EARTHWORKS</b>   |      |          |                 |        |
|            | H2   |           |           | <b>ADDITIONAL EXCAVATION IN ALL MATERIALS BEYOND THE TRENCH PAYMENT LINE FOR VALVE CHAMBERS. THRUST BLOCKS. ETC</b>         |      |          |                 |        |
| 2.H2.5.224 | H2   | 9.013     |           | Excavate for valve chambers   | m3   | 356      |                 |        |
| 2.H2.5.225 | H2   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting)     | m3   | 55       |                 |        |
| 2.H2.5.226 | H2   | 9.016     |           | Excavation and disposal of unsuitable/surplus material from trench bottom to temporary stockpile within free haul distance. | m3   | 9        |                 |        |
| 2.H2.5.227 | H2   | 9.020     |           | Compaction of trench bottom (150mm thick)   | m2   | 101      |                 |        |
|            | H2   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.228 | H2   | 9.023(a)  |           | Between 1km up to and including 3km   | m3   | 66       |                 |        |
| 2.H2.5.229 | H2   | 9.023(b)  |           | Between 3km up to and including 5km   | m3   | 66       |                 |        |
| 2.H2.5.230 | H2   | 9.023(c)  |           | Between 5km up to and including 7km   | m3   | 66       |                 |        |
|            | H2   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>                               |      |          |                 |        |
|            | H2   |           |           | <b>Provision of bed material (G5)</b>   |      |          |                 |        |
| 2.H2.5.231 | H2   | 15.003(c) |           | Material from the nearest borrow pit without screening  | m3   | 16       |                 |        |
|            | H2   |           |           | <b>Provision of cement stabilised soil</b>  |      |          |                 |        |
| 2.H2.5.232 | H2   | 15.003(d) |           | Material from the nearest borrow pit with screening   | m3   | 39       |                 |        |
| 2.H2.5.233 | H2   | 15.003(e) |           | Cement for stabilisation of soil  | m3   | 2        |                 |        |
|            | H2   |           |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>   |      |          |                 |        |
| 2.H2.5.234 | H2   | 15.001    |           | Placing of bedding material   | m3   | 16       |                 |        |
| 2.H2.5.235 | H2   | 15.002(b) |           | Cement stabilised soil bed and bedding cradle   | m3   | 41       |                 |        |
|            | H2   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.236 | H2   | 15.010(b) |           | Between 3km up to and including 5km   | m3   | 29       |                 |        |
| 2.H2.5.237 | H2   | 15.010(c) |           | Between 5km up to and including 7km   | m3   | 29       |                 |        |
|            | H2   |           |           | <b>CONSTRUCTION OF EMBANKMENT AND STRUCTURE BACKFILL</b>  |      |          |                 |        |
| 2.H2.5.238 | H2   | 15.014(a) |           | Structure backfilling compacted   | m3   | 187      |                 |        |
| 2.H2.5.239 | H2   | 15.014(a) |           | Embankment backfilling compacted  | m3   | 52       |                 |        |
| 2.H2.5.240 | H2   | 15.014(b) |           | Rockfill processing and compaction  | m3   | 9        |                 |        |
| 2.H2.5.241 | H2   | 15.015    |           | Finishing of slopes   | m2   | 88       |                 |        |
|            |      |           |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment    | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|------------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference  |           |   |      |          |                 |        |
|            |      |            |           |   |      |          | Brought Forward |        |
|            | H2   |            |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.242 | H2   | 15.016(b)  |           | Between 3km up to and including 5km   | m3   | 5        |                 |        |
| 2.H2.5.243 | H2   | 15.016(c)  |           | Between 5km up to and including 7km   | m3   | 5        |                 |        |
|            | H2   |            |           | <b>CONCRETE WORKS</b>   |      |          |                 |        |
|            | H2   |            |           | <b>ROUGH FORMWORK</b>   |      |          |                 |        |
|            | H2   |            |           | <b>Vertical surfaces</b>  |      |          |                 |        |
| 2.H2.5.244 | H2   | 20.001     |           | Sides of floor slab   | m2   | 17       |                 |        |
| 2.H2.5.245 | H2   | 20.001     |           | Sides of walls  | m2   | 108      |                 |        |
|            | H2   |            |           | <b>SMOOTH FORMWORK</b>  |      |          |                 |        |
|            | H2   |            |           | <b>Horizontal surfaces for visible surface including 20mm chamfers on a exposed corners to:</b> |      |          |                 |        |
| 2.H2.5.246 | H2   | 20.002     |           | Underside of slabs  | m2   | 25       |                 |        |
|            | H2   |            |           | <b>SMOOTH FORMWORK</b>  |      |          |                 |        |
|            | H2   |            |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>   |      |          |                 |        |
| 2.H2.5.247 | H2   | 20.002     |           | Walls   | m2   | 379      |                 |        |
| 2.H2.5.248 | H2   | 20.002     |           | Side of Sump walls  | m2   | 1        |                 |        |
| 2.H2.5.249 | H2   | 20.002     |           | Plinths   | m2   | 8        |                 |        |
| 2.H2.5.250 | H2   | 20.005     |           | Narrow widths - Up to 250mm high (roof slabs)   | m    | 131      |                 |        |
| 2.H2.5.251 | H2   | 20.005     |           | Box out 325mm wide x 150mm thick for precast concrete panel placement surface                   | m    | 7        |                 |        |
|            | H2   |            |           | <b>Box-out holes/Form voids (for sleeves only)</b>  |      |          |                 |        |
|            | H2   |            |           | <b>a) Small, circular, of diameter up to and including 0.35 m</b>                               |      |          |                 |        |
| 2.H2.5.252 | H2   | 20.006 (a) |           | Over 0m deep and up to and including 0.5m deep  | No.  | 4        |                 |        |
|            | H2   |            |           | <b>REINFORCEMENT</b>  |      |          |                 |        |
| 2.H2.5.253 | H2   | 20.007     |           | Steel bars (irrespective of grade or diameter)  | t    | 17.6     |                 |        |
|            | H2   |            |           | <b>CONCRETE</b>   |      |          |                 |        |
|            | H2   |            |           | <b>CONCRETE 15 MPa/19mm in:</b>   |      |          |                 |        |
| 2.H2.5.254 | H2   | 20.011(a)  |           | Blinding layer of 50mm minimum thickness including levelling and floating.                      | m2   | 93       |                 |        |
| 2.H2.5.255 | H2   | 20.011(b)  |           | Mass concrete filling where required by the engineer  | m3   | 2        |                 |        |
| 2.H2.5.256 | H2   | 46.007(b)  |           | 100mm thick granolithic screed laid to fall to direction of sump.                               | m2   | 60       |                 |        |
|            | H2   |            |           | <b>PRESCRIBED MIX CONCRETE, 35MPa/19mm (water retaining)</b>                                    |      |          |                 |        |
| 2.H2.5.257 | H2   | 20.010     |           | Foundations, bases, floor slabs and roof slabs  | m3   | 40       |                 |        |
| 2.H2.5.258 | H2   | 20.010     |           | Plinths (Including grouting between the plinth and the pipes/specials where required)           | m3   | 2        |                 |        |
| 2.H2.5.259 | H2   | 20.010     |           | Walls   | m3   | 75       |                 |        |
|            |      |            |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H2   |           |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H2.5.260 | H2   | 20.013(a) |           | Wood floated finish  | m2   | 60       |                 |        |
| 2.H2.5.261 | H2   | 20.013(b) |           | Steel floated finish   | m2   | 104      |                 |        |
|            | H2   |           |           | <b>MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |                 |        |
|            | H2   |           |           | <b>PN40</b>  |      |          |                 |        |
| 2.H2.5.262 | H2   | 32.003    |           | Item 1   | No   | 4        |                 |        |
| 2.H2.5.263 | H2   | 32.003    |           | Item 2   | No   | 2        |                 |        |
| 2.H2.5.264 | H2   | 32.003    |           | Item 3   | No   | 2        |                 |        |
| 2.H2.5.265 | H2   | 35.002    |           | Item 4   | No   | 2        |                 |        |
| 2.H2.5.266 | H2   | 32.003    |           | Item 5   | No   | 2        |                 |        |
| 2.H2.5.267 | H2   | 32.003    |           | Item 6   | No   | 4        |                 |        |
| 2.H2.5.268 | H2   | 35.002    |           | Item 6A  | No   | 2        |                 |        |
| 2.H2.5.269 | H2   | 32.003    |           | Item 6B  | No   | 2        |                 |        |
| 2.H2.5.270 | H2   | 35.002    |           | Item 6C  | No   | 2        |                 |        |
| 2.H2.5.271 | H2   | 35.002    |           | Item 6D  | No   | 2        |                 |        |
| 2.H2.5.272 | H2   | 35.002    |           | Item 6E  | No   | 2        |                 |        |
| 2.H2.5.273 | H2   | 32.003    |           | Item 7   | No   | 2        |                 |        |
| 2.H2.5.274 | H2   | 35.002    |           | Item 8   | No   | 6        |                 |        |
| 2.H2.5.275 | H2   | 32.003    |           | Item 9   | No   | 4        |                 |        |
| 2.H2.5.276 | H2   | 32.003    |           | Item 10  | No   | 2        |                 |        |
| 2.H2.5.277 | H2   | 32.003    |           | Item 11  | No   | 2        |                 |        |
| 2.H2.5.278 | H2   | 32.003    |           | Item 12  | No   | 2        |                 |        |
| 2.H2.5.279 | H2   | 32.003    |           | Item 13  | No   | 2        |                 |        |
| 2.H2.5.280 | H2   | 32.003    |           | Item 14  | No   | 2        |                 |        |
|            | H2   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b>   |      |          |                 |        |
|            | H2   |           |           | <b>PN40</b>  |      |          |                 |        |
| 2.H2.5.281 | H2   | 33.004    |           | Item 1   | No   | 4        |                 |        |
| 2.H2.5.282 | H2   | 33.004    |           | Item 2   | No   | 2        |                 |        |
| 2.H2.5.283 | H2   | 33.004    |           | Item 3   | No   | 2        |                 |        |
| 2.H2.5.284 | H2   | 33.004    |           | Item 4   | No   | 2        |                 |        |
| 2.H2.5.285 | H2   | 33.004    |           | Item 5   | No   | 2        |                 |        |
| 2.H2.5.286 | H2   | 33.004    |           | Item 6   | No   | 4        |                 |        |
| 2.H2.5.287 | H2   | 33.004    |           | Item 6A  | No   | 2        |                 |        |
| 2.H2.5.288 | H2   | 33.004    |           | Item 6B  | No   | 2        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H2.5.289 | H2   | 33.004    |           | Item 6C  | No   | 2        |                 |        |
| 2.H2.5.290 | H2   | 33.004    |           | Item 6D  | No   | 2        |                 |        |
| 2.H2.5.291 | H2   | 33.004    |           | Item 6E  | No   | 2        |                 |        |
| 2.H2.5.292 | H2   | 33.004    |           | Item 7   | No   | 2        |                 |        |
| 2.H2.5.293 | H2   | 33.004    |           | Item 8   | No   | 6        |                 |        |
| 2.H2.5.294 | H2   | 33.004    |           | Item 9   | No   | 4        |                 |        |
| 2.H2.5.295 | H2   | 33.004    |           | Item 10  | No   | 2        |                 |        |
| 2.H2.5.296 | H2   | 33.004    |           | Item 11  | No   | 2        |                 |        |
| 2.H2.5.297 | H2   | 33.004    |           | Item 12  | No   | 2        |                 |        |
| 2.H2.5.298 | H2   | 33.004    |           | Item 13  | No   | 2        |                 |        |
| 2.H2.5.299 | H2   | 33.004    |           | Item 14  | No   | 2        |                 |        |
|            | H2   |           |           | <b>ITEMS CAST OR BUILT INTO CONCRETE</b>   |      |          |                 |        |
| 2.H2.5.300 | H2   | 33.005    |           | Steel pipe diameter 900mm up to 1500mm   | No   | 4        |                 |        |
| 2.H2.5.301 | H2   | 33.005    |           | Steel pipe diameter 200mm  | No   | 2        |                 |        |
|            | H2   |           |           | <b>SUPPLY AND ERECT PRECAST ELEMENTS</b>   |      |          |                 |        |
|            | H2   |           |           | <b>Refer to Dwg 2A-C6-162, 2A-C6-163 and 2A-C6-164</b>   |      |          |                 |        |
| 2.H2.5.302 | H2   | 20.017    |           | Precast slab Type 1  | No   | 8        |                 |        |
| 2.H2.5.303 | H2   | 20.017    |           | Precast slab Type 2  | No   | 12       |                 |        |
|            | H2   |           |           | <b>ANCILLARY WORKS</b>   |      |          |                 |        |
| 2.H2.5.304 | H2   | 24.008    |           | Ladders, complete and installed as per drawing Reg. No.2A-C6-126   | No   | 4        |                 |        |
| 2.H2.5.305 | H2   | 24.010    |           | Manhole cover and lids, complete and installed as per drawing Reg. No.2A-C6-120/121/122  | No   | 4        |                 |        |
| 2.H2.5.306 | H2   | 20.021 c) |           | Roof slab inlet ventilator as per drawing Reg. No.2A-C6-123/124  | No   | 2        |                 |        |
| 2.H2.5.307 | H2   | 20.021 c) |           | Roof slab outlet ventilator as per drawing Reg. No.2A-C6-123/124   | No   | 2        |                 |        |
| 2.H2.5.308 | H2   | 20.021 c) |           | Steel bars as per drawing Reg. No.2A-C6-125  | No   | 2        |                 |        |
| 2.H2.5.309 | H2   | 20.021 c) |           | 160mm diam uPVC pipe cast into concrete wall for the sump  | No   | 4        |                 |        |
| 2.H2.5.310 | H2   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 200mm        | m3   | 4        |                 |        |
| 2.H2.5.311 | H2   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 900mm        | m3   | 4        |                 |        |
| 2.H2.5.312 | H2   | 20.021 c) |           | Sleeves to be grouted after the installation of cables to ensure no seepage 160mm diam x 0.3mm thick   | no   | 4        |                 |        |
| 2.H2.5.313 | H2   | 20.021 c) |           | Portable aluminium steps complete, as per drawing 2A-C6-125  | no   | 2        |                 |        |
| 2.H2.5.314 | H2   | 20.021 c) |           | Drilling for dowels and including grouting in of dowels, per one chamber complete, as per drawing 2A-C6-125. (Dowel material included in 20.007) | no   | 2        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |



| Item no.   | Part | Payment   | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|----------------|----------|-----------------|--------|
|            |      | Reference |           |   |                |          |                 |        |
|            |      |           |           |   |                |          | Brought Forward |        |
| 2.H2.5.315 | H2   | 20.021 c) |           | 10mm Neoprene, as per drawing 2A-C6-125   | m <sup>2</sup> | 2        |                 |        |
|            | H2   |           |           | <b>SPECIFIC ITEMS OF WORK</b>   |                |          |                 |        |
|            | H2   |           |           | <b>SEALING STRIPS, JOINT SEALANT, ETC</b>   |                |          |                 |        |
| 2.H2.5.316 | H2   | 33.014    |           | 15mm Joint sealing not exceeding 300mm high as per drawing Reg. No.2A-C6-125  | m              | 107      |                 |        |
|            | H2   |           |           | <b>CONSTRUCTION OF STONE DRAIN AND EROSION PROTECTION</b>   |                |          |                 |        |
|            | H2   |           |           | <b>Foundation trench excavation and backfilling</b>   |                |          |                 |        |
| 2.H2.5.317 | H2   | 21.001(b) |           | In all other classes of material  | m <sup>3</sup> | 78       |                 |        |
| 2.H2.5.318 | H2   | 21.002    |           | Surface preparation for bedding the gabions   | m <sup>2</sup> | 65       |                 |        |
| 2.H2.5.319 | H2   | 21.005    |           | Geotextile fabric (type and grade indicated on the Drawings)  | m <sup>2</sup> | 63       |                 |        |
| 2.H2.5.320 | H2   | 21.003(a) |           | Galvanised gabions cages<br>(Refer to drawings for dimentions)  | m <sup>3</sup> | 8        |                 |        |
| 2.H2.5.321 | H2   | 21.003(c) |           | Galvanised gabions mattresses<br>(Refer to drawings for dimentions)   | m <sup>3</sup> | 9        |                 |        |
| 2.H2.5.322 | H2   | 27.009    |           | Rip-rap   | m <sup>3</sup> | 10       |                 |        |
|            | H2   |           |           | <b>FLOW METER INSTALLATION AT OFF-TAKES</b>   |                |          |                 |        |
|            | H2   |           |           | <b>REFER TO DRAWING 2A-C6-178 and 2A-C6-179</b>   |                |          |                 |        |
|            | H2   |           |           | <b>EARTHWORKS</b>   |                |          |                 |        |
|            | H2   |           |           | <b>ADDITIONAL EXCAVATION IN ALL MATERIALS BEYOND THE TRENCH PAYMENT LINE FOR VALVE CHAMBERS, THRUST BLOCKS, ETC</b>         |                |          |                 |        |
| 2.H2.5.323 | H2   | 9.013     |           | Excavate for valve chambers   | m <sup>3</sup> | 99       |                 |        |
| 2.H2.5.324 | H2   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting)     | m <sup>3</sup> | 25       |                 |        |
| 2.H2.5.325 | H2   | 9.016     |           | Excavation and disposal of unsuitable/surplus material from trench bottom to temporary stockpile within free haul distance. | m <sup>3</sup> | 3        |                 |        |
| 2.H2.5.326 | H2   | 9.020     |           | Compaction of trench bottom (150mm thick)   | m <sup>2</sup> | 23       |                 |        |
|            | H2   |           |           | <b>OVERHAUL</b>   |                |          |                 |        |
| 2.H2.5.327 | H2   | 9.023(a)  |           | Between 1km up to and including 3km   | m <sup>3</sup> | 10       |                 |        |
| 2.H2.5.328 | H2   | 9.023(b)  |           | Between 3km up to and including 5km   | m <sup>3</sup> | 10       |                 |        |
| 2.H2.5.329 | H2   | 9.023(c)  |           | Between 5km up to and including 7km   | m <sup>3</sup> | 10       |                 |        |
|            | H2   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>                               |                |          |                 |        |
|            | H2   |           |           | <b>Provision of bed material (G5)</b>   |                |          |                 |        |
| 2.H2.5.330 | H2   | 15.003(c) |           | Material from the nearest borrow pit without screening  | m <sup>3</sup> | 4        |                 |        |
|            | H2   |           |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>   |                |          |                 |        |
| 2.H2.5.331 | H2   | 15.001    |           | Placing of bedding material   | m <sup>3</sup> | 4        |                 |        |
|            | H2   |           |           | <b>OVERHAUL</b>   |                |          |                 |        |
| 2.H2.5.332 | H2   | 15.010(c) |           | Between 5km up to and including 7km   | m <sup>3</sup> | 4        |                 |        |
|            |      |           |           |   |                |          | Carried Forward |        |

| Item no.   | Part | Payment    | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|------------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference  |           |   |      |          |                 |        |
|            |      |            |           |   |      |          | Brought Forward |        |
|            | H2   |            |           | <b>CONSTRUCTION OF EMBANKMENT AND STRUCTURE BACKFILL</b>  |      |          |                 |        |
| 2.H2.5.333 | H2   | 15.014(a)  |           | Structure backfilling compacted   | m3   | 71       |                 |        |
| 2.H2.5.334 | H2   | 15.014(b)  |           | Rockfill processing and compaction  | m3   | 3        |                 |        |
|            | H2   |            |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.335 | H2   | 15.016(b)  |           | Between 3km up to and including 5km   | m3   | 2        |                 |        |
| 2.H2.5.336 | H2   | 15.016(c)  |           | Between 5km up to and including 7km   | m3   | 2        |                 |        |
|            | H2   |            |           | <b>CONCRETE WORKS</b>   |      |          |                 |        |
|            | H2   |            |           | <b>ROUGH FORMWORK</b>   |      |          |                 |        |
|            | H2   |            |           | <b>Vertical surfaces</b>  |      |          |                 |        |
| 2.H2.5.337 | H2   | 20.001     |           | Sides of floor slab   | m2   | 5        |                 |        |
| 2.H2.5.338 | H2   | 20.001     |           | Sides of walls  | m2   | 34       |                 |        |
|            | H2   |            |           | <b>SMOOTH FORMWORK</b>  |      |          |                 |        |
|            | H2   |            |           | <b>Horizontal surfaces for visible surface including 20mm chamfers on a exposed corners to:</b> |      |          |                 |        |
| 2.H2.5.339 | H2   | 20.002     |           | Underside of slabs  | m2   | 7        |                 |        |
|            | H2   |            |           | <b>SMOOTH FORMWORK</b>  |      |          |                 |        |
|            | H2   |            |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>   |      |          |                 |        |
| 2.H2.5.340 | H2   | 20.002     |           | Walls   | m2   | 108      |                 |        |
| 2.H2.5.341 | H2   | 20.002     |           | Side of Sump walls  | m2   | 0.5      |                 |        |
| 2.H2.5.342 | H2   | 20.002     |           | Plinths   | m2   | 4        |                 |        |
| 2.H2.5.343 | H2   | 20.005     |           | Narrow widths - Up to 200mm high  | m    | 24       |                 |        |
|            | H2   |            |           | <b>Box-out holes/Form voids (for sleeves only)</b>  |      |          |                 |        |
|            | H2   |            |           | <b>a) Small, circular, of diameter up to and including 0.35 m</b>                               |      |          |                 |        |
| 2.H2.5.344 | H2   | 20.006 (a) |           | Over 0m deep and up to and including 0.5m deep  | No.  | 11       |                 |        |
|            | H2   |            |           | <b>REINFORCEMENT</b>  |      |          |                 |        |
| 2.H2.5.345 | H2   | 20.007     |           | Steel bars (irrespective of grade or diameter)  | t    | 3.9      |                 |        |
|            | H2   |            |           | <b>CONCRETE</b>   |      |          |                 |        |
|            | H2   |            |           | <b>CONCRETE 15 MPa/19mm in:</b>   |      |          |                 |        |
| 2.H2.5.346 | H2   | 20.011(a)  |           | Blinding layer of 50mm minimum thickness including levelling and floating.                      | m2   | 20       |                 |        |
| 2.H2.5.347 | H2   | 20.011(b)  |           | Mass concrete filling where required by the engineer  | m3   | 1        |                 |        |
| 2.H2.5.348 | H2   | 46.007(b)i |           | 100mm thick granolithic screed laid to fall to direction of sump.                               | m2   | 12       |                 |        |
|            | H2   |            |           | <b>PRESCRIBED MIX CONCRETE, 35MPa/19mm (water retaining)</b>                                    |      |          |                 |        |
| 2.H2.5.349 | H2   | 20.010     |           | Foundations, bases, floor slabs and roof slabs  | m3   | 7        |                 |        |
| 2.H2.5.350 | H2   | 20.010     |           | Plinths (Including grouting between the plinth and the pipes/specials where required)           | m3   | 1        |                 |        |
|            |      |            |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H2.5.351 | H2   | 20.010    |           | Walls  | m3   | 18       |                 |        |
|            | H2   |           |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H2.5.352 | H2   | 20.013(a) |           | Wood floated finish  | m2   | 12       |                 |        |
| 2.H2.5.353 | H2   | 20.013(b) |           | Steel floated finish   | m2   | 23       |                 |        |
|            | H2   |           |           | <b>MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |                 |        |
|            | H2   |           |           | <b>PN40</b>  |      |          |                 |        |
| 2.H2.5.354 | H2   | 32.003    |           | Item 1   | No   | 1        |                 |        |
| 2.H2.5.355 | H2   | 32.003    |           | Item 2   | No   | 1        |                 |        |
| 2.H2.5.356 | H2   | 36.8.2(a) |           | Item 3   | No   | 2        |                 |        |
| 2.H2.5.357 | H2   | 32.003    |           | Item 4   | No   | 2        |                 |        |
| 2.H2.5.358 | H2   | 32.003    |           | Item 5   | No   | 1        |                 |        |
| 2.H2.5.359 | H2   | 32.003    |           | Item 6   | No   | 1        |                 |        |
| 2.H2.5.360 | H2   | 32.003    |           | Item 7   | No   | 1        |                 |        |
|            | H2   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b>   |      |          |                 |        |
|            | H2   |           |           | <b>PN40</b>  |      |          |                 |        |
| 2.H2.5.361 | H2   | 33.004    |           | Item 1   | No   | 1        |                 |        |
| 2.H2.5.362 | H2   | 33.004    |           | Item 2   | No   | 1        |                 |        |
| 2.H2.5.363 | H2   | 33.004    |           | Item 3   | No   | 2        |                 |        |
| 2.H2.5.364 | H2   | 33.004    |           | Item 4   | No   | 2        |                 |        |
| 2.H2.5.365 | H2   | 33.004    |           | Item 5   | No   | 1        |                 |        |
| 2.H2.5.366 | H2   | 33.004    |           | Item 6   | No   | 1        |                 |        |
| 2.H2.5.367 | H2   | 33.004    |           | Item 7   | No   | 1        |                 |        |
|            | H2   |           |           | <b>ITEMS CAST OR BUILT INTO CONCRETE</b>   |      |          |                 |        |
| 2.H2.5.368 | H2   | 33.005    |           | Steel pipe diameter 500mm  | No   | 3        |                 |        |
|            | H2   |           |           | <b>SUPPLY AND ERECT PRECAST ELEMENTS</b>   |      |          |                 |        |
|            | H2   |           |           | <b>Refer to Dwg 2A-C6-178 and 2A-C6-179</b>  |      |          |                 |        |
| 2.H2.5.369 | H2   | 20.017    |           | Precast slab Type 1  | No   | 4        |                 |        |
|            | H2   |           |           | <b>ANCILLARY WORKS</b>   |      |          |                 |        |
| 2.H2.5.370 | H2   | 24.008    |           | Ladders, complete and installed as per drawing Reg. No.2A-C6-126   | No   | 2        |                 |        |
| 2.H2.5.371 | H2   | 24.010    |           | Manhole cover and lids, complete and installed as per drawing Reg. No.2A-C6-120/121/122  | No   | 2        |                 |        |
| 2.H2.5.372 | H2   | 20.021 c) |           | Roof slab inlet ventilator as per drawing Reg. No.2A-C6-123/124  | No   | 1        |                 |        |
| 2.H2.5.373 | H2   | 20.021 c) |           | Roof slab outlet ventilator as per drawing Reg. No.2A-C6-123/124   | No   | 1        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|----------------|----------|-----------------|--------|
|            |      | Reference |           |  |                |          |                 |        |
|            |      |           |           |  |                |          | Brought Forward |        |
| 2.H2.5.374 | H2   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 500mm        | No             | 3        |                 |        |
| 2.H2.5.375 | H2   | 20.021 c) |           | Vermin mesh to be applied to opening as per drawing Reg. No. 2A-C6-125   | No             | 2        |                 |        |
| 2.H2.5.376 | H2   | 20.021 c) |           | Sleeves to be grouted after the installation of cables to ensure no seepage 160mm diam x 0.3mm thick   | No             | 9        |                 |        |
| 2.H2.5.377 | H2   | 20.021 c) |           | Drilling for dowels and including grouting in of dowels, per one chamber complete, as per drawing 2A-C6-125. (Dowel material included in 20.007) | No             | 1        |                 |        |
| 2.H2.5.378 | H2   | 20.021 c) |           | 10mm Neoprene, as per drawing 2A-C6-125  | m <sup>2</sup> | 1        |                 |        |
|            | H2   |           |           | <b>SPECIFIC ITEMS OF WORK</b>  |                |          |                 |        |
|            | H2   |           |           | <b>SEALING STRIPS, JOINT SEALANT, ETC</b>  |                |          |                 |        |
| 2.H2.5.379 | H2   | 33.014    |           | 15mm Joint sealing not exceeding 300mm high as per drawing Reg. No.2A-C6-125   | m              | 16       |                 |        |
|            | H2   |           |           | <b>MEDUPI OFF-TAKE FLOW CONTROL INSTALLATION (Off-take B)</b>  |                |          |                 |        |
|            | H2   |           |           | <b>REFER TO DRAWING 2A-C6-172 and 2A-C6-173</b>  |                |          |                 |        |
|            | H2   |           |           | <b>EARTHWORKS</b>  |                |          |                 |        |
|            | H2   |           |           | <b>ADDITIONAL EXCAVATION IN ALL MATERIALS BEYOND THE TRENCH PAYMENT LINE FOR VALVE CHAMBERS. THRUST BLOCKS. ETC</b>                              |                |          |                 |        |
| 2.H2.5.380 | H2   | 9.013     |           | Excavate for valve chambers  | m <sup>3</sup> | 215      |                 |        |
| 2.H2.5.381 | H2   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting)                          | m <sup>3</sup> | 40       |                 |        |
| 2.H2.5.382 | H2   | 9.016     |           | Excavation and disposal of unsuitable/surplus material from trench bottom to temporary stockpile within free haul distance.                      | m <sup>3</sup> | 5        |                 |        |
| 2.H2.5.383 | H2   | 9.020     |           | Compaction of trench bottom (150mm thick)  | m <sup>2</sup> | 59       |                 |        |
|            | H2   |           |           | <b>OVERHAUL</b>  |                |          |                 |        |
| 2.H2.5.384 | H2   | 9.023(a)  |           | Between 1km up to and including 3km  | m <sup>3</sup> | 40       |                 |        |
| 2.H2.5.385 | H2   | 9.023(b)  |           | Between 3km up to and including 5km  | m <sup>3</sup> | 40       |                 |        |
| 2.H2.5.386 | H2   | 9.023(c)  |           | Between 5km up to and including 7km  | m <sup>3</sup> | 40       |                 |        |
|            | H2   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>  |                |          |                 |        |
|            | H2   |           |           | <b>Provision of bed material (G5)</b>  |                |          |                 |        |
| 2.H2.5.387 | H2   | 15.003(c) |           | Material from the nearest borrow pit without screening   | m <sup>3</sup> | 9        |                 |        |
|            | H2   |           |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>  |                |          |                 |        |
| 2.H2.5.388 | H2   | 15.001    |           | Placing of bedding material  | m <sup>3</sup> | 9        |                 |        |
|            | H2   |           |           | <b>OVERHAUL</b>  |                |          |                 |        |
| 2.H2.5.389 | H2   | 15.010(c) |           | Between 5km up to and including 7km  | m <sup>3</sup> | 9        |                 |        |
|            |      |           |           |  |                |          | Carried Forward |        |

| Item no.   | Part | Payment    | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|------------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference  |           |   |      |          |                 |        |
|            |      |            |           |   |      |          | Brought Forward |        |
|            | H2   |            |           | <b>CONSTRUCTION OF EMBANKMENT AND STRUCTURE BACKFILL</b>  |      |          |                 |        |
| 2.H2.5.390 | H2   | 15.014(a)  |           | Structure backfilling compacted   | m3   | 98       |                 |        |
| 2.H2.5.391 | H2   | 15.014(b)  |           | Rockfill processing and compaction  | m3   | 5        |                 |        |
|            | H2   |            |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.392 | H2   | 15.016(b)  |           | Between 3km up to and including 5km   | m3   | 3        |                 |        |
| 2.H2.5.393 | H2   | 15.016(c)  |           | Between 5km up to and including 7km   | m3   | 3        |                 |        |
|            | H2   |            |           | <b>CONCRETE WORKS</b>   |      |          |                 |        |
|            | H2   |            |           | <b>ROUGH FORMWORK</b>   |      |          |                 |        |
|            | H2   |            |           | <b>Vertical surfaces</b>  |      |          |                 |        |
| 2.H2.5.394 | H2   | 20.001     |           | Sides of floor slab   | m2   | 10       |                 |        |
| 2.H2.5.395 | H2   | 20.001     |           | Sides of walls  | m2   | 46       |                 |        |
|            | H2   |            |           | <b>SMOOTH FORMWORK</b>  |      |          |                 |        |
|            | H2   |            |           | <b>Horizontal surfaces for visible surface including 20mm chamfers on a exposed corners to:</b> |      |          |                 |        |
| 2.H2.5.396 | H2   | 20.002     |           | Underside of slabs  | m2   | 19       |                 |        |
| 2.H2.5.397 | H2   | 20.002     |           | Underside of shaped beams   | m2   | 5        |                 |        |
|            | H2   |            |           | <b>SMOOTH FORMWORK</b>  |      |          |                 |        |
|            | H2   |            |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>   |      |          |                 |        |
| 2.H2.5.398 | H2   | 20.002     |           | Walls   | m2   | 128      |                 |        |
| 2.H2.5.399 | H2   | 20.002     |           | Side of Sump walls  | m2   | 0.5      |                 |        |
| 2.H2.5.400 | H2   | 20.002     |           | Plinths   | m2   | 11       |                 |        |
| 2.H2.5.401 | H2   | 20.002     |           | Side of shaped beams  | m2   | 7        |                 |        |
| 2.H2.5.402 | H2   | 20.005     |           | Narrow widths - Up to 200mm high  | m    | 43       |                 |        |
|            | H2   |            |           | <b>Box-out holes/Form voids (for sleeves only)</b>  |      |          |                 |        |
|            | H2   |            |           | <b>a) Small, circular, of diameter up to and including 0.35 m</b>                               |      |          |                 |        |
| 2.H2.5.403 | H2   | 20.006 (a) |           | Over 0m deep and up to and including 0.5m deep  | No.  | 2        |                 |        |
|            | H2   |            |           | <b>REINFORCEMENT</b>  |      |          |                 |        |
| 2.H2.5.404 | H2   | 20.007     |           | Steel bars (irrespective of grade or diameter)  | t    | 7.8      |                 |        |
|            | H2   |            |           | <b>CONCRETE</b>   |      |          |                 |        |
|            | H2   |            |           | <b>CONCRETE 15 MPa/19mm in:</b>   |      |          |                 |        |
| 2.H2.5.405 | H2   | 20.011(a)  |           | Blinding layer of 50mm minimum thickness including levelling and floating.                      | m2   | 54       |                 |        |
| 2.H2.5.406 | H2   | 20.011(b)  |           | Mass concrete filling where required by the engineer  | m3   | 1        |                 |        |
| 2.H2.5.407 | H2   | 46.007(b)i |           | 100mm thick granolithic screed laid to fall to direction of sump.                               | m2   | 37       |                 |        |
|            |      |            |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H2   |           |           | <b>PRESCRIBED MIX CONCRETE,<br/>35MPa/19mm (water retaining)</b>   |      |          |                 |        |
| 2.H2.5.408 | H2   | 20.010    |           | Foundations, bases, floor slabs and roof slabs   | m3   | 22       |                 |        |
| 2.H2.5.409 | H2   | 20.010    |           | Plinths (Including grouting between the plinth and the pipes/specials where required)  | m3   | 2        |                 |        |
| 2.H2.5.410 | H2   | 20.010    |           | Walls  | m3   | 26       |                 |        |
| 2.H2.5.411 | H2   | 20.010    |           | Beams (precast panel supports)   | m3   | 2        |                 |        |
|            | H2   |           |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H2.5.412 | H2   | 20.013(a) |           | Wood floated finish  | m2   | 37       |                 |        |
| 2.H2.5.413 | H2   | 20.013(b) |           | Steel floated finish   | m2   | 66       |                 |        |
|            | H2   |           |           | <b>MANUFACTURE AND SUPPLY OF PIPES, PIPE<br/>ANCILLARIES AND SPECIALS AND DELIVERY TO<br/>STORAGE ON SITE (INCLUDING CORROSION<br/>PROTECTION)</b> |      |          |                 |        |
|            | H2   |           |           | <b>PN40</b>  |      |          |                 |        |
| 2.H2.5.414 | H2   | 32.003    |           | Item 1   | No   | 1        |                 |        |
| 2.H2.5.415 | H2   | 32.003    |           | Item 2   | No   | 4        |                 |        |
| 2.H2.5.416 | H2   | 32.003    |           | Item 3   | No   | 4        |                 |        |
| 2.H2.5.417 | H2   | 35.002    |           | Item 4   | No   | 2        |                 |        |
| 2.H2.5.418 | H2   | 35.002    |           | Item 5   | No   | 2        |                 |        |
| 2.H2.5.419 | H2   | 32.003    |           | Item 6   | No   | 2        |                 |        |
| 2.H2.5.420 | H2   | 32.003    |           | Item 7   | No   | 2        |                 |        |
| 2.H2.5.421 | H2   | 32.003    |           | Item 8   | No   | 2        |                 |        |
| 2.H2.5.422 | H2   | 35.002    |           | Item 9   | No   | 4        |                 |        |
| 2.H2.5.423 | H2   | 32.003    |           | Item 10  | No   | 6        |                 |        |
| 2.H2.5.424 | H2   | 32.003    |           | Item 11  | No   | 4        |                 |        |
| 2.H2.5.425 | H2   | 32.003    |           | Item 12  | No   | 2        |                 |        |
| 2.H2.5.426 | H2   | 35.002    |           | Item 13  | No   | 6        |                 |        |
| 2.H2.5.427 | H2   | 32.003    |           | Item 14  | No   | 6        |                 |        |
| 2.H2.5.428 | H2   | 35.002    |           | Item 15  | No   | 6        |                 |        |
| 2.H2.5.429 | H2   | 32.004    |           | Item 16  | No   | 1        |                 |        |
| 2.H2.5.430 | H2   | 32.004    |           | Item 17  | No   | 1        |                 |        |
|            | H2   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b>   |      |          |                 |        |
|            | H2   |           |           | <b>PN40</b>  |      |          |                 |        |
| 2.H2.5.431 | H2   | 33.004    |           | Item 1   | No   | 1        |                 |        |
| 2.H2.5.432 | H2   | 33.004    |           | Item 2   | No   | 4        |                 |        |
| 2.H2.5.433 | H2   | 33.004    |           | Item 3   | No   | 4        |                 |        |
| 2.H2.5.434 | H2   | 33.004    |           | Item 4   | No   | 2        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|----------------|----------|-----------------|--------|
|            |      | Reference |           |  |                |          |                 |        |
|            |      |           |           |  |                |          | Brought Forward |        |
| 2.H2.5.435 | H2   | 33.004    |           | Item 5   | No             | 2        |                 |        |
| 2.H2.5.436 | H2   | 33.004    |           | Item 6   | No             | 2        |                 |        |
| 2.H2.5.437 | H2   | 33.004    |           | Item 7   | No             | 2        |                 |        |
| 2.H2.5.438 | H2   | 33.004    |           | Item 8   | No             | 2        |                 |        |
| 2.H2.5.439 | H2   | 33.004    |           | Item 9   | No             | 4        |                 |        |
| 2.H2.5.440 | H2   | 33.004    |           | Item 10  | No             | 6        |                 |        |
| 2.H2.5.441 | H2   | 33.004    |           | Item 11  | No             | 4        |                 |        |
| 2.H2.5.442 | H2   | 33.004    |           | Item 12  | No             | 2        |                 |        |
| 2.H2.5.443 | H2   | 33.004    |           | Item 13  | No             | 6        |                 |        |
| 2.H2.5.444 | H2   | 33.004    |           | Item 14  | No             | 6        |                 |        |
| 2.H2.5.445 | H2   | 33.004    |           | Item 15  | No             | 6        |                 |        |
| 2.H2.5.446 | H2   | 33.004    |           | Item 16  | No             | 1        |                 |        |
| 2.H2.5.447 | H2   | 33.004    |           | Item 17  | No             | 1        |                 |        |
|            | H2   |           |           | <b>ITEMS CAST OR BUILT INTO CONCRETE</b>   |                |          |                 |        |
| 2.H2.5.448 | H2   | 33.005    |           | Steel pipe diameter 400mm  | No             | 4        |                 |        |
|            | H2   |           |           | <b>SUPPLY AND ERECT PRECAST ELEMENTS</b>   |                |          |                 |        |
|            | H2   |           |           | <b>Refer to Dwg 2A-C6-172 and 2A-C6-173</b>  |                |          |                 |        |
| 2.H2.5.449 | H2   | 20.017    |           | Precast slab Type 1  | No             | 6        |                 |        |
| 2.H2.5.450 | H2   | 20.017    |           | Precast slab Type 2  | No             | 3        |                 |        |
|            | H2   |           |           | <b>ANCILLARY WORKS</b>   |                |          |                 |        |
| 2.H2.5.451 | H2   | 24.008    |           | Ladders, complete and installed as per drawing Reg. No.2A-C6-126   | No             | 2        |                 |        |
| 2.H2.5.452 | H2   | 24.010    |           | Manhole cover and lids, complete and installed as per drawing Reg. No.2A-C6-120/121/122  | No             | 2        |                 |        |
| 2.H2.5.453 | H2   | 20.021 c) |           | Roof slab inlet ventilator as per drawing Reg. No.2A-C6-123/124  | No             | 1        |                 |        |
| 2.H2.5.454 | H2   | 20.021 c) |           | Roof slab outlet ventilator as per drawing Reg. No.2A-C6-123/124   | No             | 1        |                 |        |
| 2.H2.5.455 | H2   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 400mm        | No             | 2        |                 |        |
| 2.H2.5.456 | H2   | 20.021 c) |           | Sleeves to be grouted after the installation of cables to ensure no seepage 160mm diam x 0.3mm thick   | No             | 4        |                 |        |
| 2.H2.5.457 | H2   | 20.021 c) |           | Portable aluminium steps complete, as per drawing 2A-C6-125  | No             | 1        |                 |        |
| 2.H2.5.458 | H2   | 20.021 c) |           | Drilling for dowels and including grouting in of dowels, per one chamber complete, as per drawing 2A-C6-125. (Dowel material included in 20.007) | No             | 1        |                 |        |
| 2.H2.5.459 | H2   | 20.021 c) |           | 10mm Neoprene, as per drawing 2A-C6-125  | m <sup>2</sup> | 1        |                 |        |
|            | H2   |           |           | <b>SPECIFIC ITEMS OF WORK</b>  |                |          |                 |        |
|            | H2   |           |           | <b>SEALING STRIPS, JOINT SEALANT, ETC</b>  |                |          |                 |        |
| 2.H2.5.460 | H2   | 33.014    |           | 15mm Joint sealing not exceeding 300mm high as per drawing Reg. No.2A-C6-125   | m              | 42       |                 |        |
|            |      |           |           |  |                |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            |      |           |           |   |      |          | Brought Forward |        |
|            | H2   |           |           | <b>SECURITY FENCING</b>   |      |          |                 |        |
|            | H2   |           |           | <b>SITE CLEARANCE</b>   |      |          |                 |        |
|            | H2   |           |           | <b>CLEARING THE FENCE LINE, 1M WIDE STRIP</b>   |      |          |                 |        |
| 2.H2.5.461 | H2   | 6.001     |           | Outer Security fencing  | m    | 120      |                 |        |
|            | H2   |           |           | <b>SECURITY FENCING</b>   |      |          |                 |        |
|            | H2   |           |           | <b>SUPPLY AND ERECT NEW FENCING MATERIAL FOR NEW FENCES.</b>  |      |          |                 |        |
| 2.H2.5.462 | H2   | 6.002(g)  |           | Outer Security fencing as per drawing 167 766/13, 167 768/13 and 167 769/13   | m    | 120      |                 |        |
|            | H2   |           |           | <b>SUPPLY AND ERECT PERMANENT GATES</b>   |      |          |                 |        |
| 2.H2.5.463 | H2   | 6.005(e)  |           | Outer Security gate as per drawing 167 767/13, 167 768/13 and 167 769/13  | No.  | 1        |                 |        |
|            | H2   |           |           | <b>FARMER OFF-TAKE</b>  |      |          |                 |        |
|            | H2   |           |           | <b>REFER TO DRAWING 2A-C6-190 and 2A-C6-191</b>   |      |          |                 |        |
|            | H2   |           |           | <b>EARTHWORKS</b>   |      |          |                 |        |
|            | H2   |           |           | <b>ADDITIONAL EXCAVATION IN ALL MATERIALS BEYOND THE TRENCH PAYMENT LINE FOR VALVE CHAMBERS, THRUST BLOCKS, ETC</b> |      |          |                 |        |
| 2.H2.5.464 | H2   | 9.013     |           | Excavate for valve chambers   | m3   | 66       |                 |        |
|            | H2   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>                       |      |          |                 |        |
|            | H2   |           |           | <b>Provision of cement stabilised soil</b>  |      |          |                 |        |
| 2.H2.5.465 | H2   | 15.003(d) |           | Material from the nearest borrow pit with screening   | m3   | 46       |                 |        |
| 2.H2.5.466 | H2   | 15.003(e) |           | Cement for stabilisation of soil  | m3   | 3        |                 |        |
|            | H2   |           |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>                                       |      |          |                 |        |
| 2.H2.5.467 | H2   | 15.002(b) |           | Cement stabilised soil bed and bedding cradle   | m3   | 48       |                 |        |
|            | H2   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.468 | H2   | 15.010(b) |           | Between 3km up to and including 5km   | m3   | 24       |                 |        |
| 2.H2.5.469 | H2   | 15.010(c) |           | Between 5km up to and including 7km   | m3   | 24       |                 |        |
|            | H2   |           |           | <b>CONSTRUCTION OF EMBANKMENT AND STRUCTURE BACKFILL</b>  |      |          |                 |        |
| 2.H2.5.470 | H2   | 15.014(a) |           | Structure backfilling compacted   | m3   | 78       |                 |        |
| 2.H2.5.471 | H2   | 15.014(a) |           | Embankment backfilling compacted  | m3   | 73       |                 |        |
| 2.H2.5.472 | H2   | 15.015    |           | Finishing of slopes   | m2   | 130      |                 |        |
|            | H2   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.5.473 | H2   | 15.016(b) |           | Between 3km up to and including 5km   | m3   | 41       |                 |        |
| 2.H2.5.474 | H2   | 15.016(c) |           | Between 5km up to and including 7km   | m3   | 41       |                 |        |
|            |      |           |           |   |      |          | Carried Forward |        |



| Item no.   | Part | Payment    | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|------------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference  |           |  |      |          |                 |        |
|            |      |            |           |  |      |          | Brought Forward |        |
|            | H2   |            |           | <b>CONCRETE WORKS</b>  |      |          |                 |        |
|            | H2   |            |           | <b>ROUGH FORMWORK</b>  |      |          |                 |        |
|            | H2   |            |           | <b>Vertical surfaces</b>   |      |          |                 |        |
| 2.H2.5.475 | H2   | 20.001     |           | Sides of floor slab  | m2   | 20       |                 |        |
| 2.H2.5.476 | H2   | 20.001     |           | Sides of walls   | m2   | 69       |                 |        |
|            | H2   |            |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|            | H2   |            |           | <b>Horizontal surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H2.5.477 | H2   | 20.002     |           | Underside of slabs   | m2   | 14       |                 |        |
|            | H2   |            |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|            | H2   |            |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H2.5.478 | H2   | 20.002     |           | Walls  | m2   | 179      |                 |        |
| 2.H2.5.479 | H2   | 20.002     |           | Side of Sump walls   | m2   | 2        |                 |        |
| 2.H2.5.480 | H2   | 20.002     |           | Plinths  | m2   | 0        |                 |        |
| 2.H2.5.481 | H2   | 20.005     |           | Narrow widths - Up to 200mm high   | m    | 48       |                 |        |
|            | H2   |            |           | <b>Box-out holes/Form voids (for sleeves only)</b>   |      |          |                 |        |
|            | H2   |            |           | <b>a) Small, circular, of diameter up to and including 0.35 m</b>  |      |          |                 |        |
| 2.H2.5.482 | H2   | 20.006 (a) |           | Over 0m deep and up to and including 0.5m deep   | No.  | 12       |                 |        |
|            | H2   |            |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H2.5.483 | H2   | 20.007     |           | Steel bars (irrespective of grade or diameter)   | t    | 7.7      |                 |        |
|            | H2   |            |           | <b>CONCRETE</b>  |      |          |                 |        |
|            | H2   |            |           | <b>CONCRETE 15 MPa/19mm in:</b>  |      |          |                 |        |
| 2.H2.5.484 | H2   | 20.011(a)  |           | Blinding layer of 50mm minimum thickness including levelling and floating.   | m2   | 62       |                 |        |
| 2.H2.5.485 | H2   | 20.011(b)  |           | Mass concrete filling where required by the engineer   | m3   | 3        |                 |        |
| 2.H2.5.486 | H2   | 46.007(b)i |           | 100mm thick granolithic screed laid to fall to direction of sump.  | m2   | 29       |                 |        |
|            | H2   |            |           | <b>PRESCRIBED MIX CONCRETE, 35MPa/19mm (water retaining)</b>   |      |          |                 |        |
| 2.H2.5.487 | H2   | 20.010     |           | Foundations, bases, floor slabs and roof slabs   | m3   | 20       |                 |        |
| 2.H2.5.488 | H2   | 20.010     |           | Walls  | m3   | 31       |                 |        |
|            | H2   |            |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H2.5.489 | H2   | 20.013(a)  |           | Wood floated finish  | m2   | 29       |                 |        |
| 2.H2.5.490 | H2   | 20.013(b)  |           | Steel floated finish   | m2   | 58       |                 |        |
|            | H2   |            |           | <b>MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |                 |        |
|            | H2   |            |           | <b>PN40</b>  |      |          |                 |        |
| 2.H2.5.491 | H2   | 32.003     |           | Item 1   | No   | 6        |                 |        |
|            |      |            |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            |      |           |           |   |      |          | Brought Forward |        |
| 2.H2.5.492 | H2   | 32.003    |           | Item 2  | No   | 6        |                 |        |
| 2.H2.5.493 | H2   | 35.002    |           | Item 3  | No   | 6        |                 |        |
| 2.H2.5.494 | H2   | 32.003    |           | Item 4  | No   | 6        |                 |        |
| 2.H2.5.495 | H2   | 35.002    |           | Item 5  | No   | 6        |                 |        |
| 2.H2.5.496 | H2   | 32.003    |           | Item 6  | No   | 6        |                 |        |
|            | H2   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b>  |      |          |                 |        |
|            | H2   |           |           | <b>PN40</b>   |      |          |                 |        |
| 2.H2.5.497 | H2   | 33.004    |           | Item 1  | No   | 6        |                 |        |
| 2.H2.5.498 | H2   | 33.004    |           | Item 2  | No   | 6        |                 |        |
| 2.H2.5.499 | H2   | 33.004    |           | Item 3  | No   | 6        |                 |        |
| 2.H2.5.500 | H2   | 33.004    |           | Item 4  | No   | 6        |                 |        |
| 2.H2.5.501 | H2   | 33.004    |           | Item 5  | No   | 6        |                 |        |
| 2.H2.5.502 | H2   | 33.004    |           | Item 6  | No   | 6        |                 |        |
|            | H2   |           |           | <b>ITEMS CAST OR BUILT INTO CONCRETE</b>  |      |          |                 |        |
| 2.H2.5.503 | H2   | 33.005    |           | Steel pipe diameter 700mm   | No   | 6        |                 |        |
|            | H2   |           |           | <b>SUPPLY AND ERECT PRECAST ELEMENTS</b>  |      |          |                 |        |
|            | H2   |           |           | <b>Refer to Dwg 2A-C6-190 and 2A-C6-191</b>   |      |          |                 |        |
| 2.H2.5.504 | H2   | 20.017    |           | Precast slab Type 1   | No   | 12       |                 |        |
|            | H2   |           |           | <b>ANCILLARY WORKS</b>  |      |          |                 |        |
| 2.H2.5.505 | H2   | 24.008    |           | Ladders, complete and installed as per drawing Reg. No.2A-C6-126  | No   | 6        |                 |        |
| 2.H2.5.506 | H2   | 24.010    |           | Manhole cover and lids, complete and installed as per drawing Reg. No.2A-C6-120/121/122   | No   | 6        |                 |        |
| 2.H2.5.507 | H2   | 20.021 c) |           | Roof slab inlet ventilator as per drawing Reg. No.2A-C6-123/124   | No   | 6        |                 |        |
| 2.H2.5.508 | H2   | 20.021 c) |           | Roof slab outlet ventilator as per drawing Reg. No.2A-C6-123/124  | No   | 6        |                 |        |
| 2.H2.5.509 | H2   | 20.021 c) |           | 160mm diam uPVC pipe cast into concrete wall for the sump   | No   | 6        |                 |        |
| 2.H2.5.510 | H2   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 700mm | No   | 6        |                 |        |
| 2.H2.5.511 | H2   | 20.021 c) |           | Vermin mesh to be applied to opening as per drawing Reg. No. 2A-C6-125  | no   | 12       |                 |        |
|            | H2   |           |           | <b>SPECIFIC ITEMS OF WORK</b>   |      |          |                 |        |
|            | H2   |           |           | <b>SEALING STRIPS, JOINT SEALANT, ETC</b>   |      |          |                 |        |
| 2.H2.5.512 | H2   | 33.014    |           | 15mm Joint sealing not exceeding 300mm high as per drawing Reg. No.2A-C6-125  | m    | 32       |                 |        |
|            | H2   |           |           | <b>CONSTRUCTION OF STONE DRAIN AND EROSION PROTECTION</b>   |      |          |                 |        |
|            | H2   |           |           | <b>Foundation trench excavation and backfilling</b>   |      |          |                 |        |
| 2.H2.5.513 | H2   | 21.001(b) |           | In all other classes of material  | m3   | 4        |                 |        |
| 2.H2.5.514 | H2   | 21.002    |           | Surface preparation for bedding the gabions   | m2   | 4        |                 |        |
|            |      |           |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|---------|-----------|--|------|----------|-----------------|--------|
|            |      |         |           |  |      |          | Brought Forward |        |
| 2.H2.5.515 | H2   | 21.005  |           | Geotextile fabric (type and grade indicated on the Drawings)                         | m2   | 35       |                 |        |
|            | H2   |         |           | PART H2.5: Valve installations and chambers<br>- Carried forward to Summary of Bills |      |          |                 |        |

| Item no.  | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount  |
|-----------|------|-------------------|-----------|--|------|----------|-----------------|---------|
|           |      |                   |           |  |      |          |                 |         |
|           | H2   |                   |           | <b>PART H2.6: Crossings</b>  |      |          |                 |         |
|           | H2   |                   |           | <b>PIPE JACKING</b>  |      |          |                 |         |
|           | H2   |                   |           | <b>PIPE JACKING @ CH 83.900 km</b>   |      |          |                 |         |
|           | H2   |                   |           | <b>REFER TO DRAWING NO 2H-C4-066 &amp; 2A-C6-115</b>   |      |          |                 |         |
|           | H2   |                   |           | <b>Design, supply and deliver pipes to be jacked</b>   |      |          |                 |         |
| 2.H2.6.1  | H2   | 10.001            |           | Railway crossing in 1473mm ND jacked concrete sleeve   | m    | 40       |                 |         |
|           | H2   |                   |           | <b>Jacking of pipes</b>  |      |          |                 |         |
| 2.H2.6.2  | H2   | 10.002            |           | Railway crossing in 1473mm ND jacked concrete sleeve   | m    | 40       |                 |         |
|           | H2   |                   |           | <b>Excavation for jacking (See Table 10/1 of section 10 of specification)</b>  |      |          |                 |         |
| 2.H2.6.3  | H2   | 10.003            |           | Soft   | m3   | 114      |                 |         |
| 2.H2.6.4  | H2   | 10.003            |           | Intermediate   | m3   | 10       |                 |         |
| 2.H2.6.5  | H2   | 10.003            |           | Hard   | m3   | 12       |                 |         |
| 2.H2.6.6  | H2   | 10.004            |           | Pit excavation (receiving and launching)   | Sum  | 1        |                 |         |
| 2.H2.6.7  | H2   | 10.005            |           | Extra-over items 10.004 for excavation for jacking through unidentified obstructions   | PS   | 1        |                 | 398 380 |
| 2.H2.6.8  | H2   | 10.006            |           | Stabilisation of unstable areas and grouting   | Sum  | 1        |                 |         |
| 2.H2.6.9  | H2   | 10.007            |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |                 |         |
| 2.H2.6.10 | H2   | 10.008            |           | Grouting of annulus  | m3   | 29       |                 |         |
|           | H2   |                   |           | <b>OVERHAUL</b>  |      |          |                 |         |
| 2.H2.6.11 | H2   | 25.018(b)         |           | Between 3km up to and including 5km  | m3   | 136      |                 |         |
| 2.H2.6.12 | H2   | 25.018(c)         |           | Between 5km up to and including 7km  | m3   | 136      |                 |         |
|           | H2   |                   |           | <b>MISCELLANEOUS</b>   |      |          |                 |         |
| 2.H2.6.13 | H2   | 20.021(c)         |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket | m    | 80       |                 |         |
|           | H2   |                   |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |                 |         |
|           | H2   |                   |           | <b>Temporary traffic-control facilities</b>  |      |          |                 |         |
| 2.H2.6.14 | H2   | 25.007(a)         |           | Flagmen  | sum  | 1        |                 |         |
| 2.H2.6.15 | H2   | 25.007(b)         |           | Road signs   | sum  | 1        |                 |         |
| 2.H2.6.16 | H2   | 25.007(c)         |           | Flicker lights   | sum  | 1        |                 |         |
| 2.H2.6.17 | H2   | 25.007(d)         |           | Delineators  | sum  | 1        |                 |         |
| 2.H2.6.18 | H2   | 25.007(e)         |           | Barricading  | sum  | 1        |                 |         |
| 2.H2.6.19 | H2   | 25.007(f)         |           | Two-way communication devices  | sum  | 1        |                 |         |
| 2.H2.6.20 | H2   | 25.007(g)         |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |                 |         |
| 2.H2.6.21 | H2   | 25.007(h)         |           | All other items not listed above   | sum  | 1        |                 |         |
|           |      |                   |           |  |      |          | Carried Forward |         |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount  |
|-----------|------|-----------|-----------|--|------|----------|-----------------|---------|
|           |      | Reference |           |  |      |          |                 |         |
|           |      |           |           |  |      |          | Brought Forward |         |
|           | H2   |           |           | <b>PIPE JACKING</b>  |      |          |                 |         |
|           | H2   |           |           | <b>PIPE JACKING @ CH 86.333 km</b>   |      |          |                 |         |
|           | H2   |           |           | <b>REFER TO DRAWING NO 2H-C5-006 &amp; 2A-C6-115</b>   |      |          |                 |         |
|           | H2   |           |           | <b>Design, supply and deliver pipes to be jacked</b>   |      |          |                 |         |
| 2.H2.6.22 | H2   | 10.001    |           | Road D1675 crossing in 1473mm ND jacked concrete sleeve  | m    | 34       |                 |         |
|           | H2   |           |           | <b>Jacking of pipes</b>  |      |          |                 |         |
| 2.H2.6.23 | H2   | 10.002    |           | Road D1675 crossing in 1473mm ND jacked concrete sleeve  | m    | 34       |                 |         |
|           | H2   |           |           | <b>Excavation for jacking (See Table 10/1 of section 10 of specification)</b>  |      |          |                 |         |
| 2.H2.6.24 | H2   | 10.003    |           | Soft   | m3   | 89       |                 |         |
| 2.H2.6.25 | H2   | 10.003    |           | Intermediate   | m3   | 20       |                 |         |
| 2.H2.6.26 | H2   | 10.003    |           | Hard   | m3   | 5        |                 |         |
| 2.H2.6.27 | H2   | 10.004    |           | Pit excavation (receiving and launching)   | Sum  | 1        |                 |         |
| 2.H2.6.28 | H2   | 10.005    |           | Extra-over items 10.004 for excavation for jacking through unidentified obstructions   | PS   | 1        |                 | 398 380 |
| 2.H2.6.29 | H2   | 10.006    |           | Stabilisation of unstable areas and grouting   | Sum  | 1        |                 |         |
| 2.H2.6.30 | H2   | 10.007    |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |                 |         |
| 2.H2.6.31 | H2   | 10.008    |           | Grouting of annulus  | m3   | 25       |                 |         |
|           | H2   |           |           | <b>OVERHAUL</b>  |      |          |                 |         |
| 2.H2.6.32 | H2   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 57       |                 |         |
| 2.H2.6.33 | H2   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 57       |                 |         |
| 2.H2.6.34 | H2   | 25.018(d) |           | Between 7km up to and including 9km  | m3   | 0        |                 |         |
|           | H2   |           |           | <b>MISCELLANEOUS</b>   |      |          |                 |         |
| 2.H2.6.35 | H2   | 20.021(c) |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket | m    | 68       |                 |         |
|           | H2   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |                 |         |
|           | H2   |           |           | <b>Temporary traffic-control facilities</b>  |      |          |                 |         |
| 2.H2.6.36 | H2   | 25.007(a) |           | Flagmen  | sum  | 1        |                 |         |
| 2.H2.6.37 | H2   | 25.007(b) |           | Road signs   | sum  | 1        |                 |         |
| 2.H2.6.38 | H2   | 25.007(c) |           | Flicker lights   | sum  | 1        |                 |         |
| 2.H2.6.39 | H2   | 25.007(d) |           | Delineators  | sum  | 1        |                 |         |
| 2.H2.6.40 | H2   | 25.007(e) |           | Barricading  | sum  | 1        |                 |         |
| 2.H2.6.41 | H2   | 25.007(f) |           | Two-way communication devices  | sum  | 1        |                 |         |
| 2.H2.6.42 | H2   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |                 |         |
| 2.H2.6.43 | H2   | 25.007(h) |           | All other items not listed above   | sum  | 1        |                 |         |
|           |      |           |           |  |      |          | Carried Forward |         |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount  |
|-----------|------|-----------|-----------|--|------|----------|-----------------|---------|
|           |      | Reference |           |  |      |          |                 |         |
|           |      |           |           |  |      |          | Brought Forward |         |
|           | H2   |           |           | <b>PIPE JACKING @ CH 0.011 km (At off Take B)</b>  |      |          |                 |         |
|           | H2   |           |           | <b>REFER TO DRAWING NO 2H-C5-007 &amp; 2A-C6-115</b>   |      |          |                 |         |
|           | H2   |           |           | <b>Design, supply and deliver pipes to be jacked</b>   |      |          |                 |         |
| 2.H2.6.44 | H2   | 10.001    |           | Road D1675 crossing in 1473mm ND jacked concrete sleeve  | m    | 32       |                 |         |
|           | H2   |           |           | <b>Jacking of pipes</b>  |      |          |                 |         |
| 2.H2.6.45 | H2   | 10.002    |           | Road D1675 crossing in 1473mm ND jacked concrete sleeve  | m    | 32       |                 |         |
|           | H2   |           |           | <b>Excavation for jacking (See Table 10/1 of section 10 of specification)</b>  |      |          |                 |         |
| 2.H2.6.46 | H2   | 10.003    |           | Soft   | m3   | 69       |                 |         |
| 2.H2.6.47 | H2   | 10.003    |           | Intermediate   | m3   | 12       |                 |         |
| 2.H2.6.48 | H2   | 10.003    |           | Hard   | m3   | 28       |                 |         |
| 2.H2.6.49 | H2   | 10.004    |           | Pit excavation (receiving and launching)   | Sum  | 1        |                 |         |
| 2.H2.6.50 | H2   | 10.005    |           | Extra-over items 10.004 for excavation for jacking through unidentified obstructions   | PS   | 1        |                 | 398 380 |
| 2.H2.6.51 | H2   | 10.006    |           | Stabilisation of unstable areas and grouting   | Sum  | 1        |                 |         |
| 2.H2.6.52 | H2   | 10.007    |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |                 |         |
| 2.H2.6.53 | H2   | 10.008    |           | Grouting of annulus  | m3   | 35       |                 |         |
|           | H2   |           |           | <b>OVERHAUL</b>  |      |          |                 |         |
| 2.H2.6.54 | H2   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 55       |                 |         |
| 2.H2.6.55 | H2   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 55       |                 |         |
|           | H2   |           |           | <b>MISCELLANEOUS</b>   |      |          |                 |         |
| 2.H2.6.56 | H2   | 20.021(c) |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket | m    | 64       |                 |         |
|           | H2   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |                 |         |
|           | H2   |           |           | <b>Temporary traffic-control facilities</b>  |      |          |                 |         |
| 2.H2.6.57 | H2   | 25.007(a) |           | Flagmen  | sum  | 1        |                 |         |
| 2.H2.6.58 | H2   | 25.007(b) |           | Road signs   | sum  | 1        |                 |         |
| 2.H2.6.59 | H2   | 25.007(c) |           | Flicker lights   | sum  | 1        |                 |         |
| 2.H2.6.60 | H2   | 25.007(d) |           | Delineators  | sum  | 1        |                 |         |
| 2.H2.6.61 | H2   | 25.007(e) |           | Barricading  | sum  | 1        |                 |         |
| 2.H2.6.62 | H2   | 25.007(f) |           | Two-way communication devices  | sum  | 1        |                 |         |
| 2.H2.6.63 | H2   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |                 |         |
| 2.H2.6.64 | H2   | 25.007(h) |           | All other items not listed above   | sum  | 1        |                 |         |
|           |      |           |           |  |      |          | Carried Forward |         |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           |      |           |           |  |      |          | Brought Forward |        |
|           | H2   |           |           | <b>ROAD CROSSINGS</b>  |      |          |                 |        |
|           | H2   |           |           | <b>ROAD CROSSINGS @ CH 86.333 Km</b>   |      |          |                 |        |
|           | H2   |           |           | <b>REFER TO DRAWING NO 2H-C4-068</b>   |      |          |                 |        |
|           | H2   |           |           | <b>PATCHING OF EXISTING ROADS</b>  |      |          |                 |        |
| 2.H2.6.65 | H2   | 26.018(a) |           | Sawing asphalt layers for patching: to an average depth not exceeding 50 mm  | m    | 20       |                 |        |
| 2.H2.6.66 | H2   | 26.019(a) |           | Excavation in existing pavements for patching in: Asphalt layers   | m3   | 2        |                 |        |
| 2.H2.6.67 | H2   | 26.019(b) |           | Excavation in existing pavements for patching in: Sub base layers  | m3   | 4        |                 |        |
| 2.H2.6.68 | H2   | 26.019(c) |           | Excavation in existing pavements for patching in: Base layers  | m3   | 4        |                 |        |
| 2.H2.6.69 | H2   | 26.020(a) |           | Backfilling of excavations for patching with: Continuously graded asphalt base (A-E2) - 150mm thick  | m3   | 9        |                 |        |
| 2.H2.6.70 | H2   | 26.020(b) |           | Backfilling of excavations for patching with: Continuously graded asphalt surfacing (A-E2) - 45mm thick  | m3   | 3        |                 |        |
| 2.H2.6.71 | H2   | 26.020(d) |           | Backfilling of excavations for patching with: Cement stabilized crushed stone (G1 stabilized with 2.5% cement)   | m3   | 4        |                 |        |
| 2.H2.6.72 | H2   | 26.020(e) |           | Backfilling of excavations for patching with: Cement stabilized selected layer (G5 stabilized with cement to form C4, compacted to 95% of Modified AASHTO density) | m3   | 4        |                 |        |
| 2.H2.6.73 | H2   | 26.021    |           | Tack coat of 30% stable-grade emulsion   | l    | 14       |                 |        |
|           | H2   |           |           | <b>PROVISION OF SOILCRETE/CEMENT STABILISED SOIL</b>   |      |          |                 |        |
|           | H2   |           |           | <b>Provision of cement stabilised soil</b>   |      |          |                 |        |
| 2.H2.6.74 | H2   | 15.003(d) |           | Material from the nearest borrow pit with screening  | m3   | 16       |                 |        |
| 2.H2.6.75 | H2   | 15.003(e) |           | Cement for stabilisation of soil   | m3   | 1        |                 |        |
|           | H2   |           |           | <b>Placing of Bedding Material, Soilcrete, Fertile Soil and Main Backfill</b>  |      |          |                 |        |
| 2.H2.6.76 | H2   | 15.002(b) |           | Cement stabilised soil bed and bedding cradle  | m3   | 17       |                 |        |
|           | H2   |           |           | <b>OVERHAUL</b>  |      |          |                 |        |
| 2.H2.6.77 | H2   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 8        |                 |        |
| 2.H2.6.78 | H2   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 8        |                 |        |
| 2.H2.6.79 | H2   | 25.018(d) |           | Between 7km up to and including 9km  | m3   | 0        |                 |        |
|           | H2   |           |           | <b>MATERIAL FROM COMMERCIAL SOURCES</b>  |      |          |                 |        |
| 2.H2.6.80 | H2   | 15.006(e) |           | G1 material from commercial sources  | m3   | 4        |                 |        |
|           | H2   |           |           | <b>FORMWORK</b>  |      |          |                 |        |
|           | H2   |           |           | <b>STRAIGHT ROUGH</b>  |      |          |                 |        |
| 2.H2.6.81 | H2   | 20.001    |           | Vertical sides of concrete encasement  | m2   | 35       |                 |        |
|           | H2   |           |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H2.6.82 | H2   | 20.007    |           | Steel bars (irrespective of grade or diameter)   | t    | 1.5      |                 |        |
|           |      |           |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           |      |           |           |   |      |          | Brought Forward |        |
|           | H2   |           |           | <b>CONCRETE</b>   |      |          |                 |        |
|           | H2   |           |           | <b>CONCRETE 15MPa/19mm in:</b>  |      |          |                 |        |
| 2.H2.6.83 | H2   | 20.011(a) |           | Blinding layer of 50mm minimum thickness                                  | m2   | 18       |                 |        |
|           | H2   |           |           | <b>STRENGTH CONCRETE, 30MPa/19mm in:</b>                                  |      |          |                 |        |
| 2.H2.6.84 | H2   | 20.012    |           | Concrete encasement.  | m3   | 20       |                 |        |
|           | H2   |           |           | <b>UNFORMED SURFACE FINISHES</b>  |      |          |                 |        |
| 2.H2.6.85 | H2   | 20.013(a) |           | Wood floated finish   | m2   | 18       |                 |        |
|           | H2   |           |           | <b>ACCOMMODATION OF TRAFFIC AND TEMPORARY DEVIATIONS</b>                  |      |          |                 |        |
|           | H2   |           |           | <b>Accommodation of traffic and maintaining temporary deviations for:</b> |      |          |                 |        |
| 2.H2.6.86 | H2   | 26.023(c) |           | Reinstatement of existing roads at crossings (full width deviation)       | km   | 0.10     |                 |        |
|           | H2   |           |           | <b>Relocating of traffic-control facilities for</b>                       |      |          |                 |        |
| 2.H2.6.87 | H2   | 25.008(b) |           | Full width deviations where the pipe crosses the road                     | Sum  | 1        |                 |        |
| 2.H2.6.88 | H2   | 25.017    |           | Watering of temporary deviations  | Sum  | 1        |                 |        |
| 2.H2.6.89 | H2   | 26.025    |           | Treatment of old roads and temporary deviations                           | km   | 0.10     |                 |        |
|           | H2   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>                               |      |          |                 |        |
|           | H2   |           |           | <b>Temporary traffic-control facilities</b>                               |      |          |                 |        |
| 2.H2.6.90 | H2   | 25.007(a) |           | Flagmen   | sum  | 1        |                 |        |
| 2.H2.6.91 | H2   | 25.007(b) |           | Road signs  | sum  | 1        |                 |        |
| 2.H2.6.92 | H2   | 25.007(c) |           | Flicker lights  | sum  | 1        |                 |        |
| 2.H2.6.93 | H2   | 25.007(d) |           | Delineators   | sum  | 1        |                 |        |
| 2.H2.6.94 | H2   | 25.007(e) |           | Barricading   | sum  | 1        |                 |        |
| 2.H2.6.95 | H2   | 25.007(f) |           | Two-way communication devices   | sum  | 1        |                 |        |
| 2.H2.6.96 | H2   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities     | sum  | 1        |                 |        |
| 2.H2.6.97 | H2   | 25.007(h) |           | All other items not listed above  | sum  | 1        |                 |        |
|           | H2   |           |           | <b>PART H2.6: Crossings - Carried forward to Summary of Bills</b>         |      |          |                 |        |



| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate | Amount |
|-----------|------|-----------|-----------|--|------|----------|------|--------|
|           |      | Reference |           |  |      |          |      |        |
|           | H2   |           |           | <b>PART H2.7: Landscaping and Rehabilitation</b>   |      |          |      |        |
|           | H2   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |      |        |
| 2.H2.7.1  | H2   | 47.001    |           | Shaping  | m2   | 520 000  |      |        |
| 2.H2.7.2  | H2   | 47.002    |           | Ripping  | ha   | 52       |      |        |
| 2.H2.7.3  | H2   | 47.003    |           | Trimming   | m2   | 52 000   |      |        |
| 2.H2.7.4  | H2   | 47.004    |           | Scarifying   | ha   | 52       |      |        |
| 2.H2.7.5  | H2   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 52 000   |      |        |
| 2.H2.7.6  | H2   | 47.011    |           | Preparing topsoil for seeding  | m2   | 520 000  |      |        |
| 2.H2.7.7  | H2   | 47.012    |           | Hydro-seeding  | ha   | 47.00    |      |        |
| 2.H2.7.8  | H2   | 47.013    |           | Hand-seeding   | ha   | 5.00     |      |        |
| 2.H2.7.9  | H2   | 47.015    |           | Temporary re-vegetation  | ha   | 5.00     |      |        |
|           | H2   |           |           | <b>Provision of seed</b>   |      |          |      |        |
| 2.H2.7.10 | H2   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 52       |      |        |
| 2.H2.7.11 | H2   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 52       |      |        |
| 2.H2.7.12 | H2   | 47.010    |           | Seed type - Chloris gayana   | kg   | 104      |      |        |
| 2.H2.7.13 | H2   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 156      |      |        |
| 2.H2.7.14 | H2   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 624      |      |        |
| 2.H2.7.15 | H2   | 47.010    |           | Seed type - Eriopogon chenchroides   | kg   | 52       |      |        |
| 2.H2.7.16 | H2   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 104      |      |        |
| 2.H2.7.17 | H2   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 26       |      |        |
| 2.H2.7.18 | H2   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 156      |      |        |
| 2.H2.7.19 | H2   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 156      |      |        |
| 2.H2.7.20 | H2   | 47.010    |           | Seed type - Panicum maximum  | kg   | 182      |      |        |
| 2.H2.7.21 | H2   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 52       |      |        |
| 2.H2.7.22 | H2   | 47.016    |           | Provision of temporary erosion control measures  | ha   | 52       |      |        |
| 2.H2.7.23 | H2   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures                                      | sum  | 1        |      |        |
| 2.H2.7.24 | H2   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |      |        |
|           | H2   |           |           | <b>PART H2.7: Landscaping and Rehabilitation<br/>- Carried forward to Summary of Bills</b> |      |          |      |        |

| Item no. | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate | Amount |
|----------|------|-----------|-----------|--|------|----------|------|--------|
|          |      | Reference |           |  |      |          |      |        |
|          | H2   |           |           | <b>PART H2.8: Fencing</b>  |      |          |      |        |
|          | H2   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |      |        |
| 2.H2.8.1 | H2   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 26250    |      |        |
|          | H2   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |      |        |
| 2.H2.8.2 | H2   | 6.004(a)  |           | Seven strand stock proof fence (1,25m high)  | m    | 26250    |      |        |
|          | H2   |           |           | <b>Removal of gates</b>  |      |          |      |        |
| 2.H2.8.3 | H2   | 6.007     |           | All types of gates   | No   | 5        |      |        |
|          | H2   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b> |      |          |      |        |
| 2.H2.8.4 | H2   | 6.002(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 26250    |      |        |
|          | H2   |           |           | <b>Supply, erect and maintain gates during contract period</b>                               |      |          |      |        |
| 2.H2.8.5 | H2   | 6.005(a)  |           | 1.2m high gates for stock proof fences   | No   | 5        |      |        |
|          | H2   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>         |      |          |      |        |
| 2.H2.8.6 | H2   | 6.003(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 500      |      |        |
|          | H2   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>           |      |          |      |        |
| 2.H2.8.7 | H2   | 6.006(a)  |           | 1.2m high gates for stock proof fences   | No   | 7        |      |        |
|          | H2   |           |           | <b>PART H2.8: Fencing - Carried forward to Summary of Bills</b>                              |      |          |      |        |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           | H2   |           |           | <b>PART H2.9: Borrow pits and Spoil Areas</b>  |      |          |                 |        |
|           | H2   |           |           | <b>BORROW PIT 13</b>   |      |          |                 |        |
|           | H2   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H2.9.1  | H2   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|           | H2   |           |           | <b>Removal of agricultural material and overburden</b>   |      |          |                 |        |
| 2.H2.9.2  | H2   | 14.002    |           | Removal and replacement of topsoil   | m3   | 13030    |                 |        |
| 2.H2.9.3  | H2   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 39090    |                 |        |
| 2.H2.9.4  | H2   | 14.004    |           | Removal and replacement of overburden  | m3   | 13030    |                 |        |
|           | H2   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H2.9.5  | H2   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 25635    |                 |        |
|           | H2   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H2.9.6  | H2   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
| 2.H2.9.7  | H2   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H2.9.8  | H2   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H2.9.9  | H2   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|           | H2   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H2.9.10 | H2   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 4800     |                 |        |
|           | H2   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H2.9.11 | H2   | 6.004(a)  |           | Seven strand stock proof fence (1,25m high)  | m    | 4800     |                 |        |
|           | H2   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H2.9.12 | H2   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|           | H2   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b>   |      |          |                 |        |
| 2.H2.9.13 | H2   | 6.002(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101   | m    | 4800     |                 |        |
|           | H2   |           |           | <b>Supply, erect and maintain gates during contract period</b>   |      |          |                 |        |
| 2.H2.9.14 | H2   | 6.005(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|           | H2   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H2.9.15 | H2   | 6.003(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101   | m    | 4800     |                 |        |
|           | H2   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H2.9.16 | H2   | 6.006(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|           | H2   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H2.9.17 | H2   | 47.001    |           | Shaping  | m2   | 86870    |                 |        |
|           |      |           |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           |      |           |           |  |      |          | Brought Forward |        |
| 2.H2.9.18 | H2   | 47.002    |           | Ripping  | ha   | 8.7      |                 |        |
| 2.H2.9.19 | H2   | 47.003    |           | Trimming   | m2   | 86870    |                 |        |
| 2.H2.9.20 | H2   | 47.004    |           | Scarifying   | ha   | 8.7      |                 |        |
| 2.H2.9.21 | H2   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 8700     |                 |        |
| 2.H2.9.22 | H2   | 47.011    |           | Preparing topsoil for seeding  | m2   | 86870    |                 |        |
| 2.H2.9.23 | H2   | 47.012    |           | Hydro-seeding  | ha   | 7.8      |                 |        |
| 2.H2.9.24 | H2   | 47.013    |           | Hand-seeding   | ha   | 0.9      |                 |        |
| 2.H2.9.25 | H2   | 47.015    |           | Temporary re-vegetation  | ha   | 0.9      |                 |        |
|           | H2   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H2.9.26 | H2   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 9        |                 |        |
| 2.H2.9.27 | H2   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 9        |                 |        |
| 2.H2.9.28 | H2   | 47.010    |           | Seed type - Chloris gayana   | kg   | 87       |                 |        |
| 2.H2.9.29 | H2   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 27       |                 |        |
| 2.H2.9.30 | H2   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 105      |                 |        |
| 2.H2.9.31 | H2   | 47.010    |           | Seed type - Eriopogon chenchroides   | kg   | 9        |                 |        |
| 2.H2.9.32 | H2   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 18       |                 |        |
| 2.H2.9.33 | H2   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 5        |                 |        |
| 2.H2.9.34 | H2   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 27       |                 |        |
| 2.H2.9.35 | H2   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 27       |                 |        |
| 2.H2.9.36 | H2   | 47.010    |           | Seed type - Panicum maximum  | kg   | 31       |                 |        |
| 2.H2.9.37 | H2   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 9        |                 |        |
| 2.H2.9.38 | H2   | 47.016    |           | Provision of temporary erosion control measures  | ha   | 8.7      |                 |        |
| 2.H2.9.39 | H2   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures  | sum  | 1        |                 |        |
| 2.H2.9.40 | H2   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |                 |        |
|           | H2   |           |           | <b>BORROW PIT 14</b>   |      |          |                 |        |
|           | H2   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H2.9.41 | H2   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|           | H2   |           |           | <b>Removal of agricultural material and overburden</b>   |      |          |                 |        |
| 2.H2.9.42 | H2   | 14.002    |           | Removal and replacement of topsoil   | m3   | 31760    |                 |        |
| 2.H2.9.43 | H2   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 95290    |                 |        |
| 2.H2.9.44 | H2   | 14.004    |           | Removal and replacement of overburden  | m3   | 31760    |                 |        |
|           | H2   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H2.9.45 | H2   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 17750    |                 |        |
|           |      |           |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           |      |           |           |  |      |          | Brought Forward |        |
|           | H2   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H2.9.46 | H2   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
| 2.H2.9.47 | H2   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H2.9.48 | H2   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H2.9.49 | H2   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|           | H2   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H2.9.50 | H2   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 2350     |                 |        |
|           | H2   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H2.9.51 | H2   | 6.004(a)  |           | Seven strand stock proof fence (1,25m high)  | m    | 2350     |                 |        |
|           | H2   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H2.9.52 | H2   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|           | H2   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b> |      |          |                 |        |
| 2.H2.9.53 | H2   | 6.002(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 2350     |                 |        |
|           | H2   |           |           | <b>Supply, erect and maintain gates during contract period</b>                               |      |          |                 |        |
| 2.H2.9.54 | H2   | 6.005(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|           | H2   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>         |      |          |                 |        |
| 2.H2.9.55 | H2   | 6.003(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 2350     |                 |        |
|           | H2   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>           |      |          |                 |        |
| 2.H2.9.56 | H2   | 6.006(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|           | H2   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H2.9.57 | H2   | 47.001    |           | Shaping  | m2   | 211 750  |                 |        |
| 2.H2.9.58 | H2   | 47.002    |           | Ripping  | ha   | 21.2     |                 |        |
| 2.H2.9.59 | H2   | 47.003    |           | Trimming   | m2   | 211 750  |                 |        |
| 2.H2.9.60 | H2   | 47.004    |           | Scarifying   | ha   | 21.2     |                 |        |
| 2.H2.9.61 | H2   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 22 000   |                 |        |
| 2.H2.9.62 | H2   | 47.011    |           | Preparing topsoil for seeding  | m2   | 211 750  |                 |        |
| 2.H2.9.63 | H2   | 47.012    |           | Hydro-seeding  | ha   | 19.00    |                 |        |
| 2.H2.9.64 | H2   | 47.013    |           | Hand-seeding   | ha   | 2.20     |                 |        |
| 2.H2.9.65 | H2   | 47.015    |           | Temporary re-vegetation  | ha   | 2.20     |                 |        |
|           | H2   |           |           | <b>Provision of seed</b>   |      |          |                 |        |
| 2.H2.9.66 | H2   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 22       |                 |        |
| 2.H2.9.67 | H2   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 22       |                 |        |
| 2.H2.9.68 | H2   | 47.010    |           | Seed type - Chloris gayana   | kg   | 220      |                 |        |
|           |      |           |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           |      |           |           |   |      |          | Brought Forward |        |
| 2.H2.9.69 | H2   | 47.010    |           | Seed type - Cynodon dactylon  | kg   | 64       |                 |        |
| 2.H2.9.70 | H2   | 47.010    |           | Seed type - Digitaria eriantha  | kg   | 255      |                 |        |
| 2.H2.9.71 | H2   | 47.010    |           | Seed type - Enneapogon chenchroides   | kg   | 22       |                 |        |
| 2.H2.9.72 | H2   | 47.010    |           | Seed type - Eragrostis curvula  | kg   | 43       |                 |        |
| 2.H2.9.73 | H2   | 47.010    |           | Seed type - Eragrostis lehmanniana  | kg   | 11       |                 |        |
| 2.H2.9.74 | H2   | 47.010    |           | Seed type - Eragrostis tef  | kg   | 64       |                 |        |
| 2.H2.9.75 | H2   | 47.010    |           | Seed type - Heteropogon contortus   | kg   | 64       |                 |        |
| 2.H2.9.76 | H2   | 47.010    |           | Seed type - Panicum maximum   | kg   | 75       |                 |        |
| 2.H2.9.77 | H2   | 47.010    |           | Seed type - Pogonarthria squarrosa  | kg   | 22       |                 |        |
| 2.H2.9.78 | H2   | 47.016    |           | Provision of temporary erosion control measures   | ha   | 22       |                 |        |
| 2.H2.9.79 | H2   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures                                   | sum  | 1        |                 |        |
| 2.H2.9.80 | H2   | 47.018    |           | Maintenance of Vegetation   | sum  | 1        |                 |        |
|           | H2   |           |           | <b>PART H2.9: Borrow pits and Spoil Areas<br/>- Carried forward to Summary of Bills</b> |      |          |                 |        |

| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              | H2   |           |           | <b>PART H2.10: Ancilliary Works</b>  |      |          |                 |        |
|              | H2   |           |           | <b>PART H2.10.1: INSTRUMENTATION HUT (At Off-Take B)</b>   |      |          |                 |        |
|              | H2   |           |           | <b>EARTHWORKS</b>  |      |          |                 |        |
|              | H2   |           |           | <b>REFER TO DRAWING 2G-C7-150</b>  |      |          |                 |        |
| 2.H2.10.1.1  | H2   | 9.010     |           | Excavation by hand   | m3   | 3        |                 |        |
| 2.H2.10.1.2  | H2   | 9.009     |           | Rip and recompact 150mm insitu material to 93% Mod AASHTO  | m2   | 40       |                 |        |
|              | H2   |           |           | <b>SOIL POISONING</b>  |      |          |                 |        |
| 2.H2.10.1.3  | H2   | 46.011    |           | Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming (Supply of herbicide and ant poison shall be paid for in the provisional sums) | m2   | 40       |                 |        |
|              | H2   |           |           | <b>FORMWORK</b>  |      |          |                 |        |
|              | H2   |           |           | <b>ROUGH FORMWORK</b>  |      |          |                 |        |
|              | H2   |           |           | <b>Narrow widths up to 300mm</b>   |      |          |                 |        |
| 2.H2.10.1.4  | H2   | 20.005    |           | To apron and surfacebed  | m    | 38       |                 |        |
|              | H2   |           |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|              | H2   |           |           | <b>Horizontal surfaces for visible surface including 20mm chamfers and drip grooves on a exposed corners to:</b>   |      |          |                 |        |
| 2.H2.10.1.5  | H2   | 20.002    |           | Underside of slabs (Incl. Shelf)   | m2   | 21       |                 |        |
|              | H2   |           |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H2.10.1.6  | H2   | 20.002    |           | Upstand beams  | m2   | 9        |                 |        |
| 2.H2.10.1.7  | H2   | 20.002    |           | Vertical sides of suspended slabs (incl. Shelf)  | m2   | 4        |                 |        |
|              | H2   |           |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H2.10.1.8  | H2   | 20.007    |           | Steel bars (irrespective of grade or diameter)   | t    | 1        |                 |        |
| 2.H2.10.1.9  | H2   | 20.008    |           | Mesh ref 395 high-tensile welded mesh  | m2   | 2        |                 |        |
|              | H2   |           |           | <b>CONCRETE</b>  |      |          |                 |        |
|              | H2   |           |           | <b>Strength concrete grade 30/19</b>   |      |          |                 |        |
| 2.H2.10.1.10 | H2   | 20.012    |           | Surface bed, shelf, roof, ramp and apron   | m3   | 12       |                 |        |
|              | H2   |           |           | <b>Unformed surface finishes</b>   |      |          |                 |        |
| 2.H2.10.1.11 | H2   | 20.013(a) |           | Wood floated finish  | m2   | 48       |                 |        |
| 2.H2.10.1.12 | H2   | 20.013(b) |           | Steel floated finish (shelf & top of beams)  | m2   | 5        |                 |        |
|              | H2   |           |           | <b>AGGREGATE</b>   |      |          |                 |        |
| 2.H2.10.1.13 | H2   | 20.014    |           | 19mm stone balast  | m3   | 0.8      |                 |        |
|              | H2   |           |           | <b>JOINTS</b>  |      |          |                 |        |
| 2.H2.10.1.14 | H2   | 20.016    |           | Construction joints, including shutters to apron   | m    | 13       |                 |        |
| 2.H2.10.1.15 | H2   | 20.016    |           | 75mm deep x 10mm wide expansion joint including shutter, 10mm soft board joint filler and sealant per detail C4 drawing 2A-C6-002  | m    | 22       |                 |        |
|              |      |           |           |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|              |      |                   |           |  |      |          |                 |        |
|              |      |                   |           |  |      |          | Brought Forward |        |
| 2.H2.10.1.16 | H2   | 20.016            |           | 2 Layers 0.6mm thick galvanised plate, including smooth plaster to the tops of brick walls   | m2   | 4        |                 |        |
|              | H2   |                   |           | <b>MASONRY</b>   |      |          |                 |        |
|              | H2   |                   |           | <b>BRICKWORK OF NFX BRICKS (14 MPA NOMINAL COMPRESSIVE STRENGTH) IN CLASS I MORTAR</b>   |      |          |                 |        |
| 2.H2.10.1.17 | H2   | 46.004(a)         |           | One brick walls for structure  | m2   | 45       |                 |        |
|              | H2   |                   |           | <b>FACE BRICKWORK</b>  |      |          |                 |        |
|              | H2   |                   |           | <b>Face brickwork pointed with recessed horizontal and vertical joints. The cost for the supply and delivery of facebrick shall be paid for in Provisional Sums. All other costs related to the installation of the facebrick shall be included in this item (includes all other material). Samples of facebrick to be approved by the Engineer/Architect.</b> |      |          |                 |        |
| 2.H2.10.1.18 | H2   | 46.004(h)         |           | Extra over brickwork for face brickwork  | m2   | 90       |                 |        |
|              | H2   |                   |           | <b>MASONRY REINFORCING</b>   |      |          |                 |        |
| 2.H2.10.1.19 | H2   | 46.004(f)         |           | Fabric reinforcement and building into joints of one brick walls   | m    | 200      |                 |        |
| 2.H2.10.1.20 | H2   | 46.004(f)         |           | Masonry reinforcing (3 no R8 bars) on 230mm wall   | m    | 4        |                 |        |
|              | H2   |                   |           | <b>METALWORK</b>   |      |          |                 |        |
|              | H2   |                   |           | <b>Supply and fabrication of steel</b>   |      |          |                 |        |
| 2.H2.10.1.21 | H2   | 24.001            |           | 1000mm x 1000mm 3CR12 louvre per drawing 86490 complete including shop details, supply and installation  | No   | 1        |                 |        |
| 2.H2.10.1.22 | H2   | 46.005(c)         |           | Doors: double transformer door (2400mm x 1800mm) with insect proofing and louvres, locking mechanism, supplied, installed and painted. All as per dwg. 2G-C7-150   | No   | 1        |                 |        |
|              | H2   |                   |           | <b>MISCELLANEOUS TRADES, FIXTURES AND APPLIANCES</b>   |      |          |                 |        |
| 2.H2.10.1.23 | H2   | 46.011            |           | Epoxy sealant to shelf   | m2   | 1.8      |                 |        |
| 2.H2.10.1.24 | H2   | 46.011            |           | 110 ribbed HDPE sleeves supplied and installed per supplier's specification, including draw wire (ducting from draw box to interior of instrumentation hut)  | m    | 15       |                 |        |
| 2.H2.10.1.25 | H2   | 46.011            |           | Polyurethane waterproofing   | m2   | 23       |                 |        |
| 2.H2.10.1.26 | H2   | 46.011            |           | 100mm thick Isoboard   | m2   | 15       |                 |        |
| 2.H2.10.1.27 | H2   | 46.011            |           | Waterpermeable fabric  | m2   | 23       |                 |        |
| 2.H2.10.1.28 | H2   | 46.011            |           | 80 ND uPVC drainage pipes cast into upstand beams (Weep holes)   | m    | 3        |                 |        |
| 2.H2.10.1.29 | H2   | 46.012            |           | Draw box per detail C10 drawing 2A-C6-003, complete  | no   | 1        |                 |        |
|              | H2   |                   |           | <b>FIRE</b>  |      |          |                 |        |
| 2.H2.10.1.30 | H2   | 46.011            |           | Supply, delivery and installation of SABS Approved 5kg CO2 fire extinguisher complete with wall bracket and wooden backing board   | No   | 2        |                 |        |
| 2.H2.10.1.31 | H2   | 46.011            |           | Supply and installation of SABS Approved 190mm x 380mm single sided, wall mounted photo luminescent safety signs   | no   | 2        |                 |        |
|              | H2   |                   |           | <b>PART H2.10: Ancillary Works - Carried forward to Summary of Bills</b>   |      |          |                 |        |



| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            | H2   |           |           | <b>PART H2.11: Fibre Earthworks</b>   |      |          |                 |        |
|            | H2   |           |           | <b>SITE CLEARANCE</b>   |      |          |                 |        |
|            | H2   |           |           | <b>Removal of fertile soil</b>  |      |          |                 |        |
| 2.H2.11.1  | H2   | 7.005(a)  |           | For pipelines, temporary stockpile alongside the pipeline and construction servitude  | m3   | 1755     |                 |        |
|            | H2   |           |           | <b>DEALING WITH WATER</b>   |      |          |                 |        |
| 2.H2.11.2  | H2   | 8.001     |           | Dealing with water  | Sum  | 1        |                 |        |
| 2.H2.11.3  | H2   | 8.002     |           | Treatment of water  | Sum  | 1        |                 |        |
| 2.H2.11.4  | H2   | 8.003     |           | Water monitoring  | Sum  | 1        |                 |        |
| 2.H2.11.5  | H2   | 8.004     |           | Sampling equipment and reagents for the Engineer  | Sum  | 1        |                 |        |
|            | H2   |           |           | <b>PIPE TRENCH EXCAVATIONS</b>  |      |          |                 |        |
|            | H2   |           |           | <b>EXCAVATE IN ALL MATERIALS TO SPECIFIED LEVELS AND BATTERED SLOPES, INCLUDING TEMPORARY STOCKPILING AND LEVELLING ALONGSIDE EXCAVATIONS WITHIN THE CONFINES OF THE PIPE SERVITUDE</b> |      |          |                 |        |
|            | H2   |           |           | <b>Classified trench excavations:</b>   |      |          |                 |        |
|            | H2   |           |           | <b>Within the freehaul distance</b>   |      |          |                 |        |
| 2.H2.11.6  | H2   | 9.012     |           | Up to 1m deep   | m3   | 1 459    |                 |        |
| 2.H2.11.7  | H2   | 9.012     |           | Over 1m and up to 2m deep   | m3   | 115      |                 |        |
| 2.H2.11.8  | H2   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting)   | m3   | 50       |                 |        |
| 2.H2.11.9  | H2   | 9.020     |           | Compaction of trench bottom   | m2   | 5 850    |                 |        |
|            | H2   |           |           | <b>EXCAVATION ANCILLARIES</b>   |      |          |                 |        |
| 2.H2.11.10 | H2   | 9.016     |           | Excavation and disposal of unsuitable/surplus material from trench bottom to designated spoil sites   | m3   | 10       |                 |        |
| 2.H2.11.11 | H2   | 9.015     |           | Excavate by hand in soft material to expose existing services   | m3   | 10       |                 |        |
| 2.H2.11.12 | H2   | 9.021     |           | Excavation by hand  | m3   | 10       |                 |        |
|            | H2   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.11.13 | H2   | 9.023(a)  |           | Between 1km up to and including 3km   | m3   | 25       |                 |        |
| 2.H2.11.14 | H2   | 9.023(b)  |           | Between 3km up to and including 5km   | m3   | 25       |                 |        |
| 2.H2.11.15 | H2   | 9.023(c)  |           | Between 5km up to and including 7km   | m3   | 25       |                 |        |
| 2.H2.11.16 | H2   | 9.023(d)  |           | Between 7km up to and including 9km   | m3   | 25       |                 |        |
| 2.H2.11.17 | H2   | 9.023(e)  |           | Between 9km up to and including 11km  | m3   | 25       |                 |        |
| 2.H2.11.18 | H2   | 9.023(f)  |           | Between 11km up to and including 13km   | m3   | 25       |                 |        |
|            | H2   |           |           | <b>EXISTING SERVICES THAT INTERSECT OR ADJOIN A PIPE TRENCH</b>   |      |          |                 |        |
| 2.H2.11.19 | H2   | 9.018(a)  |           | Services that intersect a pipe trench   | No   | 4        |                 |        |
|            |      |           |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H2.11.20 | H2   | 9.018(b)  |           | Services that adjoin a trench  | m    | 520      |                 |        |
| 2.H2.11.21 | H2   | 9.022     |           | Slurry trenches / curtain walls  | m2   | 50       |                 |        |
|            | H2   |           |           | <b>BACKFILLING AND BEDDING</b>   |      |          |                 |        |
|            | H2   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>                      |      |          |                 |        |
|            | H2   |           |           | <b>Provision of bed material</b>   |      |          |                 |        |
| 2.H2.11.22 | H2   | 15.003(a) |           | Material without screening from trenches   | m3   | 110      |                 |        |
| 2.H2.11.23 | H2   | 15.003(b) |           | Material with screening from trenches  | m3   | 425      |                 |        |
| 2.H2.11.24 | H2   | 15.003(c) |           | Material from the nearest borrow pit without screening   | m3   | 15       |                 |        |
| 2.H2.11.25 | H2   | 15.003(d) |           | Material from the nearest borrow pit with screening  | m3   | 60       |                 |        |
|            | H2   |           |           | <b>Provision of selected fill blanket</b>  |      |          |                 |        |
| 2.H2.11.26 | H2   | 15.006(a) |           | Material without screening from trenches   | m3   | 160      |                 |        |
| 2.H2.11.27 | H2   | 15.006(b) |           | Material with screening from trenches  | m3   | 635      |                 |        |
| 2.H2.11.28 | H2   | 15.006(c) |           | Material from the nearest borrow pit without screening   | m3   | 15       |                 |        |
| 2.H2.11.29 | H2   | 15.006(d) |           | Material from the nearest borrow pit with screening  | m3   | 50       |                 |        |
| 2.H2.11.30 | H2   | 15.006(e) |           | Material from commercial sources   | m3   | 95       |                 |        |
|            | H2   |           |           | <b>Provision of main backfill material</b>   |      |          |                 |        |
| 2.H2.11.31 | H2   | 15.007(a) |           | Backfill material from trench excavation   | m3   | 20       |                 |        |
| 2.H2.11.32 | H2   | 15.007(b) |           | Backfill material from the nearest borrow pit  | m3   | 55       |                 |        |
|            | H2   |           |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>                                      |      |          |                 |        |
| 2.H2.11.33 | H2   | 15.001    |           | Bed material   | m3   | 610      |                 |        |
| 2.H2.11.34 | H2   | 15.001    |           | Selected fill blanket  | m3   | 955      |                 |        |
| 2.H2.11.35 | H2   | 15.001    |           | Main backfill  | m3   | 75       |                 |        |
| 2.H2.11.36 | H2   | 15.001    |           | Fertile soil   | m3   | 1755     |                 |        |
|            | H2   |           |           | <b>PROVISION OF MATERIAL TO REPLACE UNSUITABLE MATERIAL FROM TRENCH BOTTOM OR TO PROVIDE SUPPORTING EARTHWORKS</b> |      |          |                 |        |
| 2.H2.11.37 | H2   | 15.011(b) |           | From borrow pits   | m3   | 100      |                 |        |
|            | H2   |           |           | <b>Placing of Material</b>   |      |          |                 |        |
| 2.H2.11.38 | H2   | 15.012    |           | Placing of material to replace unsuitable material from trench bottom or to provide supporting earthworks          | m3   | 100      |                 |        |
|            | H2   |           |           | <b>SUBSOIL DRAINAGE</b>  |      |          |                 |        |
|            | H2   |           |           | <b>Crushed stone</b>   |      |          |                 |        |
| 2.H2.11.39 | H2   | 15.008(a) |           | Supply and place crushed stone for Layer no 1  | m3   | 7        |                 |        |
| 2.H2.11.40 | H2   | 15.008(c) |           | Supply and place well graded compacted dump rock for Layer no 2  | m3   | 12       |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            |      |           |           |   |      |          | Brought Forward |        |
|            | H2   |           |           | <b>Geotextile</b>   |      |          |                 |        |
| 2.H2.11.41 | H2   | 15.008(b) |           | Supply and place geotextile for Layer no 1                                      | m2   | 125      |                 |        |
| 2.H2.11.42 | H2   | 15.008(d) |           | Supply and place geotextile for Layer no 2                                      | m2   | 145      |                 |        |
|            | H2   |           |           | <b>ENCASING OF PIPES IN CONCRETE</b>  |      |          |                 |        |
| 2.H2.11.43 | H2   | 15.009(a) |           | Concrete strength grade 30/19   | m3   | 10       |                 |        |
| 2.H2.11.44 | H2   | 15.009(b) |           | Reinforcement   | t    | 2        |                 |        |
|            | H2   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H2.11.45 | H2   | 15.010(a) |           | Between 1km up to and including 3km   | m3   | 25       |                 |        |
| 2.H2.11.46 | H2   | 15.010(b) |           | Between 3km up to and including 5km   | m3   | 25       |                 |        |
| 2.H2.11.47 | H2   | 15.010(c) |           | Between 5km up to and including 7km   | m3   | 25       |                 |        |
| 2.H2.11.48 | H2   | 15.010(d) |           | Between 7km up to and including 9km   | m3   | 25       |                 |        |
| 2.H2.11.49 | H2   | 15.010(e) |           | Between 9km up to and including 11km  | m3   | 25       |                 |        |
| 2.H2.11.50 | H2   | 15.010(f) |           | Between 11km up to and including 13km   | m3   | 25       |                 |        |
|            | H2   |           |           | <b>PART H2.11: Fibre Earthworks Total - Carried forward to Summary of Bills</b> |      |          |                 |        |
|            | H2   |           |           | <b>PART H2: OFF TAKE C TO OFF TAKE B (13KM) - CH82 TO CH95</b>                  |      |          |                 |        |

| Item no.  | Part | Payment       | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|---------------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference     |           |  |      |          |                 |        |
|           | H3   |               |           | <b>PART H3: OFF TAKE B TO OFF TAKE A (6.3KM) - CH95 TO CH101.30</b>  |      |          |                 |        |
|           | H3   |               |           | <b>PART H3.1: Preliminary and General (Secondary)</b>  |      |          |                 |        |
|           | H3   |               |           | <b>PRELIMINARY AND GENERAL (SECONDARY)</b>   |      |          |                 |        |
|           | H3   | 1.002         |           | <b>FIXED CHARGES - GENERAL OBLIGATIONS</b>   |      |          |                 |        |
| 2.H3.1.1  | H3   |               | X         | Head Office Contract Management and Overheads  | Sum  | 1        |                 |        |
| 2.H3.1.2  | H3   |               | X         | General Site Supervision and Overheads   | Sum  | 1        |                 |        |
| 2.H3.1.3  | H3   |               | X         | Method statements (1.10.1)   | Sum  | 1        |                 |        |
| 2.H3.1.4  | H3   |               | X         | Competency training (1.10.2.4)   | Sum  | 1        |                 |        |
| 2.H3.1.5  | H3   |               | X         | Returns and reporting (1.10.3)   | Sum  | 1        |                 |        |
| 2.H3.1.6  | H3   |               | X         | Management meetings (1.10.4)   | Sum  | 1        |                 |        |
| 2.H3.1.7  | H3   |               | X         | Integration management (1.10.5)  | Sum  | 1        |                 |        |
| 2.H3.1.8  | H3   |               | X         | Programming Requirements (1.9)   | Sum  | 1        |                 |        |
| 2.H3.1.9  | H3   |               | X         | Quality Management (1.10.2)  | Sum  | 1        |                 |        |
| 2.H3.1.10 | H3   |               | X         | Socio Economic Requirements (1.11)   | Sum  | 1        |                 |        |
| 2.H3.1.11 | H3   |               | X         | Occupational Health and Safety Requirements (1.12)   | Sum  | 1        |                 |        |
| 2.H3.1.12 | H3   |               | X         | Environmental Requirements (1.13)  | Sum  | 1        |                 |        |
|           | H3   |               |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 2.H3.1.13 | H3   |               | X         | .....  | Sum  | 1        |                 |        |
| 2.H3.1.14 | H3   |               | X         | .....  | Sum  | 1        |                 |        |
| 2.H3.1.15 | H3   |               | X         | .....  | Sum  | 1        |                 |        |
| 2.H3.1.16 | H3   |               | X         | .....  | Sum  | 1        |                 |        |
|           | H3   | 1.003 & 1.004 |           | <b>FIXED CHARGES - FACILITIES FOR THE CONTRACTOR (1.8)</b>   |      |          |                 |        |
| 2.H3.1.17 | H3   |               | X         | Transport of Staff and Labour (1.8.1.4)  | Sum  | 1        |                 |        |
| 2.H3.1.18 | H3   |               | X         | Construction Establishment Fencing (1.8.3.1)   | Sum  | 1        |                 |        |
| 2.H3.1.19 | H3   |               | X         | Lighting of Construction Establishment Areas (1.8.3.2)   | Sum  | 1        |                 |        |
| 2.H3.1.20 | H3   |               | X         | Electrical power and distribution (1.8.3.4)  | Sum  | 1        |                 |        |
| 2.H3.1.21 | H3   |               | X         | Standby power (1.8.3.4)  | Sum  | 1        |                 |        |
| 2.H3.1.22 | H3   |               | X         | Communications (1.8.3.7)   | Sum  | 1        |                 |        |
|           | H3   |               |           | <b>Office, Accommodation and Other Site facilities</b>   |      |          |                 |        |
| 2.H3.1.23 | H3   |               | X         | Accommodation for staff and workforce (1.8.3.8b)   | Sum  | 1        |                 |        |
| 2.H3.1.24 | H3   |               | X         | Offices (1.8.3.8c)   | Sum  | 1        |                 |        |
| 2.H3.1.25 | H3   |               | X         | Other establishment facilities (1.8.3.8d)  | Sum  | 1        |                 |        |
| 2.H3.1.26 | H3   |               | X         | Storage (1.8.3.8e)   | Sum  | 1        |                 |        |
|           |      |               |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           |      |           |           |  |      |          | Brought Forward |        |
|           | H3   |           |           | <b>Other services</b>  |      |          |                 |        |
| 2.H3.1.27 | H3   |           | X         | Medical (1.8.3.12)   | Sum  | 1        |                 |        |
| 2.H3.1.28 | H3   |           | X         | Sanitation and Cleaning (1.8.3.13)   | Sum  | 1        |                 |        |
| 2.H3.1.29 | H3   |           | X         | Access control and security (1.8.3.14)   | Sum  | 1        |                 |        |
|           | H3   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 2.H3.1.30 | H3   |           | X         | .....  | Sum  | 1        |                 |        |
| 2.H3.1.31 | H3   |           | X         | .....  | Sum  | 1        |                 |        |
| 2.H3.1.32 | H3   |           | X         | .....  | Sum  | 1        |                 |        |
| 2.H3.1.33 | H3   |           | X         | .....  | Sum  | 1        |                 |        |
|           | H3   | 1.004     |           | <b>FIXED CHARGES - SPECIFIC EQUIPMENT</b>  |      |          |                 |        |
| 2.H3.1.34 | H3   |           | X         | Equipment for construction and maintenance of the Contractor's work areas  | Sum  | 1        |                 |        |
| 2.H3.1.35 | H3   |           | X         | Minor equipment and small tools  | Sum  | 1        |                 |        |
| 2.H3.1.36 | H3   |           | X         | Equipment for dust and emissions control and monitoring in compliance with environmental requirement   | Sum  | 1        |                 |        |
| 2.H3.1.37 | H3   |           | X         | Construction services including electrical power, compressed air, water, communications, etc.  | Sum  | 1        |                 |        |
| 2.H3.1.38 | H3   |           | X         | Equipment for blasting and rock support  | Sum  | 1        |                 |        |
| 2.H3.1.39 | H3   |           | X         | Equipment for earthworks, trenching and backfilling  | Sum  | 1        |                 |        |
| 2.H3.1.40 | H3   |           | X         | Equipment for borrowing, processing of materials, transport of materials and spoiling of materials   | Sum  | 1        |                 |        |
| 2.H3.1.41 | H3   |           | X         | Equipment for crange, winches, lifting and pipe handling   | Sum  | 1        |                 |        |
| 2.H3.1.42 | H3   |           | X         | Equipment for welding, weld testing and coatings   | Sum  | 1        |                 |        |
| 2.H3.1.43 | H3   |           | X         | Equipment for site transporting, lifting, placing and fixing of structural steel work  | Sum  | 1        |                 |        |
| 2.H3.1.44 | H3   |           | X         | Equipment for site transporting, placing, fixing and finishing of concrete work, formwork and reinforcement  | Sum  | 1        |                 |        |
| 2.H3.1.45 | H3   |           | X         | Equipment for processing concrete (Batch plant)  | Sum  | 1        |                 |        |
| 2.H3.1.46 | H3   |           | X         | Equipment for dealing with water   | Sum  | 1        |                 |        |
| 2.H3.1.47 | H3   |           | X         | Equipment for pipe jacking and grouting  | Sum  | 1        |                 |        |
| 2.H3.1.48 | H3   | 1.004(d)  | X         | Establishment and de-establishment for Pipe Jacking  | Sum  | 1        |                 |        |
| 2.H3.1.49 | H3   | 1.004(a)  | X         | Fixed related charges for relocation of pipe work front to different location as instructed by Engineer (Within 5km). Including provision for the loss of production     | No   | 1        |                 |        |
|           | H3   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 2.H3.1.50 | H3   |           | X         | .....  | Sum  | 1        |                 |        |
| 2.H3.1.51 | H3   |           | X         | .....  | Sum  | 1        |                 |        |
|           |      |           |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment       | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|---------------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference     |           |   |      |          |                 |        |
|           |      |               |           |   |      |          | Brought Forward |        |
| 2.H3.1.52 | H3   |               | X         | .....   | Sum  | 1        |                 |        |
| 2.H3.1.53 | H3   |               | X         | .....   | Sum  | 1        |                 |        |
|           | H3   | 1.006         |           | <b>TIME RELATED CHARGES - GENERAL OBLIGATIONS</b>   |      |          |                 |        |
| 2.H3.1.54 | H3   |               | X         | Head Office Contract Management and Overheads (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.55 | H3   |               | X         | General Site Supervision and Overheads (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.56 | H3   |               | X         | Method Statements (1.10.1) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.57 | H3   |               | X         | Competency training (1.10.2.4) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.58 | H3   |               | X         | Returns and reporting (1.10.3) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.59 | H3   |               | X         | Management meetings (1.10.4) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.60 | H3   |               | X         | Integration management (1.10.5) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.61 | H3   |               | X         | Programming Requirements (1.9) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.62 | H3   |               | X         | Quality Management (1.10.2) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.63 | H3   |               | X         | Socio Economic Requirements (1.11) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.64 | H3   |               | X         | Occupational Health and Safety (1.12) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.65 | H3   |               | X         | Environmental Requirements (1.13) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.66 | H3   | 1.006(d)      | X         | General charges for Pipe Jacking and Grouting (Duration ..... days)   | Sum  | 1        |                 |        |
| 2.H3.1.67 | H3   | 1.006(a)      | X         | Time related charges for relocation of pipe work front to different location as instructed by Engineer (General Obligations) (Within 5km). Including provision for the loss of production | No   | 1        |                 |        |
|           | H3   |               |           | <b>Any other charges not included elsewhere. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b>                      |      |          |                 |        |
| 2.H3.1.68 | H3   |               | X         | .....   | Sum  | 1        |                 |        |
| 2.H3.1.69 | H3   |               | X         | .....   | Sum  | 1        |                 |        |
| 2.H3.1.70 | H3   |               | X         | .....   | Sum  | 1        |                 |        |
|           | H3   | 1.007 & 1.008 |           | <b>TIME RELATED CHARGES - FACILITIES FOR THE CONTRACTOR (1.8)</b>   |      |          |                 |        |
| 2.H3.1.71 | H3   |               | X         | Transport of Staff and Labour (1.8.1.4) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.72 | H3   |               | X         | Construction Establishment Fencing (1.8.3.1) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.73 | H3   |               | X         | Lighting of Construction Establishment Areas (1.8.3.2) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.74 | H3   |               | X         | Electrical power and distribution (1.8.3.4) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.75 | H3   |               | X         | Standby power (1.8.3.4) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
|           |      |               |           |   |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           |      |           |           |   |      |          | Brought Forward |        |
| 2.H3.1.76 | H3   |           | X         | Communications (1.8.3.7)<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
|           | H3   |           |           | <b>Office, Accommodation and Other Site facilities</b>  |      |          |                 |        |
| 2.H3.1.77 | H3   |           | X         | Accommodation for staff and workforce<br>(1.8.3.8b)(Duration . . . . . Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.78 | H3   |           | X         | Offices (1.8.3.8c)<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.79 | H3   |           | X         | Other establishment facilities (1.8.3.8d)<br>(Duration . . . . . Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.80 | H3   |           | X         | Storage (1.8.3.8e)<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
|           | H3   |           |           | <b>Other services</b>   |      |          |                 |        |
| 2.H3.1.81 | H3   |           | X         | Medical (1.8.3.12)<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.82 | H3   |           | X         | Sanitation and Cleaning (1.8.3.13)<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.83 | H3   |           | X         | Access control and security (1.8.3.14)<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.84 | H3   | 1.007(d)  | X         | Facilities for for Pipe Jacking and Grouting<br>(Duration . . . . . Days)   | Sum  | 1        |                 |        |
| 2.H3.1.85 | H3   | 1.007(a)  | X         | Time related charges for relocation of pipe work front to<br>different location as instructed by Engineer (Facilities)<br>(Within 5km). Including provision for the loss of<br>production | No   | 1        |                 |        |
|           | H3   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit<br/>prices in the amount column ("Nil" to be entered if<br/>not required)</b>          |      |          |                 |        |
| 2.H3.1.86 | H3   |           | X         | .....   | Sum  | 1        |                 |        |
| 2.H3.1.87 | H3   |           | X         | .....   | Sum  | 1        |                 |        |
| 2.H3.1.88 | H3   |           | X         | .....   | Sum  | 1        |                 |        |
| 2.H3.1.89 | H3   |           | X         | .....   | Sum  | 1        |                 |        |
|           | H3   | 1.008     |           | <b>TIME RELATED CHARGES - SPECIFIC EQUIPMENT</b>  |      |          |                 |        |
| 2.H3.1.90 | H3   |           | X         | Equipment for construction and maintenance of the<br>Contractor's work areas<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.91 | H3   |           | X         | Minor equipment and small tools<br>(Duration . . . . . Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.92 | H3   |           | X         | Equipment for dust and emissions control and<br>monitoring in compliance with environmental<br>requirement<br>(Duration . . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.93 | H3   |           | X         | Construction services including electrical power,<br>compressed air, water, communications, etc. (Duration<br>. . . . . Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.94 | H3   |           | X         | Equipment for blasting and rock support<br>(Duration . . . . . Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.95 | H3   |           | X         | Equipment for earthworks, trenching and backfilling<br>(Duration . . . . . Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.96 | H3   |           | X         | Equipment for borrowing, processing of materials,<br>transport of materials and spoiling of materials<br>(Duration . . . . . Weeks)   | Sum  | 1        |                 |        |
|           |      |           |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H3.1.97  | H3   |           | X         | Equipment for crange, winches, lifting and pipe handling<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.98  | H3   |           | X         | Equipment for welding, weld testing and coatings<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.99  | H3   |           | X         | Equipment for site transporting, lifting, placing and fixing of structural steel work<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.100 | H3   |           | X         | Equipment for site transporting, placing, fixing and finishing of concrete work, formwork and reinforcement<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.101 | H3   |           | X         | Equipment for processing concrete (Batch plant)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 2.H3.1.102 | H3   |           | X         | Equipment for dealing with water<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 2.H3.1.103 | H3   | 1.008(d)  | X         | Equipment for Pipe Jacking and Grouting<br>(Duration ..... days)   | Sum  | 1        |                 |        |
| 2.H3.1.104 | H3   | 1.008(a)  | X         | Time related charges for relocation of pipe work front to different location as instructed by Engineer (Specific Equipment) (Within 5km). Including provision for the loss of production | No   | 1        |                 |        |
|            | H3   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b>                 |      |          |                 |        |
| 2.H3.1.105 | H3   |           | X         | .....  | Sum  | 1        |                 |        |
| 2.H3.1.106 | H3   |           | X         | .....  | Sum  | 1        |                 |        |
| 2.H3.1.107 | H3   |           | X         | .....  | Sum  | 1        |                 |        |
| 2.H3.1.108 | H3   |           | X         | .....  | Sum  | 1        |                 |        |
|            | H3   |           |           | <b>PART H3.1: Preliminary and General - Carried forward to Summary of Bills</b>  |      |          |                 |        |



| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate | Amount |
|-----------|------|-----------|-----------|--|------|----------|------|--------|
|           |      | Reference |           |  |      |          |      |        |
|           | H3   |           |           | <b>PART H3.2: Permanent Access Track</b>   |      |          |      |        |
|           | H3   |           |           | <b>Site Clearance</b>  |      |          |      |        |
| 2.H3.2.1  | H3   | 7.001(a)  |           | Clearing   | ha   | 2.5      |      |        |
|           | H3   |           |           | <b>In situ treatment of foundations:<br/>(compacted to a minimum of 90% of modified<br/>AASHTO density, or else specified differently on<br/>the drawings)</b> |      |          |      |        |
| 2.H3.2.2  | H3   | 9.009(a)  |           | Compaction of in-situ material   | m2   | 2 210    |      |        |
| 2.H3.2.3  | H3   | 9.009(b)  |           | In situ treatment by ripping   | m3   | 330      |      |        |
|           | H3   |           |           | <b>CONSTRUCTION OF EMBANKMENT AND<br/>STRUCTURE BACKFILL</b>   |      |          |      |        |
| 2.H3.2.4  | H3   | 15.014(b) |           | Rockfill processing and compaction   | m3   | 80       |      |        |
| 2.H3.2.5  | H3   | 15.008(d) |           | Supply and place geotextile complete ("Rockgrid" or<br>equal approved)   | m2   | 160      |      |        |
|           | H3   |           |           | <b>Pavement layers constructed from gravel material</b>  |      |          |      |        |
| 2.H3.2.6  | H3   | 25.001(c) |           | Gravel wearing course compacted to 95% of modified<br>AASHTO density   | m3   | 445      |      |        |
|           | H3   |           |           | <b>Overhaul on material hauled in excess of 1.0 km</b>   |      |          |      |        |
| 2.H3.2.7  | H3   | 25.018    |           | a) Between 1km up to and including 3km   | m3   | 200      |      |        |
| 2.H3.2.8  | H3   | 25.018    |           | b) Between 3km up to and including 5km   | m3   | 200      |      |        |
| 2.H3.2.9  | H3   | 25.018    |           | c) Between 5km up to and including 7km   | m3   | 200      |      |        |
|           | H3   |           |           | <b>STORMWATER</b>  |      |          |      |        |
|           | H3   |           |           | <b>Bedding for Prefabricated Culverts</b>  |      |          |      |        |
| 2.H3.2.10 | H3   | 27.003    |           | b) Class B bedding   | m3   | 70       |      |        |
|           | H3   |           |           | <b>Prefabricated Concrete Culverts</b>   |      |          |      |        |
| 2.H3.2.11 | H3   | 27.004(a) |           | i) 450mm diameter socketed concrete pipe<br>(Class D50), jointed with mortar   | m    | 75       |      |        |
|           | H3   |           |           | <b>PART H3.2: Permanent Access Track - Carried forward to Summary of Bills</b>   |      |          |      |        |

| Item no.  | Part | Payment | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|---------|-----------|--|------|----------|-----------------|--------|
|           |      |         |           |  |      |          |                 |        |
|           | H3   |         |           | <b>PART H3.3: Pipe supply, delivery, installation and testing</b>  |      |          |                 |        |
|           | H3   |         |           | <b>DETAILING AND DOCUMENTATION</b>   |      |          |                 |        |
| 2.H3.3.1  | H3   | 32.001  |           | Pipes and pipe specials: Design and documentation (As required: <b>For Employer Design</b> )                                       | Sum  | 1        |                 |        |
| 2.H3.3.2  | H3   | 37.001  |           | Corrosion protection: PQP and other documentation  | Sum  | 1        |                 |        |
|           | H3   |         |           | <b>PIPES</b>   |      |          |                 |        |
|           | H3   |         |           | <b>MANUFACTURE AND SUPPLY OF PIPES AND DELIVERY TO STORAGE ON SITE (EXCLUDING CORROSION PROTECTION)</b>                            |      |          |                 |        |
|           | H3   |         |           | <b>Grade X52; Ends prepared for site welding</b>   |      |          |                 |        |
| 2.H3.3.3  | H3   | 32.002  | X         | 914mm OD pipe, 8mm wall thickness  | m    | 6160     |                 |        |
|           | H3   |         |           | <b>SPARE PIPES</b>   |      |          |                 |        |
|           | H3   |         |           | <b>Grade X52; Ends prepared for site welding</b>   |      |          |                 |        |
| 2.H3.3.4  | H3   | 32.002  | X         | 914mm OD pipe, 8mm wall thickness  | m    | 39       |                 |        |
|           | H3   |         |           | <b>EXTERNAL PIPE COATING (factory applied):</b>  |      |          |                 |        |
|           | H3   |         |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>  |      |          |                 |        |
|           | H3   |         |           | <b>Option No. 1: Polymer Modified Bitumen (System No 229A/236)</b>   |      |          |                 |        |
| 2.H3.3.5  | H3   | 37.002  | X         | 914mm OD pipes   | m    | 6160     |                 |        |
| 2.H3.3.6  | H3   | 37.002  | X         | 914mm OD spare pipes   | m    | 39       |                 |        |
|           | H3   |         |           | <b>INTERNAL PIPE LINING (factory applied)</b>  |      |          |                 |        |
|           | H3   |         |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>  |      |          |                 |        |
|           | H3   |         |           | <b>Hot applied solvent free epoxy (System No 220)</b>  |      |          |                 |        |
| 2.H3.3.7  | H3   | 37.003  | X         | 914mm OD pipes   | m    | 6160     |                 |        |
| 2.H3.3.8  | H3   | 37.003  | X         | 914mm OD spare pipes   | m    | 39       |                 |        |
|           | H3   |         |           | <b>PIPE SPECIALS</b>   |      |          |                 |        |
|           | H3   |         |           | <b>MANUFACTURE AND SUPPLY OF PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b>    |      |          |                 |        |
|           | H3   |         |           | <b>BEND/JOINT TYPE NO. 1: HOT APPLIED SOLVENT FREE EPOXY (System No 220) AND POLYMER MODIFIED BITUMEN COATING (System No 229A)</b> |      |          |                 |        |
|           | H3   |         |           | <b>Grade X52, Ends prepared for site welding</b>   |      |          |                 |        |
|           | H3   |         |           | <b>914mm OD pipe, 8mm wall thickness</b>   |      |          |                 |        |
| 2.H3.3.9  | H3   | 32.003  | X         | Bend between 22.5 to and including 45 degrees  | No   | 3        |                 |        |
| 2.H3.3.10 | H3   | 32.003  | X         | Bend between 45 to and including 90 degrees  | No   | 1        |                 |        |
|           |      |         |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           |      |           |           |   |      |          | Brought Forward |        |
|           | H3   |           |           | <b>LAY AND WELD STEEL PIPES</b>   |      |          |                 |        |
|           | H3   |           |           | <b>Grade X52</b>  |      |          |                 |        |
| 2.H3.3.11 | H3   | 33.001    | X         | 914mm OD pipe, 8mm wall thickness   | m    | 6160     |                 |        |
|           | H3   |           |           | <b>INSTALLATION AND TESTING OF PIPE SPECIALS</b>  |      |          |                 |        |
|           | H3   |           |           | <b>Grade X52</b>  |      |          |                 |        |
|           | H3   |           |           | <b>914mm OD pipe, 8mm wall thickness</b>  |      |          |                 |        |
| 2.H3.3.12 | H3   | 33.007    | X         | Bend between 22.5 to and including 45 degrees   | No   | 3        |                 |        |
| 2.H3.3.13 | H3   | 33.007    | X         | Bend between 45 to and including 90 degrees   | No   | 1        |                 |        |
|           | H3   |           |           | <b>EXTRA OVER ITEM 33.001 FOR MITRE DEFLECTIONS UP TO 11.25 DEGREE TO FORM BENDS</b>  |      |          |                 |        |
|           | H3   |           |           | <b>Grade X52</b>  |      |          |                 |        |
| 2.H3.3.14 | H3   | 33.002    | X         | 914mm OD pipe, 8mm wall thickness   | No   | 11       |                 |        |
|           | H3   |           |           | <b>SUPPLY AND INSTALL EXTERNAL COATING AND INTERNAL LINING OF PIPE JOINTS (field applied)</b>   |      |          |                 |        |
|           | H3   |           |           | <b>BEND/JOINT TYPE NO. 1:<br/>HOT APPLIED SOLVENT FREE EPOXY (System No 220)<br/>AND<br/>POLYMER MODIFIED BITUMEN COATING (System No 276)</b> |      |          |                 |        |
| 2.H3.3.15 | H3   | 37.004    | X         | 914mm OD pipes  | No   | 357      |                 |        |
|           | H3   |           |           | <b>BEDDING REQUIREMENT SPECIFIC FOR POLYMER MODIFIED BITUMEN COATING</b>  |      |          |                 |        |
| 2.H3.3.16 | H3   | 15.013    | X         | Extra over 15.003(b), 15.003(d), 15.004(b), 15.004(d), 15.005(b), 15.005(d), 15.006(b) and 15.006(d) for crushing and screening of material   | m3   | 13260    |                 |        |
|           | H3   |           |           | <b>HYDROSTATIC TESTING</b>  |      |          |                 |        |
| 2.H3.3.17 | H3   | 33.008(a) |           | 914mm OD pipe, 8mm wall thickness   | km   | 6.16     |                 |        |
|           | H3   |           |           | <b>PIPE LINING INTEGRITY TESTING</b>  |      |          |                 |        |
| 2.H3.3.18 | H3   | 33.009    |           | 914mm OD as specified on drawing  | m    | 6160     |                 |        |
|           | H3   |           |           | <b>PIPE COATING INTEGRITY SURVEYS</b>   |      |          |                 |        |
| 2.H3.3.19 | H3   | 33.010    |           | 914mm OD as specified on drawing  | m    | 6160     |                 |        |
|           | H3   |           |           | <b>MARKER POSTS</b>   |      |          |                 |        |
| 2.H3.3.20 | H3   | 33.012    |           | As detailed on the drawing No 2A-C6-114   | no   | 111      |                 |        |
|           | H3   |           |           | <b>BENCHMARK AND TRIANGULATION BEACONS</b>  |      |          |                 |        |
| 2.H3.3.21 | H3   | 33.013(a) |           | Survey  | Sum  | 1        |                 |        |
| 2.H3.3.22 | H3   | 33.013(b) |           | Benchmark and beacons   | No   | 75       |                 |        |
|           | H3   |           |           | <b>PART H3.3: Pipe Supply, Delivery and Installation - Carried forward to Summary of Bills</b>  |      |          |                 |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           | H3   |           |           | <b>PART H3.4: Pipeline Earthworks</b>   |      |          |                 |        |
|           | H3   |           |           | <b>SITE CLEARANCE</b>   |      |          |                 |        |
|           | H3   |           |           | <b>Clearing</b>   |      |          |                 |        |
| 2.H3.4.1  | H3   | 7.001(a)  |           | Clearing  | ha   | 26       |                 |        |
| 2.H3.4.2  | H3   | 7.001(b)  |           | Removal of boulders   | m3   | 1 264    |                 |        |
| 2.H3.4.3  | H3   | 7.002     |           | Grubbing and removal of trees of girth up to and including 1m   | ha   | 26       |                 |        |
| 2.H3.4.4  | H3   | 7.003     |           | Grubbing and removal of trees of girth over 1m  | No   | 64       |                 |        |
|           | H3   |           |           | <b>Removal of topsoil</b>   |      |          |                 |        |
| 2.H3.4.5  | H3   | 7.004(a)  |           | For pipelines, temporary stockpiling to windrows or stockpile alongside the pipeline and construction servitude   | m3   | 33485    |                 |        |
|           | H3   |           |           | <b>Removal of fertile soil</b>  |      |          |                 |        |
| 2.H3.4.6  | H3   | 7.005(a)  |           | For pipelines, temporary stockpile alongside the pipeline and construction servitude  | m3   | 5400     |                 |        |
| 2.H3.4.7  | H3   | 7.007     |           | Demolishing and disposal of structures and reinforced concrete  | m3   | 100      |                 |        |
| 2.H3.4.8  | H3   | 7.008     |           | Moving Existing Rock Stockpile from Previous Project/Phase to Provide Working Space   | m3   | 50       |                 |        |
| 2.H3.4.9  | H3   | 7.009     |           | Mulching  | ha   | 26       |                 |        |
|           | H3   |           |           | <b>Overhaul</b>   |      |          |                 |        |
| 2.H3.4.10 | H3   | 7.006(a)  |           | Between 1km up to and including 3km   | m3   | 1150     |                 |        |
| 2.H3.4.11 | H3   | 7.006(b)  |           | Between 3km up to and including 5km   | m3   | 730      |                 |        |
| 2.H3.4.12 | H3   | 7.006(c)  |           | Between 5km up to and including 7km   | m3   | 210      |                 |        |
|           | H3   |           |           | <b>DEALING WITH WATER</b>   |      |          |                 |        |
|           |      |           |           | <b>For all works included in PART H3</b>  |      |          |                 |        |
| 2.H3.4.13 | H3   | 8.001     |           | Dealing with water  | Sum  | 1        |                 |        |
| 2.H3.4.14 | H3   | 8.002     |           | Treatment of water  | Sum  | 1        |                 |        |
| 2.H3.4.15 | H3   | 8.003     |           | Water monitoring  | Sum  | 1        |                 |        |
| 2.H3.4.16 | H3   | 8.004     |           | Sampling equipment and reagents for the Engineer  | Sum  | 1        |                 |        |
|           | H3   |           |           | <b>PIPE TRENCH EXCAVATIONS</b>  |      |          |                 |        |
|           | H3   |           |           | <b>EXCAVATE IN ALL MATERIALS TO SPECIFIED LEVELS AND BATTERED SLOPES, INCLUDING TEMPORARY STOCKPILING AND LEVELLING ALONGSIDE EXCAVATIONS WITHIN THE CONFINES OF THE PIPE SERVITUDE</b> |      |          |                 |        |
|           | H3   |           |           | <b>Classified trench excavations:</b>   |      |          |                 |        |
|           | H3   |           |           | <b>Within the freehaul distance</b>   |      |          |                 |        |
| 2.H3.4.17 | H3   | 9.012     |           | Over 1m and up to 2m deep   | m3   | 18 160   |                 |        |
| 2.H3.4.18 | H3   | 9.012     |           | Over 2m and up to 3m deep   | m3   | 5 890    |                 |        |
| 2.H3.4.19 | H3   | 9.012     |           | Over 3m and up to 4m deep   | m3   | 350      |                 |        |
|           |      |           |           |   |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           |      |           |           |  |      |          | Brought Forward |        |
|           | H3   |           |           | <b>Unclassified trench excavations:</b>  |      |          |                 |        |
|           | H3   |           |           | <b>Within the freehaul distance</b>  |      |          |                 |        |
| 2.H3.4.20 | H3   | 9.012     |           | Over 2m and up to 3m deep  | m3   | 155      |                 |        |
| 2.H3.4.21 | H3   | 9.012     |           | Over 3m and up to 4m deep  | m3   | 180      |                 |        |
| 2.H3.4.22 | H3   | 9.012     |           | Over 4m and up to 5m deep  | m3   | 0        |                 |        |
| 2.H3.4.23 | H3   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting)  | m3   | 400      |                 |        |
| 2.H3.4.24 | H1   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting), within 500m from Transnet and Eskom infrastructure (railways, conveyors, and high voltage power lines). (Eskom and/or Transnet requirements and approval processes to be met by Contractor) | m3   | 6 170    |                 |        |
| 2.H3.4.25 | H3   | 9.025     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (by non-explosive means)  | m3   | 200      |                 |        |
| 2.H3.4.26 | H3   | 9.020     |           | Compaction of trench bottom  | m2   | 12 005   |                 |        |
|           | H3   |           |           | <b>EXCAVATION ANCILLARIES</b>  |      |          |                 |        |
| 2.H3.4.27 | H3   | 9.016     |           | Excavation and disposal of unsuitable/surplus material from trench bottom to designated spoil sites  | m3   | 76       |                 |        |
| 2.H3.4.28 | H3   | 9.015     |           | Excavate by hand in soft material to expose existing services  | m3   | 300      |                 |        |
|           | H3   | 9.021     |           | Excavation by hand   | m3   | 300      |                 |        |
| 2.H3.4.29 | H3   |           |           | <b>OVERHAUL</b>  |      |          |                 |        |
| 2.H3.4.30 | H3   | 9.023(a)  |           | Between 1km up to and including 3km  | m3   | 4280     |                 |        |
| 2.H3.4.31 | H3   | 9.023(b)  |           | Between 3km up to and including 5km  | m3   | 3260     |                 |        |
| 2.H3.4.32 | H3   | 9.023(c)  |           | Between 5km up to and including 7km  | m3   | 1550     |                 |        |
| 2.H3.4.33 | H3   | 9.023(d)  |           | Between 7km up to and including 9km  | m3   | 965      |                 |        |
| 2.H3.4.34 | H3   | 9.023(e)  |           | Between 9km up to and including 11km   | m3   | 350      |                 |        |
|           | H3   |           |           | <b>PROVIDE AND USE OF SPECIALIST TEAM AND EQUIPMENT FOR THE DETECTION OF UNDERGROUND SERVICES</b>  |      |          |                 |        |
| 2.H3.4.35 | H3   | 9.017(a)  |           | Provide the team and equipment   | Sum  | 1        |                 |        |
| 2.H3.4.36 | H3   | 9.017(b)  |           | Use, operate and maintain equipment  | day  | 10       |                 |        |
| 2.H3.4.37 | H3   | 9.017(c)  |           | Remove the team and equipment  | Sum  | 1        |                 |        |
|           | H3   |           |           | <b>EXISTING SERVICES THAT INTERSECT OR ADJOIN A PIPE TRENCH</b>  |      |          |                 |        |
| 2.H3.4.38 | H3   | 9.018(a)  |           | Services that intersect a pipe trench  | No   | 10       |                 |        |
| 2.H3.4.39 | H3   | 9.018(b)  |           | Services that adjoin a trench  | m    | 300      |                 |        |
| 2.H3.4.40 | H3   | 9.024     |           | Excavation of test pits  | No   | 253      |                 |        |
|           |      |           |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           |      |           |           |   |      |          | Brought Forward |        |
|           | H3   |           |           | <b>BACKFILLING AND BEDDING</b>  |      |          |                 |        |
|           | H3   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b> |      |          |                 |        |
|           | H3   |           |           | <b>Provision of bed material</b>  |      |          |                 |        |
| 2.H3.4.41 | H3   | 15.003(a) |           | Material without screening from trenches  | m3   | 270      |                 |        |
| 2.H3.4.42 | H3   | 15.003(b) |           | Material with screening from trenches   | m3   | 1 065    |                 |        |
| 2.H3.4.43 | H3   | 15.003(c) |           | Material from the nearest borrow pit without screening  | m3   | 215      |                 |        |
| 2.H3.4.44 | H3   | 15.003(d) |           | Material from the nearest borrow pit with screening   | m3   | 860      |                 |        |
|           | H3   |           |           | <b>Provision of bedding cradle material</b>   |      |          |                 |        |
| 2.H3.4.45 | H3   | 15.004(a) |           | Material without screening from trenches  | m3   | 90       |                 |        |
| 2.H3.4.46 | H3   | 15.004(b) |           | Material with screening from trenches   | m3   | 350      |                 |        |
| 2.H3.4.47 | H3   | 15.004(c) |           | Material from the nearest borrow pit without screening  | m3   | 300      |                 |        |
| 2.H3.4.48 | H3   | 15.004(d) |           | Material from the nearest borrow pit with screening   | m3   | 1 200    |                 |        |
| 2.H3.4.49 | H3   | 15.004(e) |           | Material from commercial sources  | m3   | 150      |                 |        |
|           | H3   |           |           | <b>Provision of soilcrete</b>   |      |          |                 |        |
| 2.H3.4.50 | H3   | 15.005(a) |           | Material without screening from trenches  | m3   | 36       |                 |        |
| 2.H3.4.51 | H3   | 15.005(b) |           | Material with screening from trenches   | m3   | 42       |                 |        |
| 2.H3.4.52 | H3   | 15.005(c) |           | Material from the nearest borrow pit without screening  | m3   | 150      |                 |        |
| 2.H3.4.53 | H3   | 15.005(d) |           | Material from the nearest borrow pit with screening   | m3   | 70       |                 |        |
| 2.H3.4.54 | H3   | 15.005(e) |           | Material from commercial sources  | m3   | 150      |                 |        |
|           | H3   |           |           | <b>Provision of selected fill blanket</b>   |      |          |                 |        |
| 2.H3.4.55 | H3   | 15.006(a) |           | Material without screening from trenches  | m3   | 760      |                 |        |
| 2.H3.4.56 | H3   | 15.006(b) |           | Material with screening from trenches   | m3   | 3 035    |                 |        |
| 2.H3.4.57 | H3   | 15.006(c) |           | Material from the nearest borrow pit without screening  | m3   | 940      |                 |        |
| 2.H3.4.58 | H3   | 15.006(d) |           | Material from the nearest borrow pit with screening   | m3   | 3 760    |                 |        |
| 2.H3.4.59 | H3   | 15.006(e) |           | Material from commercial sources  | m3   | 250      |                 |        |
|           | H3   |           |           | <b>Provision of main backfill material</b>  |      |          |                 |        |
| 2.H3.4.60 | H3   | 15.007(a) |           | Backfill material from trench excavation  | m3   | 5 010    |                 |        |
| 2.H3.4.61 | H3   | 15.007(b) |           | Backfill material from the nearest borrow pit   | m3   | 2 605    |                 |        |
|           | H3   |           |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>                 |      |          |                 |        |
| 2.H3.4.62 | H3   | 15.001    |           | Bed material  | m3   | 2 410    |                 |        |
| 2.H3.4.63 | H3   | 15.001    |           | Bedding cradle  | m3   | 2 090    |                 |        |
| 2.H3.4.64 | H3   | 15.001    |           | Selected fill blanket   | m3   | 8 745    |                 |        |
| 2.H3.4.65 | H3   | 15.001    |           | Main backfill   | m3   | 7 070    |                 |        |
|           |      |           |           |   |      |          | Carried Forward |        |

| Item no.  | Part | Payment Reference | Breakdown Reference | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-------------------|---------------------|--|------|----------|-----------------|--------|
|           |      |                   |                     |  |      |          |                 |        |
|           |      |                   |                     |  |      |          | Brought Forward |        |
| 2.H3.4.66 | H3   | 15.001            |                     | Fertile soil   | m3   | 5400     |                 |        |
| 2.H3.4.67 | H3   | 47.005            |                     | Top soil   | m3   | 33485    |                 |        |
| 2.H3.4.68 | H3   | 15.002(a)         |                     | Soilcrete bed and bedding cradle   | m3   | 90       |                 |        |
| 2.H3.4.69 | H3   | 15.002(b)         |                     | Cement stabilised soil bed and bedding cradle  | m3   | 180      |                 |        |
| 2.H3.4.70 | H3   | 15.002(b)         |                     | Cement stabilised soil collars (soilcrete)   | m3   | 180      |                 |        |
|           | H3   |                   |                     | <b>PROVISION OF MATERIAL TO REPLACE UNSUITABLE MATERIAL FROM TRENCH BOTTOM OR TO PROVIDE SUPPORTING EARTHWORKS</b> |      |          |                 |        |
| 2.H3.4.71 | H3   | 15.011(b)         |                     | From borrow pits   | m3   | 76       |                 |        |
|           | H3   |                   |                     | <b>Placing of Material</b>   |      |          |                 |        |
| 2.H3.4.72 | H3   | 15.012            |                     | Placing of material to replace unsuitable material from trench bottom or to provide supporting earthworks          | m3   | 76       |                 |        |
|           | H3   |                   |                     | <b>SUBSOIL DRAINAGE</b>  |      |          |                 |        |
|           | H3   |                   |                     | <b>Crushed stone</b>   |      |          |                 |        |
| 2.H3.4.73 | H3   | 15.008(a)         |                     | Supply and place crushed stone for Layer no 1  | m3   | 150      |                 |        |
| 2.H3.4.74 | H3   | 15.008(c)         |                     | Supply and place well graded compacted dump rock for Layer no 2  | m3   | 245      |                 |        |
|           | H3   |                   |                     | <b>Geotextile</b>  |      |          |                 |        |
| 2.H3.4.75 | H3   | 15.008(b)         |                     | Supply and place geotextile for Layer no 1   | m2   | 1 260    |                 |        |
| 2.H3.4.76 | H3   | 15.008(d)         |                     | Supply and place geotextile for Layer no 2   | m2   | 1 350    |                 |        |
|           | H3   |                   |                     | <b>ENCASING OF PIPES IN CONCRETE</b>   |      |          |                 |        |
| 2.H3.4.77 | H3   | 15.009(a)         |                     | Concrete strength grade 30/19  | m3   | 20       |                 |        |
| 2.H3.4.78 | H3   | 15.009(b)         |                     | Reinforcement  | t    | 2        |                 |        |
|           | H3   |                   |                     | <b>OVERHAUL</b>  |      |          |                 |        |
| 2.H3.4.79 | H3   | 15.010(a)         |                     | Between 1km up to and including 3km  | m3   | 1345     |                 |        |
| 2.H3.4.80 | H3   | 15.010(b)         |                     | Between 3km up to and including 5km  | m3   | 4510     |                 |        |
| 2.H3.4.81 | H3   | 15.010(c)         |                     | Between 5km up to and including 7km  | m3   | 4020     |                 |        |
| 2.H3.4.82 | H3   | 15.010(d)         |                     | Between 7km up to and including 9km  | m3   | 350      |                 |        |
|           | H3   |                   |                     | <b>PART H3.4: Pipeline Earthworks - Carried forward to Summary of Bills</b>  |      |          |                 |        |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           | H3   |           |           | <b>PART H3.5: Valve installations and chambers</b>   |      |          |                 |        |
|           | H3   |           |           | <b>SINGLE AIR VALVE INSTALLATION</b>   |      |          |                 |        |
|           | H3   |           |           | REFER TO DRAWING <b>2A-C6-141 and 2A-C6-142</b>  |      |          |                 |        |
|           | H3   |           |           | <b>EARTHWORKS</b>  |      |          |                 |        |
|           | H3   |           |           | <b>ADDITIONAL EXCAVATION IN ALL MATERIALS BEYOND THE TRENCH PAYMENT LINE FOR VALVE CHAMBERS, THRUST BLOCKS, ETC</b>        |      |          |                 |        |
| 2.H3.5.1  | H3   | 9.013     |           | Excavate for valve chambers  | m3   | 91       |                 |        |
| 2.H3.5.2  | H3   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for:<br>Hard Excavation for classified and unclassified material (blasting) | m3   | 8        |                 |        |
|           | H3   |           |           | <b>OVERHAUL</b>  |      |          |                 |        |
| 2.H3.5.3  | H3   | 9.023(a)  |           | Between 1km up to and including 3km  | m3   | 4        |                 |        |
| 2.H3.5.4  | H3   | 9.023(b)  |           | Between 3km up to and including 5km  | m3   | 4        |                 |        |
|           | H3   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>                              |      |          |                 |        |
|           | H3   |           |           | <b>Provision of cement stabilised soil</b>   |      |          |                 |        |
| 2.H3.5.5  | H3   | 15.003(d) |           | Material from the nearest borrow pit with screening  | m3   | 49       |                 |        |
| 2.H3.5.6  | H3   | 15.003(e) |           | Cement for stabilisation of soil   | m3   | 3        |                 |        |
|           | H3   |           |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>  |      |          |                 |        |
| 2.H3.5.7  | H3   | 15.002(b) |           | Cement stabilised soil bed and bedding cradle  | m3   | 52       |                 |        |
|           | H3   |           |           | <b>OVERHAUL</b>  |      |          |                 |        |
| 2.H3.5.8  | H3   | 15.010(a) |           | Between 1km up to and including 3km  | m3   |          |                 |        |
| 2.H3.5.9  | H3   | 15.010(b) |           | Between 3km up to and including 5km  | m3   | 26       |                 |        |
| 2.H3.5.10 | H3   | 15.010(c) |           | Between 5km up to and including 7km  | m3   | 26       |                 |        |
|           | H3   |           |           | <b>CONSTRUCTION OF EMBANKMENT AND STRUCTURE BACKFILL</b>   |      |          |                 |        |
| 2.H3.5.11 | H3   | 15.014(a) |           | Structure backfilling compacted  | m3   | 100      |                 |        |
| 2.H3.5.12 | H3   | 15.014(a) |           | Embankment backfilling compacted   | m3   | 92       |                 |        |
| 2.H3.5.13 | H3   | 15.015    |           | Finishing of slopes  | m2   | 172      |                 |        |
|           | H3   |           |           | <b>OVERHAUL</b>  |      |          |                 |        |
| 2.H3.5.14 | H3   | 15.016(b) |           | Between 3km up to and including 5km  | m3   | 55       |                 |        |
| 2.H3.5.15 | H3   | 15.016(c) |           | Between 5km up to and including 7km  | m3   | 55       |                 |        |
|           | H3   |           |           | <b>CONCRETE WORKS</b>  |      |          |                 |        |
|           | H3   |           |           | <b>ROUGH FORMWORK</b>  |      |          |                 |        |
|           | H3   |           |           | <b>Vertical surfaces</b>   |      |          |                 |        |
| 2.H3.5.16 | H3   | 20.001    |           | Sides of floor slab  | m2   | 23       |                 |        |
| 2.H3.5.17 | H3   | 20.001    |           | Sides of walls   | m2   | 80       |                 |        |
|           |      |           |           |  |      |          | Carried Forward |        |



| Item no.  | Part | Payment    | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|------------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference  |           |  |      |          |                 |        |
|           |      |            |           |  |      |          | Brought Forward |        |
|           | H3   |            |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|           | H3   |            |           | <b>Horizontal surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H3.5.18 | H3   | 20.002     |           | Underside of slabs   | m2   | 16       |                 |        |
|           | H3   |            |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|           | H3   |            |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H3.5.19 | H3   | 20.002     |           | Walls  | m2   | 209      |                 |        |
| 2.H3.5.20 | H3   | 20.002     |           | Side of Sump walls   | m2   | 2        |                 |        |
| 2.H3.5.21 | H3   | 20.005     |           | Narrow widths - Up to 200mm high   | m    | 55       |                 |        |
|           | H3   |            |           | <b>Box-out holes/Form voids (for sleeves only)</b>   |      |          |                 |        |
|           | H3   |            |           | <b>a) Small, circular, of diameter up to and including 0.35 m</b>  |      |          |                 |        |
| 2.H3.5.22 | H3   | 20.006 (a) |           | Over 0m deep and up to and including 0.5m deep   | No.  | 14       |                 |        |
|           | H3   |            |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H3.5.23 | H3   | 20.007     |           | Steel bars (irrespective of grade or diameter)   | t    | 8.9      |                 |        |
|           | H3   |            |           | <b>CONCRETE</b>  |      |          |                 |        |
|           | H3   |            |           | <b>CONCRETE 15 MPa/19mm in:</b>  |      |          |                 |        |
| 2.H3.5.24 | H3   | 20.011(a)  |           | Blinding layer of 50mm minimum thickness including levelling and floating.   | m2   | 72       |                 |        |
| 2.H3.5.25 | H3   | 20.011(b)  |           | Mass concrete filling where required by the engineer   | m3   | 4        |                 |        |
| 2.H3.5.26 | H3   | 46.007(b)i |           | 100mm thick granolithic screed laid to fall to direction of sump.  | m2   | 34       |                 |        |
|           | H3   |            |           | <b>PRESCRIBED MIX CONCRETE, 35MPa/19mm (water retaining)</b>   |      |          |                 |        |
| 2.H3.5.27 | H3   | 20.010     |           | Foundations, bases, floor slabs and roof slabs   | m3   | 23       |                 |        |
| 2.H3.5.28 | H3   | 20.010     |           | Walls  | m3   | 36       |                 |        |
|           | H3   |            |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H3.5.29 | H3   | 20.013(a)  |           | Wood floated finish  | m2   | 34       |                 |        |
| 2.H3.5.30 | H3   | 20.013(b)  |           | Steel floated finish   | m2   | 67       |                 |        |
|           | H3   |            |           | <b>MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |                 |        |
|           | H3   |            |           | <b>PN40</b>  |      |          |                 |        |
| 2.H3.5.31 | H3   | 32.003     |           | Item 1   | No   | 7        |                 |        |
| 2.H3.5.32 | H3   | 32.003     |           | Item 2   | No   | 7        |                 |        |
| 2.H3.5.33 | H3   | 35.002     |           | Item 3   | No   | 7        |                 |        |
| 2.H3.5.34 | H3   | 35.002     |           | Item 4   | No   | 7        |                 |        |
|           |      |            |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           |      |           |           |   |      |          | Brought Forward |        |
|           | H3   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b>  |      |          |                 |        |
|           | H3   |           |           | <b>PN40</b>   |      |          |                 |        |
| 2.H3.5.35 | H3   | 33.004    |           | Item 1  | No   | 7        |                 |        |
| 2.H3.5.36 | H3   | 33.004    |           | Item 2  | No   | 7        |                 |        |
| 2.H3.5.37 | H3   | 33.004    |           | Item 3  | No   | 7        |                 |        |
| 2.H3.5.38 | H3   | 33.004    |           | Item 4  | No   | 7        |                 |        |
|           | H3   |           |           | <b>ITEMS CAST OR BUILT INTO CONCRETE</b>  |      |          |                 |        |
| 2.H3.5.39 | H3   | 33.005    |           | Steel pipe diameter 700mm   | No   | 7        |                 |        |
|           | H3   |           |           | <b>SUPPLY AND ERECT PRECAST ELEMENTS</b>  |      |          |                 |        |
|           | H3   |           |           | <b>Refer to Dwg 2A-C6-141 and 2A-C6-142</b>   |      |          |                 |        |
| 2.H3.5.40 | H3   | 20.017    |           | Precast slab Type 1   | No   | 14       |                 |        |
|           | H3   |           |           | <b>ANCILLARY WORKS</b>  |      |          |                 |        |
| 2.H3.5.41 | H3   | 24.008    |           | Ladders, complete and installed as per drawing Reg. No.2A-C6-126  | No   | 7        |                 |        |
| 2.H3.5.42 | H3   | 24.010    |           | Manhole cover and lids, complete and installed as per drawing Reg. No.2A-C6-120/121/122   | No   | 7        |                 |        |
| 2.H3.5.43 | H3   | 20.021 c) |           | Roof slab inlet ventilator as per drawing Reg. No.2A-C6-123/124   | No   | 7        |                 |        |
| 2.H3.5.44 | H3   | 20.021 c) |           | Roof slab outlet ventilator as per drawing Reg. No.2A-C6-123/124  | No   | 7        |                 |        |
| 2.H3.5.45 | H3   | 20.021 c) |           | 110mm diam uPVC pipe cast into concrete wall for the sump   | No   | 7        |                 |        |
| 2.H3.5.46 | H3   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 700mm | no   | 7        |                 |        |
| 2.H3.5.47 | H3   | 20.014    |           | 19mm aggregate/stone  | m3   | 5        |                 |        |
| 2.H3.5.48 | H3   | 20.021 c) |           | Vermin mesh to be applied to opening as per drawing Reg. No. 2A-C6-125  | no   | 14       |                 |        |
|           | H3   |           |           | <b>SPECIFIC ITEMS OF WORK</b>   |      |          |                 |        |
|           | H3   |           |           | <b>SEALING STRIPS, JOINT SEALANT, ETC</b>   |      |          |                 |        |
| 2.H3.5.49 | H3   | 33.014    |           | 15mm Joint sealing not exceeding 300mm high as per drawing Reg. No.2A-C6-125  | m    | 37       |                 |        |
|           | H3   |           |           | <b>CONSTRUCTION OF STONE DRAIN AND EROSION PROTECTION</b>   |      |          |                 |        |
|           | H3   |           |           | <b>Foundation trench excavation and backfilling</b>   |      |          |                 |        |
| 2.H3.5.50 | H3   | 21.001(b) |           | In all other classes of material  | m3   | 5        |                 |        |
| 2.H3.5.51 | H3   | 21.002    |           | Surface preparation for bedding the gabions   | m2   | 5        |                 |        |
| 2.H3.5.52 | H3   | 21.005    |           | Geotextile fabric (type and grade indicated on the Drawings)  | m2   | 40       |                 |        |
|           |      |           |           |   |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           |      |           |           |   |      |          | Brought Forward |        |
|           | H3   |           |           | <b>SINGLE SCOUR VALVE INSTALLATION</b><br><i>(for 900 to 1100mm diam pipeline)</i>  |      |          |                 |        |
|           | H3   |           |           | <b>REFER TO DRAWING 2A-C6-151 and 2A-C6-152</b>   |      |          |                 |        |
|           | H3   |           |           | <b>EARTHWORKS</b>   |      |          |                 |        |
|           | H3   |           |           | <b>ADDITIONAL EXCAVATION IN ALL MATERIALS BEYOND THE TRENCH PAYMENT LINE FOR VALVE CHAMBERS, THRUST BLOCKS, ETC</b>         |      |          |                 |        |
| 2.H3.5.53 | H3   | 9.013     |           | Excavate for valve chambers   | m3   | 128      |                 |        |
| 2.H3.5.54 | H3   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting)     | m3   | 98       |                 |        |
| 2.H3.5.55 | H3   | 9.016     |           | Excavation and disposal of unsuitable/surplus material from trench bottom to temporary stockpile within free haul distance. | m3   | 3        |                 |        |
| 2.H3.5.56 | H3   | 9.020     |           | Compaction of trench bottom (150mm thick)   | m2   | 23       |                 |        |
|           | H3   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H3.5.57 | H3   | 9.023(a)  |           | Between 1km up to and including 3km   | m3   | 33       |                 |        |
| 2.H3.5.58 | H3   | 9.023(b)  |           | Between 3km up to and including 5km   | m3   | 33       |                 |        |
| 2.H3.5.59 | H3   | 9.023(c)  |           | Between 5km up to and including 7km   | m3   | 33       |                 |        |
|           | H3   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>                               |      |          |                 |        |
|           | H3   |           |           | <b>Provision of bed material (G5)</b>   |      |          |                 |        |
| 2.H3.5.60 | H3   | 15.003(c) |           | Material from the nearest borrow pit without screening  | m3   | 4        |                 |        |
|           | H3   |           |           | <b>Provision of cement stabilised soil</b>  |      |          |                 |        |
| 2.H3.5.61 | H3   | 15.003(d) |           | Material from the nearest borrow pit with screening   | m3   | 15       |                 |        |
| 2.H3.5.62 | H3   | 15.003(e) |           | Cement for stabilisation of soil  | m3   | 1        |                 |        |
|           | H3   |           |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>   |      |          |                 |        |
| 2.H3.5.63 | H3   | 15.001    |           | Placing of bedding material   | m3   | 4        |                 |        |
| 2.H3.5.64 | H3   | 15.002(b) |           | Cement stabilised soil bed and bedding cradle   | m3   | 16       |                 |        |
|           | H3   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H3.5.65 | H3   | 15.010(b) |           | Between 3km up to and including 5km   | m3   | 10       |                 |        |
| 2.H3.5.66 | H3   | 15.010(c) |           | Between 5km up to and including 7km   | m3   | 10       |                 |        |
|           | H3   |           |           | <b>CONSTRUCTION OF EMBANKMENT AND STRUCTURE BACKFILL</b>  |      |          |                 |        |
| 2.H3.5.67 | H3   | 15.014(a) |           | Structure backfilling compacted   | m3   | 94       |                 |        |
| 2.H3.5.68 | H3   | 15.014(a) |           | Embankment backfilling compacted  | m3   | 20       |                 |        |
| 2.H3.5.69 | H3   | 15.014(b) |           | Rockfill processing and compaction  | m3   | 3        |                 |        |
| 2.H3.5.70 | H3   | 15.015    |           | Finishing of slopes   | m2   | 34       |                 |        |
|           | H3   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H3.5.71 | H3   | 15.016(b) |           | Between 3km up to and including 5km   | m3   | 24       |                 |        |
| 2.H3.5.72 | H3   | 15.016(c) |           | Between 5km up to and including 7km   | m3   | 24       |                 |        |
|           |      |           |           |   |      |          | Carried Forward |        |

| Item no.  | Part | Payment    | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|------------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference  |           |   |      |          |                 |        |
|           |      |            |           |   |      |          | Brought Forward |        |
|           | H3   |            |           | <b>CONCRETE WORKS</b>   |      |          |                 |        |
|           | H3   |            |           | <b>ROUGH FORMWORK</b>   |      |          |                 |        |
|           | H3   |            |           | <b>Vertical surfaces</b>  |      |          |                 |        |
| 2.H3.5.73 | H3   | 20.001     |           | Sides of floor slab   | m2   | 6        |                 |        |
| 2.H3.5.74 | H3   | 20.001     |           | Sides of walls  | m2   | 47       |                 |        |
|           | H3   |            |           | <b>SMOOTH FORMWORK</b>  |      |          |                 |        |
|           | H3   |            |           | <b>Horizontal surfaces for visible surface including 20mm chamfers on a exposed corners to:</b> |      |          |                 |        |
| 2.H3.5.75 | H3   | 20.002     |           | Underside of slabs  | m2   | 8        |                 |        |
|           | H3   |            |           | <b>SMOOTH FORMWORK</b>  |      |          |                 |        |
|           | H3   |            |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>   |      |          |                 |        |
| 2.H3.5.76 | H3   | 20.002     |           | Walls   | m2   | 151      |                 |        |
| 2.H3.5.77 | H3   | 20.002     |           | Side of Sump walls  | m2   | 0.5      |                 |        |
| 2.H3.5.78 | H3   | 20.002     |           | Plinths   | m2   | 4        |                 |        |
| 2.H3.5.79 | H3   | 20.005     |           | Narrow widths - Up to 250mm high (roof slabs)   | m    | 24       |                 |        |
|           | H3   |            |           | <b>Box-out holes/Form voids (for sleeves only)</b>  |      |          |                 |        |
|           | H3   |            |           | <b>a) Small, circular, of diameter up to and including 0.35 m</b>                               |      |          |                 |        |
| 2.H3.5.80 | H3   | 20.006 (a) |           | Over 0m deep and up to and including 0.5m deep  | No.  | 2        |                 |        |
|           | H3   |            |           | <b>REINFORCEMENT</b>  |      |          |                 |        |
| 2.H3.5.81 | H3   | 20.007     |           | Steel bars (irrespective of grade or diameter)  | t    | 5.3      |                 |        |
|           | H3   |            |           | <b>CONCRETE</b>   |      |          |                 |        |
|           | H3   |            |           | <b>CONCRETE 15 MPa/19mm in:</b>   |      |          |                 |        |
| 2.H3.5.82 | H3   | 20.011(a)  |           | Blinding layer of 50mm minimum thickness including levelling and floating.                      | m2   | 20       |                 |        |
| 2.H3.5.83 | H3   | 20.011(b)  |           | Mass concrete filling where required by the engineer  | m3   | 1        |                 |        |
| 2.H3.5.84 | H3   | 46.007(b)i |           | 100mm thick granolithic screed laid to fall to direction of sump.                               | m2   | 12       |                 |        |
|           | H3   |            |           | <b>PRESCRIBED MIX CONCRETE, 35MPa/19mm (water retaining)</b>                                    |      |          |                 |        |
| 2.H3.5.85 | H3   | 20.010     |           | Foundations, bases, floor slabs and roof slabs  | m3   | 9        |                 |        |
| 2.H3.5.86 | H3   | 20.010     |           | Plinths (Including grouting between the plinth and the pipes/specials where required)           | m3   | 1        |                 |        |
| 2.H3.5.87 | H3   | 20.010     |           | Walls   | m3   | 25       |                 |        |
|           | H3   |            |           | <b>UNFORMED SURFACE FINISHES</b>  |      |          |                 |        |
| 2.H3.5.88 | H3   | 20.013(a)  |           | Wood floated finish   | m2   | 12       |                 |        |
| 2.H3.5.89 | H3   | 20.013(b)  |           | Steel floated finish  | m2   | 23       |                 |        |
|           |      |            |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | H3   |           |           | <b>MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |                 |        |
|            | H3   |           |           | <b>PN40</b>  |      |          |                 |        |
| 2.H3.5.90  | H3   | 32.003    |           | Item 1   | No   | 1        |                 |        |
| 2.H3.5.91  | H3   | 35.002    |           | Item 2   | No   | 2        |                 |        |
| 2.H3.5.92  | H3   | 32.003    |           | Item 3   | No   | 1        |                 |        |
| 2.H3.5.93  | H3   | 32.003    |           | Item 4   | No   | 1        |                 |        |
| 2.H3.5.94  | H3   | 32.003    |           | Item 5   | No   | 1        |                 |        |
| 2.H3.5.95  | H3   | 32.003    |           | Item 6   | No   | 1        |                 |        |
| 2.H3.5.96  | H3   | 32.003    |           | Item 7   | No   | 1        |                 |        |
| 2.H3.5.97  | H3   | 35.002    |           | Item 8   | No   | 1        |                 |        |
| 2.H3.5.98  | H3   | 32.003    |           | Item 9   | No   | 1        |                 |        |
| 2.H3.5.99  | H3   | 35.002    |           | Item 10  | No   | 1        |                 |        |
|            | H3   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b>   |      |          |                 |        |
|            | H3   |           |           | <b>PN40</b>  |      |          |                 |        |
| 2.H3.5.100 | H3   | 33.004    |           | Item 1   | No   | 1        |                 |        |
| 2.H3.5.101 | H3   | 33.004    |           | Item 2   | No   | 2        |                 |        |
| 2.H3.5.102 | H3   | 33.004    |           | Item 3   | No   | 1        |                 |        |
| 2.H3.5.103 | H3   | 33.004    |           | Item 4   | No   | 1        |                 |        |
| 2.H3.5.104 | H3   | 33.004    |           | Item 5   | No   | 1        |                 |        |
| 2.H3.5.105 | H3   | 33.004    |           | Item 6   | No   | 1        |                 |        |
| 2.H3.5.106 | H3   | 33.004    |           | Item 7   | No   | 1        |                 |        |
| 2.H3.5.107 | H3   | 33.004    |           | Item 8   | No   | 1        |                 |        |
| 2.H3.5.108 | H3   | 33.004    |           | Item 9   | No   | 1        |                 |        |
| 2.H3.5.109 | H3   | 33.004    |           | Item 10  | No   | 1        |                 |        |
|            | H3   |           |           | <b>ITEMS CAST OR BUILT INTO CONCRETE</b>   |      |          |                 |        |
| 2.H3.5.110 | H3   | 33.005    |           | Steel pipe diameter 900mm up to 1500mm   | No   | 2        |                 |        |
| 2.H3.5.111 | H3   | 33.005    |           | Steel pipe diameter 300mm  | No   | 1        |                 |        |
|            | H3   |           |           | <b>SUPPLY AND ERECT PRECAST ELEMENTS</b>   |      |          |                 |        |
|            | H3   |           |           | <b>Refer to Dwg 2A-C6-151 and 2A-C6-152</b>  |      |          |                 |        |
| 2.H3.5.112 | H3   | 20.017    |           | Precast slab Type 1  | No   | 1        |                 |        |
| 2.H3.5.113 | H3   | 20.017    |           | Precast slab Type 2  | No   | 1        |                 |        |
|            | H3   |           |           | <b>ANCILLARY WORKS</b>   |      |          |                 |        |
| 2.H3.5.114 | H3   | 24.008    |           | Ladders, complete and installed as per drawing Reg. No.2A-C6-126   | No   | 2        |                 |        |
| 2.H3.5.115 | H3   | 24.010    |           | Manhole cover and lids, complete and installed as per drawing Reg. No.2A-C6-120/121/122  | No   | 2        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H3.5.116 | H3   | 20.021 c) |           | Roof slab inlet ventilator as per drawing Reg. No.2A-C6-123/124  | No   | 1        |                 |        |
| 2.H3.5.117 | H3   | 20.021 c) |           | Roof slab outlet ventilator as per drawing Reg. No.2A-C6-123/124   | No   | 1        |                 |        |
| 2.H3.5.118 | H3   | 20.021 c) |           | Steel bars as per drawing Reg. No.2A-C6-125  | No   | 1        |                 |        |
| 2.H3.5.119 | H3   | 20.021 c) |           | 160mm diam uPVC pipe cast into concrete wall for the sump  | No   | 2        |                 |        |
| 2.H3.5.120 | H3   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 200mm        | No   | 1        |                 |        |
| 2.H3.5.121 | H3   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 1118mm       | No   | 2        |                 |        |
| 2.H3.5.122 | H3   | 20.021 c) |           | Sleeves to be grouted after the installation of cables to ensure no seepage 160mm diam x 0.3mm thick   | No   | 2        |                 |        |
| 2.H3.5.123 | H3   | 20.021 c) |           | Drilling for dowels and including grouting in of dowels, per one chamber complete, as per drawing 2A-C6-125. (Dowel material included in 20.007) | No   | 1        |                 |        |
| 2.H3.5.124 | H3   | 20.021 c) |           | 10mm Neoprene, as per drawing 2A-C6-125  | m²   | 1        |                 |        |
|            | H3   |           |           | <b>SPECIFIC ITEMS OF WORK</b>  |      |          |                 |        |
|            | H3   |           |           | <b>SEALING STRIPS, JOINT SEALANT, ETC</b>  |      |          |                 |        |
| 2.H3.5.125 | H3   | 33.014    |           | 15mm Joint sealing not exceeding 300mm high as per drawing Reg. No.2A-C6-125   | m    | 9        |                 |        |
|            | H3   |           |           | <b>CONSTRUCTION OF STONE DRAIN AND EROSION PROTECTION</b>  |      |          |                 |        |
|            | H3   |           |           | <b>Foundation trench excavation and backfilling</b>  |      |          |                 |        |
| 2.H3.5.126 | H3   | 21.001(b) |           | In all other classes of material   | m3   | 29       |                 |        |
| 2.H3.5.127 | H3   | 21.002    |           | Surface preparation for bedding the gabions  | m2   | 25       |                 |        |
| 2.H3.5.128 | H3   | 21.005    |           | Geotextile fabric (type and grade indicated on the Drawings)   | m2   | 24       |                 |        |
| 2.H3.5.129 | H3   | 21.003(a) |           | Galvanised gabions cages<br>(Refer to drawings for dimentions)   | m3   | 4        |                 |        |
| 2.H3.5.130 | H3   | 21.003(c) |           | Galvanised gabions mattresses<br>(Refer to drawings for dimentions)  | m3   | 3        |                 |        |
| 2.H3.5.131 | H3   | 27.009    |           | Rip-rap  | m3   | 5        |                 |        |
|            | H3   |           |           | <b>SCOUR VALVE, ISOLATING VALVE, AND AIR VALVE INSTALLATION</b><br>(for 900 to 1100mm diam pipeline)   |      |          |                 |        |
|            | H3   |           |           | <b>REFER TO DRAWING 2A-C6-162, 2A-C6-163 and 2A-C6-164</b>   |      |          |                 |        |
|            | H3   |           |           | <b>EARTHWORKS</b>  |      |          |                 |        |
|            | H3   |           |           | <b>ADDITIONAL EXCAVATION IN ALL MATERIALS BEYOND THE TRENCH PAYMENT LINE FOR VALVE CHAMBERS, THRUST BLOCKS, ETC</b>                              |      |          |                 |        |
| 2.H3.5.132 | H3   | 9.013     |           | Excavate for valve chambers  | m3   | 171      |                 |        |
| 2.H3.5.133 | H3   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting)                          | m3   | 52       |                 |        |
| 2.H3.5.134 | H3   | 9.016     |           | Excavation and disposal of unsuitable/surplus material from trench bottom to temporary stockpile within free haul distance.                      | m3   | 5        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            |      |           |           |   |      |          | Brought Forward |        |
| 2.H3.5.135 | H3   | 9.020     |           | Compaction of trench bottom (150mm thick)   | m2   | 51       |                 |        |
|            | H3   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H3.5.136 | H3   | 9.023(a)  |           | Between 1km up to and including 3km   | m3   | 33       |                 |        |
| 2.H3.5.137 | H3   | 9.023(b)  |           | Between 3km up to and including 5km   | m3   | 33       |                 |        |
| 2.H3.5.138 | H3   | 9.023(c)  |           | Between 5km up to and including 7km   | m3   | 33       |                 |        |
|            | H3   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>   |      |          |                 |        |
|            | H3   |           |           | <b>Provision of bed material (G5)</b>   |      |          |                 |        |
| 2.H3.5.139 | H3   | 15.003(c) |           | Material from the nearest borrow pit without screening  | m3   | 8        |                 |        |
|            | H3   |           |           | <b>Provision of cement stabilised soil</b>  |      |          |                 |        |
| 2.H3.5.140 | H3   | 15.003(d) |           | Material from the nearest borrow pit with screening   | m3   | 20       |                 |        |
| 2.H3.5.141 | H3   | 15.003(e) |           | Cement for stabilisation of soil  | m3   | 1        |                 |        |
|            | H3   |           |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>                   |      |          |                 |        |
| 2.H3.5.142 | H3   | 15.001    |           | Placing of bedding material   | m3   | 8        |                 |        |
| 2.H3.5.143 | H3   | 15.002(b) |           | Cement stabilised soil bed and bedding cradle   | m3   | 21       |                 |        |
|            | H3   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H3.5.144 | H3   | 15.010(b) |           | Between 3km up to and including 5km   | m3   | 15       |                 |        |
| 2.H3.5.145 | H3   | 15.010(c) |           | Between 5km up to and including 7km   | m3   | 15       |                 |        |
|            | H3   |           |           | <b>CONSTRUCTION OF EMBANKMENT AND STRUCTURE BACKFILL</b>  |      |          |                 |        |
| 2.H3.5.146 | H3   | 15.014(a) |           | Structure backfilling compacted   | m3   | 87       |                 |        |
| 2.H3.5.147 | H3   | 15.014(a) |           | Embankment backfilling compacted  | m3   | 26       |                 |        |
| 2.H3.5.148 | H3   | 15.014(b) |           | Rockfill processing and compaction  | m3   | 5        |                 |        |
| 2.H3.5.149 | H3   | 15.015    |           | Finishing of slopes   | m2   | 44       |                 |        |
|            | H3   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H3.5.150 | H3   | 15.016(b) |           | Between 3km up to and including 5km   | m3   | 2        |                 |        |
| 2.H3.5.151 | H3   | 15.016(c) |           | Between 5km up to and including 7km   | m3   | 2        |                 |        |
|            | H3   |           |           | <b>CONCRETE WORKS</b>   |      |          |                 |        |
|            | H3   |           |           | <b>ROUGH FORMWORK</b>   |      |          |                 |        |
|            | H3   |           |           | <b>Vertical surfaces</b>  |      |          |                 |        |
| 2.H3.5.152 | H3   | 20.001    |           | Sides of floor slab   | m2   | 9        |                 |        |
| 2.H3.5.153 | H3   | 20.001    |           | Sides of walls  | m2   | 51       |                 |        |
|            | H3   |           |           | <b>SMOOTH FORMWORK</b>  |      |          |                 |        |
|            | H3   |           |           | <b>Horizontal surfaces for visible surface including 20mm chamfers on a exposed corners to:</b> |      |          |                 |        |
| 2.H3.5.154 | H3   | 20.002    |           | Underside of slabs  | m2   | 13       |                 |        |
|            |      |           |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment    | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|------------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference  |           |  |      |          |                 |        |
|            |      |            |           |  |      |          | Brought Forward |        |
|            | H3   |            |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|            | H3   |            |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H3.5.155 | H3   | 20.002     |           | Walls  | m2   | 180      |                 |        |
| 2.H3.5.156 | H3   | 20.002     |           | Side of Sump walls   | m2   | 0.5      |                 |        |
| 2.H3.5.157 | H3   | 20.002     |           | Plinths  | m2   | 4        |                 |        |
| 2.H3.5.158 | H3   | 20.005     |           | Narrow widths - Up to 250mm high (roof slabs)  | m    | 66       |                 |        |
| 2.H3.5.159 | H3   | 20.005     |           | Box out 325mm wide x 150mm thick for precast concrete panel placement surface  | m    | 4        |                 |        |
|            | H3   |            |           | <b>Box-out holes/Form voids (for sleeves only)</b>   |      |          |                 |        |
|            | H3   |            |           | <b>a) Small, circular, of diameter up to and including 0.35 m</b>  |      |          |                 |        |
| 2.H3.5.160 | H3   | 20.006 (a) |           | Over 0m deep and up to and including 0.5m deep   | No.  | 2        |                 |        |
|            | H3   |            |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H3.5.161 | H3   | 20.007     |           | Steel bars (irrespective of grade or diameter)   | t    | 8.6      |                 |        |
|            | H3   |            |           | <b>CONCRETE</b>  |      |          |                 |        |
|            | H3   |            |           | <b>CONCRETE 15 MPa/19mm in:</b>  |      |          |                 |        |
| 2.H3.5.162 | H3   | 20.011(a)  |           | Blinding layer of 50mm minimum thickness including levelling and floating.   | m2   | 47       |                 |        |
| 2.H3.5.163 | H3   | 20.011(b)  |           | Mass concrete filling where required by the engineer   | m3   | 1        |                 |        |
| 2.H3.5.164 | H3   | 46.007(b)i |           | 100mm thick granolithic screed laid to fall to direction of sump.  | m2   | 30       |                 |        |
|            | H3   |            |           | <b>PRESCRIBED MIX CONCRETE, 35MPa/19mm (water retaining)</b>   |      |          |                 |        |
| 2.H3.5.165 | H3   | 20.010     |           | Foundations, bases, floor slabs and roof slabs   | m3   | 20       |                 |        |
| 2.H3.5.166 | H3   | 20.010     |           | Plinths (Including grouting between the plinth and the pipes/specials where required)  | m3   | 1        |                 |        |
| 2.H3.5.167 | H3   | 20.010     |           | Walls  | m3   | 36       |                 |        |
|            | H3   |            |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H3.5.168 | H3   | 20.013(a)  |           | Wood floated finish  | m2   | 30       |                 |        |
| 2.H3.5.169 | H3   | 20.013(b)  |           | Steel floated finish   | m2   | 52       |                 |        |
|            | H3   |            |           | <b>MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |                 |        |
|            | H3   |            |           | <b>PN40</b>  |      |          |                 |        |
| 2.H3.5.170 | H3   | 32.003     |           | Item 1   | No   | 2        |                 |        |
| 2.H3.5.171 | H3   | 32.003     |           | Item 2   | No   | 1        |                 |        |
| 2.H3.5.172 | H3   | 32.003     |           | Item 3   | No   | 1        |                 |        |
| 2.H3.5.173 | H3   | 35.002     |           | Item 4   | No   | 1        |                 |        |
| 2.H3.5.174 | H3   | 32.003     |           | Item 5   | No   | 1        |                 |        |
| 2.H3.5.175 | H3   | 32.003     |           | Item 6   | No   | 2        |                 |        |
|            |      |            |           |  |      |          | Carried Forward |        |



| Item no.   | Part | Payment   | Breakdown | Description                                | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H3.5.176 | H3   | 35.002    |           | Item 6A                                    | No   | 1        |                 |        |
| 2.H3.5.177 | H3   | 32.003    |           | Item 6B                                    | No   | 1        |                 |        |
| 2.H3.5.178 | H3   | 35.002    |           | Item 6C                                    | No   | 1        |                 |        |
| 2.H3.5.179 | H3   | 35.002    |           | Item 6D                                    | No   | 1        |                 |        |
| 2.H3.5.180 | H3   | 35.002    |           | Item 6E                                    | No   | 1        |                 |        |
| 2.H3.5.181 | H3   | 32.003    |           | Item 7                                     | No   | 1        |                 |        |
| 2.H3.5.182 | H3   | 35.002    |           | Item 8                                     | No   | 3        |                 |        |
| 2.H3.5.183 | H3   | 32.003    |           | Item 9                                     | No   | 2        |                 |        |
| 2.H3.5.184 | H3   | 32.003    |           | Item 10                                    | No   | 1        |                 |        |
| 2.H3.5.185 | H3   | 32.003    |           | Item 11                                    | No   | 1        |                 |        |
| 2.H3.5.186 | H3   | 32.003    |           | Item 12                                    | No   | 1        |                 |        |
| 2.H3.5.187 | H3   | 32.003    |           | Item 13                                    | No   | 1        |                 |        |
| 2.H3.5.188 | H3   | 32.003    |           | Item 14                                    | No   | 1        |                 |        |
|            | H3   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b> |      |          |                 |        |
|            | H3   |           |           | <b>PN40</b>                                |      |          |                 |        |
| 2.H3.5.189 | H3   | 33.004    |           | Item 1                                     | No   | 2        |                 |        |
| 2.H3.5.190 | H3   | 33.004    |           | Item 2                                     | No   | 1        |                 |        |
| 2.H3.5.191 | H3   | 33.004    |           | Item 3                                     | No   | 1        |                 |        |
| 2.H3.5.192 | H3   | 33.004    |           | Item 4                                     | No   | 1        |                 |        |
| 2.H3.5.193 | H3   | 33.004    |           | Item 5                                     | No   | 1        |                 |        |
| 2.H3.5.194 | H3   | 33.004    |           | Item 6                                     | No   | 2        |                 |        |
| 2.H3.5.195 | H3   | 33.004    |           | Item 6A                                    | No   | 1        |                 |        |
| 2.H3.5.196 | H3   | 33.004    |           | Item 6B                                    | No   | 1        |                 |        |
| 2.H3.5.197 | H3   | 33.004    |           | Item 6C                                    | No   | 1        |                 |        |
| 2.H3.5.198 | H3   | 33.004    |           | Item 6D                                    | No   | 1        |                 |        |
| 2.H3.5.199 | H3   | 33.004    |           | Item 6E                                    | No   | 1        |                 |        |
| 2.H3.5.200 | H3   | 33.004    |           | Item 7                                     | No   | 1        |                 |        |
| 2.H3.5.201 | H3   | 33.004    |           | Item 8                                     | No   | 3        |                 |        |
| 2.H3.5.202 | H3   | 33.004    |           | Item 9                                     | No   | 2        |                 |        |
| 2.H3.5.203 | H3   | 33.004    |           | Item 10                                    | No   | 1        |                 |        |
| 2.H3.5.204 | H3   | 33.004    |           | Item 11                                    | No   | 1        |                 |        |
| 2.H3.5.205 | H3   | 33.004    |           | Item 12                                    | No   | 1        |                 |        |
| 2.H3.5.206 | H3   | 33.004    |           | Item 13                                    | No   | 1        |                 |        |
| 2.H3.5.207 | H3   | 33.004    |           | Item 14                                    | No   | 1        |                 |        |
|            | H3   |           |           | <b>ITEMS CAST OR BUILT INTO CONCRETE</b>   |      |          |                 |        |
| 2.H3.5.208 | H3   | 33.005    |           | Steel pipe diameter 900mm up to 1500mm     | No   | 2        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H3.5.209 | H3   | 33.005    |           | Steel pipe diameter 200mm  | No   | 1        |                 |        |
|            | H3   |           |           | <b>SUPPLY AND ERECT PRECAST ELEMENTS</b>   |      |          |                 |        |
|            | H3   |           |           | <b>Refer to Dwg 2A-C6-162, 2A-C6-163 and 2A-C6-164</b>   |      |          |                 |        |
| 2.H3.5.210 | H3   | 20.017    |           | Precast slab Type 1  | No   | 4        |                 |        |
| 2.H3.5.211 | H3   | 20.017    |           | Precast slab Type 2  | No   | 6        |                 |        |
|            | H3   |           |           | <b>ANCILLARY WORKS</b>   |      |          |                 |        |
| 2.H3.5.212 | H3   | 24.008    |           | Ladders, complete and installed as per drawing Reg. No.2A-C6-126   | No   | 2        |                 |        |
| 2.H3.5.213 | H3   | 24.010    |           | Manhole cover and lids, complete and installed as per drawing Reg. No.2A-C6-120/121/122  | No   | 2        |                 |        |
| 2.H3.5.214 | H3   | 20.021 c) |           | Roof slab inlet ventilator as per drawing Reg. No.2A-C6-123/124  | No   | 1        |                 |        |
| 2.H3.5.215 | H3   | 20.021 c) |           | Roof slab outlet ventilator as per drawing Reg. No.2A-C6-123/124   | No   | 1        |                 |        |
| 2.H3.5.216 | H3   | 20.021 c) |           | Steel bars as per drawing Reg. No.2A-C6-125  | No   | 1        |                 |        |
| 2.H3.5.217 | H3   | 20.021 c) |           | 160mm diam uPVC pipe cast into concrete wall for the sump  | No   | 2        |                 |        |
| 2.H3.5.218 | H3   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 200mm        | No   | 2        |                 |        |
| 2.H3.5.219 | H3   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 914mm        | No   | 2        |                 |        |
| 2.H3.5.220 | H3   | 20.021 c) |           | Sleeves to be grouted after the installation of cables to ensure no seepage 160mm diam x 0.3mm thick   | No   | 2        |                 |        |
| 2.H3.5.221 | H3   | 20.021 c) |           | Portable aluminium steps complete, as per drawing 2A-C6-125  | No   | 1        |                 |        |
| 2.H3.5.222 | H3   | 20.021 c) |           | Drilling for dowels and including grouting in of dowels, per one chamber complete, as per drawing 2A-C6-125. (Dowel material included in 20.007) | No   | 1        |                 |        |
| 2.H3.5.223 | H3   | 20.021 c) |           | 10mm Neoprene, as per drawing 2A-C6-125  | m2   | 1        |                 |        |
|            | H3   |           |           | <b>SPECIFIC ITEMS OF WORK</b>  |      |          |                 |        |
|            | H3   |           |           | <b>SEALING STRIPS, JOINT SEALANT, ETC</b>  |      |          |                 |        |
| 2.H3.5.224 | H3   | 33.014    |           | 15mm Joint sealing not exceeding 300mm high as per drawing Reg. No.2A-C6-125   | m    | 54       |                 |        |
|            | H3   |           |           | <b>CONSTRUCTION OF STONE DRAIN AND EROSION PROTECTION</b>  |      |          |                 |        |
|            | H3   |           |           | <b>Foundation trench excavation and backfilling</b>  |      |          |                 |        |
| 2.H3.5.225 | H3   | 21.001(b) |           | In all other classes of material   | m3   | 39       |                 |        |
| 2.H3.5.226 | H3   | 21.002    |           | Surface preparation for bedding the gabions  | m2   | 33       |                 |        |
| 2.H3.5.227 | H3   | 21.005    |           | Geotextile fabric (type and grade indicated on the Drawings)   | m2   | 32       |                 |        |
| 2.H3.5.228 | H3   | 21.003(a) |           | Galvanised gabions cages (Refer to drawings for dimentions)  | m3   | 4        |                 |        |
| 2.H3.5.229 | H3   | 21.003(c) |           | Galvanised gabions mattresses (Refer to drawings for dimentions)   | m3   | 5        |                 |        |
| 2.H3.5.230 | H3   | 27.009    |           | Rip-rap  | m3   | 5        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            |      |           |           |   |      |          | Brought Forward |        |
|            | H3   |           |           | <b>FLOW METER INSTALLATION AT OFF-TAKES</b>   |      |          |                 |        |
|            | H3   |           |           | REFER TO DRAWING <b>2A-C6-178</b> and <b>2A-C6-179</b>  |      |          |                 |        |
|            | H3   |           |           | <b>EARTHWORKS</b>   |      |          |                 |        |
|            | H3   |           |           | <b>ADDITIONAL EXCAVATION IN ALL MATERIALS BEYOND THE TRENCH PAYMENT LINE FOR VALVE CHAMBERS. THRUST BLOCKS. ETC</b>         |      |          |                 |        |
| 2.H3.5.231 | H3   | 9.013     |           | Excavate for valve chambers   | m3   | 370      |                 |        |
| 2.H3.5.232 | H3   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting)     | m3   | 245      |                 |        |
| 2.H3.5.233 | H3   | 9.016     |           | Excavation and disposal of unsuitable/surplus material from trench bottom to temporary stockpile within free haul distance. | m3   | 5        |                 |        |
| 2.H3.5.234 | H3   | 9.020     |           | Compaction of trench bottom (150mm thick)   | m2   | 46       |                 |        |
|            | H3   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H3.5.235 | H3   | 9.023(a)  |           | Between 1km up to and including 3km   | m3   | 82       |                 |        |
| 2.H3.5.236 | H3   | 9.023(b)  |           | Between 3km up to and including 5km   | m3   | 82       |                 |        |
| 2.H3.5.237 | H3   | 9.023(c)  |           | Between 5km up to and including 7km   | m3   | 82       |                 |        |
|            | H3   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>                               |      |          |                 |        |
|            | H3   |           |           | <b>Provision of bed material (G5)</b>   |      |          |                 |        |
| 2.H3.5.238 | H3   | 15.003(c) |           | Material from the nearest borrow pit without screening  | m3   | 7        |                 |        |
|            | H3   |           |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>   |      |          |                 |        |
| 2.H3.5.239 | H3   | 15.001    |           | Placing of bedding material   | m3   | 7        |                 |        |
|            | H3   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H3.5.240 | H3   | 15.010(c) |           | Between 5km up to and including 7km   | m3   | 7        |                 |        |
|            | H3   |           |           | <b>CONSTRUCTION OF EMBANKMENT AND STRUCTURE BACKFILL</b>  |      |          |                 |        |
| 2.H3.5.241 | H3   | 15.014(a) |           | Structure backfilling compacted   | m3   | 240      |                 |        |
| 2.H3.5.242 | H3   | 15.014(b) |           | Rockfill processing and compaction  | m3   | 5        |                 |        |
|            | H3   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H3.5.243 | H3   | 15.016(b) |           | Between 3km up to and including 5km   | m3   | 60       |                 |        |
| 2.H3.5.244 | H3   | 15.016(c) |           | Between 5km up to and including 7km   | m3   | 60       |                 |        |
|            | H3   |           |           | <b>CONCRETE WORKS</b>   |      |          |                 |        |
|            | H3   |           |           | <b>ROUGH FORMWORK</b>   |      |          |                 |        |
|            | H3   |           |           | <b>Vertical surfaces</b>  |      |          |                 |        |
| 2.H3.5.245 | H3   | 20.001    |           | Sides of floor slab   | m2   | 10       |                 |        |
| 2.H3.5.246 | H3   | 20.001    |           | Sides of walls  | m2   | 74       |                 |        |
|            |      |           |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment     | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-------------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference   |           |  |      |          |                 |        |
|            |      |             |           |  |      |          | Brought Forward |        |
|            | H3   |             |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|            | H3   |             |           | <b>Horizontal surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H3.5.247 | H3   | 20.002      |           | Underside of slabs   | m2   | 13       |                 |        |
|            | H3   |             |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|            | H3   |             |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H3.5.248 | H3   | 20.002      |           | Walls  | m2   | 237      |                 |        |
| 2.H3.5.249 | H3   | 20.002      |           | Side of Sump walls   | m2   | 1        |                 |        |
| 2.H3.5.250 | H3   | 20.002      |           | Plinths  | m2   | 8        |                 |        |
| 2.H3.5.251 | H3   | 20.005      |           | Narrow widths - Up to 200mm high   | m    | 47       |                 |        |
|            | H3   |             |           | <b>Box-out holes/Form voids (for sleeves only)</b>   |      |          |                 |        |
|            | H3   |             |           | <b>a) Small, circular, of diameter up to and including 0.35 m</b>  |      |          |                 |        |
| 2.H3.5.252 | H3   | 20.006 (a)  |           | Over 0m deep and up to and including 0.5m deep   | No.  | 18       |                 |        |
|            | H3   |             |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H3.5.253 | H3   | 20.007      |           | Steel bars (irrespective of grade or diameter)   | t    | 8.3      |                 |        |
|            | H3   |             |           | <b>CONCRETE</b>  |      |          |                 |        |
|            | H3   |             |           | <b>CONCRETE 15 MPa/19mm in:</b>  |      |          |                 |        |
| 2.H3.5.254 | H3   | 20.011(a)   |           | Blinding layer of 50mm minimum thickness including levelling and floating.   | m2   | 40       |                 |        |
| 2.H3.5.255 | H3   | 20.011(b)   |           | Mass concrete filling where required by the engineer   | m3   | 2        |                 |        |
| 2.H3.5.256 | H3   | 46.007(b)i) |           | 100mm thick granolithic screed laid to fall to direction of sump.  | m2   | 23       |                 |        |
|            | H3   |             |           | <b>PRESCRIBED MIX CONCRETE, 35MPa/19mm (water retaining)</b>   |      |          |                 |        |
| 2.H3.5.257 | H3   | 20.010      |           | Foundations, bases, floor slabs and roof slabs   | m3   | 14       |                 |        |
| 2.H3.5.258 | H3   | 20.010      |           | Plinths (Including grouting between the plinth and the pipes/specials where required)  | m3   | 1        |                 |        |
| 2.H3.5.259 | H3   | 20.010      |           | Walls  | m3   | 40       |                 |        |
|            | H3   |             |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H3.5.260 | H3   | 20.013(a)   |           | Wood floated finish  | m2   | 23       |                 |        |
| 2.H3.5.261 | H3   | 20.013(b)   |           | Steel floated finish   | m2   | 45       |                 |        |
|            | H3   |             |           | <b>MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |                 |        |
|            | H3   |             |           | <b>PN40 - GROOTGELUK</b>   |      |          |                 |        |
| 2.H3.5.262 | H3   | 32.003      |           | Item 1   | No   | 1        |                 |        |
| 2.H3.5.263 | H3   | 32.003      |           | Item 2   | No   | 1        |                 |        |
| 2.H3.5.264 | H3   | 36.8.2(a)   |           | Item 3   | No   | 2        |                 |        |
| 2.H3.5.265 | H3   | 32.003      |           | Item 4   | No   | 2        |                 |        |
|            |      |             |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H3.5.266 | H3   | 32.003    |           | Item 5   | No   | 1        |                 |        |
| 2.H3.5.267 | H3   | 32.003    |           | Item 6   | No   | 1        |                 |        |
| 2.H3.5.268 | H3   | 32.003    |           | Item 7   | No   | 1        |                 |        |
|            | H3   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b>   |      |          |                 |        |
|            | H3   |           |           | <b>PN40 - GROOTGELUK</b>   |      |          |                 |        |
| 2.H3.5.269 | H3   | 33.004    |           | Item 1   | No   | 1        |                 |        |
| 2.H3.5.270 | H3   | 33.004    |           | Item 2   | No   | 1        |                 |        |
| 2.H3.5.271 | H3   | 33.004    |           | Item 3   | No   | 2        |                 |        |
| 2.H3.5.272 | H3   | 33.004    |           | Item 4   | No   | 2        |                 |        |
| 2.H3.5.273 | H3   | 33.004    |           | Item 5   | No   | 1        |                 |        |
| 2.H3.5.274 | H3   | 33.004    |           | Item 6   | No   | 1        |                 |        |
| 2.H3.5.275 | H3   | 33.004    |           | Item 7   | No   | 1        |                 |        |
|            | H3   |           |           | <b>MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |                 |        |
|            | H3   |           |           | <b>PN40 - MATIMBA</b>  |      |          |                 |        |
| 2.H3.5.276 | H3   | 32.003    |           | Item 1   | No   | 1        |                 |        |
| 2.H3.5.277 | H3   | 32.003    |           | Item 2   | No   | 1        |                 |        |
| 2.H3.5.278 | H3   | 36.8.2(a) |           | Item 3   | No   | 2        |                 |        |
| 2.H3.5.279 | H3   | 32.003    |           | Item 4   | No   | 2        |                 |        |
| 2.H3.5.280 | H3   | 32.003    |           | Item 5   | No   | 1        |                 |        |
| 2.H3.5.281 | H3   | 32.003    |           | Item 6   | No   | 1        |                 |        |
| 2.H3.5.282 | H3   | 32.003    |           | Item 7   | No   | 1        |                 |        |
|            | H3   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b>   |      |          |                 |        |
|            | H3   |           |           | <b>PN40 - MATIMBA</b>  |      |          |                 |        |
| 2.H3.5.283 | H3   | 33.004    |           | Item 1   | No   | 1        |                 |        |
| 2.H3.5.284 | H3   | 33.004    |           | Item 2   | No   | 1        |                 |        |
| 2.H3.5.285 | H3   | 33.004    |           | Item 3   | No   | 2        |                 |        |
| 2.H3.5.286 | H3   | 33.004    |           | Item 4   | No   | 2        |                 |        |
| 2.H3.5.287 | H3   | 33.004    |           | Item 5   | No   | 1        |                 |        |
| 2.H3.5.288 | H3   | 33.004    |           | Item 6   | No   | 1        |                 |        |
| 2.H3.5.289 | H3   | 33.004    |           | Item 7   | No   | 1        |                 |        |
|            | H3   |           |           | <b>ITEMS CAST OR BUILT INTO CONCRETE</b>   |      |          |                 |        |
| 2.H3.5.290 | H3   | 33.005    |           | Steel pipe diameter 400mm  | No   | 6        |                 |        |
|            | H3   |           |           | <b>SUPPLY AND ERECT PRECAST ELEMENTS</b>   |      |          |                 |        |
|            | H3   |           |           | <b>Refer to Dwg 2A-C6-178 and 2A-C6-179</b>  |      |          |                 |        |
| 2.H3.5.291 | H3   | 20.017    |           | Precast slab Type 1  | No   | 8        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|----------------|----------|-----------------|--------|
|            |      | Reference |           |  |                |          |                 |        |
|            |      |           |           |  |                |          | Brought Forward |        |
|            | H3   |           |           | <b>ANCILLARY WORKS</b>   |                |          |                 |        |
| 2.H3.5.292 | H3   | 24.008    |           | Ladders, complete and installed as per drawing Reg. No.2A-C6-126   | No             | 4        |                 |        |
| 2.H3.5.293 | H3   | 24.010    |           | Manhole cover and lids, complete and installed as per drawing Reg. No.2A-C6-120/121/122  | No             | 4        |                 |        |
| 2.H3.5.294 | H3   | 20.021 c) |           | Roof slab inlet ventilator as per drawing Reg. No.2A-C6-123/124  | No             | 2        |                 |        |
| 2.H3.5.295 | H3   | 20.021 c) |           | Roof slab outlet ventilator as per drawing Reg. No.2A-C6-123/124   | No             | 2        |                 |        |
| 2.H3.5.296 | H3   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 400mm        | no             | 6        |                 |        |
| 2.H3.5.297 | H3   | 20.021 c) |           | Vermin mesh to be applied to opening as per drawing Reg. No. 2A-C6-125   | no             | 4        |                 |        |
| 2.H3.5.298 | H3   | 20.021 c) |           | Sleeves to be grouted after the installation of cables to ensure no seepage 160mm diam x 0.3mm thick   | no             | 18       |                 |        |
| 2.H3.5.299 | H3   | 20.021 c) |           | Drilling for dowels and including grouting in of dowels, per one chamber complete, as per drawing 2A-C6-125. (Dowel material included in 20.007) | no             | 2        |                 |        |
| 2.H3.5.300 | H3   | 20.021 c) |           | 10mm Neoprene, as per drawing 2A-C6-125  | m <sup>2</sup> | 2        |                 |        |
|            | H3   |           |           | <b>SPECIFIC ITEMS OF WORK</b>  |                |          |                 |        |
|            | H3   |           |           | <b>SEALING STRIPS, JOINT SEALANT, ETC</b>  |                |          |                 |        |
| 2.H3.5.301 | H3   | 33.014    |           | 15mm Joint sealing not exceeding 300mm high as per drawing Reg. No.2A-C6-125   | m              | 32       |                 |        |
|            | H3   |           |           | <b>MATIMBA &amp; GROOTGELUK OFF-TAKES (Off-take A)</b>   |                |          |                 |        |
|            | H3   |           |           | <b>REFER TO DRAWING 2H-C5-030, 2H-C5-031, 2H-C5-032, 2H-C5-033, 2H-C5-034, 2H-C5-035 and 2H-C5-036</b>   |                |          |                 |        |
|            | H3   |           |           | <b>EARTHWORKS</b>  |                |          |                 |        |
|            | H3   |           |           | <b>ADDITIONAL EXCAVATION IN ALL MATERIALS BEYOND THE TRENCH PAYMENT LINE FOR VALVE CHAMBERS. THRUST BLOCKS. ETC</b>                              |                |          |                 |        |
| 2.H3.5.302 | H3   | 9.013     |           | Excavate for valve chambers  | m3             | 783      |                 |        |
| 2.H3.5.303 | H3   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting)                          | m3             | 520      |                 |        |
| 2.H3.5.304 | H3   | 9.016     |           | Excavation and disposal of unsuitable/surplus material from trench bottom to temporary stockpile within free haul distance.                      | m3             | 12       |                 |        |
| 2.H3.5.305 | H3   | 9.020     |           | Compaction of trench bottom (150mm thick)  | m2             | 170      |                 |        |
|            | H3   |           |           | <b>OVERHAUL</b>  |                |          |                 |        |
| 2.H3.5.306 | H3   | 9.023(a)  |           | Between 1km up to and including 3km  | m3             | 196      |                 |        |
| 2.H3.5.307 | H3   | 9.023(b)  |           | Between 3km up to and including 5km  | m3             | 196      |                 |        |
| 2.H3.5.308 | H3   | 9.023(c)  |           | Between 5km up to and including 7km  | m3             | 196      |                 |        |
|            | H3   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>  |                |          |                 |        |
|            | H3   |           |           | <b>Provision of bed material (G5)</b>  |                |          |                 |        |
| 2.H3.5.309 | H3   | 15.003(c) |           | Material from the nearest borrow pit without screening   | m3             | 26       |                 |        |
|            |      |           |           |  |                |          | Carried Forward |        |

| Item no.   | Part | Payment    | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|------------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference  |           |   |      |          |                 |        |
|            |      |            |           |   |      |          | Brought Forward |        |
|            | H3   |            |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>                   |      |          |                 |        |
| 2.H3.5.310 | H3   | 15.001     |           | Placing of bedding material   | m3   | 26       |                 |        |
|            | H3   |            |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H3.5.311 | H3   | 15.010(c)  |           | Between 5km up to and including 7km   | m3   | 26       |                 |        |
|            | H3   |            |           | <b>CONSTRUCTION OF EMBANKMENT AND STRUCTURE BACKFILL</b>  |      |          |                 |        |
| 2.H3.5.312 | H3   | 15.014(a)  |           | Structure backfilling compacted   | m3   | 197      |                 |        |
| 2.H3.5.313 | H3   | 15.014(b)  |           | Rockfill processing and compaction  | m3   | 12       |                 |        |
|            | H3   |            |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H3.5.314 | H3   | 15.016(b)  |           | Between 3km up to and including 5km   | m3   | 6        |                 |        |
| 2.H3.5.315 | H3   | 15.016(c)  |           | Between 5km up to and including 7km   | m3   | 6        |                 |        |
|            | H3   |            |           | <b>CONCRETE WORKS</b>   |      |          |                 |        |
|            | H3   |            |           | <b>ROUGH FORMWORK</b>   |      |          |                 |        |
|            | H3   |            |           | <b>Vertical surfaces</b>  |      |          |                 |        |
| 2.H3.5.316 | H3   | 20.001     |           | Sides of floor slab   | m2   | 21       |                 |        |
| 2.H3.5.317 | H3   | 20.001     |           | Sides of walls  | m2   | 95       |                 |        |
|            | H3   |            |           | <b>SMOOTH FORMWORK</b>  |      |          |                 |        |
|            | H3   |            |           | <b>Horizontal surfaces for visible surface including 20mm chamfers on a exposed corners to:</b> |      |          |                 |        |
| 2.H3.5.318 | H3   | 20.002     |           | Underside of shaped beams   | m2   | 17       |                 |        |
|            | H3   |            |           | <b>SMOOTH FORMWORK</b>  |      |          |                 |        |
|            | H3   |            |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>   |      |          |                 |        |
| 2.H3.5.319 | H3   | 20.002     |           | Walls   | m2   | 271      |                 |        |
| 2.H3.5.320 | H3   | 20.002     |           | Side of Sump walls  | m2   | 0.5      |                 |        |
| 2.H3.5.321 | H3   | 20.002     |           | Plinths   | m2   | 21       |                 |        |
| 2.H3.5.322 | H3   | 20.002     |           | Side of shaped beams  | m2   | 17       |                 |        |
| 2.H3.5.323 | H3   | 20.002     |           | Columns   | m2   | 28       |                 |        |
|            | H3   |            |           | <b>Box-out holes/Form voids (for sleeves only)</b>  |      |          |                 |        |
|            | H3   |            |           | <b>a) Small, circular, of diameter up to and including 0.35 m</b>                               |      |          |                 |        |
| 2.H3.5.324 | H3   | 20.006 (a) |           | Over 0m deep and up to and including 0.5m deep  | No.  | 12       |                 |        |
|            | H3   |            |           | <b>REINFORCEMENT</b>  |      |          |                 |        |
| 2.H3.5.325 | H3   | 20.007     |           | Steel bars (irrespective of grade or diameter)  | t    | 22.2     |                 |        |
|            | H3   |            |           | <b>CONCRETE</b>   |      |          |                 |        |
|            | H3   |            |           | <b>CONCRETE 15 MPa/19mm in:</b>   |      |          |                 |        |
| 2.H3.5.326 | H3   | 20.011(a)  |           | Blinding layer of 50mm minimum thickness including levelling and floating.                      | m2   | 162      |                 |        |
|            |      |            |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment    | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|------------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference  |           |  |      |          |                 |        |
|            |      |            |           |  |      |          | Brought Forward |        |
| 2.H3.5.327 | H3   | 20.011(b)  |           | Mass concrete filling where required by the engineer   | m3   | 1        |                 |        |
| 2.H3.5.328 | H3   | 46.007(b)i |           | 100mm thick granolithic screed laid to fall to direction of sump.  | m2   | 124      |                 |        |
|            | H3   |            |           | <b>PRESCRIBED MIX CONCRETE, 35MPa/19mm (water retaining)</b>   |      |          |                 |        |
| 2.H3.5.329 | H3   | 20.010     |           | Foundations, bases, floor slabs and roof slabs   | m3   | 65       |                 |        |
| 2.H3.5.330 | H3   | 20.010     |           | Plinths (Including grouting between the plinth and the pipes/specials where required)  | m3   | 3        |                 |        |
| 2.H3.5.331 | H3   | 20.010     |           | Walls  | m3   | 73       |                 |        |
| 2.H3.5.332 | H3   | 20.010     |           | Beams (precast panel supports)   | m3   | 4        |                 |        |
| 2.H3.5.333 | H3   | 20.010     |           | Columns  | m3   | 3        |                 |        |
|            | H3   |            |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H3.5.334 | H3   | 20.013(a)  |           | Wood floated finish  | m2   | 124      |                 |        |
| 2.H3.5.335 | H3   | 20.013(b)  |           | Steel floated finish   | m2   | 159      |                 |        |
|            | H3   |            |           | <b>MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |                 |        |
|            | H3   |            |           | <b>PN40</b>  |      |          |                 |        |
| 2.H3.5.336 | H3   | 32.003     |           | Item A1  | No   | 1        |                 |        |
| 2.H3.5.337 | H3   | 32.003     |           | Item A2  | No   | 2        |                 |        |
| 2.H3.5.338 | H3   | 32.003     |           | Item A3  | No   | 1        |                 |        |
| 2.H3.5.339 | H3   | 32.003     |           | Item A4  | No   | 2        |                 |        |
| 2.H3.5.340 | H3   | 32.003     |           | Item B1  | No   | 1        |                 |        |
| 2.H3.5.341 | H3   | 32.003     |           | Item B2  | No   | 2        |                 |        |
| 2.H3.5.342 | H3   | 32.003     |           | Item B3  | No   | 2        |                 |        |
| 2.H3.5.343 | H3   | 35.002     |           | Item B4  | No   | 2        |                 |        |
| 2.H3.5.344 | H3   | 35.002     |           | Item B5  | No   | 2        |                 |        |
| 2.H3.5.345 | H3   | 32.003     |           | Item B6  | No   | 6        |                 |        |
| 2.H3.5.346 | H3   | 32.003     |           | Item B7  | No   | 2        |                 |        |
| 2.H3.5.347 | H3   | 32.003     |           | Item B8  | No   | 2        |                 |        |
| 2.H3.5.348 | H3   | 32.003     |           | Item B9  | No   | 2        |                 |        |
| 2.H3.5.349 | H3   | 35.002     |           | Item B10   | No   | 4        |                 |        |
| 2.H3.5.350 | H3   | 32.003     |           | Item B11   | No   | 4        |                 |        |
| 2.H3.5.351 | H3   | 32.003     |           | Item B12   | No   | 2        |                 |        |
| 2.H3.5.352 | H3   | 32.003     |           | Item B13   | No   | 2        |                 |        |
| 2.H3.5.353 | H3   | 35.002     |           | Item B14   | No   | 6        |                 |        |
| 2.H3.5.354 | H3   | 32.003     |           | Item B15   | No   | 6        |                 |        |
| 2.H3.5.355 | H3   | 35.002     |           | Item B16   | No   | 6        |                 |        |
|            |      |            |           |  |      |          | Carried Forward |        |



| Item no.   | Part | Payment   | Breakdown | Description                                | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H3.5.356 | H3   | 32.003    |           | Item C1                                    | No   | 1        |                 |        |
| 2.H3.5.357 | H3   | 32.003    |           | Item C2                                    | No   | 2        |                 |        |
| 2.H3.5.358 | H3   | 32.003    |           | Item C3                                    | No   | 2        |                 |        |
| 2.H3.5.359 | H3   | 35.002    |           | Item C4                                    | No   | 2        |                 |        |
| 2.H3.5.360 | H3   | 35.002    |           | Item C5                                    | No   | 2        |                 |        |
| 2.H3.5.361 | H3   | 32.003    |           | Item C6                                    | No   | 6        |                 |        |
| 2.H3.5.362 | H3   | 32.003    |           | Item C7                                    | No   | 2        |                 |        |
| 2.H3.5.363 | H3   | 32.003    |           | Item C8                                    | No   | 2        |                 |        |
| 2.H3.5.364 | H3   | 32.003    |           | Item C9                                    | No   | 2        |                 |        |
| 2.H3.5.365 | H3   | 35.002    |           | Item C10                                   | No   | 4        |                 |        |
| 2.H3.5.366 | H3   | 32.003    |           | Item C11                                   | No   | 4        |                 |        |
| 2.H3.5.367 | H3   | 32.003    |           | Item C12                                   | No   | 2        |                 |        |
| 2.H3.5.368 | H3   | 32.003    |           | Item C13                                   | No   | 2        |                 |        |
| 2.H3.5.369 | H3   | 35.002    |           | Item C14                                   | No   | 6        |                 |        |
| 2.H3.5.370 | H3   | 32.003    |           | Item C15                                   | No   | 6        |                 |        |
| 2.H3.5.371 | H3   | 35.002    |           | Item C16                                   | No   | 6        |                 |        |
|            | H3   |           |           | <b>INSTALLATION OF VALVES AND SPECIALS</b> |      |          |                 |        |
|            | H3   |           |           | <b>PN40</b>                                |      |          |                 |        |
| 2.H3.5.372 | H3   | 33.004    |           | Item A1                                    | No   | 1        |                 |        |
| 2.H3.5.373 | H3   | 33.004    |           | Item A2                                    | No   | 2        |                 |        |
| 2.H3.5.374 | H3   | 33.004    |           | Item A3                                    | No   | 1        |                 |        |
| 2.H3.5.375 | H3   | 33.004    |           | Item A4                                    | No   | 2        |                 |        |
| 2.H3.5.376 | H3   | 33.004    |           | Item B1                                    | No   | 1        |                 |        |
| 2.H3.5.377 | H3   | 33.004    |           | Item B2                                    | No   | 2        |                 |        |
| 2.H3.5.378 | H3   | 33.004    |           | Item B3                                    | No   | 2        |                 |        |
| 2.H3.5.379 | H3   | 33.004    |           | Item B4                                    | No   | 2        |                 |        |
| 2.H3.5.380 | H3   | 33.004    |           | Item B5                                    | No   | 2        |                 |        |
| 2.H3.5.381 | H3   | 33.004    |           | Item B6                                    | No   | 6        |                 |        |
| 2.H3.5.382 | H3   | 33.004    |           | Item B7                                    | No   | 2        |                 |        |
| 2.H3.5.383 | H3   | 33.004    |           | Item B8                                    | No   | 2        |                 |        |
| 2.H3.5.384 | H3   | 33.004    |           | Item B9                                    | No   | 2        |                 |        |
| 2.H3.5.385 | H3   | 33.004    |           | Item B10                                   | No   | 4        |                 |        |
| 2.H3.5.386 | H3   | 33.004    |           | Item B11                                   | No   | 4        |                 |        |
| 2.H3.5.387 | H3   | 33.004    |           | Item B12                                   | No   | 2        |                 |        |
| 2.H3.5.388 | H3   | 33.004    |           | Item B13                                   | No   | 2        |                 |        |
| 2.H3.5.389 | H3   | 33.004    |           | Item B14                                   | No   | 6        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H3.5.390 | H3   | 33.004    |           | Item B15   | No   | 6        |                 |        |
| 2.H3.5.391 | H3   | 33.004    |           | Item B16   | No   | 6        |                 |        |
| 2.H3.5.392 | H3   | 33.004    |           | Item C1  | No   | 1        |                 |        |
| 2.H3.5.393 | H3   | 33.004    |           | Item C2  | No   | 2        |                 |        |
| 2.H3.5.394 | H3   | 33.004    |           | Item C3  | No   | 2        |                 |        |
| 2.H3.5.395 | H3   | 33.004    |           | Item C4  | No   | 2        |                 |        |
| 2.H3.5.396 | H3   | 33.004    |           | Item C5  | No   | 2        |                 |        |
| 2.H3.5.397 | H3   | 33.004    |           | Item C6  | No   | 6        |                 |        |
| 2.H3.5.398 | H3   | 33.004    |           | Item C7  | No   | 2        |                 |        |
| 2.H3.5.399 | H3   | 33.004    |           | Item C8  | No   | 2        |                 |        |
| 2.H3.5.400 | H3   | 33.004    |           | Item C9  | No   | 2        |                 |        |
| 2.H3.5.401 | H3   | 33.004    |           | Item C10   | No   | 4        |                 |        |
| 2.H3.5.402 | H3   | 33.004    |           | Item C11   | No   | 4        |                 |        |
| 2.H3.5.403 | H3   | 33.004    |           | Item C12   | No   | 2        |                 |        |
| 2.H3.5.404 | H3   | 33.004    |           | Item C13   | No   | 2        |                 |        |
| 2.H3.5.405 | H3   | 33.004    |           | Item C14   | No   | 6        |                 |        |
| 2.H3.5.406 | H3   | 33.004    |           | Item C15   | No   | 6        |                 |        |
| 2.H3.5.407 | H3   | 33.004    |           | Item C16   | No   | 6        |                 |        |
|            | H3   |           |           | <b>ITEMS CAST OR BUILT INTO CONCRETE</b>   |      |          |                 |        |
| 2.H3.5.408 | H3   | 33.005    |           | Steel pipe diameter 300mm  | No   | 4        |                 |        |
| 2.H3.5.409 | H3   | 33.005    |           | Steel pipe diameter 400mm  | No   | 4        |                 |        |
|            | H3   |           |           | <b>SUPPLY AND ERECT PRECAST ELEMENTS</b>   |      |          |                 |        |
|            | H3   |           |           | <b>Refer to Dwg 2H-C5-030, 2H-C5-031, 2H-C5-032, 2H-C5-033, 2H-C5-034, 2H-C5-035 and 2H-C5-036</b> |      |          |                 |        |
| 2.H3.5.410 | H3   | 20.017    |           | Precast slab Type 1  | No   | 44       |                 |        |
| 2.H3.5.411 | H3   | 20.017    |           | Precast slab Type 2  | No   | 4        |                 |        |
| 2.H3.5.412 | H3   | 20.017    |           | Precast slab Type 3  | No   | 2        |                 |        |
| 2.H3.5.413 | H3   | 20.017    |           | Precast slab Type 4  | No   | 12       |                 |        |
| 2.H3.5.414 | H3   | 20.017    |           | Precast slab Type 5  | No   | 1        |                 |        |
| 2.H3.5.415 | H3   | 20.017    |           | Precast slab Type 6  | No   | 1        |                 |        |
| 2.H3.5.416 | H3   | 20.017    |           | Precast slab Type 7  | No   | 1        |                 |        |
| 2.H3.5.417 | H3   | 20.017    |           | Precast slab Type 8  | No   | 1        |                 |        |
|            | H3   |           |           | <b>ANCILLARY WORKS</b>   |      |          |                 |        |
| 2.H3.5.418 | H3   | 24.008    |           | Ladders, complete and installed as per drawing Reg. No.2A-C6-126                                   | No   | 4        |                 |        |
| 2.H3.5.419 | H3   | 24.010    |           | Manhole cover and lids, complete and installed as per drawing Reg. No.2A-C6-120/121/122            | No   | 4        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H3.5.420 | H3   | 20.021 c) |           | Roof slab inlet ventilator as per drawing Reg. No.2A-C6-123/124  | No   | 3        |                 |        |
| 2.H3.5.421 | H3   | 20.021 c) |           | Roof slab outlet ventilator as per drawing Reg. No.2A-C6-123/124   | No   | 3        |                 |        |
| 2.H3.5.422 | H3   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 300mm        | No   | 4        |                 |        |
| 2.H3.5.423 | H3   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. 2A-C6-125 ("Pipe/Wall Interface Detail") for pipe sizes 400mm        | No   | 4        |                 |        |
| 2.H3.5.424 | H3   | 20.021 c) |           | Sleeves to be grouted after the installation of cables to ensure no seepage 160mm diam x 0.3mm thick   | No   | 12       |                 |        |
| 2.H3.5.425 | H3   | 20.021 c) |           | Portable aluminium steps complete, as per drawing 2A-C6-125  | No   | 2        |                 |        |
| 2.H3.5.426 | H3   | 20.021 c) |           | Drilling for dowels and including grouting in of dowels, per one chamber complete, as per drawing 2A-C6-125. (Dowel material included in 20.007) | No   | 1        |                 |        |
| 2.H3.5.427 | H3   | 20.021 c) |           | 10mm Neoprene, as per drawing 2A-C6-125  | m²   | 3        |                 |        |
|            | H3   |           |           | <b>SPECIFIC ITEMS OF WORK</b>  |      |          |                 |        |
|            | H3   |           |           | <b>SEALING STRIPS, JOINT SEALANT, ETC</b>  |      |          |                 |        |
| 2.H3.5.428 | H3   | 33.014    |           | 15mm Joint sealing not exceeding 300mm high as per drawing Reg. No.2A-C6-125   | m    | 240      |                 |        |
|            | H3   |           |           | <b>SECURITY FENCING</b>  |      |          |                 |        |
|            | H3   |           |           | <b>SITE CLEARANCE</b>  |      |          |                 |        |
|            | H3   |           |           | <b>CLEARING THE FENCE LINE, 1M WIDE STRIP</b>  |      |          |                 |        |
| 2.H3.5.429 | H3   | 6.001     |           | Outer Security fencing   | m    | 150      |                 |        |
|            | H3   |           |           | <b>SECURITY FENCING</b>  |      |          |                 |        |
|            | H3   |           |           | <b>SUPPLY AND ERECT NEW FENCING MATERIAL FOR NEW FENCES.</b>   |      |          |                 |        |
| 2.H3.5.430 | H3   | 6.002(g)  |           | Outer Security fencing as per drawing 167 766/13, 167 768/13 and 167 769/13  | m    | 150      |                 |        |
|            | H3   |           |           | <b>SUPPLY AND ERECT PERMANENT GATES</b>  |      |          |                 |        |
| 2.H3.5.431 | H3   | 6.005(e)  |           | Outer Security gate as per drawing 167 767/13, 167 768/13 and 167 769/13   | No.  | 1        |                 |        |
|            | H3   |           |           | <b>FARMER OFF-TAKE</b>   |      |          |                 |        |
|            | H3   |           |           | <b>REFER TO DRAWING 2A-C6-190 and 2A-C6-191</b>  |      |          |                 |        |
|            | H3   |           |           | <b>EARTHWORKS</b>  |      |          |                 |        |
|            | H3   |           |           | <b>ADDITIONAL EXCAVATION IN ALL MATERIALS BEYOND THE TRENCH PAYMENT LINE FOR VALVE CHAMBERS. THRUST BLOCKS. ETC</b>                              |      |          |                 |        |
| 2.H3.5.432 | H3   | 9.013     |           | Excavate for valve chambers  | m3   | 55       |                 |        |
|            | H3   |           |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>  |      |          |                 |        |
|            | H3   |           |           | <b>Provision of cement stabilised soil</b>   |      |          |                 |        |
| 2.H3.5.433 | H3   | 15.003(d) |           | Material from the nearest borrow pit with screening  | m3   | 28       |                 |        |
| 2.H3.5.434 | H3   | 15.003(e) |           | Cement for stabilisation of soil   | m3   | 2        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment    | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|------------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference  |           |   |      |          |                 |        |
|            |      |            |           |   |      |          | Brought Forward |        |
|            | H3   |            |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>                   |      |          |                 |        |
| 2.H3.5.435 | H3   | 15.002(b)  |           | Cement stabilised soil bed and bedding cradle   | m3   | 30       |                 |        |
|            | H3   |            |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H3.5.436 | H3   | 15.010(a)  |           | Between 1km up to and including 3km   | m3   | 10       |                 |        |
| 2.H3.5.437 | H3   | 15.010(b)  |           | Between 3km up to and including 5km   | m3   | 10       |                 |        |
| 2.H3.5.438 | H3   | 15.010(c)  |           | Between 5km up to and including 7km   | m3   | 10       |                 |        |
|            | H3   |            |           | <b>CONSTRUCTION OF EMBANKMENT AND STRUCTURE BACKFILL</b>  |      |          |                 |        |
| 2.H3.5.439 | H3   | 15.014(a)  |           | Structure backfilling compacted   | m3   | 60       |                 |        |
| 2.H3.5.440 | H3   | 15.014(a)  |           | Embankment backfilling compacted  | m3   | 34       |                 |        |
| 2.H3.5.441 | H3   | 15.015     |           | Finishing of slopes   | m2   | 68       |                 |        |
|            | H3   |            |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H3.5.442 | H3   | 15.016(b)  |           | Between 3km up to and including 5km   | m3   | 19       |                 |        |
| 2.H3.5.443 | H3   | 15.016(c)  |           | Between 5km up to and including 7km   | m3   | 19       |                 |        |
|            | H3   |            |           | <b>CONCRETE WORKS</b>   |      |          |                 |        |
|            | H3   |            |           | <b>ROUGH FORMWORK</b>   |      |          |                 |        |
|            | H3   |            |           | <b>Vertical surfaces</b>  |      |          |                 |        |
| 2.H3.5.444 | H3   | 20.001     |           | Sides of floor slab   | m2   | 13       |                 |        |
| 2.H3.5.445 | H3   | 20.001     |           | Sides of walls  | m2   | 46       |                 |        |
|            | H3   |            |           | <b>SMOOTH FORMWORK</b>  |      |          |                 |        |
|            | H3   |            |           | <b>Horizontal surfaces for visible surface including 20mm chamfers on a exposed corners to:</b> |      |          |                 |        |
| 2.H3.5.446 | H3   | 20.002     |           | Underside of slabs  | m2   | 9        |                 |        |
|            | H3   |            |           | <b>SMOOTH FORMWORK</b>  |      |          |                 |        |
|            | H3   |            |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>   |      |          |                 |        |
| 2.H3.5.447 | H3   | 20.002     |           | Walls   | m2   | 120      |                 |        |
| 2.H3.5.448 | H3   | 20.002     |           | Side of Sump walls  | m2   | 1        |                 |        |
| 2.H3.5.449 | H3   | 20.005     |           | Narrow widths - Up to 200mm high  | m    | 32       |                 |        |
|            | H3   |            |           | <b>Box-out holes/Form voids (for sleeves only)</b>  |      |          |                 |        |
|            | H3   |            |           | <b>a) Small, circular, of diameter up to and including 0.35 m</b>                               |      |          |                 |        |
| 2.H3.5.450 | H3   | 20.006 (a) |           | Over 0m deep and up to and including 0.5m deep  | No.  | 8        |                 |        |
|            | H3   |            |           | <b>REINFORCEMENT</b>  |      |          |                 |        |
| 2.H3.5.451 | H3   | 20.007     |           | Steel bars (irrespective of grade or diameter)  | t    | 5.1      |                 |        |
|            | H3   |            |           | <b>CONCRETE</b>   |      |          |                 |        |
|            | H3   |            |           | <b>CONCRETE 15 MPa/19mm in:</b>   |      |          |                 |        |
| 2.H3.5.452 | H3   | 20.011(a)  |           | Blinding layer of 50mm minimum thickness including levelling and floating.                      | m2   | 41       |                 |        |
|            |      |            |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment    | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|------------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference  |           |  |      |          |                 |        |
|            |      |            |           |  |      |          | Brought Forward |        |
| 2.H3.5.453 | H3   | 20.011(b)  |           | Mass concrete filling where required by the engineer   | m3   | 2        |                 |        |
| 2.H3.5.454 | H3   | 46.007(b)i |           | 100mm thick granolithic screed laid to fall to direction of sump.  | m2   | 20       |                 |        |
|            | H3   |            |           | <b>PRESCRIBED MIX CONCRETE, 35MPa/19mm (water retaining)</b>   |      |          |                 |        |
| 2.H3.5.455 | H3   | 20.010     |           | Foundations, bases, floor slabs and roof slabs   | m3   | 13       |                 |        |
| 2.H3.5.456 | H3   | 20.010     |           | Walls  | m3   | 21       |                 |        |
|            | H3   |            |           | <b>UNFORMED SURFACE FINISHES</b>   |      |          |                 |        |
| 2.H3.5.457 | H3   | 20.013(a)  |           | Wood floated finish  | m2   | 20       |                 |        |
| 2.H3.5.458 | H3   | 20.013(b)  |           | Steel floated finish   | m2   | 26       |                 |        |
|            | H3   |            |           | <b>MANUFACTURE AND SUPPLY OF PIPES, PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |                 |        |
|            | H3   |            |           | <b>PN40</b>  |      |          |                 |        |
| 2.H3.5.459 | H3   | 32.003     |           | Item 1   | No   | 4        |                 |        |
| 2.H3.5.460 | H3   | 32.003     |           | Item 2   | No   | 4        |                 |        |
| 2.H3.5.461 | H3   | 35.002     |           | Item 3   | No   | 4        |                 |        |
| 2.H3.5.462 | H3   | 32.003     |           | Item 4   | No   | 4        |                 |        |
| 2.H3.5.463 | H3   | 35.002     |           | Item 5   | No   | 4        |                 |        |
| 2.H3.5.464 | H3   | 32.003     |           | Item 6   | No   | 4        |                 |        |
|            | H3   |            |           | <b>INSTALLATION OF VALVES AND SPECIALS</b>   |      |          |                 |        |
|            | H3   |            |           | <b>PN40</b>  |      |          |                 |        |
| 2.H3.5.465 | H3   | 33.004     |           | Item 1   | No   | 4        |                 |        |
| 2.H3.5.466 | H3   | 33.004     |           | Item 2   | No   | 4        |                 |        |
| 2.H3.5.467 | H3   | 33.004     |           | Item 3   | No   | 4        |                 |        |
| 2.H3.5.468 | H3   | 33.004     |           | Item 4   | No   | 4        |                 |        |
| 2.H3.5.469 | H3   | 33.004     |           | Item 5   | No   | 4        |                 |        |
| 2.H3.5.470 | H3   | 33.004     |           | Item 6   | No   | 4        |                 |        |
|            | H3   |            |           | <b>ITEMS CAST OR BUILT INTO CONCRETE</b>   |      |          |                 |        |
| 2.H3.5.471 | H3   | 33.005     |           | Steel pipe diameter 700mm  | No   | 4        |                 |        |
|            | H3   |            |           | <b>SUPPLY AND ERECT PRECAST ELEMENTS</b>   |      |          |                 |        |
|            | H3   |            |           | <b>Refer to Dwg 2A-C6-190 and 2A-C6-191</b>  |      |          |                 |        |
| 2.H3.5.472 | H3   | 20.017     |           | Precast slab Type 1  | No   | 8        |                 |        |
|            | H3   |            |           | <b>ANCILLARY WORKS</b>   |      |          |                 |        |
| 2.H3.5.473 | H3   | 24.008     |           | Ladders, complete and installed as per drawing Reg. No.2A-C6-126   | No   | 4        |                 |        |
| 2.H3.5.474 | H3   | 24.010     |           | Manhole cover and lids, complete and installed as per drawing Reg. No.2A-C6-120/121/122  | No   | 4        |                 |        |
| 2.H3.5.475 | H3   | 20.021 c)  |           | Roof slab inlet ventilator as per drawing Reg. No.2A-C6-123/124  | No   | 4        |                 |        |
|            |      |            |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 2.H3.5.476 | H3   | 20.021 c) |           | Roof slab outlet ventilator as per drawing Reg. No. <b>2A-C6-123/124</b>   | No   | 4        |                 |        |
| 2.H3.5.477 | H3   | 20.021 c) |           | 160mm diam uPVC pipe cast into concrete wall for the sump  | No   | 4        |                 |        |
| 2.H3.5.478 | H3   | 20.021 c) |           | Waterproof between pipe and concrete wall complete, as per drawing Reg. No. <b>2A-C6-125 ("Pipe/Wall Interface Detail")</b> for pipe sizes 700mm | No   | 4        |                 |        |
| 2.H3.5.479 | H3   | 20.021 c) |           | Vermin mesh to be applied to opening as per drawing Reg. No. 2A-C6-125   | no   | 8        |                 |        |
|            | H3   |           |           | <b>SPECIFIC ITEMS OF WORK</b>  |      |          |                 |        |
|            | H3   |           |           | <b>SEALING STRIPS, JOINT SEALANT, ETC</b>  |      |          |                 |        |
| 2.H3.5.480 | H3   | 33.014    |           | 15mm Joint sealing not exceeding 300mm high as per drawing Reg. No. <b>2A-C6-125</b>   | m    | 21       |                 |        |
|            | H3   |           |           | <b>CONSTRUCTION OF STONE DRAIN AND EROSION PROTECTION</b>  |      |          |                 |        |
|            | H3   |           |           | <b>Foundation trench excavation and backfilling</b>  |      |          |                 |        |
| 2.H3.5.481 | H3   | 21.001(b) |           | In all other classes of material   | m3   | 3        |                 |        |
| 2.H3.5.482 | H3   | 21.002    |           | Surface preparation for bedding the gabions  | m2   | 3        |                 |        |
| 2.H3.5.483 | H3   | 21.005    |           | Geotextile fabric (type and grade indicated on the Drawings)   | m2   | 23       |                 |        |
|            | H3   |           |           | <b>PART H3.5: Valve installations and chambers - Carried forward to Summary of Bills</b>   |      |          |                 |        |

| Item no.  | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount  |
|-----------|------|-------------------|-----------|--|------|----------|-----------------|---------|
|           |      |                   |           |  |      |          |                 |         |
|           | H3   |                   |           | <b>PART H3.6: Crossings</b>  |      |          |                 |         |
|           | H3   |                   |           | <b>PIPE JACKING No. 1</b>  |      |          |                 |         |
|           | H3   |                   |           | <b>PIPE JACKING @ CH 96.619 km</b>   |      |          |                 |         |
|           | H3   |                   |           | <b>REFER TO DRAWING NO 2H-C4-076 &amp; 2A-C6-115</b>   |      |          |                 |         |
|           | H3   |                   |           | <b>Design, supply and deliver pipes to be jacked</b>   |      |          |                 |         |
| 2.H3.6.1  | H3   | 10.001            |           | Coal conveyor crossing in 1473mm ND jacked concrete sleeve   | m    | 48       |                 |         |
|           | H3   |                   |           | <b>Jacking of pipes</b>  |      |          |                 |         |
| 2.H3.6.2  | H3   | 10.002            |           | Coal conveyor crossing in 1473mm ND jacked concrete sleeve   | m    | 48       |                 |         |
|           | H3   |                   |           | <b>Excavation for jacking (See Table 10/1 of section 10 of specification)</b>  |      |          |                 |         |
| 2.H3.6.3  | H3   | 10.003            |           | Soft   | m3   | 108      |                 |         |
| 2.H3.6.4  | H3   | 10.003            |           | Intermediate   | m3   | 35       |                 |         |
| 2.H3.6.5  | H3   | 10.003            |           | Hard   | m3   | 20       |                 |         |
| 2.H3.6.6  | H3   | 10.004            |           | Pit excavation (receiving and launching)   | Sum  | 1        |                 |         |
| 2.H3.6.7  | H3   | 10.005            |           | Extra-over items 10.004 for excavation for jacking through unidentified obstructions   | PS   | 1        |                 | 398 380 |
| 2.H3.6.8  | H3   | 10.006            |           | Stabilisation of unstable areas and grouting   | Sum  | 1        |                 |         |
| 2.H3.6.9  | H3   | 10.007            |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |                 |         |
| 2.H3.6.10 | H3   | 10.008            |           | Grouting of annulus  | m3   | 50       |                 |         |
|           | H3   |                   |           | <b>OVERHAUL</b>  |      |          |                 |         |
| 2.H3.6.11 | H3   | 25.018(b)         |           | Between 3km up to and including 5km  | m3   | 162      |                 |         |
| 2.H3.6.12 | H3   | 25.018(c)         |           | Between 5km up to and including 7km  | m3   | 162      |                 |         |
| 2.H3.6.13 | H3   | 25.018(d)         |           | Between 7km up to and including 9km  | m3   | 0        |                 |         |
|           | H3   |                   |           | <b>MISCELLANEOUS</b>   |      |          |                 |         |
| 2.H3.6.14 | H3   | 20.021(c)         |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket | m    | 96       |                 |         |
|           | H3   |                   |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |                 |         |
|           | H3   |                   |           | <b>Temporary traffic-control facilities</b>  |      |          |                 |         |
| 2.H3.6.15 | H3   | 25.007(a)         |           | Flagmen  | sum  | 1        |                 |         |
| 2.H3.6.16 | H3   | 25.007(b)         |           | Road signs   | sum  | 1        |                 |         |
| 2.H3.6.17 | H3   | 25.007(c)         |           | Flicker lights   | sum  | 1        |                 |         |
| 2.H3.6.18 | H3   | 25.007(d)         |           | Delineators  | sum  | 1        |                 |         |
| 2.H3.6.19 | H3   | 25.007(e)         |           | Barricading  | sum  | 1        |                 |         |
| 2.H3.6.20 | H3   | 25.007(f)         |           | Two-way communication devices  | sum  | 1        |                 |         |
| 2.H3.6.21 | H3   | 25.007(g)         |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |                 |         |
| 2.H3.6.22 | H3   | 25.007(h)         |           | All other items not listed above   | sum  | 1        |                 |         |
|           |      |                   |           |  |      |          | Carried Forward |         |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount  |
|-----------|------|-----------|-----------|--|------|----------|-----------------|---------|
|           |      | Reference |           |  |      |          |                 |         |
|           |      |           |           |  |      |          | Brought Forward |         |
|           | H3   |           |           | <b>PIPE JACKING No. 2</b>  |      |          |                 |         |
|           | H3   |           |           | <b>PIPE JACKING @ CH 99.619 km</b>   |      |          |                 |         |
|           | H3   |           |           | <b>REFER TO DRAWING NO 2H-C4-078 &amp; 2A-C6-115</b>   |      |          |                 |         |
|           | H3   |           |           | <b>Design, supply and deliver pipes to be jacked</b>   |      |          |                 |         |
| 2.H3.6.23 | H3   | 10.001    |           | Railway crossing in 1473mm ND jacked concrete sleeve   | m    | 51       |                 |         |
|           | H3   |           |           | <b>Jacking of pipes</b>  |      |          |                 |         |
| 2.H3.6.24 | H3   | 10.002    |           | Railway crossing in 1473mm ND jacked concrete sleeve   | m    | 51       |                 |         |
|           | H3   |           |           | <b>Excavation for jacking (See Table 10/1 of section 10 of specification)</b>  |      |          |                 |         |
| 2.H3.6.25 | H3   | 10.003    |           | Soft   | m3   | 115      |                 |         |
| 2.H3.6.26 | H3   | 10.003    |           | Intermediate   | m3   | 24       |                 |         |
| 2.H3.6.27 | H3   | 10.003    |           | Hard   | m3   | 36       |                 |         |
| 2.H3.6.28 | H3   | 10.004    |           | Pit excavation (receiving and launching)   | Sum  | 1        |                 |         |
| 2.H3.6.29 | H3   | 10.005    |           | Extra-over items 10.004 for excavation for jacking through unidentified obstructions   | PS   | 1        |                 | 398 380 |
| 2.H3.6.30 | H3   | 10.006    |           | Stabilisation of unstable areas and grouting   | Sum  | 1        |                 |         |
| 2.H3.6.31 | H3   | 10.007    |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |                 |         |
| 2.H3.6.32 | H3   | 10.008    |           | Grouting of annulus  | m3   | 54       |                 |         |
|           | H3   |           |           | <b>OVERHAUL</b>  |      |          |                 |         |
| 2.H3.6.33 | H3   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 173      |                 |         |
| 2.H3.6.34 | H3   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 173      |                 |         |
|           | H3   |           |           | <b>MISCELLANEOUS</b>   |      |          |                 |         |
| 2.H3.6.35 | H3   | 20.021(c) |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket | m    | 102      |                 |         |
|           | H3   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |                 |         |
|           | H3   |           |           | <b>Temporary traffic-control facilities</b>  |      |          |                 |         |
| 2.H3.6.36 | H3   | 25.007(a) |           | Flagmen  | sum  | 1        |                 |         |
| 2.H3.6.37 | H3   | 25.007(b) |           | Road signs   | sum  | 1        |                 |         |
| 2.H3.6.38 | H3   | 25.007(c) |           | Flicker lights   | sum  | 1        |                 |         |
| 2.H3.6.39 | H3   | 25.007(d) |           | Delineators  | sum  | 1        |                 |         |
| 2.H3.6.40 | H3   | 25.007(e) |           | Barricading  | sum  | 1        |                 |         |
| 2.H3.6.41 | H3   | 25.007(f) |           | Two-way communication devices  | sum  | 1        |                 |         |
| 2.H3.6.42 | H3   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |                 |         |
| 2.H3.6.43 | H3   | 25.007(h) |           | All other items not listed above   | sum  | 1        |                 |         |
|           |      |           |           |  |      |          | Carried Forward |         |



| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount  |
|-----------|------|-----------|-----------|--|------|----------|-----------------|---------|
|           |      | Reference |           |  |      |          |                 |         |
|           |      |           |           |  |      |          | Brought Forward |         |
|           | H3   |           |           | <b>PIPE JACKING No. 3</b>  |      |          |                 |         |
|           | H3   |           |           | <b>PIPE JACKING @ CH 100.780 km</b>  |      |          |                 |         |
|           | H3   |           |           | <b>REFER TO DRAWING NO 2H-C4-079 &amp; 2A-C6-115</b>   |      |          |                 |         |
|           | H3   |           |           | <b>Design, supply and deliver pipes to be jacked</b>   |      |          |                 |         |
| 2.H3.6.44 | H3   | 10.001    |           | Ash conveyor crossing in 1473mm ND jacked concrete sleeve  | m    | 89       |                 |         |
|           | H3   |           |           | <b>Jacking of pipes</b>  |      |          |                 |         |
| 2.H3.6.45 | H3   | 10.002    |           | Ash conveyor crossing in 1473mm ND jacked concrete sleeve  | m    | 89       |                 |         |
|           | H3   |           |           | <b>Excavation for jacking (See Table 10/1 of section 10 of specification)</b>  |      |          |                 |         |
| 2.H3.6.46 | H3   | 10.003    |           | Soft   | m3   | 250      |                 |         |
| 2.H3.6.47 | H3   | 10.003    |           | Intermediate   | m3   | 21       |                 |         |
| 2.H3.6.48 | H3   | 10.003    |           | Hard   | m3   | 32       |                 |         |
| 2.H3.6.49 | H3   | 10.004    |           | Pit excavation (receiving and launching)   | Sum  | 1        |                 |         |
| 2.H3.6.50 | H3   | 10.005    |           | Extra-over items 10.004 for excavation for jacking through unidentified obstructions   | PS   | 1        |                 | 398 380 |
| 2.H3.6.51 | H3   | 10.006    |           | Stabilisation of unstable areas and grouting   | Sum  | 1        |                 |         |
| 2.H3.6.52 | H3   | 10.007    |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |                 |         |
| 2.H3.6.53 | H3   | 10.008    |           | Grouting of annulus  | m3   | 95       |                 |         |
|           | H3   |           |           | <b>OVERHAUL</b>  |      |          |                 |         |
| 2.H3.6.54 | H3   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 302      |                 |         |
| 2.H3.6.55 | H3   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 302      |                 |         |
| 2.H3.6.56 | H3   | 25.018(d) |           | Between 7km up to and including 9km  | m3   | 0        |                 |         |
|           | H3   |           |           | <b>MISCELLANEOUS</b>   |      |          |                 |         |
| 2.H3.6.57 | H3   | 20.021(c) |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket | m    | 178      |                 |         |
|           | H3   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |                 |         |
|           | H3   |           |           | <b>Temporary traffic-control facilities</b>  |      |          |                 |         |
| 2.H3.6.58 | H3   | 25.007(a) |           | Flagmen  | sum  | 1        |                 |         |
| 2.H3.6.59 | H3   | 25.007(b) |           | Road signs   | sum  | 1        |                 |         |
| 2.H3.6.60 | H3   | 25.007(c) |           | Flicker lights   | sum  | 1        |                 |         |
| 2.H3.6.61 | H3   | 25.007(d) |           | Delineators  | sum  | 1        |                 |         |
| 2.H3.6.62 | H3   | 25.007(e) |           | Barricading  | sum  | 1        |                 |         |
| 2.H3.6.63 | H3   | 25.007(f) |           | Two-way communication devices  | sum  | 1        |                 |         |
| 2.H3.6.64 | H3   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |                 |         |
| 2.H3.6.65 | H3   | 25.007(h) |           | All other items not listed above   | sum  | 1        |                 |         |
|           |      |           |           |  |      |          | Carried Forward |         |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate | Amount          |
|-----------|------|-----------|-----------|--|------|----------|------|-----------------|
|           |      | Reference |           |  |      |          |      |                 |
|           |      |           |           |  |      |          |      | Brought Forward |
|           | H3   |           |           | <b>PIPE JACKING No. 4</b>  |      |          |      |                 |
|           | H3   |           |           | <b>PIPE JACKING @ CH 100.936 km</b>  |      |          |      |                 |
|           | H3   |           |           | <b>REFER TO DRAWING NO 2H-C4-079 &amp; 2A-C6-115</b>   |      |          |      |                 |
|           | H3   |           |           | <b>Design, supply and deliver pipes to be jacked</b>   |      |          |      |                 |
| 2.H3.6.66 | H3   | 10.001    |           | Railway crossing in 1473mm ND jacked concrete sleeve   | m    | 20       |      |                 |
|           | H3   |           |           | <b>Jacking of pipes</b>  |      |          |      |                 |
| 2.H3.6.67 | H3   | 10.002    |           | Railway crossing in 1473mm ND jacked concrete sleeve   | m    | 20       |      |                 |
|           | H3   |           |           | <b>Excavation for jacking (See Table 10/1 of section 10 of specification)</b>  |      |          |      |                 |
| 2.H3.6.68 | H3   | 10.003    |           | Soft   | m3   | 60       |      |                 |
| 2.H3.6.69 | H3   | 10.003    |           | Intermediate   | m3   | 4        |      |                 |
| 2.H3.6.70 | H3   | 10.003    |           | Hard   | m3   | 5        |      |                 |
| 2.H3.6.71 | H3   | 10.004    |           | Pit excavation (receiving and launching)   | Sum  | 1        |      |                 |
| 2.H3.6.72 | H3   | 10.005    |           | Extra-over items 10.004 for excavation for jacking through unidentified obstructions   | PS   | 1        |      | 398 380         |
| 2.H3.6.73 | H3   | 10.006    |           | Stabilisation of unstable areas and grouting   | Sum  | 1        |      |                 |
| 2.H3.6.74 | H3   | 10.007    |           | Supply and install wheel/skid pipe supports and install service pipe   | Sum  | 1        |      |                 |
| 2.H3.6.75 | H3   | 10.008    |           | Grouting of annulus  | m3   | 22       |      |                 |
|           | H3   |           |           | <b>OVERHAUL</b>  |      |          |      |                 |
| 2.H3.6.76 | H3   | 25.018(b) |           | Between 3km up to and including 5km  | m3   | 68       |      |                 |
| 2.H3.6.77 | H3   | 25.018(c) |           | Between 5km up to and including 7km  | m3   | 68       |      |                 |
| 2.H3.6.78 | H3   | 25.018(d) |           | Between 7km up to and including 9km  | m3   | 0        |      |                 |
|           | H3   |           |           | <b>MISCELLANEOUS</b>   |      |          |      |                 |
| 2.H3.6.79 | H3   | 20.021(c) |           | 110mm diam HDPE PE100 SDR 11 sleeve pipe for optic fibre cables, fixed to concrete sleeve with hot dipped galvanised bracket | m    | 40       |      |                 |
|           | H3   |           |           | <b>TEMPORARY TRAFFIC CONTROL FACILITIES</b>  |      |          |      |                 |
|           | H3   |           |           | <b>Temporary traffic-control facilities</b>  |      |          |      |                 |
| 2.H3.6.80 | H3   | 25.007(a) |           | Flagmen  | sum  | 1        |      |                 |
| 2.H3.6.81 | H3   | 25.007(b) |           | Road signs   | sum  | 1        |      |                 |
| 2.H3.6.82 | H3   | 25.007(c) |           | Flicker lights   | sum  | 1        |      |                 |
| 2.H3.6.83 | H3   | 25.007(d) |           | Delineators  | sum  | 1        |      |                 |
| 2.H3.6.84 | H3   | 25.007(e) |           | Barricading  | sum  | 1        |      |                 |
| 2.H3.6.85 | H3   | 25.007(f) |           | Two-way communication devices  | sum  | 1        |      |                 |
| 2.H3.6.86 | H3   | 25.007(g) |           | Personnel to manage and maintain temporary traffic-control facilities  | sum  | 1        |      |                 |
| 2.H3.6.87 | H3   | 25.007(h) |           | All other items not listed above   | sum  | 1        |      |                 |
|           | H3   |           |           | <b>PART H3.6: Crossings - Carried forward to Summary of Bills</b>  |      |          |      |                 |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate | Amount |
|-----------|------|-----------|-----------|--|------|----------|------|--------|
|           |      | Reference |           |  |      |          |      |        |
|           | H3   |           |           | <b>PART H3.7: Landscaping and Rehabilitation</b>   |      |          |      |        |
|           | H3   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |      |        |
| 2.H3.7.1  | H3   | 47.001    |           | Shaping  | m2   | 252 720  |      |        |
| 2.H3.7.2  | H3   | 47.002    |           | Ripping  | ha   | 26       |      |        |
| 2.H3.7.3  | H3   | 47.003    |           | Trimming   | m2   | 252 720  |      |        |
| 2.H3.7.4  | H3   | 47.004    |           | Scarifying   | ha   | 26       |      |        |
| 2.H3.7.5  | H3   | 47.007    |           | Furnishing and applying fertilisers  | kg   | 26 000   |      |        |
| 2.H3.7.6  | H3   | 47.011    |           | Preparing topsoil for seeding  | m2   | 252 720  |      |        |
| 2.H3.7.7  | H3   | 47.012    |           | Hydro-seeding  | ha   | 22.75    |      |        |
| 2.H3.7.8  | H3   | 47.013    |           | Hand-seeding   | ha   | 2.50     |      |        |
| 2.H3.7.9  | H3   | 47.015    |           | Temporary re-vegetation  | ha   | 2.50     |      |        |
|           | H3   |           |           | <b>Provision of seed</b>   |      |          |      |        |
| 2.H3.7.10 | H3   | 47.010    |           | Seed type - Anthephora pubescens   | kg   | 26       |      |        |
| 2.H3.7.11 | H3   | 47.010    |           | Seed type - Cenchrus ciliaris  | kg   | 26       |      |        |
| 2.H3.7.12 | H3   | 47.010    |           | Seed type - Chloris gayana   | kg   | 260      |      |        |
| 2.H3.7.13 | H3   | 47.010    |           | Seed type - Cynodon dactylon   | kg   | 78       |      |        |
| 2.H3.7.14 | H3   | 47.010    |           | Seed type - Digitaria eriantha   | kg   | 312      |      |        |
| 2.H3.7.15 | H3   | 47.010    |           | Seed type - Eneapogon chenchroides   | kg   | 26       |      |        |
| 2.H3.7.16 | H3   | 47.010    |           | Seed type - Eragrostis curvula   | kg   | 52       |      |        |
| 2.H3.7.17 | H3   | 47.010    |           | Seed type - Eragrostis lehmanniana   | kg   | 13       |      |        |
| 2.H3.7.18 | H3   | 47.010    |           | Seed type - Eragrostis tef   | kg   | 78       |      |        |
| 2.H3.7.19 | H3   | 47.010    |           | Seed type - Heteropogon contortus  | kg   | 78       |      |        |
| 2.H3.7.20 | H3   | 47.010    |           | Seed type - Panicum maximum  | kg   | 91       |      |        |
| 2.H3.7.21 | H3   | 47.010    |           | Seed type - Pogonarthria squarrosa   | kg   | 26       |      |        |
| 2.H3.7.22 | H3   | 47.016    |           | Provision of temporary erosion control measures  | ha   | 26       |      |        |
| 2.H3.7.23 | H3   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures                                      | sum  | 1        |      |        |
| 2.H3.7.24 | H3   | 47.018    |           | Maintenance of Vegetation  | sum  | 1        |      |        |
|           | H3   |           |           | <b>PART H3.7: Landscaping and Rehabilitation<br/>- Carried forward to Summary of Bills</b> |      |          |      |        |

| Item no. | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate | Amount |
|----------|------|-----------|-----------|--|------|----------|------|--------|
|          |      | Reference |           |  |      |          |      |        |
|          | H3   |           |           | <b>PART H3.8: Fencing</b>  |      |          |      |        |
|          | H3   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |      |        |
| 2.H3.8.1 | H3   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 12900    |      |        |
|          | H3   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |      |        |
| 2.H3.8.2 | H3   | 6.004(a)  |           | Seven strand stock proof fence (1,25m high)  | m    | 12900    |      |        |
|          | H3   |           |           | <b>Removal of gates</b>  |      |          |      |        |
| 2.H3.8.3 | H3   | 6.007     |           | All types of gates   | No   | 4        |      |        |
|          | H3   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b> |      |          |      |        |
| 2.H3.8.4 | H3   | 6.002(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 12900    |      |        |
|          | H3   |           |           | <b>Supply, erect and maintain gates during contract period</b>                               |      |          |      |        |
| 2.H3.8.5 | H3   | 6.005(a)  |           | 1.2m high gates for stock proof fences   | No   | 4        |      |        |
|          | H3   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>         |      |          |      |        |
| 2.H3.8.6 | H3   | 6.003(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101                         | m    | 500      |      |        |
|          | H3   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>           |      |          |      |        |
| 2.H3.8.7 | H3   | 6.006(a)  |           | 1.2m high gates for stock proof fences   | No   | 4        |      |        |
|          | H3   |           |           | <b>PART H3.8: Fencing - Carried forward to Summary of Bills</b>                              |      |          |      |        |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           | H3   |           |           | <b>PART H3.9: Borrow pits and Spoil Areas</b>  |      |          |                 |        |
|           | H3   |           |           | <b>BORROW PIT 51</b>   |      |          |                 |        |
|           | H3   |           |           | <b>OPENING OF BORROW AREAS</b>   |      |          |                 |        |
| 2.H3.9.1  | H3   | 14.001    |           | Opening of borrow areas and access roads   | Sum  | 1        |                 |        |
|           | H3   |           |           | <b>Removal of agricultural material and overburden</b>   |      |          |                 |        |
| 2.H3.9.2  | H3   | 14.002    |           | Removal and replacement of topsoil   | m3   | 3710     |                 |        |
| 2.H3.9.3  | H3   | 14.003    |           | Removal and replacement of fertile soil  | m3   | 11140    |                 |        |
| 2.H3.9.4  | H3   | 14.004    |           | Removal and replacement of overburden  | m3   | 3710     |                 |        |
|           | H3   |           |           | <b>Handling of imported materials at the borrow and spoil areas prior to the commencement of finishing processes as per Clause 14.5.</b> |      |          |                 |        |
| 2.H3.9.5  | H3   | 14.006    |           | Spoiling of:<br>Rock/boulders, material unsuitable for structural backfilling and surplus excavated material                             | m3   | 13015    |                 |        |
|           | H3   |           |           | <b>DEALING WITH WATER</b>  |      |          |                 |        |
| 2.H3.9.6  | H3   | 8.001     |           | Dealing with water   | Sum  | 1        |                 |        |
| 2.H3.9.7  | H3   | 8.002     |           | Treatment of water   | Sum  | 1        |                 |        |
| 2.H3.9.8  | H3   | 8.003     |           | Water monitoring   | Sum  | 1        |                 |        |
| 2.H3.9.9  | H3   | 8.004     |           | Sampling equipment and reagents for the Engineer   | Sum  | 1        |                 |        |
|           | H3   |           |           | <b>FENCING (NON SECURITY TYPE - STOCKPROOF)</b>  |      |          |                 |        |
| 2.H3.9.10 | H3   | 6.001     |           | Clearing the fence line, 1m wide strip   | m    | 470      |                 |        |
|           | H3   |           |           | <b>Remove fencing and disposing of material</b>  |      |          |                 |        |
| 2.H3.9.11 | H3   | 6.004(a)  |           | Seven strand stock proof fence (1,25m high)  | m    | 470      |                 |        |
|           | H3   |           |           | <b>Removal of gates</b>  |      |          |                 |        |
| 2.H3.9.12 | H3   | 6.007     |           | All types of gates   | No   | 2        |                 |        |
|           | H3   |           |           | <b>Supply, erect and maintain during contract period new fencing material for new fences</b>   |      |          |                 |        |
| 2.H3.9.13 | H3   | 6.002(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101   | m    | 470      |                 |        |
|           | H3   |           |           | <b>Supply, erect and maintain gates during contract period</b>   |      |          |                 |        |
| 2.H3.9.14 | H3   | 6.005(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|           | H3   |           |           | <b>Remove fencing installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H3.9.15 | H3   | 6.003(a)  |           | Seven strand stock proof fence (1,25m high) as per drawing 2A-C6-101   | m    | 470      |                 |        |
|           | H3   |           |           | <b>Remove gates installed under this contract and re-erect at another position</b>   |      |          |                 |        |
| 2.H3.9.16 | H3   | 6.006(a)  |           | 1.2m high gates for stock proof fences   | No   | 2        |                 |        |
|           | H3   |           |           | <b>LANDSCAPING &amp; REHABILITATION</b>  |      |          |                 |        |
| 2.H3.9.17 | H3   | 47.001    |           | Shaping  | m2   | 24770    |                 |        |
| 2.H3.9.18 | H3   | 47.002    |           | Ripping  | ha   | 2.5      |                 |        |
|           |      |           |           |  |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |  |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|--|
|           |      | Reference |           |   |      |          |                 |        |  |
|           |      |           |           |   |      |          | Brought Forward |        |  |
| 2.H3.9.19 | H3   | 47.003    |           | Trimming  | m2   | 24770    |                 |        |  |
| 2.H3.9.20 | H3   | 47.004    |           | Scarifying  | ha   | 2.5      |                 |        |  |
| 2.H3.9.21 | H3   | 47.007    |           | Furnishing and applying fertilisers   | kg   | 2500     |                 |        |  |
| 2.H3.9.22 | H3   | 47.011    |           | Preparing topsoil for seeding   | m2   | 24770    |                 |        |  |
| 2.H3.9.23 | H3   | 47.012    |           | Hydro-seeding   | ha   | 2.2      |                 |        |  |
| 2.H3.9.24 | H3   | 47.013    |           | Hand-seeding  | ha   | 0.3      |                 |        |  |
| 2.H3.9.25 | H3   | 47.015    |           | Temporary re-vegetation   | ha   | 0.3      |                 |        |  |
|           | H3   |           |           | <b>Provision of seed</b>  |      |          |                 |        |  |
| 2.H3.9.26 | H3   | 47.010    |           | Seed type - Anthephora pubescens  | kg   | 3        |                 |        |  |
| 2.H3.9.27 | H3   | 47.010    |           | Seed type - Cenchrus ciliaris   | kg   | 3        |                 |        |  |
| 2.H3.9.28 | H3   | 47.010    |           | Seed type - Chloris gayana  | kg   | 25       |                 |        |  |
| 2.H3.9.29 | H3   | 47.010    |           | Seed type - Cynodon dactylon  | kg   | 8        |                 |        |  |
| 2.H3.9.30 | H3   | 47.010    |           | Seed type - Digitaria eriantha  | kg   | 30       |                 |        |  |
| 2.H3.9.31 | H3   | 47.010    |           | Seed type - Eneapogon chenchroides  | kg   | 3        |                 |        |  |
| 2.H3.9.32 | H3   | 47.010    |           | Seed type - Eragrostis curvula  | kg   | 5        |                 |        |  |
| 2.H3.9.33 | H3   | 47.010    |           | Seed type - Eragrostis lehmanniana  | kg   | 2        |                 |        |  |
| 2.H3.9.34 | H3   | 47.010    |           | Seed type - Eragrostis tef  | kg   | 8        |                 |        |  |
| 2.H3.9.35 | H3   | 47.010    |           | Seed type - Heteropogon contortus   | kg   | 8        |                 |        |  |
| 2.H3.9.36 | H3   | 47.010    |           | Seed type - Panicum maximum   | kg   | 9        |                 |        |  |
| 2.H3.9.37 | H3   | 47.010    |           | Seed type - Pogonarthria squarrosa  | kg   | 3        |                 |        |  |
| 2.H3.9.38 | H3   | 47.016    |           | Provision of temporary erosion control measures                                     | ha   | 3        |                 |        |  |
| 2.H3.9.39 | H3   | 47.017    |           | Maintenance of the Temporary Erosion Control Measures                               | sum  | 1        |                 |        |  |
| 2.H3.9.40 | H3   | 47.018    |           | Maintenance of Vegetation   | sum  | 1        |                 |        |  |
|           | H3   |           |           | <b>PART H3.9: Borrow pits and Spoil Areas - Carried forward to Summary of Bills</b> |      |          |                 |        |  |

| Item no.     | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|              |      |                   |           |  |      |          |                 |        |
|              | H3   |                   |           | <b>PART H3.10: Ancilliary Works</b>  |      |          |                 |        |
|              | H3   |                   |           | <b>PART H3.10.1: INSTRUMENTATION HUT (At Off-take A)</b>   |      |          |                 |        |
|              | H3   |                   |           | <b>EARTHWORKS</b>  |      |          |                 |        |
|              | H3   |                   |           | <b>REFER TO DRAWING 2G-C7-150</b>  |      |          |                 |        |
| 2.H3.10.1.1  | H3   | 9.010             |           | Excavation by hand   | m3   | 3        |                 |        |
| 2.H3.10.1.2  | H3   | 9.009             |           | Rip and recompact 150mm insitu material to 93% Mod AASHTO  | m2   | 40       |                 |        |
|              | H3   |                   |           | <b>SOIL POISONING</b>  |      |          |                 |        |
| 2.H3.10.1.3  | H3   | 46.011            |           | Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming (Supply of herbicide and ant poison shall be paid for in the provisional sums) | m2   | 40       |                 |        |
|              | H3   |                   |           | <b>FORMWORK</b>  |      |          |                 |        |
|              | H3   |                   |           | <b>ROUGH FORMWORK</b>  |      |          |                 |        |
|              | H3   |                   |           | <b>Narrow widths up to 300mm</b>   |      |          |                 |        |
| 2.H3.10.1.4  | H3   | 20.005            |           | To apron and surfacebed  | m    | 38       |                 |        |
|              | H3   |                   |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|              | H3   |                   |           | <b>Horizontal surfaces for visible surface including 20mm chamfers and drip grooves on a exposed corners to:</b>   |      |          |                 |        |
| 2.H3.10.1.5  | H3   | 20.002            |           | Underside of slabs (Incl. Shelf)   | m2   | 21       |                 |        |
|              | H3   |                   |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H3.10.1.6  | H3   | 20.002            |           | Upstand beams  | m2   | 9        |                 |        |
| 2.H3.10.1.7  | H3   | 20.002            |           | Vertical sides of suspended slabs (incl. Shelf)  | m2   | 4        |                 |        |
|              | H3   |                   |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H3.10.1.8  | H3   | 20.007            |           | Steel bars (irrespective of grade or diameter)   | t    | 1        |                 |        |
| 2.H3.10.1.9  | H3   | 20.008            |           | Mesh ref 395 high-tensile welded mesh  | m2   | 2        |                 |        |
|              | H3   |                   |           | <b>CONCRETE</b>  |      |          |                 |        |
|              | H3   |                   |           | <b>Strength concrete grade 30/19</b>   |      |          |                 |        |
| 2.H3.10.1.10 | H3   | 20.012            |           | Surface bed, shelf, roof, ramp and apron   | m3   | 12       |                 |        |
|              | H3   |                   |           | <b>Unformed surface finishes</b>   |      |          |                 |        |
| 2.H3.10.1.11 | H3   | 20.013(a)         |           | Wood floated finish  | m2   | 48       |                 |        |
| 2.H3.10.1.12 | H3   | 20.013(b)         |           | Steel floated finish (shelf & top of beams)  | m2   | 5        |                 |        |
|              | H3   |                   |           | <b>AGGREGATE</b>   |      |          |                 |        |
| 2.H3.10.1.13 | H3   | 20.014            |           | 19mm stone balast  | m3   | 0.8      |                 |        |
|              | H3   |                   |           | <b>JOINTS</b>  |      |          |                 |        |
| 2.H3.10.1.14 | H3   | 20.016            |           | Construction joints, including shutters to apron   | m    | 13       |                 |        |
| 2.H3.10.1.15 | H3   | 20.016            |           | 75mm deep x 10mm wide expansion joint including shutter, 10mm soft board joint filler and sealant per detail C4 drawing 2A-C6-002  | m    | 22       |                 |        |
|              |      |                   |           |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              |      |           |           |  |      |          | Brought Forward |        |
| 2.H3.10.1.16 | H3   | 20.016    |           | 2 Layers 0.6mm thick galvanised plate, including smooth plaster to the tops of brick walls   | m2   | 4        |                 |        |
|              | H3   |           |           | <b>MASONRY</b>   |      |          |                 |        |
|              | H3   |           |           | <b>BRICKWORK OF NFX BRICKS (14 MPA NOMINAL COMPRESSIVE STRENGTH) IN CLASS I MORTAR</b>   |      |          |                 |        |
| 2.H3.10.1.17 | H3   | 46.004(a) |           | One brick walls for structure  | m2   | 45       |                 |        |
|              | H3   |           |           | <b>FACE BRICKWORK</b>  |      |          |                 |        |
|              | H3   |           |           | <b>Face brickwork pointed with recessed horizontal and vertical joints. The cost for the supply and delivery of facebrick shall be paid for in Provisional Sums. All other costs related to the installation of the facebrick shall be included in this item (includes all other material). Samples of facebrick to be approved by the Engineer/Architect.</b> |      |          |                 |        |
| 2.H3.10.1.18 | H3   | 46.004(h) |           | Extra over brickwork for face brickwork  | m2   | 90       |                 |        |
|              | H3   |           |           | <b>MASONRY REINFORCING</b>   |      |          |                 |        |
| 2.H3.10.1.19 | H3   | 46.004(f) |           | Fabric reinforcement and building into joints of one brick walls   | m    | 200      |                 |        |
| 2.H3.10.1.20 | H3   | 46.004(f) |           | Masonry reinforcing (3 no R8 bars) on 230mm wall   | m    | 4        |                 |        |
|              | H3   |           |           | <b>METALWORK</b>   |      |          |                 |        |
|              | H3   |           |           | <b>Supply and fabrication of steel</b>   |      |          |                 |        |
| 2.H3.10.1.21 | H3   | 24.001    |           | 1000mm x 1000mm 3CR12 louvre per drawing 86490 complete including shop details, supply and installation  | No   | 1        |                 |        |
| 2.H3.10.1.22 | H3   | 46.005(c) |           | Doors: double transformer door (2400mm x 1800mm) with insect proofing and louvres, locking mechanism, supplied, installed and painted. All as per dwg. 2G-C7-150   | No   | 1        |                 |        |
|              | H3   |           |           | <b>MISCELLANEOUS TRADES, FIXTURES AND APPLIANCES</b>   |      |          |                 |        |
| 2.H3.10.1.23 | H3   | 46.011    |           | Epoxy sealant to shelf   | m2   | 1.8      |                 |        |
| 2.H3.10.1.24 | H3   | 46.011    |           | 110 ribbed HDPE sleeves supplied and installed per supplier's specification, including draw wire (ducting from draw box to interior of instrumentation hut)  | m    | 15       |                 |        |
| 2.H3.10.1.25 | H3   | 46.011    |           | Polyurethane waterproofing   | m2   | 23       |                 |        |
| 2.H3.10.1.26 | H3   | 46.011    |           | 100mm thick Isoboard   | m2   | 15       |                 |        |
| 2.H3.10.1.27 | H3   | 46.011    |           | Waterpermeable fabric  | m2   | 23       |                 |        |
| 2.H3.10.1.28 | H3   | 46.011    |           | 80 ND uPVC drainage pipes cast into upstand beams (Weep holes)   | m    | 3        |                 |        |
| 2.H3.10.1.29 | H3   | 46.012    |           | Draw box per detail C10 drawing 2A-C6-003, complete  | no   | 1        |                 |        |
|              | H3   |           |           | <b>FIRE</b>  |      |          |                 |        |
| 2.H3.10.1.30 | H3   | 46.011    |           | Supply, delivery and installation of SABS Approved 5kg CO2 fire extinguisher complete with wall bracket and wooden backing board   | No   | 2        |                 |        |
| 2.H3.10.1.31 | H3   | 46.011    |           | Supply and installation of SABS Approved 190mm x 380mm single sided, wall mounted photo luminescent safety signs   | no   | 2        |                 |        |
|              |      |           |           |  |      |          | Carried Forward |        |



| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              |      |           |           |  |      |          | Brought Forward |        |
|              | H3   |           |           | <b>PART H3.10.2: INSTRUMENTATION HUT<br/>(At Zeeland WTW)</b>  |      |          |                 |        |
|              | H3   |           |           | <b>EARTHWORKS</b>  |      |          |                 |        |
|              | H3   |           |           | <b>REFER TO DRAWING 2G-C7-150</b>  |      |          |                 |        |
| 2.H3.10.2.1  | H3   | 9.010     |           | Excavation by hand   | m3   | 3        |                 |        |
| 2.H3.10.2.2  | H3   | 9.009     |           | Rip and recompact 150mm insitu material to 93% Mod AASHTO  | m2   | 40       |                 |        |
|              | H3   |           |           | <b>SOIL POISONING</b>  |      |          |                 |        |
| 2.H3.10.2.3  | H3   | 46.011    |           | Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming (Supply of herbicide and ant poison shall be paid for in the provisional sums) | m2   | 40       |                 |        |
|              | H3   |           |           | <b>FORMWORK</b>  |      |          |                 |        |
|              | H3   |           |           | <b>ROUGH FORMWORK</b>  |      |          |                 |        |
|              | H3   |           |           | <b>Narrow widths up to 300mm</b>   |      |          |                 |        |
| 2.H3.10.2.4  | H3   | 20.005    |           | To apron and surfacebed  | m    | 38       |                 |        |
|              | H3   |           |           | <b>SMOOTH FORMWORK</b>   |      |          |                 |        |
|              | H3   |           |           | <b>Horizontal surfaces for visible surface including 20mm chamfers and drip grooves on a exposed corners to:</b>   |      |          |                 |        |
| 2.H3.10.2.5  | H3   | 20.002    |           | Underside of slabs (Incl. Shelf)   | m2   | 21       |                 |        |
|              | H3   |           |           | <b>Vertical surfaces for visible surface including 20mm chamfers on a exposed corners to:</b>  |      |          |                 |        |
| 2.H3.10.2.6  | H3   | 20.002    |           | Upstand beams  | m2   | 9        |                 |        |
| 2.H3.10.2.7  | H3   | 20.002    |           | Vertical sides of suspended slabs (incl. Shelf)  | m2   | 4        |                 |        |
|              | H3   |           |           | <b>REINFORCEMENT</b>   |      |          |                 |        |
| 2.H3.10.2.8  | H3   | 20.007    |           | Steel bars (irrespective of grade or diameter)   | t    | 1        |                 |        |
| 2.H3.10.2.9  | H3   | 20.008    |           | Mesh ref 395 high-tensile welded mesh  | m2   | 2        |                 |        |
|              | H3   |           |           | <b>CONCRETE</b>  |      |          |                 |        |
|              | H3   |           |           | <b>Strength concrete grade 30/19</b>   |      |          |                 |        |
| 2.H3.10.2.10 | H3   | 20.012    |           | Surface bed, shelf, roof, ramp and apron   | m3   | 12       |                 |        |
|              | H3   |           |           | <b>Unformed surface finishes</b>   |      |          |                 |        |
| 2.H3.10.2.11 | H3   | 20.013(a) |           | Wood floated finish  | m2   | 48       |                 |        |
| 2.H3.10.2.12 | H3   | 20.013(b) |           | Steel floated finish (shelf & top of beams)  | m2   | 5        |                 |        |
|              | H3   |           |           | <b>AGGREGATE</b>   |      |          |                 |        |
| 2.H3.10.2.13 | H3   | 20.014    |           | 19mm stone balast  | m3   | 0.8      |                 |        |
|              | H3   |           |           | <b>JOINTS</b>  |      |          |                 |        |
| 2.H3.10.2.14 | H3   | 20.016    |           | Construction joints, including shutters to apron   | m    | 13       |                 |        |
| 2.H3.10.2.15 | H3   | 20.016    |           | 75mm deep x 10mm wide expansion joint including shutter, 10mm soft board joint filler and sealant per detail C4 drawing 2A-C6-002  | m    | 22       |                 |        |
|              |      |           |           |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|              |      |                   |           |  |      |          |                 |        |
|              |      |                   |           |  |      |          | Brought Forward |        |
| 2.H3.10.2.16 | H3   | 20.016            |           | 2 Layers 0.6mm thick galvanised plate, including smooth plaster to the tops of brick walls   | m2   | 4        |                 |        |
|              | H3   |                   |           | <b>MASONRY</b>   |      |          |                 |        |
|              | H3   |                   |           | <b>BRICKWORK OF NFX BRICKS (14 MPA NOMINAL COMPRESSIVE STRENGTH) IN CLASS I MORTAR</b>   |      |          |                 |        |
| 2.H3.10.2.17 | H3   | 46.004(a)         |           | One brick walls for structure  | m2   | 45       |                 |        |
|              | H3   |                   |           | <b>FACE BRICKWORK</b>  |      |          |                 |        |
|              | H3   |                   |           | <b>Face brickwork pointed with recessed horizontal and vertical joints. The cost for the supply and delivery of facebrick shall be paid for in Provisional Sums. All other costs related to the installation of the facebrick shall be included in this item (includes all other material). Samples of facebrick to be approved by the Engineer/Architect.</b> |      |          |                 |        |
| 2.H3.10.2.18 | H3   | 46.004(h)         |           | Extra over brickwork for face brickwork  | m2   | 90       |                 |        |
|              | H3   |                   |           | <b>MASONRY REINFORCING</b>   |      |          |                 |        |
| 2.H3.10.2.19 | H3   | 46.004(f)         |           | Fabric reinforcement and building into joints of one brick walls   | m    | 200      |                 |        |
| 2.H3.10.2.20 | H3   | 46.004(f)         |           | Masonry reinforcing (3 no R8 bars) on 230mm wall   | m    | 4        |                 |        |
|              | H3   |                   |           | <b>METALWORK</b>   |      |          |                 |        |
|              | H3   |                   |           | <b>Supply and fabrication of steel</b>   |      |          |                 |        |
| 2.H3.10.2.21 | H3   | 24.001            |           | 1000mm x 1000mm 3CR12 louvre per drawing 86490 complete including shop details, supply and installation  | No   | 1        |                 |        |
| 2.H3.10.2.22 | H3   | 46.005(c)         |           | Doors: double transformer door (2400mm x 1800mm) with insect proofing and louvres, locking mechanism, supplied, installed and painted. All as per dwg. 2G-C7-150   | No   | 1        |                 |        |
|              | H3   |                   |           | <b>MISCELLANEOUS TRADES, FIXTURES AND APPLIANCES</b>   |      |          |                 |        |
| 2.H3.10.2.23 | H3   | 46.011            |           | Epoxy sealant to shelf   | m2   | 1.8      |                 |        |
| 2.H3.10.2.24 | H3   | 46.011            |           | 110 ribbed HDPE sleeves supplied and installed per supplier's specification, including draw wire (ducting from draw box to interior of instrumentation hut)  | m    | 15       |                 |        |
| 2.H3.10.2.25 | H3   | 46.011            |           | Polyurethane waterproofing   | m2   | 23       |                 |        |
| 2.H3.10.2.26 | H3   | 46.011            |           | 100mm thick Isoboard   | m2   | 15       |                 |        |
| 2.H3.10.2.27 | H3   | 46.011            |           | Waterpermeable fabric  | m2   | 23       |                 |        |
| 2.H3.10.2.28 | H3   | 46.011            |           | 80 ND uPVC drainage pipes cast into upstand beams (Weep holes)   | m    | 3        |                 |        |
| 2.H3.10.2.29 | H3   | 46.012            |           | Draw box per detail C10 drawing 2A-C6-003, complete  | no   | 1        |                 |        |
|              | H3   |                   |           | <b>FIRE</b>  |      |          |                 |        |
| 2.H3.10.2.30 | H3   | 46.011            |           | Supply, delivery and installation of SABS Approved 5kg CO2 fire extinguisher complete with wall bracket and wooden backing board   | No   | 2        |                 |        |
| 2.H3.10.2.31 | H3   | 46.011            |           | Supply and installation of SABS Approved 190mm x 380mm single sided, wall mounted photo luminescent safety signs   | no   | 2        |                 |        |
|              | H3   |                   |           | <b>PART H3.10: Ancillary Works - Carried forward to Summary of Bills</b>   |      |          |                 |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            | H3   |           |           | <b>PART H3.11: Fibre Earthworks</b>   |      |          |                 |        |
|            | H3   |           |           | <b>SITE CLEARANCE</b>   |      |          |                 |        |
|            | H3   |           |           | <b>Removal of fertile soil</b>  |      |          |                 |        |
| 2.H3.11.1  | H3   | 7.005(a)  |           | For pipelines, temporary stockpile alongside the pipeline and construction servitude  | m3   | 885      |                 |        |
|            | H3   |           |           | <b>DEALING WITH WATER</b>   |      |          |                 |        |
| 2.H3.11.2  | H3   | 8.001     |           | Dealing with water  | Sum  | 1        |                 |        |
| 2.H3.11.3  | H3   | 8.002     |           | Treatment of water  | Sum  | 1        |                 |        |
| 2.H3.11.4  | H3   | 8.003     |           | Water monitoring  | Sum  | 1        |                 |        |
| 2.H3.11.5  | H3   | 8.004     |           | Sampling equipment and reagents for the Engineer  | Sum  | 1        |                 |        |
|            | H3   |           |           | <b>PIPE TRENCH EXCAVATIONS</b>  |      |          |                 |        |
|            | H3   |           |           | <b>EXCAVATE IN ALL MATERIALS TO SPECIFIED LEVELS AND BATTERED SLOPES, INCLUDING TEMPORARY STOCKPILING AND LEVELLING ALONGSIDE EXCAVATIONS WITHIN THE CONFINES OF THE PIPE SERVITUDE</b> |      |          |                 |        |
|            | H3   |           |           | <b>Classified trench excavations:</b>   |      |          |                 |        |
|            | H3   |           |           | <b>Within the freehaul distance</b>   |      |          |                 |        |
| 2.H3.11.6  | H3   | 9.012     |           | Up to 1m deep   | m3   | 740      |                 |        |
| 2.H3.11.7  | H3   | 9.012     |           | Over 1m and up to 2m deep   | m3   | 55       |                 |        |
| 2.H3.11.8  | H3   | 9.014     |           | Extra-Over items 9.012, 9.013, 9.016 and 9.021 for: Hard Excavation for classified and unclassified material (blasting)   | m3   | 50       |                 |        |
| 2.H3.11.9  | H3   | 9.020     |           | Compaction of trench bottom   | m2   | 2 950    |                 |        |
|            | H3   |           |           | <b>EXCAVATION ANCILLARIES</b>   |      |          |                 |        |
| 2.H3.11.10 | H3   | 9.016     |           | Excavation and disposal of unsuitable/surplus material from trench bottom to designated spoil sites   | m3   | 7        |                 |        |
| 2.H3.11.11 | H3   | 9.015     |           | Excavate by hand in soft material to expose existing services   | m3   | 50       |                 |        |
| 2.H3.11.12 | H3   | 9.021     |           | Excavation by hand  | m3   | 50       |                 |        |
|            | H3   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H3.11.13 | H3   | 9.023(a)  |           | Between 1km up to and including 3km   | m3   | 25       |                 |        |
| 2.H3.11.14 | H3   | 9.023(b)  |           | Between 3km up to and including 5km   | m3   | 25       |                 |        |
| 2.H3.11.15 | H3   | 9.023(c)  |           | Between 5km up to and including 7km   | m3   | 25       |                 |        |
| 2.H3.11.16 | H3   | 9.023(d)  |           | Between 7km up to and including 9km   | m3   | 25       |                 |        |
| 2.H3.11.17 | H3   | 9.023(e)  |           | Between 9km up to and including 11km  | m3   | 25       |                 |        |
| 2.H3.11.18 | H3   | 9.023(f)  |           | Between 11km up to and including 13km   | m3   | 25       |                 |        |
|            | H3   |           |           | <b>EXISTING SERVICES THAT INTERSECT OR ADJOIN A PIPE TRENCH</b>   |      |          |                 |        |
| 2.H3.11.19 | H3   | 9.018(a)  |           | Services that intersect a pipe trench   | No   | 2        |                 |        |
| 2.H3.11.20 | H3   | 9.018(b)  |           | Services that adjoin a trench   | m    | 300      |                 |        |
| 2.H3.11.21 | H3   | 9.022     |           | Slurry trenches / curtain walls   | m2   | 50       |                 |        |
|            |      |           |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|            |      |                   |           |  |      |          |                 |        |
|            |      |                   |           |  |      |          | Brought Forward |        |
|            | H3   |                   |           | <b>BACKFILLING AND BEDDING</b>   |      |          |                 |        |
|            | H3   |                   |           | <b>PROVISION OF MATERIAL FOR BED, BEDDING CRADLE, SELECTED FILL BLANKET AND MAIN BACKFILL</b>                      |      |          |                 |        |
|            | H3   |                   |           | <b>Provision of bed material</b>   |      |          |                 |        |
| 2.H3.11.22 | H3   | 15.003(a)         |           | Material without screening from trenches   | m3   | 55       |                 |        |
| 2.H3.11.23 | H3   | 15.003(b)         |           | Material with screening from trenches  | m3   | 215      |                 |        |
| 2.H3.11.24 | H3   | 15.003(c)         |           | Material from the nearest borrow pit without screening   | m3   | 6        |                 |        |
| 2.H3.11.25 | H3   | 15.003(d)         |           | Material from the nearest borrow pit with screening  | m3   | 25       |                 |        |
|            | H3   |                   |           | <b>Provision of selected fill blanket</b>  |      |          |                 |        |
| 2.H3.11.26 | H3   | 15.006(a)         |           | Material without screening from trenches   | m3   | 80       |                 |        |
| 2.H3.11.27 | H3   | 15.006(b)         |           | Material with screening from trenches  | m3   | 320      |                 |        |
| 2.H3.11.28 | H3   | 15.006(c)         |           | Material from the nearest borrow pit without screening   | m3   | 7        |                 |        |
| 2.H3.11.29 | H3   | 15.006(d)         |           | Material from the nearest borrow pit with screening  | m3   | 26       |                 |        |
| 2.H3.11.30 | H3   | 15.006(e)         |           | Material from commercial sources   | m3   | 55       |                 |        |
|            | H3   |                   |           | <b>Provision of main backfill material</b>   |      |          |                 |        |
| 2.H3.11.31 | H3   | 15.007(a)         |           | Backfill material from trench excavation   | m3   | 15       |                 |        |
| 2.H3.11.32 | H3   | 15.007(b)         |           | Backfill material from the nearest borrow pit  | m3   | 50       |                 |        |
|            | H3   |                   |           | <b>PLACING OF BEDDING MATERIAL, SOILCRETE, FERTILE SOIL AND MAIN BACKFILL</b>                                      |      |          |                 |        |
| 2.H3.11.33 | H3   | 15.001            |           | Bed material   | m3   | 300      |                 |        |
| 2.H3.11.34 | H3   | 15.001            |           | Selected fill blanket  | m3   | 488      |                 |        |
| 2.H3.11.35 | H3   | 15.001            |           | Main backfill  | m3   | 65       |                 |        |
| 2.H3.11.36 | H3   | 15.001            |           | Fertile soil   | m3   | 975      |                 |        |
|            | H3   |                   |           | <b>PROVISION OF MATERIAL TO REPLACE UNSUITABLE MATERIAL FROM TRENCH BOTTOM OR TO PROVIDE SUPPORTING EARTHWORKS</b> |      |          |                 |        |
| 2.H3.11.37 | H3   | 15.011(b)         |           | From borrow pits   | m3   | 10       |                 |        |
|            | H3   |                   |           | <b>Placing of Material</b>   |      |          |                 |        |
| 2.H3.11.38 | H3   | 15.012            |           | Placing of material to replace unsuitable material from trench bottom or to provide supporting earthworks          | m3   | 10       |                 |        |
|            | H3   |                   |           | <b>SUBSOIL DRAINAGE</b>  |      |          |                 |        |
|            | H3   |                   |           | <b>Crushed stone</b>   |      |          |                 |        |
| 2.H3.11.39 | H3   | 15.008(a)         |           | Supply and place crushed stone for Layer no 1  | m3   | 7        |                 |        |
| 2.H3.11.40 | H3   | 15.008(c)         |           | Supply and place well graded compacted dump rock for Layer no 2  | m3   | 12       |                 |        |
|            | H3   |                   |           | <b>Geotextile</b>  |      |          |                 |        |
| 2.H3.11.41 | H3   | 15.008(b)         |           | Supply and place geotextile for Layer no 1   | m2   | 125      |                 |        |
| 2.H3.11.42 | H3   | 15.008(d)         |           | Supply and place geotextile for Layer no 2   | m2   | 145      |                 |        |
|            |      |                   |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            |      |           |           |   |      |          | Brought Forward |        |
|            | H3   |           |           | <b>ENCASING OF PIPES IN CONCRETE</b>  |      |          |                 |        |
| 2.H3.11.43 | H3   | 15.009(a) |           | Concrete strength grade 30/19   | m3   | 10       |                 |        |
| 2.H3.11.44 | H3   | 15.009(b) |           | Reinforcement   | t    | 2        |                 |        |
|            | H3   |           |           | <b>OVERHAUL</b>   |      |          |                 |        |
| 2.H3.11.45 | H3   | 15.010(a) |           | Between 1km up to and including 3km   | m3   | 25       |                 |        |
| 2.H3.11.46 | H3   | 15.010(b) |           | Between 3km up to and including 5km   | m3   | 25       |                 |        |
| 2.H3.11.47 | H3   | 15.010(c) |           | Between 5km up to and including 7km   | m3   | 25       |                 |        |
| 2.H3.11.48 | H3   | 15.010(d) |           | Between 7km up to and including 9km   | m3   | 25       |                 |        |
| 2.H3.11.49 | H3   | 15.010(e) |           | Between 9km up to and including 11km  | m3   | 25       |                 |        |
| 2.H3.11.50 | H3   | 15.010(f) |           | Between 11km up to and including 13km   | m3   | 25       |                 |        |
|            | H3   |           |           | <b>PART: H3.11: Fibre Earthworks Total - Carried forward to Summary of Bills</b>                              |      |          |                 |        |
|            | H3   |           |           | <b>PART H3: OFF TAKE B TO OFF TAKE A TOTAL (6.3KM) - CH95 TO CH101.30 Carried forward to Summary of Bills</b> |      |          |                 |        |
|            | H3   |           |           | <b>PART H: GRAVITY MAINS Carried forward to Summary of Bills</b>  |      |          |                 |        |
|            |      |           |           | <b>BILL 2: CIVIL WORKS (Carried forward to Summary of Bills)</b>  |      |          |                 |        |

| Item no. | Part | Payment                  | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|--------------------------|-----------|--|------|----------|-----------------|--------|
|          |      | Reference                |           |  |      |          |                 |        |
| <b>3</b> |      |                          |           | <b>BILL 3: MECHANICAL</b>  |      |          |                 |        |
|          | A3   |                          |           | <b>A3: PRELIMINARY AND GENERAL (SECONDARY)</b>   |      |          |                 |        |
|          | A3   | <b>1.002</b>             |           | <b>FIXED CHARGES - GENERAL OBLIGATIONS</b>   |      |          |                 |        |
| 3.A3.1   | A3   |                          | X         | Head Office Contract Management and Overheads  | Sum  | 1        |                 |        |
| 3.A3.2   | A3   |                          | X         | General Site Supervision and Overheads   | Sum  | 1        |                 |        |
| 3.A3.3   | A3   |                          | X         | Method statements (1.10.1)   | Sum  | 1        |                 |        |
| 3.A3.4   | A3   |                          | X         | Competency training (1.10.2.4)   | Sum  | 1        |                 |        |
| 3.A3.5   | A3   |                          | X         | Returns and reporting (1.10.3)   | Sum  | 1        |                 |        |
| 3.A3.6   | A3   |                          | X         | Management meetings (1.10.4)   | Sum  | 1        |                 |        |
| 3.A3.7   | A3   |                          | X         | Integration management (1.10.5)  | Sum  | 1        |                 |        |
| 3.A3.8   | A3   |                          | X         | Programming Requirements (1.9)   | Sum  | 1        |                 |        |
| 3.A3.9   | A3   |                          | X         | Quality Management (1.10.2)  | Sum  | 1        |                 |        |
| 3.A3.10  | A3   |                          | X         | Socio Economic Requirements (1.11)   | Sum  | 1        |                 |        |
| 3.A3.11  | A3   |                          | X         | Occupational Health and Safety Requirements (1.12)   | Sum  | 1        |                 |        |
| 3.A3.12  | A3   |                          | X         | Environmental Requirements (1.13)  | Sum  | 1        |                 |        |
|          | A3   |                          |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 3.A3.13  | A3   |                          | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.14  | A3   |                          | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.15  | A3   |                          | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.16  | A3   |                          | X         | .....  | Sum  | 1        |                 |        |
|          | A3   | <b>1.003 &amp; 1.004</b> |           | <b>FIXED CHARGES - FACILITIES FOR THE CONTRACTOR (1.8)</b>   |      |          |                 |        |
| 3.A3.17  | A3   |                          | X         | Transport of Staff and Labour (1.8.1.4)  | Sum  | 1        |                 |        |
| 3.A3.18  | A3   |                          | X         | Construction Establishment Fencing (1.8.3.1)   | Sum  | 1        |                 |        |
| 3.A3.19  | A3   |                          | X         | Lighting of Construction Establishment Areas (1.8.3.2)   | Sum  | 1        |                 |        |
| 3.A3.20  | A3   |                          | X         | Electrical power and distribution (1.8.3.4)  | Sum  | 1        |                 |        |
| 3.A3.21  | A3   |                          | X         | Standby power (1.8.3.4)  | Sum  | 1        |                 |        |
| 3.A3.22  | A3   |                          | X         | Communications (1.8.3.7)   | Sum  | 1        |                 |        |
|          | A3   |                          |           | <b>Office, Accommodation and Other Site facilities</b>   |      |          |                 |        |
| 3.A3.23  | A3   |                          | X         | Accommodation for staff and workforce (1.8.3.8b)   | Sum  | 1        |                 |        |
| 3.A3.24  | A3   |                          | X         | Offices (1.8.3.8c)   | Sum  | 1        |                 |        |
| 3.A3.25  | A3   |                          | X         | Other establishment facilities (1.8.3.8d)  | Sum  | 1        |                 |        |
| 3.A3.26  | A3   |                          | X         | Storage (1.8.3.8e)   | Sum  | 1        |                 |        |
|          | A3   |                          |           | <b>Other services</b>  |      |          |                 |        |
| 3.A3.27  | A3   |                          | X         | Medical (1.8.3.12)   | Sum  | 1        |                 |        |
|          |      |                          |           |  |      |          | Carried Forward |        |

| Item no. | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|          |      | Reference |           |  |      |          |                 |        |
|          |      |           |           |  |      |          | Brought Forward |        |
| 3.A3.28  | A3   |           | X         | Sanitation and Cleaning (1.8.3.13)   | Sum  | 1        |                 |        |
| 3.A3.29  | A3   |           | X         | Access control and security (1.8.3.14)   | Sum  | 1        |                 |        |
|          | A3   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("nil" to be entered if not required)</b> |      |          |                 |        |
| 3.A3.30  | A3   |           | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.31  | A3   |           | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.32  | A3   |           | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.33  | A3   |           | X         | .....  | Sum  | 1        |                 |        |
|          | A3   | 1.004     |           | <b>FIXED CHARGES - SPECIFIC EQUIPMENT</b>  |      |          |                 |        |
| 3.A3.34  | A3   |           | X         | Equipment for construction and maintenance of the Contractor's work areas  | Sum  | 1        |                 |        |
| 3.A3.35  | A3   |           | X         | Minor equipment and small tools  | Sum  | 1        |                 |        |
| 3.A3.36  | A3   |           | X         | Equipment for compliance with Environmental and OH&S requirement   | Sum  | 1        |                 |        |
| 3.A3.37  | A3   |           | X         | Construction services including electrical power, compressed air, water, communications, etc.  | Sum  | 1        |                 |        |
| 3.A3.38  | A3   |           | X         | Equipment for processing and transport of materials  | Sum  | 1        |                 |        |
| 3.A3.39  | A3   |           | X         | Equipment for crange, winches and lifting  | Sum  | 1        |                 |        |
| 3.A3.40  | A3   |           | X         | Equipment for welding and testing  | Sum  | 1        |                 |        |
|          | A3   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 3.A3.41  | A3   |           | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.42  | A3   |           | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.43  | A3   |           | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.44  | A3   |           | X         | .....  | Sum  | 1        |                 |        |
|          | A3   | 1.006     |           | <b>TIME RELATED CHARGES - GENERAL OBLIGATIONS</b>  |      |          |                 |        |
| 3.A3.45  | A3   |           | X         | Head Office Contract Management and Overheads (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 3.A3.46  | A3   |           | X         | General Site Supervision and Overheads (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.47  | A3   |           | X         | Method Statements (1.10.1) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.48  | A3   |           | X         | Competency training (1.10.2.4) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.49  | A3   |           | X         | Returns and reporting (1.10.3) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.50  | A3   |           | X         | Management meetings (1.10.4) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.51  | A3   |           | X         | Integration management (1.10.5) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 3.A3.52  | A3   |           | X         | Programming Requirements (1.9) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
|          |      |           |           |  |      |          | Carried Forward |        |

| Item no. | Part | Payment       | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|---------------|-----------|--|------|----------|-----------------|--------|
|          |      | Reference     |           |  |      |          |                 |        |
|          |      |               |           |  |      |          | Brought Forward |        |
| 3.A3.53  | A3   |               | X         | Quality Management (1.10.2)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.54  | A3   |               | X         | Socio Economic Requirements (1.11)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 3.A3.55  | A3   |               | X         | Occupational Health and Safety (1.12)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.56  | A3   |               | X         | Environmental Requirements (1.13)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
|          | A3   |               |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("nil" to be entered if not required)</b> |      |          |                 |        |
| 3.A3.57  | A3   |               | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.58  | A3   |               | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.59  | A3   |               | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.60  | A3   |               | X         | .....  | Sum  | 1        |                 |        |
|          | A3   | 1.007 & 1.008 |           | <b>TIME RELATED CHARGES - FACILITIES FOR THE CONTRACTOR (1.8)</b>  |      |          |                 |        |
| 3.A3.61  | A3   |               | X         | Transport of Staff and Labour (1.8.1.4)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.62  | A3   |               | X         | Construction Establishment Fencing (1.8.3.1)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 3.A3.63  | A3   |               | X         | Lighting of Construction Establishment Areas (1.8.3.2)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 3.A3.64  | A3   |               | X         | Electrical power and distribution (1.8.3.4)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.65  | A3   |               | X         | Standby power (1.8.3.4)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.66  | A3   |               | X         | Communications (1.8.3.7)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
|          | A3   |               |           | <b>Office, Accommodation and Other Site facilities</b>   |      |          |                 |        |
| 3.A3.67  | A3   |               | X         | Accommodation for staff and workforce (1.8.3.8b)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 3.A3.68  | A3   |               | X         | Offices (1.8.3.8c)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 3.A3.69  | A3   |               | X         | Other establishment facilities (1.8.3.8d)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.70  | A3   |               | X         | Storage (1.8.3.8e)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
|          | A3   |               |           | <b>Other services</b>  |      |          |                 |        |
| 3.A3.71  | A3   |               | X         | Medical (1.8.3.12)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 3.A3.72  | A3   |               | X         | Sanitation and Cleaning (1.8.3.13)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 3.A3.73  | A3   |               | X         | Access control and security (1.8.3.14)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
|          | A3   |               |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
|          |      |               |           |  |      |          | Carried Forward |        |



| Item no. | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|          |      |                   |           |  |      |          | Brought Forward |        |
| 3.A3.74  | A3   |                   | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.75  | A3   |                   | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.76  | A3   |                   | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.77  | A3   |                   | X         | .....  | Sum  | 1        |                 |        |
|          | A3   | 1.008             |           | <b>TIME RELATED CHARGES - SPECIFIC EQUIPMENT</b>   |      |          |                 |        |
| 3.A3.78  | A3   |                   | X         | Equipment for construction and maintenance of the Contractor's work areas<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.79  | A3   |                   | X         | Minor equipment and small tools<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.80  | A3   |                   | X         | Equipment for compliance with Environmental and OH&S requirement<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 3.A3.81  | A3   |                   | X         | Construction services including electrical power, compressed air, water, communications, etc.<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.82  | A3   |                   | X         | Equipment for processing and transport of materials<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.83  | A3   |                   | X         | Equipment for crantage, winches and lifting<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 3.A3.84  | A3   |                   | X         | Equipment for welding and testing<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
|          | A3   |                   |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("nil" to be entered if not required)</b> |      |          |                 |        |
| 3.A3.85  | A3   |                   | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.86  | A3   |                   | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.87  | A3   |                   | X         | .....  | Sum  | 1        |                 |        |
| 3.A3.88  | A3   |                   | X         | .....  | Sum  | 1        |                 |        |
|          | A3   |                   |           | <b>A3: Preliminary and General (Carried forward to Summary of Bills)</b>   |      |          |                 |        |

| Item no.       | Part | Payment         | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-----------------|-----------|--|------|----------|-----------------|--------|
|                |      | Reference       |           |  |      |          |                 |        |
|                | B    |                 |           | <b>PART B: ABSTRACTION WORKS</b>   |      |          |                 |        |
|                | B2   |                 |           | <b>PART B2.2: DIVERSION WORKS AND LOW-LIFT PUMPING STATION</b>   |      |          |                 |        |
|                | B2   |                 |           | <b>PART B2.2.1: MECHANICAL PLANT</b><br><br>Dwg. for General Arrangement: 2B-C3-003<br>Dwg. for Pipe Work Sections: 2B-C4-003<br>Dwg. for Pipe Work Suction: 2B-C5-002<br>Dwg. for Pipe Work Delivery: 2B-C5-003 |      |          |                 |        |
|                | B2   |                 |           | <b>PART: B2.2.1.1: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|                | B2   |                 |           | <b>PART: B2.2.1.1.1: PUMPS AND ANCILLARY PLANT</b>   |      |          |                 |        |
|                | B2   |                 |           | <b>Employer's Requirements : Mechanical (Plant designed, tested, supplied and delivered by Contractor)</b>   |      |          |                 |        |
| 3.B2.2.1.1.1.1 | B2   | 30.001 & 39.001 |           | Design and documentation   | Sum  | 1        |                 |        |
| 3.B2.2.1.1.1.2 | B2   | 30.002          | x         | Complete Low-Lift Pumps (excl. instrumentation)  | No   | 3        |                 |        |
| 3.B2.2.1.1.1.3 | B2   | 39.002(t)       | x         | Motors for Pumps (excl. instrumentation)   | No   | 3        |                 |        |
| 3.B2.2.1.1.1.4 | B2   | 30.004          |           | Pre-Commissioning of Plant: Low-Lift Pump sets   | No   | 3        |                 |        |
| 3.B2.2.1.1.1.5 | B2   | 28.004          |           | Floor Sump Pump complete with associated pipework and valves, low rate   | No   | 1        |                 |        |
| 3.B2.2.1.1.1.6 | B2   | 28.004          |           | Drainage Sump Pump complete with associated pipework and valves, high rate   | No   | 1        |                 |        |
| 3.B2.2.1.1.1.7 | B2   | 28.006          | x         | Hydro-cyclone Oil/Water Separator (Complete)   | No   | 1        |                 |        |
|                | B2   |                 |           | <b>PART: B2.2.1.1.2: CRANES, HOISTS AND WINCHES</b>  |      |          |                 |        |
|                | B2   |                 |           | <b>Employer's Requirements : Mechanical (Plant designed, supplied and delivered by Contractor)</b>   |      |          |                 |        |
| 3.B2.2.1.1.2.1 | B2   | 31.001          |           | Design and documentation   | Sum  | 1        |                 |        |
| 3.B2.2.1.1.2.2 | B2   | 31.002          |           | Complete 10 tonne Portal Crane   | No   | 1        |                 |        |
| 3.B2.2.1.1.2.3 | B2   | 31.002          | x         | Complete 12.5/2 tonne DGEOT Crane  | No   | 1        |                 |        |
|                | B2   |                 |           | <b>PART: B2.2.1.1.3: PIPES AND PIPE SPECIALS</b>   |      |          |                 |        |
|                | B2   |                 |           | <b>Employer's Requirements : Mechanical (Plant designed, supplied and delivered by Contractor)</b>   |      |          |                 |        |
| 3.B2.2.1.1.3.1 | B2   | 30.001          |           | Design and documentation   | Sum  | 1        |                 |        |
| 3.B2.2.1.1.3.2 | B2   | 32.003          |           | Item LLS1.1 - DN1200 PN10 90 degree Intake Elbow special with one leg extended 600mm and ending in DN1350 bellmouth, other leg extended 500mm with puddle flange   | No   | 4        |                 |        |
| 3.B2.2.1.1.3.3 | B2   | 32.003          |           | Item LLS1.2 - DN1200 PN10 45 degree Bend   | No   | 4        |                 |        |
|                | B2   |                 |           | <b>Item LLS1.3 to LLS1.5 - DN1200 PN10 plain ended Pipe Special Straight (between Intake Elbow and Flanged Stub Pipes)</b>   |      |          |                 |        |
| 3.B2.2.1.1.3.4 | B2   | 32.003          |           | L = 2850 mm  | No   | 1        |                 |        |
| 3.B2.2.1.1.3.5 | B2   | 32.003          |           | L = 3020 mm  | No   | 1        |                 |        |
| 3.B2.2.1.1.3.6 | B2   | 32.003          |           | L = 4050 mm  | No   | 1        |                 |        |
|                |      |                 |           |  |      |          | Carried Forward |        |

| Item no.        | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                 |      |                   |           |  |      |          |                 |        |
|                 |      |                   |           |  |      |          | Brought Forward |        |
| 3.B2.2.1.1.3.7  | B2   | 32.003            |           | L = 5675 mm  | No   | 1        |                 |        |
| 3.B2.2.1.1.3.8  | B2   | 32.003            |           | L = 8025 mm  | No   | 1        |                 |        |
| 3.B2.2.1.1.3.9  | B2   | 32.003            |           | L = 8500 mm  | No   | 1        |                 |        |
| 3.B2.2.1.1.3.10 | B2   | 32.003            |           | L = 9000 mm  | No   | 1        |                 |        |
| 3.B2.2.1.1.3.11 | B2   | 32.003            |           | Item LLS1.6 - DN1200 PN10 Flanged One End (Insulating) Pipe Special Straight with Puddle Flange  | No   | 4        |                 |        |
| 3.B2.2.1.1.3.12 | B2   | 32.003            |           | Item LLS1.7 - DN1200 PN10 Flanged Pipe Special Straight  | No   | 3        |                 |        |
| 3.B2.2.1.1.3.13 | B2   | 32.003            |           | Item LLS1.9 - DN1200 PN10 Dismantling Joint  | No   | 3        |                 |        |
| 3.B2.2.1.1.3.14 | B2   | 32.003            |           | Item LLS1.10- DN1200-800 PN10 Flanged Concentric Reducer with flanged DN150 Stub Pipe, DN25 flow switch nipple and DN25 Pressure transducer socket (upstream of Low-Lift Pump) | No   | 3        |                 |        |
| 3.B2.2.1.1.3.15 | B2   | 32.003            |           | Item LLS1.11 - DN800 PN10 Dismantling Joint  | No   | 3        |                 |        |
| 3.B2.2.1.1.3.16 | B2   | 32.003            |           | Item LLS1.14 - DN1200 PN10 Blind Flange with Flanged DN50 Long Radius Bend   | No   | 1        |                 |        |
| 3.B2.2.1.1.3.17 | B2   | 32.003            |           | Item LLD1.1 - DN700 PN16 Dismantling Joint   | No   | 3        |                 |        |
| 3.B2.2.1.1.3.18 | B2   | 32.003            |           | Item LLD1.2 - DN1000-700 PN16 Concentric Reducer (downstream of Low-Lift Pump)   | No   | 3        |                 |        |
| 3.B2.2.1.1.3.19 | B2   | 32.003            |           | Item LLD 1.4 - DN1000 PN16 Pipe Special Straight with DN150 Stub and DN100 Scour Pipes (between non-return and isolating valves)   | No   | 3        |                 |        |
| 3.B2.2.1.1.3.20 | B2   | 32.003            |           | Item LLD1.6 - DN1000 PN16 Dismantling Joint  | No   | 3        |                 |        |
| 3.B2.2.1.1.3.21 | B2   | 32.003            |           | Item LLD1.8 - DN1000 PN16 Flanged Pipe Special Straight  | No   | 3        |                 |        |
| 3.B2.2.1.1.3.22 | B2   | 32.003            |           | Item LLD1.11 - DN1000 PN16 Flanged one end (Insulating) Pipe Special Straight with Puddle Flange   | No   | 4        |                 |        |
| 3.B2.2.1.1.3.23 | B2   | 32.003            |           | Item LLD1.12 - DN1000 PN16 plain ended Pipe Special Straight (upstream of delivery manifold sweep tee)   | No   | 3        |                 |        |
| 3.B2.2.1.1.3.24 | B2   | 32.003            |           | Item LLD1.21 - DN1000 PN16 plain ended Pipe Special Straight (upstream of manifold bend)   | No   | 1        |                 |        |
| 3.B2.2.1.1.3.25 | B2   | 32.003            |           | Item LLD1.22 - DN1000 PN16 90 degree Medium Radius Pipe Special Bend   | No   | 1        |                 |        |
| 3.B2.2.1.1.3.26 | B2   | 32.003            |           | Item LLD1.23 - DN1400-700 PN16 Concentric Reducer with Pipe Straight (delivery manifold)   | No   | 1        |                 |        |
| 3.B2.2.1.1.3.27 | B2   | 32.003            |           | Item LLD 1.13 - DN1400-1000 PN16 Unequal Sweep Tee (delivery manifold)   | No   | 2        |                 |        |
| 3.B2.2.1.1.3.28 | B2   | 32.003            |           | Item LLD 1.33 - DN1400-1000 PN16 Unequal Sweep Tee with DN200 Flanged Scour Stub Pipe (delivery manifold)  | No   | 1        |                 |        |
| 3.B2.2.1.1.3.29 | B2   | 32.003            |           | Item LLD1.14 - DN1400 PN16 plain ended Pipe Special Straight (delivery manifold)   | No   | 2        |                 |        |
| 3.B2.2.1.1.3.30 | B2   | 32.003            |           | Item LLD1.20 - DN1000 PN16 Blind Flange  | No   | 1        |                 |        |
| 3.B2.2.1.1.3.31 | B2   | 32.003            |           | Item LLD1.35 - DN1000 PN16 Pipe Special Straight with DN150 Stub Pipe and DN25 pressure transducer socket (future pump delivery pipework)                                      | No   | 1        |                 |        |
|                 |      |                   |           |  |      |          | Carried Forward |        |

| Item no.        | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|                 |      | Reference |           |  |      |          |                 |        |
|                 |      |           |           |  |      |          | Brought Forward |        |
|                 | B2   |           |           | <b>Item LLD1.24 - DN200 PN16 Plain Ended Pipe Special Straight</b>   |      |          |                 |        |
| 3.B2.2.1.1.3.32 | B2   | 32.003    |           | L = 4500 mm  | No   | 2        |                 |        |
|                 | B2   |           |           | <b>Item LLD1.26 - DN200 PN16 Flanged One End Pipe Special Straight with DN150 Flanged stub pipe from one end</b> |      |          |                 |        |
| 3.B2.2.1.1.3.33 | B2   | 32.003    |           | L = 5076 mm  | No   | 1        |                 |        |
|                 | B2   |           |           | <b>DN200 PN16 Flanged Pipe Special Straight</b>  |      |          |                 |        |
| 3.B2.2.1.1.3.34 | B2   | 32.003    |           | Item LLD1.28 - L = 400 mm  | No   | 1        |                 |        |
| 3.B2.2.1.1.3.35 | B2   | 32.003    |           | Item LLD1.34 - L = 1000 mm   | No   | 1        |                 |        |
| 3.B2.2.1.1.3.36 | B2   | 32.003    |           | Item LLD1.31 - L = 9000 mm   | No   | 1        |                 |        |
| 3.B2.2.1.1.3.37 | B2   | 32.003    |           | Item LLD1.32 - DN200 PN16 Flanged One End Pipe Special Straight with Puddle Flange                               | No   | 1        |                 |        |
| 3.B2.2.1.1.3.38 | B2   | 32.003    |           | Item LLD 1.30 - DN200 PN16 Flanged Pipe Special Straight with Puddle Flange                                      | No   | 1        |                 |        |
| 3.B2.2.1.1.3.39 | B2   | 32.003    |           | Item LLD1.25 - DN200 PN16 22.5 degree Medium Radius Plain Ended Pipe Special Bend                                | No   | 2        |                 |        |
| 3.B2.2.1.1.3.40 | B2   | 32.003    |           | Item LLD1.29 - DN200 PN16 22.5 degree Medium Radius Flanged Pipe Special Bend                                    | No   | 3        |                 |        |
|                 |      |           |           | <b>Employer's Requirements : Mechanical (Plant supplied and delivered by Contractor)</b>                         |      |          |                 |        |
| 3.B2.2.1.1.3.41 | B2   | 32.003    |           | Item LLD1.15 - DN1400 PN16 Pipe Special Straight with DN700 Access Branch  | No   | 1        |                 |        |
| 3.B2.2.1.1.3.42 | B2   | 32.003    |           | Item LLD1.16 - DN700 PN16 Blind Flange with DN150 DN16 Flanged Stub Pipe   | No   | 1        |                 |        |
| 3.B2.2.1.1.3.43 | B2   | 32.003    |           | Item LLD1.18 - DN1400 PN16 Pipe Special Straight (downstream of access branch pipe special)                      | No   | 2        |                 |        |
|                 | B2   |           |           | <b>PART: B2.2.1.1.4: INSTRUMENTATION</b>   |      |          |                 |        |
|                 | B2   |           |           | <b>Employer's Requirements : Mechanical (Plant designed, supplied and delivered by Contractor)</b>               |      |          |                 |        |
| 3.B2.2.1.1.4.1  | B2   | 30.001    |           | Design and documentation   | Sum  | 1        |                 |        |
| 3.B2.2.1.1.4.2  | B2   | 30.002    |           | SS Flow switch PN10, treaded DN25 on suction.  | No   | 3        |                 |        |
| 3.B2.2.1.1.4.3  | B2   | 30.002    |           | Pressure Gauge Range 0-1000 kPa with 100mm display and SS ball valve, onto DN25 Nipple on Suction.               | No   | 3        |                 |        |
| 3.B2.2.1.1.4.4  | B2   | 30.002    |           | Pressure Gauge Range 0-1600 kPa with 100mm display and SS ball valve, onto DN25 Nipple on discharge.             | No   | 3        |                 |        |
|                 | B2   |           |           | <b>PART: B2.2.1.1.5: VALVES</b>  |      |          |                 |        |
|                 | B2   |           |           | <b>Employer's Requirements : Mechanical (Plant designed, supplied and delivered by Contractor)</b>               |      |          |                 |        |
| 3.B2.2.1.1.5.1  | B2   | 35.001    |           | Design and documentation   | Sum  | 1        |                 |        |
| 3.B2.2.1.1.5.2  | B2   | 35.002    |           | Item LLS1.8 - DN1200 PN10 Isolating Butterfly Valve - Suction (Rubber seal, double offset)                       | No   | 3        |                 |        |
| 3.B2.2.1.1.5.3  | B2   | 35.002    |           | Item LLS1.8 - Actuator and worm gearbox for Suction Isolating B/F Valves   | No   | 3        |                 |        |
|                 |      |           |           |  |      |          | Carried Forward |        |

| Item no.        | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|                 |      |                   |           |   |      |          |                 |        |
|                 |      |                   |           |   |      |          | Brought Forward |        |
| 3.B2.2.1.1.5.4  | B2   | 35.002            |           | Item LLS1.12 - DN150 PN10 RSV Gate Valve for isolating Air Valve  | No   | 3        |                 |        |
| 3.B2.2.1.1.5.5  | B2   | 35.002            |           | Item LLS1.12 - Actuator and worm gearbox for Isolating RSV Gate Valves  | No   | 3        |                 |        |
| 3.B2.2.1.1.5.6  | B2   | 35.002            |           | Item LLS1.13 - DN150 PN10 Double Acting, Anti Shock Orifice Air Valve   | No   | 3        |                 |        |
| 3.B2.2.1.1.5.7  | B2   | 35.002            |           | Item LLS 1.15 - DN50 PN10 RSV Gate Valve for isolating Air Valve  | No   | 1        |                 |        |
| 3.B2.2.1.1.5.8  | B2   | 35.002            |           | Item LLS1.16 - DN50 PN10 Double Acting, Anti Shock Orifice Air Valve  | No   | 1        |                 |        |
| 3.B2.2.1.1.5.9  | B2   | 35.002            |           | Item LLD1.3 - DN1000 PN16 Non-reverse Nozzle Type Check Valve   | No   | 3        |                 |        |
| 3.B2.2.1.1.5.10 | B2   | 35.002            |           | Item LLD1.5 - DN100 PN16 Scour Wedge Gate Valve   | No   | 3        |                 |        |
| 3.B2.2.1.1.5.11 | B2   | 35.002            |           | Item LLD1.7 - DN1000 PN16 Isolating Butterfly Valve - Delivery (Rubber seal, double offset)                                   | No   | 3        |                 |        |
| 3.B2.2.1.1.5.12 | B2   | 35.002            |           | Item LLD 1.7 - Actuator and worm gearbox for Delivery Isolating B/F Valves  | No   | 3        |                 |        |
| 3.B2.2.1.1.5.13 | B2   | 35.002            |           | Item LLD1.9 - DN150 PN16 RSV Gate Valve for isolating Air Valve   | No   | 4        |                 |        |
| 3.B2.2.1.1.5.14 | B2   | 35.002            |           | Item LLD1.10 - DN150 PN16 Double Acting, Anti Shock Orifice Air Valve   | No   | 4        |                 |        |
| 3.B2.2.1.1.5.15 | B2   | 35.002            |           | Item LLD1.27 - DN200 PN16 Scour Wedge Gate Valve  | No   | 2        |                 |        |
| 3.B2.2.1.1.5.16 | B2   | 35.002            |           | Item LLD1.36 - DN150 PN16 Wedge Gate Valve  | No   | 1        |                 |        |
|                 |      |                   |           | <b>Employer's Requirements : Mechanical (Plant supplied and delivered by Contractor)</b>                                      |      |          |                 |        |
| 3.B2.2.1.1.5.17 | B2   | 35.002            |           | Item LLD1.17 - DN150 PN16 RSV Gate Valve for isolating Air Valve  | No   | 1        |                 |        |
| 3.B2.2.1.1.5.18 | B2   | 35.002            |           | Item LLD1.19 - DN150 PN16 Double Acting, Anti Shock Orifice Air Valve   | No   | 1        |                 |        |
|                 | B2   |                   |           | <b>PART: B2.2.1.1.6: HYDRO - MECHANICAL PLANT</b>   |      |          |                 |        |
|                 | B2   |                   |           | <b>Mechanical (Plant designed, tested, supplied and delivered by Contractor)</b>  |      |          |                 |        |
| 3.B2.2.1.1.6.1  | B2   | 29.001            |           | Design and documentation  | Sum  | 1        |                 |        |
| 3.B2.2.1.1.6.2  | B2   | 29.002            |           | 4 m (H) x 4 m (W) Boulder and Gravel Scour (radial) Gates, complete with control plant, first and second stage built-in parts | No   | 3        |                 |        |
| 3.B2.2.1.1.6.3  | B2   | 29.002            |           | 3 m (H) x 3 m (W) Sluice Gate (flushing canal), complete with control plant, first and second stage built-in parts            | No   | 1        |                 |        |
| 3.B2.2.1.1.6.4  | B2   | 29.002            |           | 2.5 m (H) x 2.7 m (W) Sluice Gates, complete with control plant, first and second stage built-in parts                        | No   | 4        |                 |        |
| 3.B2.2.1.1.6.5  | B2   | 29.002            |           | 13.3 m (H) x 2.7 m (W) Trash Racks complete with grapple, first and second stage built in parts                               | No   | 4        |                 |        |
| 3.B2.2.1.1.6.6  | B2   | 29.002            |           | 2.7 m (H) x 2.7 m (W) Fine Screens complete with grapple, first and second stage built in parts                               | No   | 4        |                 |        |
| 3.B2.2.1.1.6.7  | B2   | 29.002            |           | 4 m (H) x 4 m (W) Stoplog Gate, complete with grapple, first and second stage built-in parts, 6 No. Slots                     | No   | 3        |                 |        |
|                 |      |                   |           |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment   | Breakdown Reference | Description  | Unit | Quantity | Rate            | Amount |
|-----------------|------|-----------|---------------------|--|------|----------|-----------------|--------|
|                 |      |           |                     |  |      |          |                 |        |
|                 |      |           |                     |  |      |          | Brought Forward |        |
| 3.B2.2.1.1.6.8  | B2   | 29.002    |                     | 2.5 m (H) x 2.7 m (W) x Stoplog Gate, complete with grapple, first and second stage built in parts, 4 No. Slots            | No   | 1        |                 |        |
| 3.B2.2.1.1.6.9  | B2   | 29.002    |                     | Trash Skip of 4 m3   | No   | 1        |                 |        |
| 3.B2.2.1.1.6.10 | B2   | 29.002    |                     | Control system for Scour Gates   | No   | 1        |                 |        |
| 3.B2.2.1.1.6.11 | B2   | 29.002    |                     | Hydraulic Power Pack for Scour Gates   | No   | 1        |                 |        |
| 3.B2.2.1.1.6.12 | B2   | 29.002    |                     | Control system for Sluice Gates  | No   | 1        |                 |        |
| 3.B2.2.1.1.6.13 | B2   | 29.002    |                     | Hydraulic Power Pack for Sluice Gates  | No   | 1        |                 |        |
|                 | B2   |           |                     | <b>PART B2.2.1.2: INSTALLATIONS</b>  |      |          |                 |        |
|                 | B2   |           |                     | <b>PART B2.2.1.2.1: PUMPS AND ANCILLARY PLANT</b>  |      |          |                 |        |
|                 | B2   |           |                     | <b>Employer's Requirements : Mechanical (Plant installation by Contractor)</b>   |      |          |                 |        |
| 3.B2.2.1.2.1.1  | B2   | 30.003    | x                   | Complete Low-Lift Pumps (excl. instrumentation)  | No   | 3        |                 |        |
| 3.B2.2.1.2.1.2  | B2   | 39.003(t) | x                   | Motors for Pumps (excl. instrumentation)   | No   | 3        |                 |        |
| 3.B2.2.1.2.1.3  | B2   | 28.005    |                     | Floor Sump Pump complete with associated pipework and valves, low rate   | No   | 1        |                 |        |
| 3.B2.2.1.2.1.4  | B2   | 28.005    |                     | Drainage Sump Pump complete with associated pipework and valves, high rate   | No   | 1        |                 |        |
| 3.B2.2.1.2.1.5  | B2   | 28.007    | x                   | Hydro-cyclone Oil/Water Separator (Complete)   | No   | 1        |                 |        |
|                 | B2   |           |                     | <b>PART B2.2.1.2.2: CRANES, HOISTS AND WINCHES</b>   |      |          |                 |        |
|                 | B2   |           |                     | <b>Employer's Requirements : Mechanical (Plant installation by Contractor)</b>   |      |          |                 |        |
| 3.B2.2.1.2.2.1  | B2   | 31.003    |                     | Complete 10 tonne Portal Crane   | No   | 1        |                 |        |
| 3.B2.2.1.2.2.2  | B2   | 31.003    | x                   | Complete 12.5/2 tonne DGEOT Crane  | No   | 1        |                 |        |
|                 | B2   |           |                     | <b>PART B2.2.1.2.3: PIPES AND PIPE SPECIALS</b>  |      |          |                 |        |
|                 | B2   |           |                     | <b>Employer's Requirements : Mechanical (Plant installation by Contractor)</b>   |      |          |                 |        |
| 3.B2.2.1.2.3.1  | B2   | 33.004    |                     | Item LLS1.1 - DN1200 PN10 90 degree Intake Elbow   | No   | 4        |                 |        |
| 3.B2.2.1.2.3.2  | B2   | 33.004    |                     | Item LLS1.2 - DN1200 PN10 45 degree Bend   | No   | 4        |                 |        |
|                 | B2   |           |                     | <b>Item LLS1.3 to LLS1.5 - DN1200 PN10 plain ended Pipe Special Straight (between Intake Elbow and Flanged Stub Pipes)</b> |      |          |                 |        |
| 3.B2.2.1.2.3.3  | B2   | 33.004    |                     | L = 2850 mm  | No   | 1        |                 |        |
| 3.B2.2.1.2.3.4  | B2   | 33.004    |                     | L = 3020 mm  | No   | 1        |                 |        |
| 3.B2.2.1.2.3.5  | B2   | 33.004    |                     | L = 4050 mm  | No   | 1        |                 |        |
| 3.B2.2.1.2.3.6  | B2   | 33.004    |                     | L = 5675 mm  | No   | 1        |                 |        |
| 3.B2.2.1.2.3.7  | B2   | 33.004    |                     | L = 8025 mm  | No   | 1        |                 |        |
| 3.B2.2.1.2.3.8  | B2   | 33.004    |                     | L = 8500 mm  | No   | 1        |                 |        |
| 3.B2.2.1.2.3.9  | B2   | 33.004    |                     | L = 9000 mm  | No   | 1        |                 |        |
| 3.B2.2.1.2.3.10 | B2   | 33.004    |                     | Item LLS1.6 - DN1200 PN10 Flanged One End (Insulating) Pipe Special Straight with Puddle Flange                            | No   | 4        |                 |        |
|                 |      |           |                     |  |      |          | Carried Forward |        |

| Item no.        | Part | Payment Reference | Breakdown Reference | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|---------------------|---|------|----------|-----------------|--------|
|                 |      |                   |                     |   |      |          |                 |        |
|                 |      |                   |                     |   |      |          | Brought Forward |        |
| 3.B2.2.1.2.3.11 | B2   | 33.004            |                     | Item LLS1.7 - DN1200 PN10 Flanged Pipe Special Straight   | No   | 3        |                 |        |
| 3.B2.2.1.2.3.12 | B2   | 33.004            |                     | Item LLS1.9 - DN1200 PN10 Dismantling Joint   | No   | 3        |                 |        |
| 3.B2.2.1.2.3.13 | B2   | 33.004            |                     | Item LLS1.10 - DN1200-800 PN10 Flanged Concentric Reducer with Flanged DN150 Stub Pipe (upstream of Low-Lift Pump)              | No   | 3        |                 |        |
| 3.B2.2.1.2.3.14 | B2   | 33.004            |                     | Item LLS1.11 - DN800 PN10 Dismantling Joint   | No   | 3        |                 |        |
| 3.B2.2.1.2.3.15 | B2   | 33.004            |                     | Item LLS1.14 - DN1200 PN10 Blind Flange with Flanged DN50 Long Radius Bend  | No   | 1        |                 |        |
| 3.B2.2.1.2.3.16 | B2   | 33.004            |                     | Item LLD1.1 - DN700 PN16 Dismantling Joint  | No   | 3        |                 |        |
| 3.B2.2.1.2.3.17 | B2   | 33.004            |                     | Item LLD1.2 - DN1000-700 PN10 Concentric Reducer (downstream of Low-Lift Pump)  | No   | 3        |                 |        |
| 3.B2.2.1.2.3.18 | B2   | 33.004            |                     | Item LLD1.4 - DN1000 PN16 Pipe Special Straight with DN150 Stub and DN100 Scour Pipes (between non-return and isolating valves) | No   | 3        |                 |        |
| 3.B2.2.1.2.3.19 | B2   | 33.004            |                     | Item LLD1.6 - DN1000 PN16 Dismantling Joint   | No   | 3        |                 |        |
| 3.B2.2.1.2.3.20 | B2   | 33.004            |                     | Item LLD1.8 - DN1000 PN16 Flanged Pipe Special Straight   | No   | 3        |                 |        |
| 3.B2.2.1.2.3.21 | B2   | 33.004            |                     | Item LLD1.11 - DN1000 PN16 Flanged one end (Insulating) Pipe Special Straight with Puddle Flange                                | No   | 4        |                 |        |
| 3.B2.2.1.2.3.22 | B2   | 33.007            |                     | Item LLD1.12 - DN1000 PN16 plain ended Pipe Special Straight (upstream of delivery manifold sweep tee)                          | No   | 3        |                 |        |
| 3.B2.2.1.2.3.23 | B2   | 33.007            |                     | Item LLD1.21 - DN1000 PN16 plain ended Pipe Special Straight (upstream of manifold bend)  | No   | 1        |                 |        |
| 3.B2.2.1.2.3.24 | B2   | 33.007            |                     | Item LLD1.22 - DN1000 PN16 90 degree Medium Radius Pipe Special Bend  | No   | 1        |                 |        |
| 3.B2.2.1.2.3.25 | B2   | 33.007            |                     | Item LLD1.23 - DN1400-700 PN16 Concentric Reducer with Pipe Straight (delivery manifold)  | No   | 1        |                 |        |
| 3.B2.2.1.2.3.26 | B2   | 33.007            |                     | Item LLD1.13 - DN1400-1000 PN16 Unequal Sweep Tee (delivery manifold)   | No   | 2        |                 |        |
| 3.B2.2.1.2.3.27 | B2   | 33.007            |                     | Item LLD1.33 - DN1400-1000 PN16 Unequal Sweep Tee with DN200 Flanged Scour Stub Pipe (delivery manifold)                        | No   | 1        |                 |        |
| 3.B2.2.1.2.3.28 | B2   | 33.007            |                     | Item LLD1.14 - DN1400 PN16 plain ended Pipe Special Straight (delivery manifold)  | No   | 2        |                 |        |
| 3.B2.2.1.2.3.29 | B2   | 33.004            |                     | Item LLD1.20 - DN1000 PN16 Blind Flange   | No   | 1        |                 |        |
| 3.B2.2.1.2.3.30 | B2   | 33.004            |                     | Item LLD1.35 - DN1000 PN16 Pipe Special Straight with DN150 Stub Pipe (future pump delivery pipework)                           | No   | 1        |                 |        |
|                 | B2   |                   |                     | <b>Item LLD1.24 - DN200 PN16 Plain Ended Pipe Special Straight</b>  |      |          |                 |        |
| 3.B2.2.1.2.3.31 | B2   | 33.007            |                     | L = 4500 mm   | No   | 2        |                 |        |
|                 | B2   |                   |                     | <b>Item LLD1.26 - DN200 PN16 Flanged One End Pipe Special Straight with DN150 Flanged stub pipe from one end</b>                |      |          |                 |        |
| 3.B2.2.1.2.3.32 | B2   | 33.004            |                     | L = 5076 mm   | No   | 1        |                 |        |
|                 | B2   |                   |                     | <b>DN200 PN16 Flanged Pipe Special Straight</b>   |      |          |                 |        |
| 3.B2.2.1.2.3.33 | B2   | 33.004            |                     | Item LLD1.28 - L = 400 mm   | No   | 1        |                 |        |
| 3.B2.2.1.2.3.34 | B2   | 33.004            |                     | Item LLD1.34 - L = 1000 mm  | No   | 1        |                 |        |
|                 |      |                   |                     |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                 |      |                   |           |  |      |          |                 |        |
|                 |      |                   |           |  |      |          | Brought Forward |        |
| 3.B2.2.1.2.3.35 | B2   | 33.004            |           | Item LLD1.31 - L = 9000 mm   | No   | 1        |                 |        |
| 3.B2.2.1.2.3.36 | B2   | 33.004            |           | Item LLD1.32 - DN200 PN16 Flanged One End Pipe Special Straight with Puddle Flange                   | No   | 1        |                 |        |
| 3.B2.2.1.2.3.37 | B2   | 33.007            |           | Item LLD1.30 - DN200 PN16 Flanged Pipe Special Straight with Puddle Flange                           | No   | 1        |                 |        |
| 3.B2.2.1.2.3.38 | B2   | 33.007            |           | Item LLD1.25 - DN200 PN16 22.5 degree Medium Radius Plain Ended Pipe Special Bend                    | No   | 2        |                 |        |
| 3.B2.2.1.2.3.39 | B2   | 33.007            |           | Item LLD1.29 - DN200 PN16 22.5 degree Medium Radius Flanged Pipe Special Bend                        | No   | 3        |                 |        |
|                 |      |                   |           | <b>Employer's Requirements : Mechanical<br/>(Plant supplied and delivered by Contractor)</b>         |      |          |                 |        |
| 3.B2.2.1.2.3.40 | B2   | 33.004            |           | Item LLD1.15 - DN1400 PN16 Pipe Special Straight with DN700 Access Branch                            | No   | 1        |                 |        |
| 3.B2.2.1.2.3.41 | B2   | 33.004            |           | Item LLD1.16 - DN700 PN16 Blind Flange with DN150 DN16 Flanged Stub Pipe                             | No   | 1        |                 |        |
| 3.B2.2.1.2.3.42 | B2   | 33.004            |           | Item LLD1.18 - DN1400 PN16 Pipe Special Straight (downstream of access branch pipe special)          | No   | 1        |                 |        |
|                 |      |                   |           | <b>Testing for Employer and Contractor Design</b>  |      |          |                 |        |
| 3.B2.2.1.2.3.43 | B2   | 33.008            |           | Hydrostatic Testing  | Sum  | 1        |                 |        |
| 3.B2.2.1.2.3.44 | B2   | 33.009            |           | Pipe lining integrity testing  | Sum  | 1        |                 |        |
| 3.B2.2.1.2.3.45 | B2   | 33.010            |           | Pipe coating integrity testing   | Sum  | 1        |                 |        |
|                 |      |                   |           | <b>ITEMS CAST OR BUILT INTO CONCRETE</b>   |      |          |                 |        |
| 3.B2.2.1.2.3.46 | B2   | 33.005            |           | Steel pipe diameter 200mm  | No   | 3        |                 |        |
| 3.B2.2.1.2.3.47 | B2   | 33.005            |           | Steel pipe diameter 1000mm   | No   | 4        |                 |        |
| 3.B2.2.1.2.3.48 | B2   | 33.005            |           | Steel pipe diameter 1200mm   | No   | 11       |                 |        |
| 3.B2.2.1.2.3.49 | B2   | 33.005            |           | Steel pipe diameter 1400mm   | No   | 2        |                 |        |
|                 |      |                   |           | <b>PART B2.2.1.2.4: INSTRUMENTATION</b>  |      |          |                 |        |
|                 |      |                   |           | <b>Employer's Requirements : Mechanical<br/>(Plant installation by Contractor)</b>                   |      |          |                 |        |
| 3.B2.2.1.2.4.1  | B2   | 30.003            |           | SS Flow switch PN10, treaded DN25 on suction.  | No   | 3        |                 |        |
| 3.B2.2.1.2.4.2  | B2   | 30.003            |           | Pressure Gauge Range 0-1000 kPa with 100mm display and SS ball valve, onto DN25 Nipple on Suction.   | No   | 3        |                 |        |
| 3.B2.2.1.2.4.3  | B2   | 30.003            |           | Pressure Gauge Range 0-1600 kPa with 100mm display and SS ball valve, onto DN25 Nipple on discharge. | No   | 3        |                 |        |
|                 |      |                   |           | <b>PART B2.2.1.2.5: VALVES</b>   |      |          |                 |        |
|                 |      |                   |           | <b>Employer's Requirements : Mechanical<br/>(Plant installation by Contractor)</b>                   |      |          |                 |        |
| 3.B2.2.1.2.5.1  | B2   | 33.004            |           | Item LLS1.8 - DN1200 PN10 Isolating Butterfly Valve - Suction (Rubber seal, double offset)           | No   | 3        |                 |        |
| 3.B2.2.1.2.5.2  | B2   | 33.004            |           | Item LLS1.8 - Actuator and worm gearbox for Suction Isolating B/F Valves                             | No   | 3        |                 |        |
| 3.B2.2.1.2.5.3  | B2   | 33.004            |           | Item LLS1.12 - DN150 PN10 RSV Gate Valve for isolating Air Valve                                     | No   | 3        |                 |        |
| 3.B2.2.1.2.5.4  | B2   | 33.004            |           | Item LLS1.12 - Actuator and worm gearbox for Isolating RSV Gate Valves                               | No   | 3        |                 |        |
|                 |      |                   |           |  |      |          | Carried Forward |        |



| Item no.        | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|                 |      |                   |           |   |      |          |                 |        |
|                 |      |                   |           |   |      |          | Brought Forward |        |
| 3.B2.2.1.2.5.5  | B2   | 33.004            |           | Item LLS 1.13 - DN150 PN10 Double Acting, Anti Shock Orifice Air Valve  | No   | 3        |                 |        |
| 3.B2.2.1.2.5.6  | B2   | 33.004            |           | Item LLS1.15 - DN50 PN10 RSV Gate Valve for isolating Air Valve   | No   | 1        |                 |        |
| 3.B2.2.1.2.5.7  | B2   | 33.004            |           | Item LLS1.16 - DN50 PN10 Double Acting, Anti Shock Orifice Air Valve  | No   | 1        |                 |        |
| 3.B2.2.1.2.5.8  | B2   | 33.004            |           | Item LLD1.3 - DN1000 PN16 Non-reverse Nozzle Type Check Valve   | No   | 3        |                 |        |
| 3.B2.2.1.2.5.9  | B2   | 33.004            |           | Item LLD1.5 - DN100 PN16 Scour Wedge Gate Valve   | No   | 3        |                 |        |
| 3.B2.2.1.2.5.10 | B2   | 33.004            |           | Item LLD1.7 - DN1000 PN16 Isolating Butterfly Valve - Delivery (Rubber seal, double offset)                                   | No   | 3        |                 |        |
| 3.B2.2.1.2.5.11 | B2   | 33.004            |           | Item LLD1.7 - Actuator and worm gearbox for Delivery Isolating B/F Valves   | No   | 3        |                 |        |
| 3.B2.2.1.2.5.12 | B2   | 33.004            |           | Item LLD1.9 - DN150 PN16 RSV Gate Valve for isolating Air Valve   | No   | 4        |                 |        |
| 3.B2.2.1.2.5.13 | B2   | 33.004            |           | Item LLD1.10 - DN150 PN16 Double Acting, Anti Shock Orifice Air Valve   | No   | 4        |                 |        |
| 3.B2.2.1.2.5.14 | B2   | 33.004            |           | Item LLD1.27 - DN200 PN16 Scour Wedge Gate Valve  | No   | 2        |                 |        |
| 3.B2.2.1.2.5.15 | B2   | 33.004            |           | Item LLD1.36 - DN150 PN16 Wedge Gate Valve  | No   | 1        |                 |        |
|                 |      |                   |           | <b>Employer's Requirements : Mechanical (Plant supplied and delivered by Contractor)</b>                                      |      |          |                 |        |
| 3.B2.2.1.2.5.16 | B2   | 33.004            |           | Item LLD1.17 - DN150 PN16 RSV Gate Valve for isolating Air Valve  | No   | 1        |                 |        |
| 3.B2.2.1.2.5.17 | B2   | 33.004            |           | Item LLD1.19 - DN150 PN16 Double Acting, Anti Shock Orifice Air Valve   | No   | 1        |                 |        |
|                 | B2   |                   |           | <b>PART B2.2.1.2.6: HYDRO - MECHANICAL PLANT</b>  |      |          |                 |        |
|                 | B2   |                   |           | <b>Employer's Requirements : Mechanical (Plant installation by Contractor)</b>  |      |          |                 |        |
| 3.B2.2.1.2.6.1  | B2   | 29.003            |           | 4 m (H) x 4 m (W) Boulder and Gravel Scour (radial) Gates, complete with control plant, first and second stage built-in parts | No   | 3        |                 |        |
| 3.B2.2.1.2.6.2  | B2   | 29.003            |           | 3 m (H) x 3 m (W) Sluice Gate (flushing canal), complete with control plant, first and second stage built-in parts            | No   | 1        |                 |        |
| 3.B2.2.1.2.6.3  | B2   | 29.003            |           | 2.5 m (H) x 2.7 m (W) Sluice Gates, complete with control plant, first and second stage built-in parts                        | No   | 4        |                 |        |
| 3.B2.2.1.2.6.4  | B2   | 29.003            |           | 13.3 m (H) x 2.7 m (W) Trash Racks complete with grapple, first and second stage built in parts                               | No   | 4        |                 |        |
| 3.B2.2.1.2.6.5  | B2   | 29.003            |           | 2.7 m (H) x 2.7 m (W) Fine Screens complete with grapple, first and second stage built in parts                               | No   | 4        |                 |        |
| 3.B2.2.1.2.6.6  | B2   | 29.003            |           | 4 m (H) x 4 m (W) Stoplog Gate, complete with grapple, first and second stage built-in parts, 6 No. Slots                     | No   | 3        |                 |        |
| 3.B2.2.1.2.6.7  | B2   | 29.003            |           | 2.5 m (H) x 2.7 m (W) x Stoplog Gate, complete with grapple, first and second stage built in parts, 4 No. Slots               | No   | 1        |                 |        |
| 3.B2.2.1.2.6.8  | B2   | 29.003            |           | Trash Skip of 4 m <sup>3</sup>  | No   | 1        |                 |        |
| 3.B2.2.1.2.6.9  | B2   | 29.003            |           | Control system for Scour Gates  | No   | 1        |                 |        |
| 3.B2.2.1.2.6.10 | B2   | 29.003            |           | Hydraulic Power Pack for Scour Gates  | No   | 1        |                 |        |
|                 |      |                   |           |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|                 |      |                   |           |   |      |          |                 |        |
|                 |      |                   |           |   |      |          | Brought Forward |        |
| 3.B2.2.1.2.6.11 | B2   | 29.003            |           | Control system for Sluice Gates   | No   | 1        |                 |        |
| 3.B2.2.1.2.6.12 | B2   | 29.003            |           | Hydraulic Power Pack for Sluice Gates   | No   | 1        |                 |        |
|                 | B2   |                   |           | <b>PART B2.2.2: HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS (HVAC)</b>  |      |          |                 |        |
|                 | B2   |                   |           | <b>Employer's Requirements : HVAC (Plant designed, tested, supplied and delivered by Contractor)</b>  |      |          |                 |        |
|                 | B2   |                   |           | <b>PART B2.2.2.1: DESIGN AND DOCUMENTATION (For All Specified HVAC Systems)</b>   |      |          |                 |        |
| 3.B2.2.2.1.1    | B2   | 42.001            |           | Design and documentation  | Sum  | 1        |                 |        |
|                 | B2   |                   |           | <b>PART B2.2.2.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|                 | B2   |                   |           | <b>PART B2.2.2.2.1: Pump room - Filtered outside air pressurisation system</b>  |      |          |                 |        |
|                 | B2   |                   |           | <b>Filtered outside air pressurisation system complete, including fans, ducting, plenums, filters, louvres, Plant connections, brackets, anti-vibration mounts, fixing, etc. as per technical specification and tender drawing.</b> |      |          |                 |        |
| 3.B2.2.2.2.1.1  | B2   | 42.002            |           | Weather louvre (WL1), 1800 x 2400   | No   | 2        |                 |        |
| 3.B2.2.2.2.1.2  | B2   | 42.002            |           | Filter box - 1800 x 2400 c/w G4 filter media & access door  | No   | 2        |                 |        |
| 3.B2.2.2.2.1.3  | B2   | 42.002            |           | Pressure differential sensor  | No   | 2        |                 |        |
| 3.B2.2.2.2.1.4  | B2   | 42.002            |           | Pressure manometer  | No   | 2        |                 |        |
| 3.B2.2.2.2.1.5  | B2   | 42.002            |           | 1000mm diameter Axial fan (F1) c/w flexible connections   | No   | 2        |                 |        |
| 3.B2.2.2.2.1.6  | B2   | 42.002            |           | Galvanised support frame c/w antivibration pads for fans, attenuators and filter box  | No   | 2        |                 |        |
| 3.B2.2.2.2.1.7  | B2   | 42.002            |           | 2D Attenuators  | No   | 4        |                 |        |
| 3.B2.2.2.2.1.8  | B2   | 42.002            |           | Motorised damper (MD1), 900 x 900   | No   | 2        |                 |        |
| 3.B2.2.2.2.1.9  | B2   | 42.002            |           | Aluminium egg crate supply air grille (G3), 700 by 1800   | No   | 4        |                 |        |
| 3.B2.2.2.2.1.10 | B2   | 42.002            |           | Plywood frame 700 x 300   | No   | 4        |                 |        |
| 3.B2.2.2.2.1.11 | B2   | 42.002            |           | Uninsulated galvanised ducting c/w bends, transformation pieces, stop ends, spigots, shoe pieces, supports, fixings, hangers, etc. as required and specified  | Lot  | 1        |                 |        |
| 3.B2.2.2.2.1.12 | B2   | 42.002            |           | 700 x 300 Balancing damper  | No   | 4        |                 |        |
| 3.B2.2.2.2.1.13 | B2   | 42.002            |           | Weather louvre (WL2), 1000 x 1000   | No   | 4        |                 |        |
| 3.B2.2.2.2.1.14 | B2   | 42.002            |           | Pressure relief damper (PRD1), 1000 x 1000  | No   | 4        |                 |        |
| 3.B2.2.2.2.1.15 | B2   | 42.002            |           | Electrical connection from HVAC equipment to isolators  | No   | 4        |                 |        |
| 3.B2.2.2.2.1.16 | B2   | 42.002            |           | Plywood frame 1000 x 1000   | No   | 4        |                 |        |
|                 |      |                   |           |   |      |          | Carried Forward |        |

| Item no.      | Part | Payment | Breakdown Reference | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|---------|---------------------|--|------|----------|-----------------|--------|
|               |      |         |                     |  |      |          |                 |        |
|               |      |         |                     |  |      |          | Brought Forward |        |
|               | B2   |         |                     | <b>PART B2.2.2.2: VSD room - Chilled water system</b>  |      |          |                 |        |
|               | B2   |         |                     | <b>Chilled water air conditioning system complete, chillers, chilled water piping, chilled water fixtures/fittings, pumps, air handling units, ducting, louvres, Plant connections, brackets, anti-vibration mounts, fixing, etc. as per technical specification and tender drawing.</b> |      |          |                 |        |
| 3.B2.2.2.2.1  | B2   | 42.002  |                     | Air cooled chiller c/w all controls, pumps & BACnet interface (CH1 & CH2)  | No   | 2        |                 |        |
| 3.B2.2.2.2.2  | B2   | 42.002  |                     | Dosing pot   | No   | 1        |                 |        |
| 3.B2.2.2.2.3  | B2   | 42.002  | X                   | Stainless steel chilled water piping and fittings c/w all bends, T-sections, reducers, BTP, temperature gauges, pressure gauges, BMS sensors, strainers, butterfly valves, ball valves, flexible connections, one way valves, expansion tank, etc.                                       | Lot  | 1        |                 |        |
| 3.B2.2.2.2.4  | B2   | 42.002  |                     | Chilled water piping insulation c/w stainless steel cladding   | Lot  | 1        |                 |        |
| 3.B2.2.2.2.5  | B2   | 42.002  | X                   | Air handling unit c/w all controls & BACnet interface (AHU1)   | No   | 1        |                 |        |
| 3.B2.2.2.2.6  | B2   | 42.002  |                     | Externally insulated galvanised ducting c/w bends, transformation pieces, stop ends, spigots, shoe pieces, supports, fixings, hangers, etc. as required and specified  | Lot  | 1        |                 |        |
| 3.B2.2.2.2.7  | B2   | 42.002  |                     | 300mm diameter supply air spigots  | No   | 9        |                 |        |
| 3.B2.2.2.2.8  | B2   | 42.002  |                     | Pressure relief damper (PRD3), 500 x 500   | No   | 1        |                 |        |
| 3.B2.2.2.2.9  | B2   | 42.002  |                     | Plywood frame 500 x 500  | No   | 1        |                 |        |
| 3.B2.2.2.2.10 | B2   | 42.002  |                     | All electrical connections from HVAC equipment to isolators, DB's, control cables, etc.  | No   | 1        |                 |        |
| 3.B2.2.2.2.11 | B2   | 42.002  |                     | UPVC condensate drain pipe to nearest floor drain  | No   | 20       |                 |        |
|               | B2   |         |                     | <b>PART B2.2.2.3: LV switchgear &amp; MV room</b>  |      |          |                 |        |
|               | B2   |         |                     | <b>Filtered outside air pressurisation system complete, including fans, ducting, plenums, filters, louvres, Plant connections, brackets, anti-vibration mounts, fixing, etc. as per technical specification and tender drawing.</b>  |      |          |                 |        |
| 3.B2.2.2.3.1  | B2   | 42.002  |                     | Weather louvre (WL3), 1200 x 600   | No   | 2        |                 |        |
| 3.B2.2.2.3.2  | B2   | 42.002  |                     | Filter box - 1200 x 600 c/w G4 filter media & access door  | No   | 2        |                 |        |
| 3.B2.2.2.3.3  | B2   | 42.002  |                     | Pressure differential sensor   | No   | 2        |                 |        |
| 3.B2.2.2.3.4  | B2   | 42.002  |                     | Pressure manometer   | No   | 2        |                 |        |
| 3.B2.2.2.3.5  | B2   | 42.002  |                     | 560mm diameter Axial fan (F2) c/w flexible connections   | No   | 2        |                 |        |
| 3.B2.2.2.3.6  | B2   | 42.002  |                     | Galvanised support frame c/w antivibration pads for fans, attenuators and filter box   | No   | 2        |                 |        |
| 3.B2.2.2.3.7  | B2   | 42.002  |                     | 2D Attenuators   | No   | 4        |                 |        |
| 3.B2.2.2.3.8  | B2   | 42.002  |                     | Motorised damper (MD2), 450 x 450  | No   | 2        |                 |        |
| 3.B2.2.2.3.9  | B2   | 42.002  |                     | Single deflection horizontal aluminium supply air grille (G2), 400 x 200   | No   | 7        |                 |        |
| 3.B2.2.2.3.10 | B2   | 42.002  |                     | Uninsulated galvanised ducting c/w bends, transformation pieces, stop ends, spigots, shoe pieces, supports, fixings, hangers, etc. as required and specified   | Lot  | 1        |                 |        |
|               |      |         |                     |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|               |      |                   |           |  |      |          | Brought Forward |        |
| 3.B2.2.2.3.11 | B2   | 42.002            |           | Weather louvre (WL5), 700 x 700  | No   | 1        |                 |        |
| 3.B2.2.2.3.12 | B2   | 42.002            |           | Pressure relief damper (PRD2), 700 x 700   | No   | 1        |                 |        |
| 3.B2.2.2.3.13 | B2   | 42.002            |           | Plywood frame 700 x 700  | No   | 1        |                 |        |
| 3.B2.2.2.3.14 | B2   | 42.002            |           | Weather louvre (WL6), 500 x 500  | No   | 1        |                 |        |
| 3.B2.2.2.3.15 | B2   | 42.002            |           | Pressure relief damper (PRD3), 500 x 500   | No   | 1        |                 |        |
| 3.B2.2.2.3.16 | B2   | 42.002            |           | Electrical connection from HVAC equipment to isolators   | No   | 4        |                 |        |
| 3.B2.2.2.3.17 | B2   | 42.002            |           | Plywood frame 500 x 500  | No   | 1        |                 |        |
|               | B2   |                   |           | <b>PART B2.2.2.4: Control Room</b>   |      |          |                 |        |
| 3.B2.2.2.4.1  | B2   | 42.002            |           | Underceiling unit, Indoor (UC1) & Outdoor Unit (OU2) c/w wall mounting brackets  | No   | 1        |                 |        |
| 3.B2.2.2.4.2  | B2   | 42.002            |           | Midwall unit, Indoor unit (MW1) & Outdoor Unit (OU1) c/w wall mounting bracket   | No   | 1        |                 |        |
| 3.B2.2.2.4.3  | B2   | 42.002            |           | Stainless steel drain pan  | No   | 2        |                 |        |
| 3.B2.2.2.4.4  | B2   | 42.002            |           | Drain pump   | No   | 4        |                 |        |
| 3.B2.2.2.4.5  | B2   | 42.002            |           | Controller   | No   | 2        |                 |        |
| 3.B2.2.2.4.6  | B2   | 42.002            |           | Refrigerant piping   | No   | 20       |                 |        |
| 3.B2.2.2.4.7  | B2   | 42.002            |           | Trunking   | No   | 12       |                 |        |
| 3.B2.2.2.4.8  | B2   | 42.002            |           | Cable trays  | No   | 8        |                 |        |
| 3.B2.2.2.4.9  | B2   | 42.002            |           | UPVC condensate piping   | No   | 15       |                 |        |
| 3.B2.2.2.4.10 | B2   | 42.002            |           | Door grille (DG1), 500 x 400   | No   | 2        |                 |        |
| 3.B2.2.2.4.11 | B2   | 42.002            |           | Silent type in line duct fan (F3)  | No   | 1        |                 |        |
| 3.B2.2.2.4.12 | B2   | 42.002            |           | 200mm diameter Exhaust disc valve  | No   | 1        |                 |        |
| 3.B2.2.2.4.13 | B2   | 42.002            |           | 200mm diameter flexible ducting  | No   | 2        |                 |        |
| 3.B2.2.2.4.14 | B2   | 42.002            |           | Uninsulated galvanised ducting c/w bends, transformation pieces, stop ends, spigots, shoe pieces, supports, fixings, hangers, etc. as required and specified | Lot  | 1        |                 |        |
| 3.B2.2.2.4.15 | B2   | 42.002            |           | Weather louvre (WL6), 500 x 500  | No   | 1        |                 |        |
| 3.B2.2.2.4.16 | B2   | 42.002            |           | Electrical connection from HVAC equipment to isolators   | No   | 3        |                 |        |
| 3.B2.2.2.4.17 | B2   | 42.002            |           | Plywood frame 500 x 500  | No   | 1        |                 |        |
|               | B2   |                   |           | <b>PART B2.2.2.5: Battery room</b>   |      |          |                 |        |
|               | B2   |                   |           | <b>Plate-axial fan system complete, including fan, shutter, cowl, brackets, fixing, etc. as per technical specification and tender drawings.</b>             |      |          |                 |        |
| 3.B2.2.2.5.1  | B2   | 42.002            |           | 300mm diameter Spark proof wall mounted axial fan (WF2)  | No   | 1        |                 |        |
| 3.B2.2.2.5.2  | B2   | 42.002            |           | Louvre shutter 350 x 350 c/w wall cowl   | No   | 1        |                 |        |
| 3.B2.2.2.5.3  | B2   | 42.002            |           | Plywood frame 350 x 350  | No   | 1        |                 |        |
| 3.B2.2.2.5.4  | B2   | 42.002            |           | Electrical connection from HVAC equipment to isolators   | No   | 1        |                 |        |
| 3.B2.2.2.5.5  | B2   | 42.002            |           | Door grille (DG1), 500 x 400   | No   | 1        |                 |        |
|               |      |                   |           |  |      |          | Carried Forward |        |

| Item no.        | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|                 |      |                   |           |   |      |          |                 |        |
|                 |      |                   |           |   |      |          | Brought Forward |        |
|                 | B2   |                   |           | <b>PART B2.2.2.2.6: Guardhouse</b>  |      |          |                 |        |
| 3.B2.2.2.2.6.1  | B2   | 42.002            |           | Midwall unit, Indoor unit (MW1) & Outdoor Unit (OU1) c/w wall mounting bracket  | No   | 2        |                 |        |
| 3.B2.2.2.2.6.2  | B2   | 42.002            |           | Stainless steel drain pan   | No   | 1        |                 |        |
| 3.B2.2.2.2.6.3  | B2   | 42.002            |           | Drain pump  | No   | 3        |                 |        |
| 3.B2.2.2.2.6.4  | B2   | 42.002            |           | Controller  | No   | 2        |                 |        |
| 3.B2.2.2.2.6.5  | B2   | 42.002            |           | Refrigerant piping  | No   | 35       |                 |        |
| 3.B2.2.2.2.6.6  | B2   | 42.002            |           | Trunking  | No   | 35       |                 |        |
| 3.B2.2.2.2.6.7  | B2   | 42.002            |           | Condensate piping   | No   | 30       |                 |        |
| 3.B2.2.2.2.6.8  | B2   | 42.002            |           | 200mm diameter wall mounted, toilet extract fan (WF1) c/w wall cowl   | No   | 1        |                 |        |
| 3.B2.2.2.2.6.9  | B2   | 42.002            |           | 260mm diameter wall mounted, toilet extract fan (WF2) c/w wall cowl   | No   | 1        |                 |        |
| 3.B2.2.2.2.6.10 | B2   | 42.002            |           | Plywood frame 260 × 260   | No   | 1        |                 |        |
| 3.B2.2.2.2.6.11 | B2   | 42.002            |           | Plywood frame 330 × 330   | No   | 1        |                 |        |
| 3.B2.2.2.2.6.12 | B2   | 42.002            |           | Electrical connection from HVAC equipment to isolators  | No   | 6        |                 |        |
| 3.B2.2.2.2.6.13 | B2   | 42.002            |           | Door grille (DG1), 500 × 400  | No   | 1        |                 |        |
|                 | B2   |                   |           | <b>PART B2.2.2.3: INSTALLATION</b>  |      |          |                 |        |
|                 | B2   | 42.003            |           | <b>PART B2.2.2.3.1: Pump room - Filtered outside air pressurisation system</b>  |      |          |                 |        |
| 3.B2.2.2.3.1.1  | B2   | 42.003            |           | Installation of filtered outside air pressurisation system complete, including fans, ducting, plenums, filters, louvres, Plant connections, brackets, anti-vibration mounts, fixing, etc. as per technical specification and tender drawing.  | Lot  | 1        |                 |        |
|                 | B2   | 42.003            |           | <b>PART B2.2.2.3.2: VSD room - Chilled water system</b>   |      |          |                 |        |
| 3.B2.2.2.3.2.1  | B2   | 42.003            |           | Installation of chilled water air conditioning system complete, chillers, chilled water piping, chilled water fixtures/fittings, pumps, air handling units, ducting, louvres, Plant connections, brackets, anti-vibration mounts, fixing, etc. as per technical specification and tender drawing. | Lot  | 1        |                 |        |
| 3.B2.2.2.3.2.2  | B2   | 42.003            | X         | Air cooled chiller c/w all controls, pumps & BACnet interface (CH1 & CH2)   | No   | 2        |                 |        |
| 3.B2.2.2.3.2.3  | B2   | 42.003            | X         | Air handling unit c/w all controls & BACnet interface (AHU1)  | No   | 1        |                 |        |
|                 | B2   | 42.003            |           | <b>PART B2.2.2.3.3: LV switchgear &amp; MV room</b>   |      |          |                 |        |
| 3.B2.2.2.3.3.1  | B2   | 42.003            |           | Installation of filtered outside air pressurisation system complete, including fans, ducting, plenums, filters, louvres, Plant connections, brackets, anti-vibration mounts, fixing, etc. as per technical specification and tender drawing.  | Lot  | 1        |                 |        |
|                 | B2   | 42.003            |           | <b>PART B2.2.2.3.4: Control, PLC and server room</b>  |      |          |                 |        |
| 3.B2.2.2.3.4.1  | B2   | 42.003            |           | Installation of the air conditioning systems and the toilet extract system complete, DX split aircon units, refrigerant piping, cable trays, uninsulated galvanised ducting, disc valves, flexible ducting, weather louvres, etc. as per technical specification and tender drawings.             | Lot  | 1        |                 |        |
|                 |      |                   |           |   |      |          | Carried Forward |        |

| Item no.       | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                |      |                   |           |  |      |          |                 |        |
|                |      |                   |           |  |      |          | Brought Forward |        |
|                | B2   | 42.003            |           | <b>PART B2.2.2.3.5: Battery room</b>   |      |          |                 |        |
| 3.B2.2.2.3.5.1 | B2   | 42.003            |           | Plate-axial fan system complete, including fan, shutter, cowl, brackets, fixing, door grille, etc. as per technical specification and tender drawings.   | Lot  | 1        |                 |        |
|                | B2   | 42.003            |           | <b>PART 2.2.2.3.6: Guardhouse</b>  |      |          |                 |        |
| 3.B2.2.2.3.6.1 | B2   | 42.003            |           | Installation of the air conditioning systems and the toilet extract system complete, DX split aircon units, stainless steel drain pan, refrigerant piping, cable trays, uninsulated galvanised ducting, disc valves, flexible ducting, weather louvres, etc. as per technical specification and tender drawings. | Lot  | 1        |                 |        |
|                | B2   |                   |           | <b>PART B2.2.3: FIRE PROTECTION, DETECTION &amp; SUPPRESSION</b>   |      |          |                 |        |
|                | B2   |                   |           | <b>Employer's Requirements : Fire protection, detection and suppression (Plant designed, tested, supplied and delivered by Contractor)</b>   |      |          |                 |        |
|                | B2   |                   |           | <b>PART B2.2.3.1: DESIGN</b>   |      |          |                 |        |
| 3.B2.2.3.1.1   | B2   | 39.001            |           | Design and documentation (as required, should it not already be included with an item below)   | Sum  | 1        |                 |        |
|                | B2   |                   |           | <b>PART B2.2.3.2: PROCUREMENT AND DELIVERY</b>   |      |          |                 |        |
|                | B2   |                   |           | <b>PART B2.2.3.2.1: LOW-LIFT PUMPING STATION</b>   |      |          |                 |        |
|                | B2   |                   | X         | <b>PUMPS</b>   |      |          |                 |        |
|                | B2   |                   | X         | <b>Diesel Pump Set (complete)</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.1 | B2   | 39.001 & 39.002   |           | Supply, delivery, installation, connection, testing and commissioning of Diesel Pump set with the following characteristics: Duty 1250 l/min at 600 kPa (to be confirmed prior to final ordering). Fully compliant to the Specification and ASIB 12th Edition  | Sum  | 1        |                 |        |
|                | B2   |                   |           | <b>Annunciator &amp; Control Panel (complete)</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.2 | B2   | 39.002            |           | Supply, delivery, installation, connection, testing and commissioning of annunciator panel, including Cell Mode  | Sum  | 1        |                 |        |
|                | B2   |                   |           | <b>Jockey Pump (complete)</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.3 | B2   | 39.002            |           | Supply, delivery, installation, connection, testing and commissioning of jockey pump to specification. (adequately sized for the simultaneous usage of 2 Fire hose reels – 2 x 30l/min @ 600kPa - plus the normal expected leakage) – To be confirmed prior to ordering  | Sum  | 1        |                 |        |
|                | B2   |                   |           | <b>Electrical Installation (complete)</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.4 | B2   | 39.002            |           | Supply, delivery, installation, connection, testing and commissioning of all electrical work in the pump house.  | Sum  | 1        |                 |        |
|                | B2   |                   |           | <b>Signage</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.5 | B2   | 39.002            |           | Allow for the production and fixing of all statutory signs on chromadek or similar approved material.  | Sum  | 1        |                 |        |
|                | B2   |                   |           | <b>Auxiliary Plant</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.6 | B2   | 39.002            |           | Allow for all auxiliary plant as specified in this document.   | Sum  | 1        |                 |        |
|                |      |                   |           |  |      |          | Carried Forward |        |

| Item no.        | Part | Payment         | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|-----------------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference       |           |   |      |          |                 |        |
|                 |      |                 |           |   |      |          | Brought Forward |        |
|                 | B2   |                 |           | <b>Diesel Tank</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.7  | B2   | 39.002(r)       |           | 1 x Full diesel tank after all commissioning has been completed. (all diesel for testing purposes to be considered and allowed for)   | Sum  | 1        |                 |        |
|                 | B2   |                 |           | <b>Diesel Exhaust</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.8  | B2   | 39.002          |           | Allow for lagged diesel exhaust to engine manufacturer's requirements   | Sum  | 1        |                 |        |
|                 | B2   |                 |           | <b>Pumphouse Pipework</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.9  | B2   | 39.001 & 39.002 |           | Design, supply, delivery, installation, connection, testing and commissioning of pumphouse pipework of medium quality steel (including auto start arrangements, valves, pressure reducing valves if required, FM approved direct flow measuring device to prove flow, shut of valves, cooling lines, pressure gauges, test return lines etc) - for a complete fit for purpose system compliant to ASIB 12th, Edition Set of rules | Sum  | 1        |                 |        |
|                 | B2   |                 |           | <b>Any item not listed (Specify)</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.10 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.11 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.12 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.13 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
|                 | B2   |                 |           | <b>FIRE WATER</b>   |      |          |                 |        |
|                 | B2   |                 |           | <b>Supply Water</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.14 | B2   | 39.002          |           | 50mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)   | m    | 75       |                 |        |
| 3.B2.2.3.2.1.15 | B2   | 39.002          |           | 32mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)   | m    | 50       |                 |        |
| 3.B2.2.3.2.1.16 | B2   | 39.002          |           | 25mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)   | m    | 150      |                 |        |
|                 | B2   |                 |           | <b>PASSIVE FIRE PROTECTION</b>  |      |          |                 |        |
|                 | B2   |                 |           | <b>Plant</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.17 | B2   | 39.002          |           | Right Angeled Fire hydrants with 65mm diameter instantaneous couplings to SANS 10400 and SANS 10252, including the extension from ground reticulation. Hydrants at 1,2m AFFL and to connect to the Civil underground main by purpose made Block piece   | No.  | 3        |                 |        |
| 3.B2.2.3.2.1.18 | B2   | 39.002          |           | Hose reels with 30 metres of 25mm diameter approved hose, 10m of 25mm steal piping and metal nozzle (not plastic) to SANS 10400 and SANS 10252.   | No.  | 8        |                 |        |
| 3.B2.2.3.2.1.19 | B2   | 39.002          |           | 9kg DCP fire extinguishers fully installed on meranti backing boards  | No.  | 16       |                 |        |
| 3.B2.2.3.2.1.20 | B2   | 39.002          |           | 4,5kg DCP fire extinguishers fully installed on meranti backing boards  | No.  | 8        |                 |        |
| 3.B2.2.3.2.1.21 | B2   | 39.002          |           | 5kg CO2 fire extinguishers fully installed on meranti backing boards  | No.  | 18       |                 |        |
| 3.B2.2.3.2.1.22 | B2   | 39.002          |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.23 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
|                 |      |                 |           |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment         | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|-----------------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference       |           |   |      |          |                 |        |
|                 |      |                 |           |   |      |          | Brought Forward |        |
| 3.B2.2.3.2.1.24 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.25 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.26 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
|                 | B2   |                 |           | <b>ROOF VENTILATORS</b>   |      |          |                 |        |
|                 | B2   |                 |           | <b>Roof Ventilation Installation</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.27 | B2   | 39.001 & 39.002 |           | Supply, delivery, installation, testing and commissioning of a completely functioning smoke ventilation system as itemised below:   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.28 | B2   | 39.002          |           | An EN 12101-2 compliant slope mounted louvre ventilators of aerodynamic free area of 1,84sqm with a purlin spacing of 1600mm (TBC). Ventilators manufactured entirely from Chromadek material, complete with 24V DC power to open, power to close actuator and 72degree fusible links. Colour is to be Rain Cloud, RAL 7016 (to be confirmed) | No   | 5        |                 |        |
| 3.B2.2.3.2.1.29 | B2   | 39.002          |           | H-frame to span the purlins spacing of 2m.<br>Note: As the purlin spacing is unknown. Should this not be required it can be removed from the scope of work.   | No   | 5        |                 |        |
| 3.B2.2.3.2.1.30 | B2   | 39.002          |           | Back Flashing at a rate sufficient for each vent in accordance with suppliers specifications  | No   | 5        |                 |        |
| 3.B2.2.3.2.1.31 | B2   | 39.002          |           | Rain sensor   | Sum  | 1        |                 |        |
|                 | B2   |                 |           | <b>Cabling</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.32 | B2   | 39.002          |           | 4mm² 2 core PH-30 cable complete with steel conduit   | m    | 450      |                 |        |
|                 | B2   |                 |           | <b>Control Panel Installation</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.33 | B2   | 39.002          |           | Supply, delivery, installation, testing and commissioning of a completely functioning system as itemised below:   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.34 | B2   | 39.002          |           | IP55 Control panel(s) for the roof ventilators - Quantity of panels to be confirmed by contractor (Panels to be EN12101 Compliant)  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.35 | B2   | 39.002          |           | Override switch.<br>Allow for an override switch located at an entrance door for the fire installation to control the smoke ventilation.  | Item | 2        |                 |        |
| 3.B2.2.3.2.1.36 | B2   | 39.002          |           | 72 Hour battery back-up for ventilators   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.37 | B2   | 39.002          |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.38 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.39 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.40 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.41 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
|                 | B2   |                 |           | <b>FIRE SIGNAGE</b>   |      |          |                 |        |
|                 | B2   |                 |           | <b>PHOTO-LUMINESCENT STATUTORY EMERGENCY SIGNAGE</b>  |      |          |                 |        |
|                 | B2   |                 |           | <b>Single-Sided Statutory Emergency Signage</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.42 | B2   | 39.002          |           | - 2 pictogram (290 x 290)   | No   | 24       |                 |        |
|                 |      |                 |           |   |      |          | Carried Forward |        |



| Item no.        | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                 |      |                   |           |  |      |          |                 |        |
|                 |      |                   |           |  |      |          | Brought Forward |        |
| 3.B2.2.3.2.1.43 | B2   | 39.002            |           | - 3 pictogram (290 x 290)  | No   | 6        |                 |        |
| 3.B2.2.3.2.1.44 | B2   | 39.002            |           | - 4 pictogram (290 x 290)  | No   | 2        |                 |        |
| 3.B2.2.3.2.1.45 | B2   | 39.002            |           | - F45  | No   | 10       |                 |        |
|                 | B2   |                   |           | <b>Double-Sided Statutory Emergency Signage</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.46 | B2   | 39.002            |           | - 3 pictogram (290 x 290)  | No   | 5        |                 |        |
| 3.B2.2.3.2.1.47 | B2   | 39.002            |           | - 4 pictogram (290 x 290)  | No   | 5        |                 |        |
| 3.B2.2.3.2.1.48 | B2   | 39.002            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.49 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.50 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.51 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.52 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
|                 | B2   |                   |           | <b>Photo-Luminescent Statutory Emergency Signage - 3 Dimensional Frame on Pole</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.53 | B2   | 39.002            |           | - 2 pictogram (290 x 290)  | No   | 4        |                 |        |
| 3.B2.2.3.2.1.54 | B2   | 39.002            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.55 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.56 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.57 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.58 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
|                 | B2   |                   |           | <b>FIRE DETECTION CONTROL PLANT AND POWER SUPPLIES</b>   |      |          |                 |        |
|                 | B2   |                   |           | <b>4 Loop Addressable Fire Detection Control Panel</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.59 | B2   | 39.001 & 39.002   |           | Allow for the detailed design, programming, procurement, delivery, installation, connection, testing and commissioning of an advanced 4 loop Addressable Fire Detection Control Panel to tender specification.   | No   | 1        |                 |        |
|                 | B2   |                   |           | <b>Addressable Repeater Fire Detection Control Panel</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.60 | B2   | 39.001 & 39.002   |           | Allow for the detailed design, programming, procurement, delivery, installation, connection, testing and commissioning of an advanced Addressable Repeater Fire Detection Control Panel to tender specification. | No   | 1        |                 |        |
|                 | B2   |                   |           | <b>Combination 3 Zone Detection and Gas Release Control Panel – ADVANCED TC3001</b>  |      |          |                 |        |
|                 | B2   |                   |           | <b>Allow for the procurement, delivery, installation, connection, testing and commissioning of an advanced combination 3 Zone Detection and Gas Release Control Panel (Advanced TC3001 only.)</b>                |      |          |                 |        |
| 3.B2.2.3.2.1.61 | B2   | 39.002            |           | VSD  | No   | 1        |                 |        |
| 3.B2.2.3.2.1.62 | B2   | 39.002            |           | MV   | No   | 1        |                 |        |
| 3.B2.2.3.2.1.63 | B2   | 39.002            |           | LV & MCC   | No   | 1        |                 |        |
|                 |      |                   |           |  |      |          | Carried Forward |        |

| Item no.        | Part | Payment         | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------------|------|-----------------|-----------|--|------|----------|-----------------|--------|
|                 |      | Reference       |           |  |      |          |                 |        |
|                 |      |                 |           |  |      |          | Brought Forward |        |
|                 | B2   |                 |           | <b>Combination 3 Zone Detection and Gas Release Status Control Panel EX 3020</b>   |      |          |                 |        |
|                 | B2   |                 |           | <b>Allow for the procurement, delivery, installation, connection, testing and commissioning of an advanced combination 3 Zone Detection and Gas Release Status Control Panel1 complete with manual gas release unit.</b>                         |      |          |                 |        |
| 3.B2.2.3.2.1.64 | B2   | 39.001 & 39.002 |           | MV   | No   | 1        |                 |        |
| 3.B2.2.3.2.1.65 | B2   | 39.001 & 39.002 |           | LV & MCC   | No   | 1        |                 |        |
|                 | B2   |                 |           | <b>EMERGENCY POWER SUPPLY</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.66 | B2   | 39.002          |           | Provide emergency batteries as per calculation sheet – Gas Release Control Panels and Addressable Panels.  | No   | 14       |                 |        |
|                 | B2   |                 |           | <b>Blue Ginger or Similar Approved 24v DC Power Supply Complete with Back-Up, Batteries and Charger</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.67 | B2   | 39.002          |           | Provide for the supply of a Blue Ginger or similar approved 24 DC Power Supply complete with back-up Batteries and Charger to the Aspirating Detectors, Gas Release Status Units and OSID Beam Detectors.  | No   | 16       |                 |        |
| 3.B2.2.3.2.1.68 | B2   | 39.002          |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.69 | B2   | 39.002          |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.70 | B2   | 39.002          |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.71 | B2   | 39.002          |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.72 | B2   | 39.002          |           | .....  | Sum  | 1        |                 |        |
|                 | B2   |                 |           | <b>CONDUIT AND CABLING</b>   |      |          |                 |        |
|                 | B2   |                 |           | <b>Fire Resistant Cabling – PH120</b>  |      |          |                 |        |
|                 | B2   |                 |           | <b>Allow for adequate cabling for the wiring of the fire detection system to specification.</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.73 | B2   | 39.002          |           | (PH-120 only – 1mm <sup>2</sup> minimum - 2 core)  | m    | 2500     |                 |        |
|                 | B2   |                 |           | <b>Fibre Optic Cable</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.74 | B2   | 39.002          |           | Allow for adequate cabling for the networking of the main addressable fire detection and repeater control panels to specification.   | m    | 500      |                 |        |
|                 | B2   |                 |           | <b>Conduit and Couplings</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.75 | B2   | 39.002          |           | Procurement and installation of 25mm dia. Bosal conduit (with necessary couplings, junction boxes, etc.) for all detection and electrical reticulation in terms of the specifications. Include for all drilling, fixing and making good of same. | m    | 800      |                 |        |
|                 | B2   |                 |           | <b>P2000 Galvanized Trunking and Accessories</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.76 | B2   | 39.002          |           | Allow for the procurement and installation of P2000 trunking (with necessary couplings, junction boxes, accessories etc.) in terms of the specifications.  | m    | 50       |                 |        |
|                 |      |                 |           |  |      |          | Carried Forward |        |

| Item no.        | Part | Payment         | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|-----------------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference       |           |   |      |          |                 |        |
|                 |      |                 |           |   |      |          | Brought Forward |        |
|                 | B2   |                 |           | <b>Flexible Galvanized Steel Conduit with IP 40 Rating Including Steel Couplings</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.77 | B2   | 39.002          |           | Provide for the supply and installation of flexible galvanized steel conduit with steel couplings to be used between cylinder actuators and gas and test interface units as well as between other devices where a flexible connections would be required..  | m    | 50       |                 |        |
| 3.B2.2.3.2.1.78 | B2   | 39.002          |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.79 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.80 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.81 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.82 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
|                 | B2   |                 |           | <b>DETECTION</b>  |      |          |                 |        |
|                 | B2   |                 |           | <b>Analoque Addressable Optical Smoke Detectors</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.83 | B2   | 39.002          |           | Allow for the procurement, installation, testing and commissioning of analogue addressable optical smoke detectors complete with mounting bases as indicated on plans to specification.   | No   | 5        |                 |        |
|                 | B2   |                 |           | <b>Green Break Glass Unit to Override Access Control</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.84 | B2   | 39.002          |           | Allow for the procurement, installation, testing and commissioning of green break glass units to specification.   | No   | 4        |                 |        |
|                 | B2   |                 |           | <b>Addressable Manual Alarm Point Complete With Base and Flaps</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.85 | B2   | 39.002          |           | Allow for the procurement, installation, testing and commissioning of conventional bases for installation of manual fire alarm points above.  | No   | 8        |                 |        |
|                 | B2   |                 |           | <b>OSID Beam Detectors – Pump Room Open Area</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.86 | B2   | 39.002          |           | Allow for the procurement, installation, testing and commissioning of OSID beam detectors complete with Emitter and Imager as indicated on plans to specification complete with all transformers, power supplies, mounting brackets, batteries, fittings and related plant to provide a complete hard wired installation. | No   | 1        |                 |        |
|                 | B2   |                 |           | <b>High Sensitivity Smoke Detector – HSSD 2 Pipe HSSD Scanner with Individual Scanners Complete with Touch Screen Display and Hybrid Technology</b>   |      |          |                 |        |
|                 | B2   |                 |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of HSSD detectors as indicated on plans to specification and all other plant necessary to provide a complete, functional and compliant installation.</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.87 | B2   | 39.001 & 39.002 |           | VSD   | No   | 2        |                 |        |
| 3.B2.2.3.2.1.88 | B2   | 39.001 & 39.002 |           | MV  | No   | 2        |                 |        |
| 3.B2.2.3.2.1.89 | B2   | 39.001 & 39.002 |           | LV & MCC  | No   | 2        |                 |        |
| 3.B2.2.3.2.1.90 | B2   | 39.001 & 39.002 |           | Facility - Reference Detectors  | No   | 2        |                 |        |
|                 |      |                 |           |   |      |          | Carried Forward |        |

| Item no.         | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|                  |      | Reference |           |   |      |          |                 |        |
|                  |      |           |           |   |      |          | Brought Forward |        |
|                  | B2   |           |           | <b>25mm Red Sampling Pipe 3m Length</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.91  | B2   | 39.002    |           | Allow for the detailed design, procurement, installation, testing and commissioning of 25mm dia. red sampling pipe.                                 | Sum  | 1        |                 |        |
|                  | B2   |           |           | <b>Pipe Clip (Red)</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.92  | B2   | 39.002    |           | Allow for the procurement, installation, testing and commissioning of red pipe clips single point fix   | Sum  | 1        |                 |        |
|                  | B2   |           |           | <b>90 Degree Elbow Slow Bend (Red)</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.93  | B2   | 39.002    |           | Allow for the procurement, installation, testing and commissioning of red elbow.  | Sum  | 1        |                 |        |
|                  | B2   |           |           | <b>End Cap (Red)</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.94  | B2   | 39.002    |           | Allow for the detailed design, procurement, installation, testing and commissioning of red end cap.   | Sum  | 1        |                 |        |
|                  | B2   |           |           | <b>25mm Pipe Red Socket</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.95  | B2   | 39.002    |           | Allow for the detailed design, procurement, installation, testing and commissioning of 25mm dia. red socket.  | Sum  | 1        |                 |        |
|                  | B2   |           |           | <b>Labels - Smoke Detection Sampling Pipes</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.96  | B2   | 39.002    |           | Allow for the detailed design procurement and installation of identification labels to all pipe work.   | Sum  | 1        |                 |        |
|                  | B2   |           |           | <b>Inline Filter – Triple Stage Filter for All HSSD</b>   |      |          |                 |        |
|                  | B2   |           |           | <b>Allow for the procurement, installation, testing and commissioning of triple stage filters to all HSSD as per manufacturer's specifications.</b> |      |          |                 |        |
| 3.B2.2.3.2.1.97  | B2   | 39.002    |           | VSD   | No   | 4        |                 |        |
| 3.B2.2.3.2.1.98  | B2   | 39.002    |           | MV  | No   | 4        |                 |        |
| 3.B2.2.3.2.1.99  | B2   | 39.002    |           | LV & MCC  | No   | 4        |                 |        |
| 3.B2.2.3.2.1.100 | B2   | 39.002    |           | Facility - Reference Detectors  | No   | 4        |                 |        |
| 3.B2.2.3.2.1.101 | B2   | 39.002    |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.102 | B2   | 39.002    |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.103 | B2   | 39.002    |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.104 | B2   | 39.002    |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.105 | B2   | 39.002    |           | .....   | Sum  | 1        |                 |        |
|                  | B2   |           |           | <b>AUXILIARY PLANT</b>  |      |          |                 |        |
|                  | B2   |           |           | <b>Conventional Siren / Strobe -</b>  |      |          |                 |        |
|                  | B2   |           |           | <b>Allow for the procurement, installation, testing and commissioning of 100dB(A) ASTrobe or similar approved combination siren/strobe</b>          |      |          |                 |        |
| 3.B2.2.3.2.1.106 | B2   | 39.002    |           | VSD   | No   | 2        |                 |        |
| 3.B2.2.3.2.1.107 | B2   | 39.002    |           | MV  | No   | 2        |                 |        |
| 3.B2.2.3.2.1.108 | B2   | 39.002    |           | LV & MCC  | No   | 2        |                 |        |
| 3.B2.2.3.2.1.109 | B2   | 39.002    |           | Facility - Reference Detectors  | No   | 2        |                 |        |
|                  |      |           |           |   |      |          | Carried Forward |        |

| Item no.         | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|                  |      | Reference |           |  |      |          |                 |        |
|                  |      |           |           |  |      |          | Brought Forward |        |
|                  | B2   |           |           | <b>Fire Bell</b>   |      |          |                 |        |
|                  | B2   |           |           | <b>Allow for the procurement, installation, testing and commissioning of an fire alarm Bell.</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.110 | B2   | 39.002    |           | VSD  | No   | 2        |                 |        |
| 3.B2.2.3.2.1.111 | B2   | 39.002    |           | MV   | No   | 2        |                 |        |
| 3.B2.2.3.2.1.112 | B2   | 39.002    |           | LV & MCC   | No   | 1        |                 |        |
|                  | B2   |           |           | <b>Addressable Loop Powered Siren / Strobe</b>   |      |          |                 |        |
|                  | B2   |           |           | <b>Allow for the procurement, installation, testing and commissioning of 100dB(A) ASTrobe or similar approved combination siren / strobe.</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.113 | B2   | 39.002    |           | Facility   | No   | 6        |                 |        |
|                  | B2   |           |           | <b>High Output Sounder</b>   |      |          |                 |        |
|                  | B2   |           |           | <b>Provide for the procurement and installation of 120 dB high output sounders to specification complete with power supply, battery back-up and any plant required for a complete and functional installation. EN-Approved</b> |      |          |                 |        |
| 3.B2.2.3.2.1.114 | B2   | 39.002    |           | Facility   | No   | 1        |                 |        |
|                  | B2   |           |           | <b>Interfaces with Other Systems</b>   |      |          |                 |        |
|                  | B2   |           |           | <b>Provide for connection to interface with the following systems and programming of relay inputs / outputs:</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.115 | B2   | 39.002    |           | Fresh air supply units shut-down   | No   | 10       |                 |        |
| 3.B2.2.3.2.1.116 | B2   | 39.002    |           | Closing of fire dampers  | No   | 4        |                 |        |
| 3.B2.2.3.2.1.117 | B2   | 39.002    |           | Smoke extraction fans - HVAC   | No   | 4        |                 |        |
| 3.B2.2.3.2.1.118 | B2   | 39.002    |           | Mains Supply Circuit Breaker – Switch off  | No   | 4        |                 |        |
| 3.B2.2.3.2.1.119 | B2   | 39.002    |           | Reference Sampling – Auto / Manual Switching   | No   | 4        |                 |        |
| 3.B2.2.3.2.1.120 | B2   | 39.002    |           | Access controlled doors  | No   | 4        |                 |        |
|                  | B2   |           |           | <b>GSM SMS Communicator – Up To 5 Users/Numbers</b>  |      |          |                 |        |
|                  | B2   |           |           | <b>Provide for procurement, installation, setup and programming of GSM SMS Communicators interfaces with the Combination Detection and Gas Release Panels:</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.121 | B2   | 39.002(p) |           | Sim cards to be provided by client   | No   | 1        |                 |        |
|                  | B2   |           |           | <b>Surface Boxes</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.122 | B2   | 39.002    |           | Provide for procurement and installation, of surface boxes to accommodate all interface relay units  | No   | 220      |                 |        |
|                  | B2   |           |           | <b>Waterproof Cabinets IP65 RATED</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.123 | B2   | 39.002    |           | Provide for procurement and installation, of IP 65 Waterproof cabinet's to accommodate the gas release control status units as per specification and design.   | No   | 2        |                 |        |
|                  |      |           |           |  |      |          | Carried Forward |        |

| Item no.         | Part | Payment         | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------------|------|-----------------|-----------|---|------|----------|-----------------|--------|
|                  |      | Reference       |           |   |      |          |                 |        |
|                  |      |                 |           |   |      |          | Brought Forward |        |
|                  | B2   |                 |           | <b>Test and Gas Release Interface Relay Unit</b>  |      |          |                 |        |
|                  | B2   |                 |           | <b>Provide for procurement, installation, setup and programming of test and gas release interface relays to all Gas Suppression Cylinder Actuators.</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.124 | B2   | 39.002          |           | VSD   | No   | 1        |                 |        |
| 3.B2.2.3.2.1.125 | B2   | 39.002          |           | MV  | No   | 1        |                 |        |
| 3.B2.2.3.2.1.126 | B2   | 39.002          |           | LV & MCC  | No   | 1        |                 |        |
|                  | B2   |                 |           | <b>Addressable Programmable Input / Output Relay Unit</b>   |      |          |                 |        |
|                  | B2   | 39.001          |           | <b>Provide for the detailed design, procurement, installation, setup and programming of Addressable Interface Relays to all HSSD devices, Gas Release Control Panels and other fire detection plant to monitor to following statuses:</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.127 | B2   | 39.001 & 39.002 |           | General Fault, Alert, Fire, Auto / Manual Switching, Gas Discharge  | No   | 220      |                 |        |
|                  | B2   |                 |           | <b>24V DC Contactor Switch</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.128 | B2   | 39.002          |           | Provide for procurement, installation, setup and programming of 24V DC Contactor Switch to Interface and shut-down of electrical pumps  | No   | 4        |                 |        |
|                  | B2   |                 |           | <b>Pressure Gauge Monitoring on All Pilot Cylinders</b>   |      |          |                 |        |
|                  | B2   |                 |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of pressure monitoring of all gauges to the pilot cylinders.</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.129 | B2   | 39.002          |           | VSD   | No   | 1        |                 |        |
| 3.B2.2.3.2.1.130 | B2   | 39.002          |           | MV  | No   | 1        |                 |        |
| 3.B2.2.3.2.1.131 | B2   | 39.002          |           | LV & MCC  | No   | 1        |                 |        |
| 3.B2.2.3.2.1.132 | B2   | 39.002          |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.133 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.134 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.135 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.136 | B2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
|                  | B2   |                 |           | <b>GAS SUPPRESSION PLANT</b>  |      |          |                 |        |
|                  | B2   |                 |           | <b>200 Bar 80 Litre Pyroshield (IG-55) Cylinders System Complete</b>  |      |          |                 |        |
|                  | B2   |                 |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of 200 Bar 80 Litre Pyroshield IG-55 systems to specification, complete with manifold, actuation lines, discharge hose, non-return valves, racking, labels &amp; nozzles, orifice unit required to provide a complete system as per manufacturer's specification :</b> |      |          |                 |        |
| 3.B2.2.3.2.1.137 | B2   | 39.001 & 39.002 |           | VSD   | No   | 45       |                 |        |
| 3.B2.2.3.2.1.138 | B2   | 39.001 & 39.002 |           | MV  | No   | 45       |                 |        |
|                  |      |                 |           |   |      |          | Carried Forward |        |

| Item no.         | Part | Payment         | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------------|------|-----------------|-----------|---|------|----------|-----------------|--------|
|                  |      | Reference       |           |   |      |          |                 |        |
|                  |      |                 |           |   |      |          | Brought Forward |        |
| 3.B2.2.3.2.1.139 | B2   | 39.001 & 39.002 |           | LV & MCC  | No   | 20       |                 |        |
|                  | B2   |                 |           | <b>Pilot Cylinders</b>  |      |          |                 |        |
|                  | B2   |                 |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of 200 Bar pilot Cylinders to specification to provide a complete system as per manufacturer's specification :</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.140 | B2   | 39.001 & 39.002 |           | VSD   | No   | 3        |                 |        |
| 3.B2.2.3.2.1.141 | B2   | 39.001 & 39.002 |           | MV  | No   | 3        |                 |        |
| 3.B2.2.3.2.1.142 | B2   | 39.001 & 39.002 |           | LV & MCC  | No   | 1        |                 |        |
|                  | B2   |                 |           | <b>Gas Distribution Pipework</b>  |      |          |                 |        |
|                  | B2   |                 |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of Pyroshield IG-55 pipework to specification (including all elbows, tees, supports, paining and ancillary plant). All pipework to be ASTM A 106 Grade B Seamless and all fittings to be 3000lb and as specified in the relevant part of SANS 14520.</b> |      |          |                 |        |
| 3.B2.2.3.2.1.143 | B2   | 39.001 & 39.002 |           | VSD   | No   | 80       |                 |        |
| 3.B2.2.3.2.1.144 | B2   | 39.001 & 39.002 |           | MV  | No   | 80       |                 |        |
| 3.B2.2.3.2.1.145 | B2   | 39.001 & 39.002 |           | LV & MCC  | No   | 90       |                 |        |
|                  | B2   |                 |           | <b>Nozzles</b>  |      |          |                 |        |
|                  | B2   |                 |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of IG55 nozzles to specification</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.146 | B2   | 39.002          |           | VSD   | No   | 6        |                 |        |
| 3.B2.2.3.2.1.147 | B2   | 39.002          |           | MV  | No   | 4        |                 |        |
| 3.B2.2.3.2.1.148 | B2   | 39.002          |           | LV & MCC  | No   | 2        |                 |        |
|                  | B2   |                 |           | <b>Room Integrity Test</b>  |      |          |                 |        |
| 3.B2.2.3.2.1.149 | B2   | 39.002          |           | VSD   | No   | 4        |                 |        |
| 3.B2.2.3.2.1.150 | B2   | 39.002          |           | MV  | No   | 4        |                 |        |
| 3.B2.2.3.2.1.151 | B2   | 39.002          |           | LV & MCC  | No   | 4        |                 |        |
|                  | B2   |                 |           | <b>Pressure Relief Dampers</b>  |      |          |                 |        |
|                  | B2   |                 |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of pressure relief dampers. The quantity and sizes must be quantified based on the volume of gas release. Quantity and sizes must be specified and all costs must be included in the amount specified.</b>   |      |          |                 |        |
| 3.B2.2.3.2.1.152 | B2   | 39.002          |           | VSD   | No   | 2        |                 |        |
| 3.B2.2.3.2.1.153 | B2   | 39.002          |           | MV  | No   | 2        |                 |        |
| 3.B2.2.3.2.1.154 | B2   | 39.002          |           | LV & MCC  | No   | 2        |                 |        |
|                  |      |                 |           |   |      |          | Carried Forward |        |

| Item no.         | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                  |      |                   |           |  |      |          | Brought Forward |        |
| 3.B2.2.3.2.1.155 | B2   | 39.002            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.156 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.157 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.158 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.159 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
|                  | B2   |                   |           | <b>PASSIVE FIRE PROTECTION</b>   |      |          |                 |        |
|                  | B2   |                   |           | <b>5KG CO2 Fire Extinguisher – SABS Approved</b>   |      |          |                 |        |
|                  | B2   |                   |           | <b>Provide for the procurement and installation of S.A.B.S approved 5Kg Co2 Fire Extinguishers complete with wooden backing boards as per specification and drawings</b>                           |      |          |                 |        |
| 3.B2.2.3.2.1.160 | B2   | 39.002            |           | VSD  | No   | 2        |                 |        |
| 3.B2.2.3.2.1.161 | B2   | 39.002            |           | MV   | No   | 2        |                 |        |
| 3.B2.2.3.2.1.162 | B2   | 39.002            |           | LV & MCC   | No   | 2        |                 |        |
|                  | B2   |                   |           | <b>Statutory Signage – Sabs Approved – Photo Luminescent</b>   |      |          |                 |        |
|                  | B2   |                   |           | <b>Provide for the supply and installation of SABS approved photo luminescent 190 x 380 Emergency Exit Signage and Extinguisher Signage in aluminium frames as per specification and drawings.</b> |      |          |                 |        |
| 3.B2.2.3.2.1.163 | B2   | 39.002            |           | VSD  | No   | 2        |                 |        |
| 3.B2.2.3.2.1.164 | B2   | 39.002            |           | MV   | No   | 4        |                 |        |
| 3.B2.2.3.2.1.165 | B2   | 39.002            |           | LV & MCC   | No   | 4        |                 |        |
| 3.B2.2.3.2.1.166 | B2   | 39.002            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.167 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.168 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.169 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.1.170 | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
|                  | B2   |                   |           | <b>PART B2.2.3.2.2: GUARDHOUSE</b>   |      |          |                 |        |
|                  | B2   |                   |           | <b>Passive Fire Protection Plant</b>   |      |          |                 |        |
| 3.B2.2.3.2.2.1   | B2   | 39.002            |           | 4,5kg DCP fire extinguishers fully installed on meranti backing boards   | No   | 1        |                 |        |
| 3.B2.2.3.2.2.2   | B2   | 39.002            |           | 5kg CO2 fire extinguishers fully installed on meranti backing boards   | No   | 1        |                 |        |
| 3.B2.2.3.2.2.3   | B2   | 39.002            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.2.4   | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.2.5   | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.2.6   | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.2.2.7   | B2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
|                  |      |                   |           |  |      |          | Carried Forward |        |



| Item no.       | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|                |      |                   |           |   |      |          |                 |        |
|                |      |                   |           |   |      |          | Brought Forward |        |
|                | B2   |                   |           | <b>Photo-Luminescent Statutory Emergency Signage</b>  |      |          |                 |        |
|                | B2   |                   |           | <b>Single-Sided Statutory Emergency Signage</b>   |      |          |                 |        |
| 3.B2.2.3.2.2.8 | B2   | 39.002            |           | - 2 pictogram (290 x 290)   | No   | 4        |                 |        |
| 3.B2.2.3.2.2.9 | B2   | 39.002            |           | F45   | No   | 3        |                 |        |
|                | B2   |                   |           | <b>PART B2.2.3.2.3: PUMP HOUSE</b>  |      |          |                 |        |
|                | B2   |                   |           | <b>Passive Fire Protection Plant</b>  |      |          |                 |        |
| 3.B2.2.3.2.3.1 | B2   | 39.002            |           | 5kg CO2 fire extinguishers fully installed on meranti backing boards  | No   | 1        |                 |        |
| 3.B2.2.3.2.3.2 | B2   | 39.002            |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.3.3 | B2   | 39.002            |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.3.4 | B2   | 39.002            |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.3.5 | B2   | 39.002            |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.2.3.6 | B2   | 39.002            |           | .....   | Sum  | 1        |                 |        |
|                | B2   |                   |           | <b>Photo-Luminescent Statutory Emergency Signage</b>  |      |          |                 |        |
|                | B2   |                   |           | <b>Single-Sided Statutory Emergency Signage</b>   |      |          |                 |        |
| 3.B2.2.3.2.3.7 | B2   | 39.002            |           | - 2 pictogram (290 x 290)   | No   | 2        |                 |        |
| 3.B2.2.3.2.3.8 | B2   | 39.002            |           | F45   | No   | 2        |                 |        |
|                | B2   |                   |           | <b>PART B2.2.3.3: INSTALLATION</b>  |      |          |                 |        |
|                | B2   |                   |           | <b>PART B2.2.3.3.1: LOW-LIFT PUMPING STATION</b>  |      |          |                 |        |
|                | B2   |                   |           | <b>PUMPS</b>  |      |          |                 |        |
|                | B2   |                   |           | <b>Diesel Pump Set (complete)</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.1 | B2   | 39.003            |           | Supply, delivery, installation, connection, testing and commissioning of Diesel Pump set with the following characteristics: Duty 1250 l/min at 600 kPa (to be confirmed prior to final ordering). Fully compliant to the Specification and ASIB 12th Edition           | Sum  | 1        |                 |        |
|                | B2   |                   |           | <b>Annunciator &amp; Control Panel (complete)</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.2 | B2   | 39.003            |           | Supply, delivery, installation, connection, testing and commissioning of annunciator panel, including Cell Mode   | Sum  | 1        |                 |        |
|                | B2   |                   |           | <b>Jockey Pump (complete)</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.3 | B2   | 39.003            |           | Supply, delivery, installation, connection, testing and commissioning of jockey pump to specification. (adequately sized for the simultaneous usage of 2 Fire hose reels – 2 x 30l/min @ 600kPa - plus the normal expected leakage) – To be confirmed prior to ordering | Sum  | 1        |                 |        |
|                | B2   |                   |           | <b>Electrical Installation (complete)</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.4 | B2   | 39.003            |           | Supply, delivery, installation, connection, testing and commissioning of all electrical work in the pump house.   | Sum  | 1        |                 |        |
|                | B2   |                   |           | <b>Signage</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.5 | B2   | 39.003            |           | Allow for the production and fixing of all statutory signs on chromadek or similar approved material.   | Sum  | 1        |                 |        |
|                |      |                   |           |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference |           |   |      |          |                 |        |
|                 |      |           |           |   |      |          | Brought Forward |        |
|                 | B2   |           |           | <b>Auxiliary Plant</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.6  | B2   | 39.003    |           | Allow for all auxiliary plant as specified in this document.  | Sum  | 1        |                 |        |
|                 | B2   |           |           | <b>Diesel Tank</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.7  | B2   | 39.003    |           | 1 x Full diesel tank after all commissioning has been completed. (all diesel for testing purposes to be considered and allowed for)   | Sum  | 1        |                 |        |
|                 | B2   |           |           | <b>Diesel Exhaust</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.8  | B2   | 39.003    |           | Allow for lagged diesel exhaust to engine manufacturer's requirements   | Sum  | 1        |                 |        |
|                 | B2   |           |           | <b>Pumphouse Pipework</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.9  | B2   | 39.003    |           | Design, supply, delivery, installation, connection, testing and commissioning of pumphouse pipework of medium quality steel (including auto start arrangements, valves, pressure reducing valves if required, FM approved direct flow measuring device to prove flow, shut of valves, cooling lines, pressure gauges, test return lines etc) - for a complete fit for purpose system compliant to ASIB 12th, Edition Set of rules | Sum  | 1        |                 |        |
|                 | B2   | 39.003    |           | <b>Any item not listed (Specify)</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.10 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.11 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.12 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.13 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
|                 | B2   |           |           | <b>FIRE WATER</b>   |      |          |                 |        |
|                 | B2   |           |           | <b>Supply Water</b>   |      |          |                 |        |
|                 | B2   |           |           | <b>Design, supply, delivery, installation, connection, priming, painting, denso wrapping, testing and commissioning of 100mm dia. underground Main from water connection to valve chamber - connecting pipework and all additional pipework to accommodate coordination of services and off-sets around structure, supports, etc. required.</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.14 | B2   | 39.003    |           | 50mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)   | m    | 75       |                 |        |
| 3.B2.2.3.3.1.15 | B2   | 39.003    |           | 32mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)   | m    | 50       |                 |        |
| 3.B2.2.3.3.1.16 | B2   | 39.003    |           | 25mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)   | m    | 150      |                 |        |
|                 | B2   |           |           | <b>PASSIVE FIRE PROTECTION</b>  |      |          |                 |        |
|                 | B2   |           |           | <b>Plant</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.17 | B2   | 39.003    |           | Right Angled Fire hydrants with 65mm diameter instantaneous couplings to SANS 10400 and SANS 10252, including the extension from ground reticulation. Hydrants at 1,2m AFFL and to connect to the Civil underground main by purpose made Block piece  | No.  | 3        |                 |        |
|                 |      |           |           |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                 |      |                   |           |  |      |          |                 |        |
|                 |      |                   |           |  |      |          | Brought Forward |        |
| 3.B2.2.3.3.1.18 | B2   | 39.003            |           | Hose reels with 30 metres of 25mm diameter approved hose, 10m of 25mm steal piping and metal nozzle (not plastic) to SANS 10400 and SANS 10252.  | No.  | 8        |                 |        |
| 3.B2.2.3.3.1.19 | B2   | 39.003            |           | 9kg DCP fire extinguishers fully installed on meranti backing boards   | No.  | 16       |                 |        |
| 3.B2.2.3.3.1.20 | B2   | 39.003            |           | 4,5kg DCP fire extinguishers fully installed on meranti backing boards   | No.  | 8        |                 |        |
| 3.B2.2.3.3.1.21 | B2   | 39.003            |           | 5kg CO2 fire extinguishers fully installed on meranti backing boards   | No.  | 18       |                 |        |
| 3.B2.2.3.3.1.22 | B2   | 39.003            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.23 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.24 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.25 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.26 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
|                 | B2   |                   |           | <b>ROOF VENTILATORS</b>  |      |          |                 |        |
|                 | B2   |                   |           | <b>Roof Ventilation Installation</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.27 | B2   | 39.003            |           | Supply, delivery, installation, testing and commissioning of a completely functioning smoke ventilation system as itemised below:  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.28 | B2   | 39.003            |           | An EN 12101-2 compliant slope mounted louvre ventilators of aerodynamic fee area of 1,84sqm with a purlin spacing of 1600mm (TBC). Ventilators manufactured entirely from Chromadek material, complete with 24V DC power to open, power to close actuator and 72degree fusible links. Colour is to be Rain Cloud, RAL 7016 (to be confirmed) | No   | 5        |                 |        |
| 3.B2.2.3.3.1.29 | B2   | 39.003            |           | H-frame to span the purlins spacing of 2m.<br>Note: As the purlin spacing is unknown. Should this not be required it can be removed from the scope of work.  | No   | 5        |                 |        |
| 3.B2.2.3.3.1.30 | B2   | 39.003            |           | Back Flashing at a rate sufficient for each vent in accordance with suppliers specifications   | No   | 5        |                 |        |
| 3.B2.2.3.3.1.31 | B2   | 39.003            |           | Rain sensor  | Sum  | 1        |                 |        |
|                 | B2   |                   |           | <b>Cabling</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.32 | B2   | 39.003            |           | 4mm² 2 core PH-30 cable complete with steel conduit  | m    | 450      |                 |        |
|                 | B2   |                   |           | <b>Control Panel Installation</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.33 | B2   | 39.003            |           | Supply, delivery, installation, testing and commissioning of a completely functioning system as itemised below:  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.34 | B2   | 39.003            |           | IP55 Control panel(s) for the roof ventilators - Quantity of panels to be confirmed by contractor (Panels to be EN12101 Compliant)   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.35 | B2   | 39.003            |           | Override switch.<br>Allow for an override switch located at an entrance door for the fire installation to control the smoke ventilation.   | Item | 2        |                 |        |
| 3.B2.2.3.3.1.36 | B2   | 39.003            |           | 72 Hour battery back-up for ventilators  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.37 | B2   | 39.003            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.38 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
|                 |      |                   |           |  |      |          | Carried Forward |        |

| Item no.        | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                 |      |                   |           |  |      |          |                 |        |
|                 |      |                   |           |  |      |          | Brought Forward |        |
| 3.B2.2.3.3.1.39 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.40 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.41 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
|                 | B2   |                   |           | <b>FIRE SIGNAGE</b>  |      |          |                 |        |
|                 | B2   |                   |           | <b>PHOTO-LUMINESCENT STATUTORY EMERGENCY SIGNAGE</b>   |      |          |                 |        |
|                 | B2   |                   |           | <b>Single-Sided Statutory Emergency Signage</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.42 | B2   | 39.003            |           | - 2 pictogram (290 x 290)  | No   | 24       |                 |        |
| 3.B2.2.3.3.1.43 | B2   | 39.003            |           | - 3 pictogram (290 x 290)  | No   | 6        |                 |        |
| 3.B2.2.3.3.1.44 | B2   | 39.003            |           | - 4 pictogram (290 x 290)  | No   | 2        |                 |        |
| 3.B2.2.3.3.1.45 | B2   | 39.003            |           | - F45  | No   | 10       |                 |        |
|                 | B2   |                   |           | <b>Double-Sided Statutory Emergency Signage</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.46 | B2   | 39.003            |           | - 3 pictogram (290 x 290)  | No   | 5        |                 |        |
| 3.B2.2.3.3.1.47 | B2   | 39.003            |           | - 4 pictogram (290 x 290)  | No   | 5        |                 |        |
| 3.B2.2.3.3.1.48 | B2   | 39.003            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.49 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.50 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.51 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.52 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
|                 | B2   |                   |           | <b>Photo-Luminescent Statutory Emergency Signage - 3 Dimensional Frame on Pole</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.53 | B2   | 39.003            |           | - 2 pictogram (290 x 290)  | No   | 4        |                 |        |
| 3.B2.2.3.3.1.54 | B2   | 39.003            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.55 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.56 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.57 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.58 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
|                 | B2   |                   |           | <b>FIRE DETECTION CONTROL PLANT AND POWER SUPPLIES</b>   |      |          |                 |        |
|                 | B2   |                   |           | <b>4 Loop Addressable Fire Detection Control Panel</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.59 | B2   | 39.003            |           | Allow for the detailed design, programming, procurement, delivery, installation, connection, testing and commissioning of an advanced 4 loop Addressable Fire Detection Control Panel to tender specification.   | No   | 1        |                 |        |
|                 | B2   |                   |           | <b>Addressable Repeater Fire Detection Control Panel</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.60 | B2   | 39.003            |           | Allow for the detailed design, programming, procurement, delivery, installation, connection, testing and commissioning of an advanced Addressable Repeater Fire Detection Control Panel to tender specification. | No   | 1        |                 |        |
|                 |      |                   |           |  |      |          | Carried Forward |        |

| Item no.        | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                 |      |                   |           |  |      |          |                 |        |
|                 |      |                   |           |  |      |          | Brought Forward |        |
|                 | B2   |                   |           | <b>Combination 3 Zone Detection and Gas Release Control Panel – ADVANCED TC3001</b>  |      |          |                 |        |
|                 | B2   |                   |           | <b>Allow for the procurement, delivery, installation, connection, testing and commissioning of an advanced combination 3 Zone Detection and Gas Release Control Panel (Advanced TC3001 only.)</b>                        |      |          |                 |        |
| 3.B2.2.3.3.1.61 | B2   | 39.003            |           | VSD  | No   | 1        |                 |        |
| 3.B2.2.3.3.1.62 | B2   | 39.003            |           | MV   | No   | 1        |                 |        |
| 3.B2.2.3.3.1.63 | B2   | 39.003            |           | LV & MCC   | No   | 1        |                 |        |
|                 | B2   |                   |           | <b>Combination 3 Zone Detection and Gas Release Status Control Panel EX 3020</b>   |      |          |                 |        |
|                 | B2   |                   |           | <b>Allow for the procurement, delivery, installation, connection, testing and commissioning of an advanced combination 3 Zone Detection and Gas Release Status Control Panel1 complete with manual gas release unit.</b> |      |          |                 |        |
| 3.B2.2.3.3.1.64 | B2   | 39.003            |           | MV   | No   | 1        |                 |        |
| 3.B2.2.3.3.1.65 | B2   | 39.003            |           | LV & MCC   | No   | 1        |                 |        |
|                 | B2   |                   |           | <b>EMERGENCY POWER SUPPLY</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.66 | B2   | 39.003            |           | Provide emergency batteries as per calculation sheet – Gas Release Control Panels and Addressable Panels.  | No   | 14       |                 |        |
|                 | B2   |                   |           | <b>Blue Ginger or Similar Approved 24v DC Power Supply Complete with Back-Up, Batteries and Charger</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.67 | B2   | 39.003            |           | Provide for the supply of a Blue Ginger or similar approved 24 DC Power Supply complete with back-up Batteries and Charger to the Aspirating Detectors, Gas Release Status Units and OSID Beam Detectors.                | No   | 16       |                 |        |
| 3.B2.2.3.3.1.68 | B2   | 39.003            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.69 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.70 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.71 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.72 | B2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
|                 | B2   |                   |           | <b>CONDUIT AND CABLING</b>   |      |          |                 |        |
|                 | B2   |                   |           | <b>Fire Resistant Cabling – PH120</b>  |      |          |                 |        |
|                 | B2   |                   |           | <b>Allow for adequate cabling for the wiring of the fire detection system to specification.</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.73 | B2   | 39.003            |           | (PH-120 only – 1mm <sup>2</sup> minimum - 2 core)  | m    | 2500     |                 |        |
|                 | B2   |                   |           | <b>Fibre Optic Cable</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.74 | B2   | 39.003            |           | Allow for adequate cabling for the networking of the main addressable fire detection and repeater control panels to specification.   | m    | 500      |                 |        |
|                 |      |                   |           |  |      |          | Carried Forward |        |

| Item no.        | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference |           |   |      |          |                 |        |
|                 |      |           |           |   |      |          | Brought Forward |        |
|                 | B2   |           |           | <b>Conduit and Couplings</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.75 | B2   | 39.003    |           | Procurement and installation of 25mm dia. Bosal conduit (with necessary couplings, junction boxes, etc.) for all detection and electrical reticulation in terms of the specifications. Include for all drilling, fixing and making good of same.  | m    | 800      |                 |        |
|                 | B2   |           |           | <b>P2000 Galvanized Trunking and Accessories</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.76 | B2   | 39.003    |           | Allow for the procurement and installation of P2000 trunking (with necessary couplings, junction boxes, accessories etc.) in terms of the specifications.   | m    | 50       |                 |        |
|                 | B2   |           |           | <b>Flexible Galvanized Steel Conduit with IP 40 Rating Including Steel Couplings</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.77 | B2   | 39.003    |           | Provide for the supply and installation of flexible galvanized steel conduit with steel couplings to be used between cylinder actuators and gas and test interface units as well as between other devices where a flexible connections would be required..  | m    | 50       |                 |        |
| 3.B2.2.3.3.1.78 | B2   | 39.003    |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.79 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.80 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.81 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.82 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
|                 | B2   |           |           | <b>DETECTION</b>  |      |          |                 |        |
|                 | B2   |           |           | <b>Analogue Addressable Optical Smoke Detectors</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.83 | B2   | 39.003    |           | Allow for the procurement, installation, testing and commissioning of analogue addressable optical smoke detectors complete with mounting bases as indicated on plans to specification.   | No   | 5        |                 |        |
|                 | B2   |           |           | <b>Green Break Glass Unit to Override Access Control</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.84 | B2   | 39.003    |           | Allow for the procurement, installation, testing and commissioning of green break glass units to specification.   | No   | 4        |                 |        |
|                 | B2   |           |           | <b>Addressable Manual Alarm Point Complete With Base and Flaps</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.85 | B2   | 39.003    |           | Allow for the procurement, installation, testing and commissioning of conventional bases for installation of manual fire alarm points above.  | No   | 8        |                 |        |
|                 | B2   |           |           | <b>OSID Beam Detectors – Pump Room Open Area</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.86 | B2   | 39.003    |           | Allow for the procurement, installation, testing and commissioning of OSID beam detectors complete with Emitter and Imager as indicated on plans to specification complete with all transformers, power supplies, mounting brackets, batteries, fittings and related plant to provide a complete hard wired installation. | No   | 1        |                 |        |
|                 |      |           |           |   |      |          | Carried Forward |        |

| Item no.         | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|                  |      | Reference |           |   |      |          |                 |        |
|                  |      |           |           |   |      |          | Brought Forward |        |
|                  | B2   |           |           | <b>High Sensitivity Smoke Detector – HSSD 2 Pipe HSSD Scanner with Individual Scanners Complete with Touch Screen Display and Hybrid Technology</b>   |      |          |                 |        |
|                  | B2   |           |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of HSSD detectors as indicated on plans to specification and all other plant necessary to provide a complete, functional and compliant installation.</b> |      |          |                 |        |
| 3.B2.2.3.3.1.87  | B2   | 39.003    |           | VSD   | No   | 2        |                 |        |
| 3.B2.2.3.3.1.88  | B2   | 39.003    |           | MV  | No   | 2        |                 |        |
| 3.B2.2.3.3.1.89  | B2   | 39.003    |           | LV & MCC  | No   | 2        |                 |        |
| 3.B2.2.3.3.1.90  | B2   | 39.003    |           | Facility - Reference Detectors  | No   | 2        |                 |        |
|                  | B2   |           |           | <b>25mm Red Sampling Pipe 3m Length</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.91  | B2   | 39.003    |           | Allow for the detailed design, procurement, installation, testing and commissioning of 25mm dia. red sampling pipe.   | Sum  | 1        |                 |        |
|                  | B2   |           |           | <b>Pipe Clip (Red)</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.92  | B2   | 39.003    |           | Allow for the procurement, installation, testing and commissioning of red pipe clips single point fix   | Sum  | 1        |                 |        |
|                  | B2   |           |           | <b>90 Degree Elbow Slow Bend (Red)</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.93  | B2   | 39.003    |           | Allow for the procurement, installation, testing and commissioning of red elbow.  | Sum  | 1        |                 |        |
|                  | B2   |           |           | <b>End Cap (Red)</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.94  | B2   | 39.003    |           | Allow for the detailed design, procurement, installation, testing and commissioning of red end cap.   | Sum  | 1        |                 |        |
|                  | B2   |           |           | <b>25mm Pipe Red Socket</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.95  | B2   | 39.003    |           | Allow for the detailed design, procurement, installation, testing and commissioning of 25mm dia. red socket.  | Sum  | 1        |                 |        |
|                  | B2   |           |           | <b>Labels - Smoke Detection Sampling Pipes</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.96  | B2   | 39.003    |           | Allow for the detailed design procurement and installation of identification labels to all pipe work.   | Sum  | 1        |                 |        |
|                  | B2   |           |           | <b>Inline Filter – Triple Stage Filter for All HSSD</b>   |      |          |                 |        |
|                  | B2   |           |           | <b>Allow for the procurement, installation, testing and commissioning of triple stage filters to all HSSD as per manufacturer's specifications.</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.97  | B2   | 39.003    |           | VSD   | No   | 4        |                 |        |
| 3.B2.2.3.3.1.98  | B2   | 39.003    |           | MV  | No   | 4        |                 |        |
| 3.B2.2.3.3.1.99  | B2   | 39.003    |           | LV & MCC  | No   | 4        |                 |        |
| 3.B2.2.3.3.1.100 | B2   | 39.003    |           | Facility - Reference Detectors  | No   | 4        |                 |        |
| 3.B2.2.3.3.1.101 | B2   | 39.003    |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.102 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.103 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.104 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.105 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
|                  |      |           |           |   |      |          | Carried Forward |        |

| Item no.         | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|                  |      | Reference |           |  |      |          |                 |        |
|                  |      |           |           |  |      |          | Brought Forward |        |
|                  | B2   |           |           | <b>AUXILIARY PLANT</b>   |      |          |                 |        |
|                  | B2   |           |           | <b>Conventional Siren / Strobe -</b>   |      |          |                 |        |
|                  | B2   |           |           | <b>Allow for the procurement, installation, testing and commissioning of 100dB(A) ASTrobe or similar approved combination siren/strobe</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.106 | B2   | 39.003    |           | VSD  | No   | 2        |                 |        |
| 3.B2.2.3.3.1.107 | B2   | 39.003    |           | MV   | No   | 2        |                 |        |
| 3.B2.2.3.3.1.108 | B2   | 39.003    |           | LV & MCC   | No   | 2        |                 |        |
| 3.B2.2.3.3.1.109 | B2   | 39.003    |           | Facility - Reference Detectors   | No   | 2        |                 |        |
|                  | B2   |           |           | <b>Fire Bell</b>   |      |          |                 |        |
|                  | B2   |           |           | <b>Allow for the procurement, installation, testing and commissioning of an fire alarm Bell.</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.110 | B2   | 39.003    |           | VSD  | No   | 2        |                 |        |
| 3.B2.2.3.3.1.111 | B2   | 39.003    |           | MV   | No   | 2        |                 |        |
| 3.B2.2.3.3.1.112 | B2   | 39.003    |           | LV & MCC   | No   | 1        |                 |        |
|                  | B2   |           |           | <b>Addressable Loop Powered Siren / Strobe</b>   |      |          |                 |        |
|                  | B2   |           |           | <b>Allow for the procurement, installation, testing and commissioning of 100dB(A) ASTrobe or similar approved combination siren / strobe.</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.113 | B2   | 39.003    |           | Facility   | No   | 6        |                 |        |
|                  | B2   |           |           | <b>High Output Sounder</b>   |      |          |                 |        |
|                  | B2   |           |           | <b>Provide for the procurement and installation of 120 dB high output sounders to specification complete with power supply, battery back-up and any plant required for a complete and functional installation. EN-Approved</b> |      |          |                 |        |
| 3.B2.2.3.3.1.114 | B2   | 39.003    |           | Facility   | No   | 1        |                 |        |
|                  | B2   |           |           | <b>Interfaces with Other Systems</b>   |      |          |                 |        |
|                  | B2   |           |           | <b>Provide for connection to interface with the following systems and programming of relay inputs / outputs:</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.115 | B2   | 39.003    |           | Fresh air supply units shut-down   | No   | 10       |                 |        |
| 3.B2.2.3.3.1.116 | B2   | 39.003    |           | Closing of fire dampers  | No   | 4        |                 |        |
| 3.B2.2.3.3.1.117 | B2   | 39.003    |           | Smoke extraction fans - HVAC   | No   | 4        |                 |        |
| 3.B2.2.3.3.1.118 | B2   | 39.003    |           | Mains Supply Circuit Breaker – Switch off  | No   | 4        |                 |        |
| 3.B2.2.3.3.1.119 | B2   | 39.003    |           | Reference Sampling – Auto / Manual Switching   | No   | 4        |                 |        |
| 3.B2.2.3.3.1.120 | B2   | 39.003    |           | Access controlled doors  | No   | 4        |                 |        |
|                  | B2   |           |           | <b>GSM SMS Communicator – Up To 5 Users/Numbers</b>  |      |          |                 |        |
|                  | B2   |           |           | <b>Provide for procurement, installation, setup and programming of GSM SMS Communicators interfaces with the Combination Detection and Gas Release Panels:</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.121 | B2   | 39.003    |           | Sim cards to be provided by client   | No   | 1        |                 |        |
|                  |      |           |           |  |      |          | Carried Forward |        |



| Item no.         | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|                  |      | Reference |           |   |      |          |                 |        |
|                  |      |           |           |   |      |          | Brought Forward |        |
|                  | B2   |           |           | <b>Surface Boxes</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.122 | B2   | 39.003    |           | Provide for procurement and installation, of surface boxes to accommodate all interface relay units   | No   | 220      |                 |        |
|                  | B2   |           |           | <b>Waterproof Cabinets IP65 RATED</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.123 | B2   | 39.003    |           | Provide for procurement and installation, of IP 65 Waterproof cabinets to accommodate the gas release control status units as per specification and design.   | No   | 2        |                 |        |
|                  | B2   |           |           | <b>Test and Gas Release Interface Relay Unit</b>  |      |          |                 |        |
|                  | B2   |           |           | <b>Provide for procurement, installation, setup and programming of test and gas release interface relays to all Gas Suppression Cylinder Actuators.</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.124 | B2   | 39.003    |           | VSD   | No   | 1        |                 |        |
| 3.B2.2.3.3.1.125 | B2   | 39.003    |           | MV  | No   | 1        |                 |        |
| 3.B2.2.3.3.1.126 | B2   | 39.003    |           | LV & MCC  | No   | 1        |                 |        |
|                  | B2   |           |           | <b>Addressable Programmable Input / Output Relay Unit</b>   |      |          |                 |        |
|                  | B2   |           |           | <b>Provide for the detailed design, procurement, installation, setup and programming of Addressable Interface Relays to all HSSD devices, Gas Release Control Panels and other fire detection plant to monitor to following statuses:</b> |      |          |                 |        |
| 3.B2.2.3.3.1.127 | B2   | 39.003    |           | General Fault, Alert, Fire, Auto / Manual Switching, Gas Discharge  | No   | 220      |                 |        |
|                  | B2   |           |           | <b>24V DC Contactor Switch</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.128 | B2   | 39.003    |           | Provide for procurement, installation, setup and programming of 24V DC Contactor Switch to Interface and shut-down of electrical pumps  | No   | 4        |                 |        |
|                  | B2   |           |           | <b>Pressure Gauge Monitoring on All Pilot Cylinders</b>   |      |          |                 |        |
|                  | B2   |           |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of pressure monitoring of all gauges to the pilot cylinders.</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.129 | B2   | 39.003    |           | VSD   | No   | 1        |                 |        |
| 3.B2.2.3.3.1.130 | B2   | 39.003    |           | MV  | No   | 1        |                 |        |
| 3.B2.2.3.3.1.131 | B2   | 39.003    |           | LV & MCC  | No   | 1        |                 |        |
| 3.B2.2.3.3.1.132 | B2   | 39.003    |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.133 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.134 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.135 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.136 | B2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
|                  |      |           |           |   |      |          | Carried Forward |        |

| Item no.         | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|                  |      | Reference |           |   |      |          |                 |        |
|                  |      |           |           |   |      |          | Brought Forward |        |
|                  | B2   |           |           | <b>GAS SUPPRESSION PLANT</b>  |      |          |                 |        |
|                  | B2   |           |           | <b>200 Bar 80 Litre Pyroshield (IG-55) Cylinders System Complete</b>  |      |          |                 |        |
|                  | B2   |           |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of 200 Bar 80 Litre Pyroshield IG-55 systems to specification, complete with manifold, actuation lines, discharge hose, non-return valves, racking, labels &amp; nozzles, orifice unit required to provide a complete system as per manufacturer's specification :</b> |      |          |                 |        |
| 3.B2.2.3.3.1.137 | B2   | 39.003    |           | VSD   | No   | 45       |                 |        |
| 3.B2.2.3.3.1.138 | B2   | 39.003    |           | MV  | No   | 45       |                 |        |
| 3.B2.2.3.3.1.139 | B2   | 39.003    |           | LV & MCC  | No   | 20       |                 |        |
|                  | B2   |           |           | <b>Pilot Cylinders</b>  |      |          |                 |        |
|                  | B2   |           |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of 200 Bar pilot Cylinders to specification to provide a complete system as per manufacturer's specification :</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.140 | B2   | 39.003    |           | VSD   | No   | 3        |                 |        |
| 3.B2.2.3.3.1.141 | B2   | 39.003    |           | MV  | No   | 3        |                 |        |
| 3.B2.2.3.3.1.142 | B2   | 39.003    |           | LV & MCC  | No   | 1        |                 |        |
|                  | B2   |           |           | <b>Gas Distribution Pipework</b>  |      |          |                 |        |
|                  | B2   |           |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of Pyroshield IG-55 pipework to specification (including all elbows, tees, supports, paining and ancillary plant). All pipework to be ASTM A 106 Grade B Seamless and all fittings to be 3000lb and as specified in the relevant part of SANS 14520.</b>               |      |          |                 |        |
| 3.B2.2.3.3.1.143 | B2   | 39.003    |           | VSD   | No   | 80       |                 |        |
| 3.B2.2.3.3.1.144 | B2   | 39.003    |           | MV  | No   | 80       |                 |        |
| 3.B2.2.3.3.1.145 | B2   | 39.003    |           | LV & MCC  | No   | 90       |                 |        |
|                  | B2   |           |           | <b>Nozzles</b>  |      |          |                 |        |
|                  | B2   |           |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of IG55 nozzles to specification</b>   |      |          |                 |        |
| 3.B2.2.3.3.1.146 | B2   | 39.003    |           | VSD   | No   | 6        |                 |        |
| 3.B2.2.3.3.1.147 | B2   | 39.003    |           | MV  | No   | 4        |                 |        |
| 3.B2.2.3.3.1.148 | B2   | 39.003    |           | LV & MCC  | No   | 2        |                 |        |
|                  | B2   |           |           | <b>Room Integrity Test</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.149 | B2   | 39.003    |           | VSD   | No   | 4        |                 |        |
| 3.B2.2.3.3.1.150 | B2   | 39.003    |           | MV  | No   | 4        |                 |        |
| 3.B2.2.3.3.1.151 | B2   | 39.003    |           | LV & MCC  | No   | 4        |                 |        |
|                  |      |           |           |   |      |          | Carried Forward |        |

| Item no.         | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|                  |      |                   |           |   |      |          |                 |        |
|                  |      |                   |           |   |      |          | Brought Forward |        |
|                  | B2   |                   |           | <b>Pressure Relief Dampers</b>  |      |          |                 |        |
|                  | B2   |                   |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of pressure relief dampers. The quantity and sizes must be quantified based on the volume of gas release. Quantity and sizes must be specified and all costs must be included in the amount specified.</b> |      |          |                 |        |
| 3.B2.2.3.3.1.152 | B2   | 39.003            |           | VSD   | No   | 2        |                 |        |
| 3.B2.2.3.3.1.153 | B2   | 39.003            |           | MV  | No   | 2        |                 |        |
| 3.B2.2.3.3.1.154 | B2   | 39.003            |           | LV & MCC  | No   | 2        |                 |        |
| 3.B2.2.3.3.1.155 | B2   | 39.003            |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.156 | B2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.157 | B2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.158 | B2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.159 | B2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
|                  | B2   |                   |           | <b>PASSIVE FIRE PROTECTION</b>  |      |          |                 |        |
|                  | B2   |                   |           | <b>5KG CO2 Fire Extinguisher – SABS Approved</b>  |      |          |                 |        |
|                  | B2   |                   |           | <b>Provide for the procurement and installation of S.A.B.S approved 5Kg Co2 Fire Extinguishers complete with wooden backing boards as per specification and drawings</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.160 | B2   | 39.003            |           | VSD   | No   | 2        |                 |        |
| 3.B2.2.3.3.1.161 | B2   | 39.003            |           | MV  | No   | 2        |                 |        |
| 3.B2.2.3.3.1.162 | B2   | 39.003            |           | LV & MCC  | No   | 2        |                 |        |
|                  | B2   |                   |           | <b>Statutory Signage – Sabs Approved – Photo Luminescent</b>  |      |          |                 |        |
|                  | B2   |                   |           | <b>Provide for the supply and installation of SABS approved photo luminescent 190 x 380 Emergency Exit Signage and Extinguisher Signage in aluminium frames as per specification and drawings.</b>  |      |          |                 |        |
| 3.B2.2.3.3.1.163 | B2   | 39.003            |           | VSD   | No   | 2        |                 |        |
| 3.B2.2.3.3.1.164 | B2   | 39.003            |           | MV  | No   | 4        |                 |        |
| 3.B2.2.3.3.1.165 | B2   | 39.003            |           | LV & MCC  | No   | 4        |                 |        |
| 3.B2.2.3.3.1.166 | B2   | 39.003            |           | Any item not listed (Specify)   | Sum  |          |                 |        |
| 3.B2.2.3.3.1.167 | B2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.168 | B2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.169 | B2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.B2.2.3.3.1.170 | B2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
|                  | B2   |                   |           | <b>PART B2.2.3.3.2: GUARDHOUSE</b>  |      |          |                 |        |
|                  | B2   |                   |           | <b>Passive Fire Protection Plant</b>  |      |          |                 |        |
| 3.B2.2.3.3.2.1   | B2   | 39.003            |           | 9kg DCP fire extinguishers fully installed on meranti backing boards  | No   | 1        |                 |        |
|                  |      |                   |           |   |      |          | Carried Forward |        |

| Item no.       | Part | Payment | Breakdown Reference | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|---------|---------------------|--|------|----------|-----------------|--------|
|                |      |         |                     |  |      |          |                 |        |
|                |      |         |                     |  |      |          | Brought Forward |        |
| 3.B2.2.3.3.2.2 | B2   | 39.003  |                     | 4,5kg DCP fire extinguishers fully installed on meranti backing boards   | No   | 1        |                 |        |
| 3.B2.2.3.3.2.3 | B2   | 39.003  |                     | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.2.4 | B2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.2.5 | B2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.2.6 | B2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.2.7 | B2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
|                | B2   |         |                     | <b>Photo-Luminescent Statutory Emergency Signage</b>   |      |          |                 |        |
|                | B2   |         |                     | <b>Single-Sided Statutory Emergency Signage</b>  |      |          |                 |        |
| 3.B2.2.3.3.2.8 | B2   | 39.003  |                     | - 2 pictogram (290 x 290)  | No   | 4        |                 |        |
| 3.B2.2.3.3.2.9 | B2   | 39.003  |                     | F45  | No   | 3        |                 |        |
|                | B2   |         |                     | <b>PART B2.2.3.3.3: PUMP HOUSE</b>   |      |          |                 |        |
|                | B2   |         |                     | <b>Passive Fire Protection Plant</b>   |      |          |                 |        |
| 3.B2.2.3.3.3.1 | B2   | 39.003  |                     | 5kg CO2 fire extinguishers fully installed on meranti backing boards   | No   | 1        |                 |        |
| 3.B2.2.3.3.3.2 | B2   | 39.003  |                     | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.3.3 | B2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.3.4 | B2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.3.5 | B2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
| 3.B2.2.3.3.3.6 | B2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
|                | B2   |         |                     | <b>Photo-Luminescent Statutory Emergency Signage</b>   |      |          |                 |        |
|                | B2   |         |                     | <b>Single-Sided Statutory Emergency Signage</b>  |      |          |                 |        |
| 3.B2.2.3.3.3.7 | B2   | 39.003  |                     | - 2 pictogram (290 x 290)  | No   | 2        |                 |        |
| 3.B2.2.3.3.3.8 | B2   | 39.003  |                     | F45  | No   | 2        |                 |        |
|                | B2   |         |                     | <b>PART B2: DIVERSION WORKS AND LOW-LIFT PUMPING STATION TOTAL</b><br><i>(Carried forward to Summary of Bills)</i> |      |          |                 |        |

| Item no.     | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|              |      |                   |           |   |      |          |                 |        |
|              | D    |                   |           | <b>PART D: BALANCING RESERVOIR &amp; SEDIMENTATION WORKS</b>                          |      |          |                 |        |
|              | D1   |                   |           | <b>PART D1: SEDIMENTATION WORKS</b>   |      |          |                 |        |
|              | D1   |                   |           | <b>PART D1.7.1: MECHANICAL PLANT</b>  |      |          |                 |        |
|              | D1   |                   |           | <b>PART D1.7.1.1: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|              | D1   |                   |           | <b>PART D1.7.1.1: HYDRO - MECHANICAL PLANT</b>  |      |          |                 |        |
|              | D1   |                   |           | <b>Mechanical<br/>(Plant designed, tested, supplied and delivered by Contractor)</b>  |      |          |                 |        |
| 3.D1.7.1.1.1 | D1   | 29.001            |           | Design and documentation  | Sum  | 1        |                 |        |
| 3.D1.7.1.1.2 | D1   | 29.002            |           | 1.5 m (H) x 1.5 m (W) Twin-Lift Sluice Gate (complete with gearboxes, spindles, etc.) | No   | 10       |                 |        |
| 3.D1.7.1.1.3 | D1   | 29.002            |           | Actuators for Channel Sluice Gates  | No   | 10       |                 |        |
|              | D1   |                   |           | <b>PART D1.7.1.2: INSTALLATIONS</b>   |      |          |                 |        |
|              | D1   |                   |           | <b>PART D1.7.1.2: HYDRO - MECHANICAL PLANT</b>  |      |          |                 |        |
|              | D1   |                   |           | <b>Employer's Requirements : Mechanical<br/>(Plant installation by Contractor)</b>    |      |          |                 |        |
| 3.D1.7.1.2.1 | D1   | 29.003            |           | 1.5 m (H) x 1.5 m (W) Twin-Lift Sluice Gate (complete with gearboxes, spindles, etc.) | No   | 10       |                 |        |
| 3.D1.7.1.2.2 | D1   | 29.003            |           | Actuators for Channel Sluice Gates  | No   | 10       |                 |        |
|              | D1   |                   |           | <b>PART D1.7.2: FIRE PROTECTION, DETECTION &amp; SUPPRESSION</b>                      |      |          |                 |        |
|              | D1   |                   |           | <b>PART D1.7.2.1: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|              | D1   |                   |           | <b>PART D1.7.2.1: INSTRUMENTATION HUT</b>   |      |          |                 |        |
|              | D1   |                   |           | <b>Passive Fire Protection Plant</b>  |      |          |                 |        |
| 3.D1.7.2.1.1 | D1   | 39.002            |           | 5kg CO2 fire extinguishers fully installed on meranti backing boards                  | No   | 1        |                 |        |
| 3.D1.7.2.1.2 | D1   | 39.002            |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.D1.7.2.1.3 | D1   | 39.002            |           | .....   | Sum  | 1        |                 |        |
| 3.D1.7.2.1.4 | D1   | 39.002            |           | .....   | Sum  | 1        |                 |        |
| 3.D1.7.2.1.5 | D1   | 39.002            |           | .....   | Sum  | 1        |                 |        |
| 3.D1.7.2.1.6 | D1   | 39.002            |           | .....   | Sum  | 1        |                 |        |
|              | D1   |                   |           | <b>Photo-Luminescent Statutory Emergency Signage</b>                                  |      |          |                 |        |
|              | D1   |                   |           | <b>Single-Sided Statutory Emergency Signage</b>                                       |      |          |                 |        |
| 3.D1.7.2.1.7 | D1   | 39.002            |           | - 2 pictogram (290 x 290)   | No   | 2        |                 |        |
| 3.D1.7.2.1.8 | D1   | 39.002            |           | F45   | No   | 2        |                 |        |
|              | D1   |                   |           | <b>PART D1.7.2.2: INSTALLATION</b>  |      |          |                 |        |
|              | D1   |                   |           | <b>PART D1.7.2.2: INSTRUMENTATION HUT</b>   |      |          |                 |        |
|              | D1   |                   |           | <b>Passive Fire Protection Plant</b>  |      |          |                 |        |
| 3.D1.7.2.2.1 | D1   | 39.003            |           | 5kg CO2 fire extinguishers fully installed on meranti backing boards                  | No   | 1        |                 |        |
|              |      |                   |           |   |      |          | Carried Forward |        |

| Item no.     | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|              |      |                   |           |   |      |          |                 |        |
|              |      |                   |           |   |      |          | Brought Forward |        |
| 3.D1.7.2.2.2 | D1   | 39.003            |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.D1.7.2.2.3 | D1   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.D1.7.2.2.4 | D1   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.D1.7.2.2.5 | D1   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.D1.7.2.2.6 | D1   | 39.003            |           | .....   | Sum  | 1        |                 |        |
|              | D1   |                   |           | <b>Photo-Luminescent Statutory Emergency Signage</b>                            |      |          |                 |        |
|              | D1   |                   |           | <b>Single-Sided Statutory Emergency Signage</b>                                 |      |          |                 |        |
| 3.D1.7.2.2.7 | D1   | 39.003            |           | - 2 pictogram (290 x 290)   | No   | 2        |                 |        |
| 3.D1.7.2.2.8 | D1   | 39.003            |           | F45   | No   | 2        |                 |        |
|              | D1   |                   |           | <b>PART D1: SEDIMENTATION WORKS TOTAL (Carried forward to Summary of Bills)</b> |      |          |                 |        |

| Item no.     | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|              |      |                   |           |   |      |          |                 |        |
|              | E2   |                   |           | <b>PART E: HIGH-LIFT PUMPING STATION</b>  |      |          |                 |        |
|              | E2   |                   |           | <b>PART E2.1: MECHANICAL PLANT</b>  |      |          |                 |        |
|              |      |                   |           | Pipework General Arrangement Dwg. - 2E-C3-006<br>Pipework Section Dwg. - 2E-C4-001<br>Pipework Suction Dwg. - 2E-C5-002<br>Pipework Delivery Dwg. - 2E-C5-003<br>Discharge Manifold Pipework dwg. 2D-C5-024 and 2D-C4-001 |      |          |                 |        |
|              | E2   |                   |           | <b>PART E2.1.1: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|              | E2   |                   |           | <b>PART E2.1.1.1: PUMPS AND ANCILLARY PLANT</b>   |      |          |                 |        |
|              | E2   |                   |           | <b>Employer's Requirements : Mechanical (Plant designed, tested, supplied and delivered by Contractor)</b>  |      |          |                 |        |
| 3.E2.1.1.1.1 | E2   | 30.001 & 39.001   |           | Design and documentation  | Sum  | 1        |                 |        |
| 3.E2.1.1.1.2 | E2   | 30.002            | x         | Complete High-Lift Pumps (excl. instrumentation)  | No   | 4        |                 |        |
| 3.E2.1.1.1.3 | E2   | 39.002(t)         | x         | Motors for Pumps (excl. instrumentation)  | No   | 4        |                 |        |
| 3.E2.1.1.1.4 | E2   | 30.004            |           | Pre-Commissioning of Plant: High-Lift Pump sets   | No   | 4        |                 |        |
| 3.E2.1.1.1.5 | E2   | 28.004            |           | Floor Sump pump complete with associated pipework and valves, <b>low rate</b>   | No   | 1        |                 |        |
| 3.E2.1.1.1.6 | E2   | 28.004            |           | Drainage Sump pump complete with associated pipework and valves, <b>high rate</b>   | No   | 1        |                 |        |
| 3.E2.1.1.1.7 | E2   | 28.006            | x         | Hydro-cyclone Oil/Water Separator (Complete)  | No   | 1        |                 |        |
|              | E2   |                   |           | <b>PART E2.1.1.2: CRANES, HOISTS AND WINCHES</b>  |      |          |                 |        |
|              | E2   |                   |           | <b>Employer's Requirements : Mechanical (Plant designed, supplied and delivered by Contractor)</b>  |      |          |                 |        |
| 3.E2.1.1.2.1 | E2   | 31.001            |           | Design and documentation  | Sum  | 1        |                 |        |
| 3.E2.1.1.2.2 | E2   | 31.002            | x         | Complete 12.5/2 tonne DGEOT Crane   | No   | 1        |                 |        |
|              | E2   |                   |           | <b>PART E2.1.1.3: PIPES AND PIPE SPECIALS</b>   |      |          |                 |        |
|              | E2   |                   |           | <b>Employer's Requirements : Mechanical (Plant designed, supplied and delivered by Contractor)</b>  |      |          |                 |        |
| 3.E2.1.1.3.1 | E2   | 30.001            |           | Design and documentation  | Sum  | 1        |                 |        |
| 3.E2.1.1.3.2 | E2   | 32.003            |           | Item HLS1.5 - DN1000 PN16 Flanged Pipe Special Straight (Insulating) (between suction manifold and upstream pump isolating valves)  | No   | 4        |                 |        |
| 3.E2.1.1.3.3 | E2   | 32.003            |           | Item HLS1.7 - DN1000 PN16 Dismantling Joint   | No   | 4        |                 |        |
| 3.E2.1.1.3.4 | E2   | 32.003            |           | Item HLS1.8 - DN1000-700 PN16 Flanged Concentric Reducer with Flanged DN100 Stub Pipe, DN25 Flow switch Socket and DN25 Pressure gauge nipple (upstream of High-Lift Pump)  | No   | 4        |                 |        |
| 3.E2.1.1.3.5 | E2   | 32.003            |           | Item HLS1.9 - DN700 PN16 Dismantling Joint (Pump compatible)  | No   | 4        |                 |        |
| 3.E2.1.1.3.6 | E2   | 32.003            |           | Item HLS 1.10 - PN16 Pump Supply Pipe Special (upstream of High-Lift Pump)  | No   | 4        |                 |        |
| 3.E2.1.1.3.7 | E2   | 32.003            |           | Item HLD1.1 - DN500 PN40 Dismantling Joint (Pump compatible )   | No   | 4        |                 |        |
|              |      |                   |           |   |      |          | Carried Forward |        |

| Item no.      | Part | Payment Reference | Breakdown Reference | Description   | Unit | Quantity | Rate            | Amount |
|---------------|------|-------------------|---------------------|---|------|----------|-----------------|--------|
|               |      |                   |                     |   |      |          |                 |        |
|               |      |                   |                     |   |      |          | Brought Forward |        |
| 3.E2.1.1.3.8  | E2   | 32.003            |                     | Item HLD1.2 - DN800-500 PN40 Flanged Concentric Reducer, DN800 PN40 Stub Pipe extended (downstream of High-Lift Pump) | No   | 4        |                 |        |
| 3.E2.1.1.3.9  | E2   | 32.003            |                     | Item HLD1.4 - DN800 PN40 Flanged Pipe Special Straight with DN25 Pressure transducer nipple                           | No   | 4        |                 |        |
| 3.E2.1.1.3.10 | E2   | 32.003            |                     | Item HLD1.5 - DN800 PN40 Dismantling Joint  | No   | 8        |                 |        |
|               | E2   |                   |                     | <b>DN800 PN40 Flanged Pipe Special with DN100 PN40 Flanged Pipe Stub (downstream delivery isolation valve)</b>        |      |          |                 |        |
| 3.E2.1.1.3.11 | E2   | 32.003            |                     | Item HLD1.21 - L = 5888 mm  | No   | 3        |                 |        |
| 3.E2.1.1.3.12 | E2   | 32.003            |                     | Item HLD1.7 - L = 6190 mm   | No   | 1        |                 |        |
| 3.E2.1.1.3.13 | E2   | 32.003            |                     | Item HLD1.22 - DN800 PN4 flanged 90 degree Medium Radius Pipe Special Bend  | No   | 1        |                 |        |
| 3.E2.1.1.3.14 | E2   | 32.003            |                     | Item HLD1.10 - DN1400-800 PN40 Flanged Concentric Reducer with DN800 PN40 Stub Pipe Straight (delivery manifold)      | No   | 1        |                 |        |
| 3.E2.1.1.3.15 | E2   | 32.003            |                     | Item HLD1.11 - DN1400-800 PN40 Unequal Sweep Tee (delivery manifold)  | No   | 2        |                 |        |
| 3.E2.1.1.3.16 | E2   | 32.003            |                     | Item HLD1.24 - DN1400-800 PN40 Unequal Sweep Tee, DN1400 flange one end (delivery manifold)                           | No   | 1        |                 |        |
| 3.E2.1.1.3.17 | E2   | 32.003            |                     | Item HLD1.12 - DN1400 PN40 Pipe Special Straight with DN200 Flanged Scour Pipe (delivery manifold)                    | No   | 1        |                 |        |
| 3.E2.1.1.3.18 | E2   | 32.003            |                     | Item HLD1.14 - DN1400 PN40 Pipe Special Straight with DN700 Access Branch (delivery manifold)                         | No   | 1        |                 |        |
| 3.E2.1.1.3.19 | E2   | 32.003            |                     | Item HLD1.15 - DN700 PN40 Blind Flange with DN150 DN40 Flanged Stub Pipe  | No   | 1        |                 |        |
|               | E2   |                   |                     | <b>DN1400 PN40 plain ended Pipe Special Straight (delivery manifold)</b>  |      |          |                 |        |
| 3.E2.1.1.3.20 | E2   | 32.003            |                     | Item HLD1.18 - L = 7480 mm  | No   | 5        |                 |        |
| 3.E2.1.1.3.21 | E2   | 32.003            |                     | Item HLD1.19 - DN1400 PN40 Flanged One End Pipe Special (delivery manifold) with DN25 Pressure Transmitter Nipple     | No   | 1        |                 |        |
| 3.E2.1.1.3.22 | E2   | 32.003            |                     | Item HLD1.20 - DN1400 PN40 Flanged One End (Insulating) Pipe Special Straight with Puddle Flange                      | No   | 1        |                 |        |
| 3.E2.1.1.3.23 | E2   | 32.003            |                     | Item HLD1.23 - DN1400 PN40 Dismantling Joint (Insulating)   | No   | 1        |                 |        |
|               | E2   |                   |                     | <b>PART E2.1.1.4: INSTRUMENTATION</b>   |      |          |                 |        |
|               | E2   |                   |                     | <b>Employer's Requirements : Mechanical (Plant designed, supplied and delivered by Contractor)</b>                    |      |          |                 |        |
| 3.E2.1.1.4.1  | E2   | 30.001            |                     | Design and documentation  | Sum  | 1        |                 |        |
| 3.E2.1.1.4.2  | E2   | 30.002            |                     | Flow Switch PN 16 to suit DN25 treaded SS on suction.   | No   | 4        |                 |        |
| 3.E2.1.1.4.3  | E2   | 30.002            |                     | Pressure Gauge Range 0-1600 kPa with 100mm display and SS ball valve, onto DN25 Nipple on Suction.                    | No   | 4        |                 |        |
| 3.E2.1.1.4.4  | E2   | 30.002            |                     | Pressure Gauge Range 0-4000 kPa with 100 mm display and SS ball valves onto DN25 nipple on discharge.                 | No   | 4        |                 |        |
|               |      |                   |                     |   |      |          | Carried Forward |        |



| Item no.      | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|               |      | Reference |           |  |      |          |                 |        |
|               |      |           |           |  |      |          | Brought Forward |        |
|               | E2   |           |           | <b>PART E2.1.1.5: VALVES</b>   |      |          |                 |        |
|               | E2   |           |           | <b>Employer's Requirements : Mechanical (Plant designed, supplied and delivered by Contractor)</b>                                 |      |          |                 |        |
| 3.E2.1.1.5.1  | E2   | 35.001    |           | Design and documentation   | Sum  | 1        |                 |        |
| 3.E2.1.1.5.2  | E2   | 35.002    |           | Item HLS1.6 - DN1000 PN16 Isolating Butterfly Valve - Suction (Rubber seal, double offset)   | No   | 4        |                 |        |
| 3.E2.1.1.5.3  | E2   | 35.002    |           | Item HLS1.6 - Actuator and worm gearbox for Suction Isolating B/F Valves   | No   | 4        |                 |        |
| 3.E2.1.1.5.4  | E2   | 35.002    |           | Item HLS1.11 - DN100 PN16 Scour Wedge Gate Valve   | No   | 4        |                 |        |
| 3.E2.1.1.5.5  | E2   | 35.002    |           | Item HLD1.3 - DN800 PN40 Non-reverse Nozzle Type Check Valve   | No   | 4        |                 |        |
| 3.E2.1.1.5.6  | E2   | 35.002    |           | Item HLD1.6 - DN800 PN40 Isolating Butterfly Valve - Delivery (Rubber seal, double offset)   | No   | 4        |                 |        |
| 3.E2.1.1.5.7  | E2   | 35.002    |           | Item HLD1.6 - Actuator and worm gearbox for Delivery Isolating B/F Valves  | No   | 4        |                 |        |
| 3.E2.1.1.5.8  | E2   | 35.002    |           | Item HLD1.8 - DN100 PN40 Wedge Gate Valve for isolating Air Valve  | No   | 4        |                 |        |
| 3.E2.1.1.5.9  | E2   | 35.002    |           | Item HLD1.9 - DN100 PN40 Double Acting, Anti Shock Orifice Air Valve   | No   | 4        |                 |        |
| 3.E2.1.1.5.10 | E2   | 35.002    |           | Item HLD1.13 - DN200 PN40 Scour Wedge Gate Valve   | No   | 1        |                 |        |
| 3.E2.1.1.5.11 | E2   | 35.002    |           | Item HLD1.16 - DN150 PN40 Wedge Gate Valve for isolating Air Valve   | No   | 1        |                 |        |
| 3.E2.1.1.5.12 | E2   | 35.002    |           | Item HLD1.17 - DN150 PN40 Double Acting, Anti Shock Orifice Air Valve  | No   | 1        |                 |        |
|               | E2   |           |           | <b>PART E2: INSTALLATIONS</b>  |      |          |                 |        |
|               | E2   |           |           | <b>PART E2.1.2.1: PUMPS AND ANCILLARY PLANT</b>  |      |          |                 |        |
|               | E2   |           |           | <b>Employer's Requirements : Mechanical (Plant installation by Contractor)</b>   |      |          |                 |        |
| 3.E2.1.2.1.1  | E2   | 30.003    | x         | Complete High-Lift Pumps (excl. instrumentation)   | No   | 4        |                 |        |
| 3.E2.1.2.1.2  | E2   | 39.003(t) | x         | Motors for Pumps (excl. instrumentation)   | No   | 4        |                 |        |
| 3.E2.1.2.1.3  | E2   | 28.005    |           | Floor Sump Pump complete with associated pipework and valves, <b>low rate</b>  | No   | 1        |                 |        |
| 3.E2.1.2.1.4  | E2   | 28.005    |           | Drainage Sump Pump complete with associated pipework and valves, <b>high rate</b>  | No   | 1        |                 |        |
| 3.E2.1.2.1.5  | E2   | 28.007    | x         | Hydro-cyclone Oil/Water Separator (Complete)   | No   | 1        |                 |        |
|               | E2   |           |           | <b>PART E2.1.2.2: CRANES, HOISTS AND WINCHES</b>   |      |          |                 |        |
|               | E2   |           |           | <b>Employer's Requirements : Mechanical (Plant installation by Contractor)</b>   |      |          |                 |        |
| 3.E2.1.2.2.1  | E2   | 31.003    | x         | Complete 12.5/2 tonne DGEOT Crane  | No   | 1        |                 |        |
|               | E2   |           |           | <b>PART E2.1.2.3: PIPES AND PIPE SPECIALS</b>  |      |          |                 |        |
|               | E2   |           |           | <b>Employer's Requirements : Mechanical (Plant installation by Contractor)</b>   |      |          |                 |        |
| 3.E2.1.2.3.1  | E2   | 33.004    |           | Item HLS1.5 - DN1000 PN16 Flanged Pipe Special Straight (Insulating) (between suction manifold and upstream pump isolating valves) | No   | 4        |                 |        |
|               |      |           |           |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|               |      | Reference |           |  |      |          |                 |        |
|               |      |           |           |  |      |          | Brought Forward |        |
| 3.E2.1.2.3.2  | E2   | 33.004    |           | Item HSL1.7 - DN1000 PN16 Dismantling Joint  | No   | 4        |                 |        |
| 3.E2.1.2.3.3  | E2   | 33.004    |           | Item HLS1.8 - DN1000-700 PN16 Flanged Concentric Reducer with Flanged DN100 Stub Pipe (upstream of High-Lift Pump) | No   | 4        |                 |        |
| 3.E2.1.2.3.4  | E2   | 33.004    |           | Item HLS1.9 - DN700 PN16 Dismantling Joint   | No   | 4        |                 |        |
| 3.E2.1.2.3.5  | E2   | 33.004    |           | Item HLS1.10 - PN16 Pump Supply Pipe Special (upstream of High-Lift Pump)  | No   | 4        |                 |        |
| 3.E2.1.2.3.6  | E2   | 33.004    |           | Item HLD1.1 - DN500 PN40 Dismantling Joint   | No   | 4        |                 |        |
| 3.E2.1.2.3.7  | E2   | 33.004    |           | Item HLD1.2 - DN800-500 PN40 Flanged Concentric Reducer DN800 PN40 Stub Pipe (downstream of High-Lift Pump)        | No   | 4        |                 |        |
| 3.E2.1.2.3.8  | E2   | 33.004    |           | Item HLD1.4 - DN800 PN40 Flanged Pipe Special Straight   | No   | 4        |                 |        |
| 3.E2.1.2.3.9  | E2   | 33.004    |           | Item HLD1.5 - DN800 PN40 Dismantling Joint   | No   | 8        |                 |        |
|               | E2   |           |           | <b>DN800 PN40 Flanged Pipe Special with DN100 PN40 Flanged Pipe Stub (downstream delivery isolation valve)</b>     |      |          |                 |        |
| 3.E2.1.2.3.10 | E2   | 33.004    |           | Item HLD1.21 - L = 5888 mm   | No   | 3        |                 |        |
| 3.E2.1.2.3.11 | E2   | 33.004    |           | Item HLD1.7 - L = 6190 mm  | No   | 1        |                 |        |
| 3.E2.1.2.3.12 | E2   | 33.004    |           | Item HLD1.22 - DN800 PN4 flanged 90 degree Medium Radius Pipe Special Bend   | No   | 1        |                 |        |
| 3.E2.1.2.3.13 | E2   | 33.004    |           | Item HLD1.10 - DN1400-800 PN40 Flanged Concentric Reducer with DN800 PN40 Stub Pipe Straight (delivery manifold)   | No   | 1        |                 |        |
| 3.E2.1.2.3.14 | E2   | 33.004    |           | Item HLD1.11 - DN1400-800 PN40 Unequal Sweep Tee (delivery manifold)   | No   | 2        |                 |        |
| 3.E2.1.2.3.15 | E2   | 33.004    |           | Item HLD1.24 - DN1400-800 PN40 Unequal Sweep Tee, DN1400 flange one end (delivery manifold)                        | No   | 1        |                 |        |
| 3.E2.1.2.3.16 | E2   | 33.004    |           | Item HLD1.12 - DN1400 PN40 Pipe Special Straight with DN200 Flanged Scour Pipes (delivery manifold)                | No   | 1        |                 |        |
| 3.E2.1.2.3.17 | E2   | 33.004    |           | Item HLD1.14 - DN1400 PN40 Pipe Special Straight with DN700 Access Branch (delivery manifold)                      | No   | 1        |                 |        |
| 3.E2.1.2.3.18 | E2   | 33.004    |           | Item HLD1.15 - DN700 PN40 Blind Flange with DN150 DN40 Flanged Stub Pipe   | No   | 1        |                 |        |
|               | E2   |           |           | <b>DN1400 PN40 plain ended Pipe Special Straight (delivery manifold)</b>   |      |          |                 |        |
| 3.E2.1.2.3.19 | E2   | 33.004    |           | Item HLD1.18 - L = 7480 mm   | No   | 5        |                 |        |
| 3.E2.1.2.3.20 | E2   | 33.004    |           | Item HLD1.19 - DN1400 PN40 Flanged One End Pipe Special (delivery manifold)  | No   | 1        |                 |        |
| 3.E2.1.2.3.21 | E2   | 33.004    |           | Item HLD1.20 - DN1400 PN40 Flanged One End (Insulating) Pipe Special Straight with Puddle Flange                   | No   | 1        |                 |        |
| 3.E2.1.2.3.22 | E2   | 33.004    |           | Item HLD1.23 - DN1400 PN40 Dismantling Joint (Insulating)  | No   | 1        |                 |        |
| 3.E2.1.2.3.23 | E2   | 33.008    |           | Hydrostatic Testing  | Sum  | 1        |                 |        |
| 3.E2.1.2.3.24 | E2   | 33.009    |           | Pipe lining integrity testing  | Sum  | 1        |                 |        |
| 3.E2.1.2.3.25 | E2   | 33.010    |           | Pipe coating integrity testing   | Sum  | 1        |                 |        |
|               |      |           |           |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|               |      | Reference |           |   |      |          |                 |        |
|               |      |           |           |   |      |          | Brought Forward |        |
|               | E2   |           |           | <b>PART E2.1.2.4: INSTRUMENTATION</b>   |      |          |                 |        |
|               | E2   |           |           | <b>Employer's Requirements : Mechanical (Plant installation by Contractor)</b>  |      |          |                 |        |
| 3.E2.1.2.4.1  | E2   | 30.003    |           | Flow Switch PN16 to suit DN25 treaded SS on suction   | No   | 4        |                 |        |
| 3.E2.1.2.4.2  | E2   | 30.003    |           | Pressure Gauge Range 0-1600 kPa with 100mm display and SS ball valve, onto DN25 Nipple on Suction.  | No   | 4        |                 |        |
| 3.E2.1.2.4.3  | E2   | 30.003    |           | Pressure Gauge Range 0-4000 kPa with 100 mm display and SS ball valves onto DN25 nipple on discharge.   | No   | 4        |                 |        |
|               | E2   |           |           | <b>PART E2.1.2.5: VALVES</b>  |      |          |                 |        |
|               | E2   |           |           | <b>Employer's Requirements : Mechanical (Plant installation by Contractor)</b>  |      |          |                 |        |
| 3.E2.1.2.5.1  | E2   | 33.004    |           | Item HLS1.6 - DN1000 PN16 Isolating Butterfly Valve - Suction (Rubber seal, double offset)  | No   | 4        |                 |        |
| 3.E2.1.2.5.2  | E2   | 33.004    |           | Item HLS1.6 - Actuator and worm gearbox for Suction Isolating B/F Valves  | No   | 4        |                 |        |
| 3.E2.1.2.5.3  | E2   | 33.004    |           | Item HLS1.11 - DN100 PN16 Scour Wedge Gate Valve  | No   | 4        |                 |        |
| 3.E2.1.2.5.4  | E2   | 33.004    |           | Item HLD1.3 - DN800 PN40 Non-reverse Nozzle Type Check Valve  | No   | 4        |                 |        |
| 3.E2.1.2.5.5  | E2   | 33.004    |           | Item HLD1.6 - DN800 PN40 Isolating Butterfly Valve - Delivery (Rubber seal, double offset)  | No   | 4        |                 |        |
| 3.E2.1.2.5.6  | E2   | 33.004    |           | Item HLD1.6 - Actuator and worm gearbox for Delivery Isolating B/F Valves   | No   | 4        |                 |        |
| 3.E2.1.2.5.7  | E2   | 33.004    |           | Item HLD1.8 - DN100 PN40 RSV Gate Valve for isolating Air Valve   | No   | 4        |                 |        |
| 3.E2.1.2.5.8  | E2   | 33.004    |           | Item HLD1.9 - DN100 PN10 Double Acting, Anti Shock Orifice Air Valve  | No   | 4        |                 |        |
| 3.E2.1.2.5.9  | E2   | 33.004    |           | Item HLD1.13 - DN200 PN40 Scour Wedge Gate Valve  | No   | 1        |                 |        |
| 3.E2.1.2.5.10 | E2   | 33.004    |           | Item HLD1.16 - DN150 PN40 Wedge Gate Valve for isolating Air Valve  | No   | 1        |                 |        |
| 3.E2.1.2.5.11 | E2   | 33.004    |           | Item HLD1.17 - DN150 PN40 Double Acting, Anti Shock Orifice Air Valve   | No   | 1        |                 |        |
|               | E2   |           |           | <b>PART E2.2: HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS (HVAC)</b>  |      |          |                 |        |
|               | E2   |           |           | <b>Employer's Requirements : HVAC (Plant designed, tested, supplied and delivered by Contractor)</b>  |      |          |                 |        |
|               | E2   |           |           | <b>PART E2.2.1: DESIGN AND DOCUMENTATION (For All Specified HVAC Systems)</b>   |      |          |                 |        |
| 3.E2.2.1.1    | E2   | 42.001    |           | Design and documentation  | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>PART E2.2.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|               | E2   |           |           | <b>PART E2.2.2.1: Pump room - Filtered outside air pressurisation system</b>  |      |          |                 |        |
|               | E2   |           |           | <b>Filtered outside air pressurisation system complete, including fans, ducting, plenums, filters, louvres, Plant connections, brackets, anti-vibration mounts, fixing, etc. as per technical specification and tender drawing.</b> |      |          |                 |        |
| 3.E2.2.2.1.1  | E2   | 42.002    |           | Weather louvre (WL1), 1800 x 2400   | No   | 4        |                 |        |
|               |      |           |           |   |      |          | Carried Forward |        |

| Item no.      | Part | Payment | Breakdown Reference | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|---------|---------------------|--|------|----------|-----------------|--------|
|               |      |         |                     |  |      |          |                 |        |
|               |      |         |                     |  |      |          | Brought Forward |        |
| 3.E2.2.2.1.2  | E2   | 42.002  |                     | Filter box - 1800 x 2400 c/w G4 filter media & access door   | No   | 4        |                 |        |
| 3.E2.2.2.1.3  | E2   | 42.002  |                     | Pressure differential sensor   | No   | 4        |                 |        |
| 3.E2.2.2.1.4  | E2   | 42.002  |                     | Pressure manometer   | No   | 4        |                 |        |
| 3.E2.2.2.1.5  | E2   | 42.002  |                     | 1000mm diameter Axial fan (F1 & F2) c/w flexible connections   | No   | 4        |                 |        |
| 3.E2.2.2.1.6  | E2   | 42.002  |                     | Galvanised support frame c/w antivibration pads for fans, attenuators and filter box   | No   | 4        |                 |        |
| 3.E2.2.2.1.7  | E2   | 42.002  |                     | 2D Attenuators   | No   | 8        |                 |        |
| 3.E2.2.2.1.8  | E2   | 42.002  |                     | Motorised damper (MD1), 900 x 900  | No   | 4        |                 |        |
| 3.E2.2.2.1.9  | E2   | 42.002  |                     | Industrial type drum louvres c/w OBD (DL1), 600 x 1200   | No   | 24       |                 |        |
| 3.E2.2.2.1.10 | E2   | 42.002  |                     | Uninsulated galvanised ducting c/w bends, transformation pieces, stop ends, spigots, shoe pieces, supports, fixings, hangers, etc. as required and specified   | Lot  | 1        |                 |        |
| 3.E2.2.2.1.11 | E2   | 42.002  |                     | Plywood frame 950 x 1000   | No   | 2        |                 |        |
| 3.E2.2.2.1.12 | E2   | 42.002  |                     | Weather louvre (WL2), 1000 x 1000  | No   | 7        |                 |        |
| 3.E2.2.2.1.13 | E2   | 42.002  |                     | Pressure relief damper (PRD1), 1000 x 1000   | No   | 7        |                 |        |
| 3.E2.2.2.1.14 | E2   | 42.002  |                     | Electrical connection from HVAC equipment to isolators   | No   | 8        |                 |        |
| 3.E2.2.2.1.15 | E2   | 42.002  |                     | Plywood frame 1000 x 1000  | No   | 7        |                 |        |
|               | E2   |         |                     | <b>PART E2.2.2.2: VSD room - Chilled water system</b>  |      |          |                 |        |
|               | E2   |         |                     | <b>Chilled water air conditioning system complete, chillers, chilled water piping, chilled water fixtures/fittings, pumps, air handling units, ducting, louvres, Plant connections, brackets, anti-vibration mounts, fixing, etc. as per technical specification and tender drawing.</b> |      |          |                 |        |
| 3.E2.2.2.2.1  | E2   | 42.002  | X                   | Air cooled chiller c/w all controls, pumps & BACnet interface (CH1 & CH2)  | No   | 2        |                 |        |
| 3.E2.2.2.2.2  | E2   | 42.002  |                     | VSD Pump set c/w base frame & anti vibration mounts  | No   | 2        |                 |        |
| 3.E2.2.2.2.3  | E2   | 42.002  |                     | Dosing pot   | No   | 1        |                 |        |
| 3.E2.2.2.2.4  | E2   | 42.002  |                     | Stainless steel chilled water piping and fittings c/w all bends, T-sections, reducers, BTP, temperature gauges, pressure gauges, BMS sensors, strainers, butterfly valves, ball valves, flexible connections, one way valves, expansion tank, etc.                                       | Lot  | 1        |                 |        |
| 3.E2.2.2.2.5  | E2   | 42.002  |                     | Chilled water piping insulation c/w stainless steel cladding (Internal)  | Lot  | 1        |                 |        |
| 3.E2.2.2.2.6  | E2   | 42.002  |                     | Water proof chilled water piping insulation c/w stainless steel cladding (External to building)  | Lot  | 1        |                 |        |
| 3.E2.2.2.2.7  | E2   | 42.002  | X                   | Air handling unit c/w all controls & BACnet interface (AHU1 & AHU2)  | No   | 2        |                 |        |
| 3.E2.2.2.2.8  | E2   | 42.002  |                     | Externally insulated galvanised ducting c/w bends, transformation pieces, stop ends, spigots, shoe pieces, supports, fixings, hangers, etc. as required and specified  | Lot  | 1        |                 |        |
| 3.E2.2.2.2.9  | E2   | 42.002  |                     | 400mm diameter supply air spigots  | No   | 18       |                 |        |
| 3.E2.2.2.2.10 | E2   | 42.002  |                     | Pressure relief damper (PRD3), 500 x 500   | No   | 1        |                 |        |
|               |      |         |                     |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|---------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|               |      |                   |           |   |      |          | Brought Forward |        |
| 3.E2.2.2.2.11 | E2   | 42.002            |           | Plywood frame 500 × 500   | No   | 1        |                 |        |
| 3.E2.2.2.2.12 | E2   | 42.002            |           | All electrical connections from HVAC equipment to isolators, DB's, control cables, etc.   | No   | 1        |                 |        |
| 3.E2.2.2.2.13 | E2   | 42.002            |           | Condensate drain pipe to nearest floor drain  | No   | 20       |                 |        |
|               | E2   |                   |           | <b>PART E2.2.2.3: LV switchgear &amp; MV room</b>   |      |          |                 |        |
|               | E2   |                   |           | <b>Filtered outside air pressurisation system complete, including fans, ducting, plenums, filters, louvres, Plant connections, brackets, anti-vibration mounts, fixing, etc. as per technical specification and tender drawing.</b> |      |          |                 |        |
| 3.E2.2.2.3.1  | E2   | 42.002            |           | Weather louvre (WL3), 1200 × 1200   | No   | 2        |                 |        |
| 3.E2.2.2.3.2  | E2   | 42.002            |           | Filter box - 1200 × 1200 c/w G4 filter media & access door  | No   | 2        |                 |        |
| 3.E2.2.2.3.3  | E2   | 42.002            |           | Pressure differential sensor  | No   | 2        |                 |        |
| 3.E2.2.2.3.4  | E2   | 42.002            |           | Pressure manometer  | No   | 2        |                 |        |
| 3.E2.2.2.3.5  | E2   | 42.002            |           | 630mm diameter Axial fan (F3) c/w flexible connections  | No   | 2        |                 |        |
| 3.E2.2.2.3.6  | E2   | 42.002            |           | Galvanised support frame c/w antivibration pads for fans, attenuators and filter box  | No   | 2        |                 |        |
| 3.E2.2.2.3.7  | E2   | 42.002            |           | 2D Attenuators  | No   | 4        |                 |        |
| 3.E2.2.2.3.8  | E2   | 42.002            |           | Motorised damper (MD2), 500 × 500   | No   | 2        |                 |        |
| 3.E2.2.2.3.9  | E2   | 42.002            |           | Single deflection horizontal aluminium supply air grille (G1), 300 × 150  | No   | 1        |                 |        |
| 3.E2.2.2.3.10 | E2   | 42.002            |           | Single deflection horizontal aluminium supply air grille (G2), 400 × 250  | No   | 7        |                 |        |
| 3.E2.2.2.3.11 | E2   | 42.002            |           | Uninsulated galvanised ducting c/w bends, transformation pieces, stop ends, spigots, shoe pieces, supports, fixings, hangers, etc. as required and specified  | Lot  | 1        |                 |        |
| 3.E2.2.2.3.12 | E2   | 42.002            |           | Weather louvre (WL2), 1000 × 1000   | No   | 1        |                 |        |
| 3.E2.2.2.3.13 | E2   | 42.002            |           | Pressure relief damper (PRD1), 1000 × 1000  | No   | 1        |                 |        |
| 3.E2.2.2.3.14 | E2   | 42.002            |           | Plywood frame 1000 × 1000   | No   | 1        |                 |        |
| 3.E2.2.2.3.15 | E2   | 42.002            |           | Electrical connection from HVAC equipment to isolators  | No   | 2        |                 |        |
| 3.E2.2.2.3.16 | E2   | 42.002            |           | Door grille (DG1), 500 × 400  | No   | 2        |                 |        |
|               | E2   |                   |           | <b>PART E2.2.2.4: Control, PLC and server room</b>  |      |          |                 |        |
| 3.E2.2.2.4.1  | E2   | 42.002            |           | Underceiling unit, Indoor (UC1) & Outdoor Unit (OU2) c/w wall mounting brackets   | No   | 1        |                 |        |
| 3.E2.2.2.4.2  | E2   | 42.002            |           | Stainless steel drain pan   | No   | 1        |                 |        |
| 3.E2.2.2.4.3  | E2   | 42.002            |           | Drain pump  | No   | 2        |                 |        |
| 3.E2.2.2.4.4  | E2   | 42.002            |           | Controller  | No   | 1        |                 |        |
| 3.E2.2.2.4.5  | E2   | 42.002            |           | Refrigerant piping  | No   | 45       |                 |        |
| 3.E2.2.2.4.6  | E2   | 42.002            |           | Trunking  | No   | 20       |                 |        |
| 3.E2.2.2.4.7  | E2   | 42.002            |           | Cable trays   | No   | 25       |                 |        |
| 3.E2.2.2.4.8  | E2   | 42.002            |           | Condensate piping   | No   | 20       |                 |        |
|               |      |                   |           |   |      |          | Carried Forward |        |

| Item no.      | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|               |      |                   |           |  |      |          |                 |        |
|               |      |                   |           |  |      |          | Brought Forward |        |
| 3.E2.2.2.4.9  | E2   | 42.002            |           | Door grille (DG1), 500 x 400   | No   | 2        |                 |        |
| 3.E2.2.2.4.10 | E2   | 42.002            |           | 200mm diameter wall mounted, toilet extract fan (WF1) c/w wall cowl  | No   | 1        |                 |        |
| 3.E2.2.2.4.11 | E2   | 42.002            |           | Electrical connection from HVAC equipment to isolators   | No   | 3        |                 |        |
| 3.E2.2.2.4.12 | E2   | 42.002            |           | Plywood frame 260 x 260  | No   | 1        |                 |        |
|               | E2   |                   |           | <b>PART E2.2.2.5: Battery room</b>   |      |          |                 |        |
|               | E2   |                   |           | <b>Plate-axial fan system complete, including fan, shutter, cowl, brackets, fixing, etc. as per technical specification and tender drawings.</b>                               |      |          |                 |        |
| 3.E2.2.2.5.1  | E2   | 42.002            |           | 300mm diameter spark proof wall mounted axial fan (WF2)  | No   | 1        |                 |        |
| 3.E2.2.2.5.2  | E2   | 42.002            |           | Louvre shutter 350 x 350 c/w wall cowl   | No   | 1        |                 |        |
| 3.E2.2.2.5.3  | E2   | 42.002            |           | Plywood frame 350 x 350  | No   | 1        |                 |        |
| 3.E2.2.2.5.4  | E2   | 42.002            |           | Electrical connection from HVAC equipment to isolators   | No   | 1        |                 |        |
| 3.E2.2.2.5.5  | E2   | 42.002            |           | Door grille (DG1), 500 x 400   | No   | 1        |                 |        |
|               | E2   |                   |           | <b>PART E2.2.2.6: UPS Room</b>   |      |          |                 |        |
| 3.E2.2.2.6.1  | E2   | 42.002            |           | Midwall unit, Indoor unit (MW1) & Outdoor Unit (OU1) c/w wall mounting bracket   | No   | 2        |                 |        |
| 3.E2.2.2.6.2  | E2   | 42.002            |           | Stainless steel drain pan  | No   | 1        |                 |        |
| 3.E2.2.2.6.3  | E2   | 42.002            |           | Drain pump   | No   | 3        |                 |        |
| 3.E2.2.2.6.4  | E2   | 42.002            |           | Controller   | No   | 2        |                 |        |
| 3.E2.2.2.6.5  | E2   | 42.002            |           | Refrigerant piping   | No   | 40       |                 |        |
| 3.E2.2.2.6.6  | E2   | 42.002            |           | Trunking   | No   | 25       |                 |        |
| 3.E2.2.2.6.7  | E2   | 42.002            |           | Cable trays  | No   | 15       |                 |        |
| 3.E2.2.2.6.8  | E2   | 42.002            |           | Condensate piping  | No   | 20       |                 |        |
| 3.E2.2.2.6.9  | E2   | 42.002            |           | Electrical connection from HVAC equipment to isolators   | No   | 2        |                 |        |
| 3.E2.2.2.6.10 | E2   | 42.002            |           | Door grille (DG1), 500 x 400   | No   | 1        |                 |        |
|               | E2   |                   |           | <b>PART E2.2.2.7: Operations and control centre</b>  |      |          |                 |        |
|               | E2   |                   |           | <b>Heat Recovery VRF System</b>  |      |          |                 |        |
| 3.E2.2.2.7.1  | E2   | 42.002            |           | Cassette unit (CA1) c/w condensate pump, hangers, fascia panel and remote  | No   | 2        |                 |        |
| 3.E2.2.2.7.2  | E2   | 42.002            |           | Cassette unit (CA2) c/w condensate pump, hangers, fascia panel and remote  | No   | 2        |                 |        |
| 3.E2.2.2.7.3  | E2   | 42.002            |           | Cassette unit (CA3) c/w condensate pump, hangers, fascia panel and remote  | No   | 1        |                 |        |
| 3.E2.2.2.7.4  | E2   | 42.002            |           | Hide away unit (HA2) c/w condensate pump, hangers and remote   | No   | 2        |                 |        |
| 3.E2.2.2.7.5  | E2   | 42.002            |           | Externally insulated galvanised ducting for HA2, c/w bends, transformation pieces, stop ends, spigots, shoe pieces, supports, fixings, hangers, etc. as required and specified | Lot  | 1        |                 |        |
| 3.E2.2.2.7.6  | E2   | 42.002            |           | Hide away unit (HA3) c/w return air plenum, condensate pump, hangers and remote  | No   | 1        |                 |        |
|               |      |                   |           |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|               |      | Reference |           |  |      |          |                 |        |
|               |      |           |           |  |      |          | Brought Forward |        |
| 3.E2.2.2.7.7  | E2   | 42.002    |           | Externally insulated galvanised ducting for HA3, c/w bends, transformation pieces, stop ends, spigots, shoe pieces, supports, fixings, hangers, etc. as required and specified | Lot  | 1        |                 |        |
| 3.E2.2.2.7.8  | E2   | 42.002    |           | Hide away unit (HA4) c/w condensate pump, hangers and remote   | No   | 1        |                 |        |
| 3.E2.2.2.7.9  | E2   | 42.002    |           | Externally insulated galvanised ducting for HA4, c/w bends, transformation pieces, stop ends, spigots, shoe pieces, supports, fixings, hangers, etc. as required and specified | Lot  | 1        |                 |        |
| 3.E2.2.2.7.10 | E2   | 42.002    |           | Constant volume plate diffuser (CAV1), 150mm diameter  | No   | 23       |                 |        |
| 3.E2.2.2.7.11 | E2   | 42.002    |           | Constant volume plate diffuser (CAV2), 175mm diameter  | No   | 4        |                 |        |
| 3.E2.2.2.7.12 | E2   | 42.002    |           | Hinged type return air grille, c/w filter media and plenum box (RAG1), 600x600   | No   | 2        |                 |        |
| 3.E2.2.2.7.13 | E2   | 42.002    |           | Hinged type return air grille, c/w filter media and plenum box (RAG2), 600x1200  | No   | 2        |                 |        |
| 3.E2.2.2.7.14 | E2   | 42.002    |           | Flexible ducting, acoustic type 150mm diameter   | No   | 35       |                 |        |
| 3.E2.2.2.7.15 | E2   | 42.002    |           | Flexible ducting, acoustic type 175mm diameter   | No   | 6        |                 |        |
| 3.E2.2.2.7.16 | E2   | 42.002    |           | Flexible ducting, acoustic type 400mm diameter   | No   | 6        |                 |        |
| 3.E2.2.2.7.17 | E2   | 42.002    |           | Branch selector unit (4 port) c/w condensate pump & hangers  | No   | 1        |                 |        |
| 3.E2.2.2.7.18 | E2   | 42.002    |           | Branch selector unit (6 port) c/w condensate pump & hangers  | No   | 1        |                 |        |
| 3.E2.2.2.7.19 | E2   | 42.002    |           | Outdoor Unit (OU3 & OU 4)  | No   | 1        |                 |        |
| 3.E2.2.2.7.20 | E2   | 42.002    |           | Galvanised support frame c/w antivibration pads for outdoor units  | No   | 2        |                 |        |
| 3.E2.2.2.7.21 | E2   | 42.002    |           | Refrigerant piping c/w branches, refnet joints, reducers, etc. as required by supplier design  | Lot  | 1        |                 |        |
| 3.E2.2.2.7.22 | E2   | 42.002    |           | Trunking   | No   | 10       |                 |        |
| 3.E2.2.2.7.23 | E2   | 42.002    |           | Cable trays  | No   | 60       |                 |        |
| 3.E2.2.2.7.24 | E2   | 42.002    |           | Electrical connection from HVAC equipment to isolators   | No   | 6        |                 |        |
| 3.E2.2.2.7.25 | E2   | 42.002    |           | Wired controller for indoor units  | No   | 9        |                 |        |
| 3.E2.2.2.7.26 | E2   | 42.002    |           | Communication cabling  | No   | 250      |                 |        |
| 3.E2.2.2.7.27 | E2   | 42.002    |           | Condensate drain pipe from indoor units and BS boxes to nearest drain point c/w bends, supports, hangers and breathers   | No   | 110      |                 |        |
|               | E2   |           |           | <b>PART E2.2.2.8: Server Room</b>  |      |          |                 |        |
| 3.E2.2.2.8.1  | E2   | 42.002    |           | Underceiling unit, Indoor (UC1) & Outdoor Unit (OU2) c/w wall mounting brackets  | No   | 1        |                 |        |
| 3.E2.2.2.8.2  | E2   | 42.002    |           | Stainless steel drain pan  | No   | 1        |                 |        |
| 3.E2.2.2.8.3  | E2   | 42.002    |           | Drain pump   | No   | 2        |                 |        |
| 3.E2.2.2.8.4  | E2   | 42.002    |           | Controller   | No   | 1        |                 |        |
| 3.E2.2.2.8.5  | E2   | 42.002    |           | Refrigerant piping   | No   | 20       |                 |        |
| 3.E2.2.2.8.6  | E2   | 42.002    |           | Trunking   | No   | 6        |                 |        |
| 3.E2.2.2.8.7  | E2   | 42.002    |           | Cable Tray   | No   | 14       |                 |        |
|               |      |           |           |  |      |          | Carried Forward |        |

| Item no.       | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                |      |                   |           |  |      |          | Brought Forward |        |
| 3.E2.2.2.8.8   | E2   | 42.002            |           | Condensate piping  | No   | 20       |                 |        |
| 3.E2.2.2.8.9   | E2   | 42.002            |           | Electrical connection from HVAC equipment to isolators                               | No   | 2        |                 |        |
| 3.E2.2.2.8.10  | E2   | 42.002            |           | Door grille (DG1), 500 x 400   | No   | 1        |                 |        |
|                | E2   |                   |           | <b>PART E2.2.2.9: UPS Room</b>   |      |          |                 |        |
| 3.E2.2.2.9.1   | E2   | 42.002            |           | Underceiling unit, Indoor (UC1) & Outdoor Unit (OU2) c/w wall mounting brackets      | No   | 1        |                 |        |
| 3.E2.2.2.9.2   | E2   | 42.002            |           | Stainless steel drain pan  | No   | 1        |                 |        |
| 3.E2.2.2.9.3   | E2   | 42.002            |           | Drain pump   | No   | 2        |                 |        |
| 3.E2.2.2.9.4   | E2   | 42.002            |           | Controller   | No   | 1        |                 |        |
| 3.E2.2.2.9.5   | E2   | 42.002            |           | Refrigerant piping   | No   | 25       |                 |        |
| 3.E2.2.2.9.6   | E2   | 42.002            |           | Trunking   | No   | 5        |                 |        |
| 3.E2.2.2.9.7   | E2   | 42.002            |           | Cable Tray   | No   | 20       |                 |        |
| 3.E2.2.2.9.8   | E2   | 42.002            |           | Condensate piping  | No   | 25       |                 |        |
| 3.E2.2.2.9.9   | E2   | 42.002            |           | Electrical connection from HVAC equipment to isolators                               | No   | 2        |                 |        |
| 3.E2.2.2.9.10  | E2   | 42.002            |           | Door grille (DG1), 500 x 400   | No   | 1        |                 |        |
|                | E2   |                   |           | <b>PART E2.2.2.10: CCTV/Server Room</b>  |      |          |                 |        |
| 3.E2.2.2.10.1  | E2   | 42.002            |           | Midwall unit, Indoor unit (MW1) & Outdoor Unit (OU1) c/w wall mounting bracket       | No   | 2        |                 |        |
| 3.E2.2.2.10.2  | E2   | 42.002            |           | Stainless steel drain pan  | No   | 1        |                 |        |
| 3.E2.2.2.10.3  | E2   | 42.002            |           | Drain pump   | No   | 3        |                 |        |
| 3.E2.2.2.10.4  | E2   | 42.002            |           | Controller   | No   | 2        |                 |        |
| 3.E2.2.2.10.5  | E2   | 42.002            |           | Refrigerant piping   | No   | 20       |                 |        |
| 3.E2.2.2.10.6  | E2   | 42.002            |           | Trunking   | No   | 5        |                 |        |
| 3.E2.2.2.10.7  | E2   | 42.002            |           | Cable Tray   | No   | 15       |                 |        |
| 3.E2.2.2.10.8  | E2   | 42.002            |           | Condensate piping  | No   | 20       |                 |        |
| 3.E2.2.2.10.9  | E2   | 42.002            |           | Electrical connection from HVAC equipment to isolators                               | No   | 2        |                 |        |
| 3.E2.2.2.10.10 | E2   | 42.002            |           | Door grille (DG1), 500 x 400   | No   | 1        |                 |        |
|                | E2   |                   |           | <b>PART E2.2.2.11: Outside air supply system</b>                                     |      |          |                 |        |
| 3.E2.2.2.11.1  | E2   | 42.002            |           | Weather louvre (WL3), 1200 x 600   | No   | 1        |                 |        |
| 3.E2.2.2.11.2  | E2   | 42.002            |           | Filter box - 1200 x 600 c/w G4 filter media & access door                            | No   | 1        |                 |        |
| 3.E2.2.2.11.3  | E2   | 42.002            |           | Pressure differential sensor   | No   | 1        |                 |        |
| 3.E2.2.2.11.4  | E2   | 42.002            |           | Pressure manometer   | No   | 1        |                 |        |
| 3.E2.2.2.11.5  | E2   | 42.002            |           | 450mm diameter Axial fan (F2) c/w flexible connections                               | No   | 1        |                 |        |
| 3.E2.2.2.11.6  | E2   | 42.002            |           | 2D Attenuators   | No   | 2        |                 |        |
| 3.E2.2.2.11.7  | E2   | 42.002            |           | Galvanised support frame c/w antivibration pads for fans, attenuators and filter box | No   | 1        |                 |        |
|                |      |                   |           |  |      |          | Carried Forward |        |



| Item no.       | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                |      |                   |           |  |      |          |                 |        |
|                |      |                   |           |  |      |          | Brought Forward |        |
| 3.E2.2.2.11.8  | E2   | 42.002            |           | Uninsulated galvanised ducting c/w bends, transformation pieces, stop ends, spigots, shoe pieces, supports, fixings, hangers, etc. as required and specified | Lot  | 1        |                 |        |
| 3.E2.2.2.11.9  | E2   | 42.002            |           | Supply air disc valve (SD1), 150mm diameter  | No   | 7        |                 |        |
| 3.E2.2.2.11.10 | E2   | 42.002            |           | Supply air disc valve (SD1), 200mm diameter  | No   | 2        |                 |        |
| 3.E2.2.2.11.11 | E2   | 42.002            |           | Aluminium egg crate supply air grille (SAG1), 300 x 300  | No   | 3        |                 |        |
| 3.E2.2.2.11.12 | E2   | 42.002            |           | Flexible ducting 150mm diameter  | No   | 11       |                 |        |
| 3.E2.2.2.11.13 | E2   | 42.002            |           | Flexible ducting 200mm diameter  | No   | 11       |                 |        |
| 3.E2.2.2.11.14 | E2   | 42.002            |           | Flexible ducting 250mm diameter  | No   | 2        |                 |        |
| 3.E2.2.2.11.15 | E2   | 42.002            |           | Flexible ducting 300mm diameter  | No   | 2        |                 |        |
| 3.E2.2.2.11.16 | E2   | 42.002            |           | Volume control butterfly damper (BD1), 200mm diameter  | No   | 1        |                 |        |
| 3.E2.2.2.11.17 | E2   | 42.002            |           | Volume control butterfly damper (BD1), 250mm diameter  | No   | 1        |                 |        |
| 3.E2.2.2.11.18 | E2   | 42.002            |           | Volume control butterfly damper (BD1), 300mm diameter  | No   | 1        |                 |        |
| 3.E2.2.2.11.19 | E2   | 42.002            |           | Plywood frame 550 x 550  | No   | 1        |                 |        |
| 3.E2.2.2.11.20 | E2   | 42.002            |           | Electrical connection from HVAC equipment to isolators   | No   | 1        |                 |        |
| 3.E2.2.2.11.21 | E2   | 42.002            |           | Door grille (DG1), 400 x 400   | No   | 5        |                 |        |
| 3.E2.2.2.11.22 | E2   | 42.002            |           | Cross talk attenuator (TAG1), 300 x 200  | No   | 3        |                 |        |
| 3.E2.2.2.11.23 | E2   | 42.002            |           | Cross talk attenuator (TAG2), 600 x 300  | No   | 4        |                 |        |
|                | E2   |                   |           | <b>PART E2.2.2.12: Toilet extract system 1</b>   |      |          |                 |        |
| 3.E2.2.2.12.1  | E2   | 42.002            |           | Weather louvre (WL1), 650 x 400  | No   | 1        |                 |        |
| 3.E2.2.2.12.2  | E2   | 42.002            |           | 400mm diameter Low sound inline tube fan (F1)  | No   | 1        |                 |        |
| 3.E2.2.2.12.3  | E2   | 42.002            |           | 2D Attenuators   | No   | 2        |                 |        |
| 3.E2.2.2.12.4  | E2   | 42.002            |           | Metal exhaust air disc valve (EDV1)  | No   | 6        |                 |        |
| 3.E2.2.2.12.5  | E2   | 42.002            |           | Plastic exhaust air disc valve (EDV1)  | No   | 2        |                 |        |
| 3.E2.2.2.12.6  | E2   | 42.002            |           | Flexible ducting 200mm diameter  | No   | 12       |                 |        |
| 3.E2.2.2.12.7  | E2   | 42.002            |           | Uninsulated galvanised ducting c/w bends, transformation pieces, stop ends, spigots, shoe pieces, supports, fixings, hangers, etc. as required and specified | Lot  | 1        |                 |        |
| 3.E2.2.2.12.8  | E2   | 42.002            |           | Electrical connection from HVAC equipment to isolators   | No   | 1        |                 |        |
|                | E2   |                   |           | <b>PART E2.2.2.13: Toilet extract system 2</b>   |      |          |                 |        |
| 3.E2.2.2.13.1  | E2   | 42.002            |           | Weather louvre (WL1), 650 x 400  | No   | 1        |                 |        |
| 3.E2.2.2.13.2  | E2   | 42.002            |           | 400mm diameter Low sound inline tube fan (F1)  | No   | 1        |                 |        |
| 3.E2.2.2.13.3  | E2   | 42.002            |           | 2D Attenuators   | No   | 2        |                 |        |
| 3.E2.2.2.13.4  | E2   | 42.002            |           | Metal exhaust air disc valve (EDV1), 200mm diameter  | No   | 6        |                 |        |
| 3.E2.2.2.13.5  | E2   | 42.002            |           | Plastic exhaust air disc valve (EDV1), 200mm diameter  | No   | 2        |                 |        |
|                |      |                   |           |  |      |          | Carried Forward |        |

| Item no.       | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                |      |                   |           |  |      |          | Brought Forward |        |
| 3.E2.2.2.13.6  | E2   | 42.002            |           | Flexible ducting 200mm diameter  | No   | 12       |                 |        |
| 3.E2.2.2.13.7  | E2   | 42.002            |           | Uninsulated galvanised ducting c/w bends, transformation pieces, stop ends, spigots, shoe pieces, supports, fixings, hangers, etc. as required and specified   | Lot  | 1        |                 |        |
| 3.E2.2.2.13.8  | E2   | 42.002            |           | Electrical connection from HVAC equipment to isolators   | No   | 1        |                 |        |
|                | E2   |                   |           | <b>PART E2.2.2.14: Kitchenette extract</b>   |      |          |                 |        |
| 3.E2.2.2.14.1  | E2   | 42.002            |           | Silent type in line duct fan (F3)  | No   | 1        |                 |        |
| 3.E2.2.2.14.2  | E2   | 42.002            |           | Metal exhaust air disc valve (EDV1), 200mm diameter  | No   | 1        |                 |        |
| 3.E2.2.2.14.3  | E2   | 42.002            |           | Flexible ducting 200mm diameter  | No   | 2        |                 |        |
| 3.E2.2.2.14.4  | E2   | 42.002            |           | Uninsulated galvanised ducting c/w bends, transformation pieces, stop ends, spigots, shoe pieces, supports, fixings, hangers, etc. as required and specified   | Lot  | 1        |                 |        |
| 3.E2.2.2.14.5  | E2   | 42.002            |           | Weather louvre (WL6), 500 x 500  | No   | 1        |                 |        |
| 3.E2.2.2.14.6  | E2   | 42.002            |           | Electrical connection from HVAC equipment to isolators   | No   | 1        |                 |        |
|                | E2   |                   |           | <b>PART E2.2.2.15: Guardhouse</b>  |      |          |                 |        |
| 3.E2.2.2.15.1  | E2   | 42.002            |           | Midwall unit, Indoor unit (MW1) & Outdoor Unit (OU1) c/w wall mounting bracket   | No   | 4        |                 |        |
| 3.E2.2.2.15.2  | E2   | 42.002            |           | Stainless steel drain pan  | No   | 2        |                 |        |
| 3.E2.2.2.15.3  | E2   | 42.002            |           | Drain pump   | No   | 6        |                 |        |
| 3.E2.2.2.15.4  | E2   | 42.002            |           | Controller   | No   | 4        |                 |        |
| 3.E2.2.2.15.5  | E2   | 42.002            |           | Refrigerant piping   | No   | 70       |                 |        |
| 3.E2.2.2.15.6  | E2   | 42.002            |           | Trunking   | No   | 70       |                 |        |
| 3.E2.2.2.15.7  | E2   | 42.002            |           | Condensate piping  | No   | 60       |                 |        |
| 3.E2.2.2.15.8  | E2   | 42.002            |           | 200mm diameter Wall mounted, toilet extract fan (WF1) c/w wall cowl  | No   | 2        |                 |        |
| 3.E2.2.2.15.9  | E2   | 42.002            |           | 260mm diameter Wall mounted, toilet extract fan (WF2) c/w wall cowl  | No   | 2        |                 |        |
| 3.E2.2.2.15.10 | E2   | 42.002            |           | Plywood frame 260 x 260  | No   | 2        |                 |        |
| 3.E2.2.2.15.11 | E2   | 42.002            |           | Plywood frame 330 x 330  | No   | 2        |                 |        |
| 3.E2.2.2.15.12 | E2   | 42.002            |           | Electrical connection from HVAC equipment to isolators   | No   | 12       |                 |        |
| 3.E2.2.2.15.13 | E2   | 42.002            |           | Door grille (DG1), 500 x 400   | No   | 2        |                 |        |
|                | E2   |                   |           | <b>PART E2.2.3: INSTALLATION</b>   |      |          |                 |        |
|                | E2   |                   |           | <b>PART E2.2.3.1: Pump room - Filtered outside air pressurisation system</b>   |      |          |                 |        |
| 3.E2.2.3.1.1   | E2   | 42.003            |           | Installation of filtered outside air pressurisation system complete, including fans, ducting, plenums, filters, louvres, Plant connections, brackets, anti-vibration mounts, fixing, etc. as per technical specification and tender drawing. | Lot  | 1        |                 |        |
|                |      |                   |           |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|               |      |                   |           |  |      |          |                 |        |
|               |      |                   |           |  |      |          | Brought Forward |        |
|               | E2   |                   |           | <b>PART E2.2.3.2: VSD room - Chilled water system</b>  |      |          |                 |        |
| 3.E2.2.3.2.1  | E2   | 42.003            |           | Chilled water air conditioning system complete, chillers, chilled water piping, chilled water fixtures/fittings, pumps, air handling units, ducting, louvres, Plant connections, brackets, anti-vibration mounts, fixing, etc. as per technical specification and tender drawing.              | Lot  | 1        |                 |        |
| 3.E2.2.3.2.2  | E2   | 42.003            | X         | Air cooled chiller c/w all controls, pumps & BACnet interface (CH1 & CH2)  | No   | 2        |                 |        |
| 3.E2.2.3.2.3  | E2   | 42.003            | X         | Air handling unit c/w all controls & BACnet interface (AHU1 & AHU2)  | No   | 2        |                 |        |
|               | E2   |                   |           | <b>PART E2.2.3.3: LV switchgear &amp; MV room</b>  |      |          |                 |        |
| 3.E2.2.3.3.1  | E2   | 42.003            |           | Installation of filtered outside air pressurisation system complete, including fans, ducting, plenums, filters, louvres, Plant connections, brackets, anti-vibration mounts, fixing, etc. as per technical specification and tender drawing.   | Lot  | 1        |                 |        |
|               | E2   | 42.003            |           | <b>PART E2.2.3.4: Control, PLC and server room</b>   |      |          |                 |        |
| 3.E2.2.3.4.1  | E2   | 42.003            |           | Installation of the air conditioning system and the toilet extract system complete, DX split aircon units, refrigerant piping, cable trays, uninsulated galvanised ducting, disc valves, flexible ducting, weather louvres, etc. as per technical specification and tender drawings.           | Lot  | 1        |                 |        |
|               | E2   | 42.003            |           | <b>PART E2.2.3.5: Battery room</b>   |      |          |                 |        |
| 3.E2.2.3.5.1  | E2   | 42.003            |           | Plate-axial fan system complete, including fan, shutter, cowl, brackets, fixing, door grille, etc. as per technical specification and tender drawings.   | Lot  | 1        |                 |        |
|               | E2   | 42.003            |           | <b>PART E2.2.3.6: Operations and control centre</b>  |      |          |                 |        |
| 3.E2.2.3.6.1  | E2   | 42.003            |           | Heat Recovery VRF System complete, indoor units, outdoor units, BS boxes, refrigerant piping, cable trays, trunking, piping insulation, externally insulated galvanised ducting, diffusers, return air grilles, communication cables, etc. as per technical specification and tender drawings. | Lot  | 1        |                 |        |
|               | E2   | 42.003            |           | <b>PART E2.2.3.7: Server Room</b>  |      |          |                 |        |
| 3.E2.2.3.7.1  | E2   | 42.003            |           | Installation of the air conditioning systems complete, DX split aircon units, stainless steel drain pan, refrigerant piping, cable trays, door grilles, etc. as per technical specification and tender drawings.   | Lot  | 1        |                 |        |
|               | E2   | 42.003            |           | <b>PART E2.2.3.8: UPS Room</b>   |      |          |                 |        |
| 3.E2.2.3.8.1  | E2   | 42.003            |           | Installation of the air conditioning systems complete, DX split aircon units, stainless steel drain pan, refrigerant piping, cable trays, door grilles, etc. as per technical specification and tender drawings.   | Lot  | 1        |                 |        |
|               | E2   | 42.003            |           | <b>PART E2.2.3.9: CCTV/Server Room</b>   |      |          |                 |        |
| 3.E2.2.3.9.1  | E2   | 42.003            |           | Installation of the air conditioning systems complete, DX split aircon units, stainless steel drain pan, refrigerant piping, cable trays, door grilles, etc. as per technical specification and tender drawings.   | Lot  | 1        |                 |        |
|               | E2   | 42.003            |           | <b>PART E2.2.3.10: Outside air supply system</b>   |      |          |                 |        |
| 3.E2.2.3.10.1 | E2   | 42.003            |           | Installation of filtered outside air pressurisation system complete, including fans, ducting, plenums, filters, louvres, Plant connections, brackets, anti-vibration mounts, fixing, cross talk attenuators, door grilles, etc. as per technical specification and tender drawing.             | Lot  | 1        |                 |        |
|               |      |                   |           |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|               |      | Reference |           |  |      |          |                 |        |
|               |      |           |           |  |      |          | Brought Forward |        |
|               | E2   | 42.003    |           | <b>PART E2.2.3.11: Toilet extract system 1</b>   |      |          |                 |        |
| 3.E2.2.3.11.1 | E2   | 42.003    |           | Installation of toilet extract system complete, including fans, ducting, louvres, Plant connections, brackets, anti-vibration mounts, fixing, disc valves, door grilles, etc. as per technical specification and tender drawing.   | Lot  | 1        |                 |        |
|               | E2   | 42.003    |           | <b>PART E2.2.3.12: Toilet extract system 2</b>   |      |          |                 |        |
| 3.E2.2.3.12.1 | E2   | 42.003    |           | Installation of toilet extract system complete, including fans, ducting, louvres, Plant connections, brackets, anti-vibration mounts, fixing, disc valves, door grilles, etc. as per technical specification and tender drawing.   | Lot  | 1        |                 |        |
|               | E2   | 42.003    |           | <b>PART E2.2.3.13: Kitchenette extract</b>   |      |          |                 |        |
| 3.E2.2.3.13.1 | E2   | 42.003    |           | Installation of extract system complete, including fans, ducting, louvres, Plant connections, brackets, anti-vibration mounts, fixing, disc valves, door grilles, etc. as per technical specification and tender drawing.  | Lot  | 1        |                 |        |
|               | E2   | 42.003    |           | <b>PART E2.2.3.14: Guardhouse</b>  |      |          |                 |        |
| 3.E2.2.3.14.1 | E2   | 42.003    |           | Installation of the air conditioning systems and the toilet extract system complete, DX split aircon units, stainless steel drain pan, refrigerant piping, cable trays, uninsulated galvanised ducting, disc valves, flexible ducting, weather louvres, etc. as per technical specification and tender drawings. | Lot  | 1        |                 |        |
|               | E2   |           |           | <b>PART E2.3: FIRE PROTECTION, DETECTION &amp; SUPPRESSION</b>   |      |          |                 |        |
|               | E2   |           |           | <b>Employer's Requirements : Fire protection, detection and suppression (Plant designed, tested, supplied and delivered by Contractor)</b>   |      |          |                 |        |
|               | E2   |           |           | <b>PART E2.3.1: DESIGN</b>   |      |          |                 |        |
| 3.E2.3.1.1    | E2   | 39.001    |           | Design and documentation (as required, should it not already be included with an item below)   | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>PART E2.3.2: PROCUREMENT AND DELIVERY</b>   |      |          |                 |        |
|               | E2   |           |           | <b>PART E2.3.2.1: HIGH LIFT PUMPING STATION</b>  |      |          |                 |        |
|               | E2   |           |           | <b>FIRE WATER</b>  |      |          |                 |        |
|               | E2   |           |           | <b>Supply Water</b>  |      |          |                 |        |
| 3.E2.3.2.1.1  | E2   | 39.002    |           | 50mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)  | m    | 100      |                 |        |
| 3.E2.3.2.1.2  | E2   | 39.002    |           | 32mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)  | m    | 50       |                 |        |
| 3.E2.3.2.1.3  | E2   | 39.002    |           | 25mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)  | m    | 150      |                 |        |
|               | E2   |           |           | <b>PASSIVE FIRE PROTECTION PLANT</b>   |      |          |                 |        |
|               | E2   |           |           | <b>Plant</b>   |      |          |                 |        |
| 3.E2.3.2.1.4  | E2   | 39.002    |           | Right Angled Fire hydrants with 65mm diameter instantaneous couplings to SANS 10400 and SANS 10252, including the extension from ground reticulation. Hydrants at 1,2m AFFL and to connect to the Civil underground main by purpose made Block piece   | No.  | 6        |                 |        |
|               |      |           |           |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|               |      |                   |           |  |      |          |                 |        |
|               |      |                   |           |  |      |          | Brought Forward |        |
| 3.E2.3.2.1.5  | E2   | 39.002            |           | Hose reels with 30 metres of 25mm diameter approved hose, 10m of 25mm steal piping and metal nozzle (not plastic) to SANS 10400 and SANS 10252.  | No.  | 14       |                 |        |
| 3.E2.3.2.1.6  | E2   | 39.002            |           | 9kg DCP fire extinguishers fully installed on meranti backing boards   | No.  | 28       |                 |        |
| 3.E2.3.2.1.7  | E2   | 39.002            |           | 4,5kg DCP fire extinguishers fully installed on meranti backing boards   | No.  | 4        |                 |        |
| 3.E2.3.2.1.8  | E2   | 39.002            |           | 5kg CO2 fire extinguishers fully installed on meranti backing boards   | No.  | 32       |                 |        |
| 3.E2.3.2.1.9  | E2   | 39.002            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.10 | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.11 | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.12 | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.13 | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
|               | E2   |                   |           | <b>ROOF VENTILATORS</b>  |      |          |                 |        |
|               | E2   |                   |           | <b>Roof Ventilation Installation:</b>  |      |          |                 |        |
| 3.E2.3.2.1.14 | E2   | 39.001 & 39.002   |           | Supply, delivery, installation, testing and commissioning of a completely functioning smoke ventilation system as itemised below:  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.15 | E2   | 39.002            |           | An EN 12101-2 compliant slope mounted louvre ventilators of aerodynamic fee area of 1,84sqm with a purlin spacing of 1600mm (TBC). Ventilators manufactured entirely from Chromadek material, complete with 24V DC power to open, power to close actuator and 72degree fusible links. Colour is to be Rain Cloud, RAL 7016 (to be confirmed) | No   | 15       |                 |        |
| 3.E2.3.2.1.16 | E2   | 39.002            |           | H-frame to span the purlins spacing of 2m.<br>Note: As the purlin spacing is unknown. Should this not be required it can be removed from the scope of work.  | No   | 15       |                 |        |
| 3.E2.3.2.1.17 | E2   | 39.002            |           | Back Flashing at a rate sufficient for each vent in accordance with suppliers specifications   | No   | 15       |                 |        |
| 3.E2.3.2.1.18 | E2   | 39.002            |           | Rain sensor  | Sum  | 1        |                 |        |
|               | E2   |                   |           | <b>Cabling</b>   |      |          |                 |        |
| 3.E2.3.2.1.19 | E2   | 39.002            |           | 4mm² 2 core PH-30 cable complete with steel conduit  | m    | 1100     |                 |        |
|               | E2   |                   |           | <b>Control Panel Installation</b>  |      |          |                 |        |
|               | E2   |                   |           | <b>Supply, delivery, installation, testing and commissioning of a completely functioning system as itemised below:</b>   |      |          |                 |        |
| 3.E2.3.2.1.20 | E2   | 39.002            |           | IP55 Control panel(s) for the roof ventilators - Quantity of panels to be confirmed by contractor (Panels to be EN12101 Compliant)   | Sum  | 1        |                 |        |
| 3.E2.3.2.1.21 | E2   | 39.002            |           | Override switch.<br>Allow for an override switch located at an entrance door for the fire installation to control the smoke ventilation.   | Item | 2        |                 |        |
| 3.E2.3.2.1.22 | E2   | 39.002            |           | 72 Hour battery back-up for ventilators  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.23 | E2   | 39.002            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.24 | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
|               |      |                   |           |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment         | Breakdown Reference | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------------|---------------------|--|------|----------|-----------------|--------|
|               |      |                 |                     |  |      |          |                 |        |
|               |      |                 |                     |  |      |          | Brought Forward |        |
| 3.E2.3.2.1.25 | E2   | 39.002          |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.26 | E2   | 39.002          |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.27 | E2   | 39.002          |                     | .....  | Sum  | 1        |                 |        |
|               | E2   |                 |                     | <b>FIRE SIGNAGE</b>  |      |          |                 |        |
|               | E2   |                 |                     | <b>PHOTO-LUMINESCENT STATUTORY EMERGENCY SIGNAGE</b>   |      |          |                 |        |
|               | E2   |                 |                     | <b>Single-Sided Statutory Emergency Signage</b>  |      |          |                 |        |
| 3.E2.3.2.1.28 | E2   | 39.002          |                     | - 2 pictogram (290 x 290)  | No   | 32       |                 |        |
| 3.E2.3.2.1.29 | E2   | 39.002          |                     | - 3 pictogram (290 x 290)  | No   | 16       |                 |        |
| 3.E2.3.2.1.30 | E2   | 39.002          |                     | - F45  | No   | 6        |                 |        |
|               | E2   |                 |                     | <b>Double-Sided Statutory Emergency Signage</b>  |      |          |                 |        |
| 3.E2.3.2.1.31 | E2   | 39.002          |                     | - 2 pictogram (290 x 290)  | No   | 4        |                 |        |
| 3.E2.3.2.1.32 | E2   | 39.002          |                     | - 3 pictogram (290 x 290)  | No   | 4        |                 |        |
| 3.E2.3.2.1.33 | E2   | 39.002          |                     | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.34 | E2   | 39.002          |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.35 | E2   | 39.002          |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.36 | E2   | 39.002          |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.37 | E2   | 39.002          |                     | .....  | Sum  | 1        |                 |        |
|               | E2   |                 |                     | <b>Photo-Luminescent Statutory Emergency Signage - 3 Dimensional Frame on Pole</b>   |      |          |                 |        |
| 3.E2.3.2.1.38 | E2   | 39.002          |                     | - 2 pictogram (290 x 290)  | No   | 6        |                 |        |
| 3.E2.3.2.1.39 | E2   | 39.002          |                     | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.40 | E2   | 39.002          |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.41 | E2   | 39.002          |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.42 | E2   | 39.002          |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.43 | E2   | 39.002          |                     | .....  | Sum  | 1        |                 |        |
|               | E2   |                 |                     | <b>FIRE DETECTION CONTROL PLANT AND POWER SUPPLIES</b>   |      |          |                 |        |
|               | E2   |                 |                     | <b>4 Loop Addressable Fire Detection Control Panel</b>   |      |          |                 |        |
| 3.E2.3.2.1.44 | E2   | 39.001 & 39.002 |                     | Allow for the detailed design, programming, procurement, delivery, installation, connection, testing and commissioning of an advanced 4 loop Addressable Fire Detection Control Panel to tender specification.   | No   | 1        |                 |        |
|               | E2   |                 |                     | <b>Addressable Repeater Fire Detection Control Panel</b>   |      |          |                 |        |
| 3.E2.3.2.1.45 | E2   | 39.001 & 39.002 |                     | Allow for the detailed design, programming, procurement, delivery, installation, connection, testing and commissioning of an advanced Addressable Repeater Fire Detection Control Panel to tender specification. | No   | 1        |                 |        |
|               |      |                 |                     |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment         | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------------|-----------|--|------|----------|-----------------|--------|
|               |      | Reference       |           |  |      |          |                 |        |
|               |      |                 |           |  |      |          | Brought Forward |        |
|               | E2   |                 |           | <b>Combination 3 Zone Detection and Gas Release Control Panel – ADVANCED TC3001</b>  |      |          |                 |        |
|               | E2   |                 |           | <b>Allow for the procurement, delivery, installation, connection, testing and commissioning of an advanced combination 3 Zone Detection and Gas Release Control Panel (Advanced TC3001 only.)</b>                        |      |          |                 |        |
| 3.E2.3.2.1.46 | E2   | 39.002          |           | Battery Room   | No   | 1        |                 |        |
| 3.E2.3.2.1.47 | E2   | 39.002          |           | UPS Room   | No   | 1        |                 |        |
| 3.E2.3.2.1.48 | E2   | 39.002          |           | LV & MCC   | No   | 1        |                 |        |
| 3.E2.3.2.1.49 | E2   | 39.002          |           | MV   | No   | 1        |                 |        |
| 3.E2.3.2.1.50 | E2   | 39.002          |           | VSD  | No   | 1        |                 |        |
|               | E2   |                 |           | <b>Combination 3 Zone Detection and Gas Release Status Control Panel EX 3020</b>   |      |          |                 |        |
|               | E2   |                 |           | <b>Allow for the procurement, delivery, installation, connection, testing and commissioning of an advanced combination 3 Zone Detection and Gas Release Status Control Panel1 complete with manual gas release unit.</b> |      |          |                 |        |
| 3.E2.3.2.1.51 | E2   | 39.001 & 39.002 |           | MV   | No   | 1        |                 |        |
| 3.E2.3.2.1.52 | E2   | 39.001 & 39.002 |           | VSD  | No   | 1        |                 |        |
|               | E2   |                 |           | <b>EMERGENCY POWER SUPPLY</b>  |      |          |                 |        |
| 3.E2.3.2.1.53 | E2   | 39.002          |           | Provide emergency batteries as per calculation sheet – Gas Release Control Panels and Addressable Panels.  | No   | 14       |                 |        |
|               | E2   |                 |           | <b>Blue Ginger or Similar Approved 24v DC Power Supply Complete with Back-Up, Batteries and Charger</b>  |      |          |                 |        |
| 3.E2.3.2.1.54 | E2   | 39.002          |           | Provide for the supply of a Blue Ginger or similar approved 24 DC Power Supply complete with back-up Batteries and Charger to the Aspirating Detectors, Gas Release Status Units and OSID Beam Detectors.                | No   | 40       |                 |        |
| 3.E2.3.2.1.55 | E2   | 39.002          |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.56 | E2   | 39.002          |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.57 | E2   | 39.002          |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.58 | E2   | 39.002          |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.59 | E2   | 39.002          |           | .....  | Sum  | 1        |                 |        |
|               | E2   |                 |           | <b>CONDUIT AND CABLING</b>   |      |          |                 |        |
|               | E2   |                 |           | <b>Fire Resistant Cabling – PH120</b>  |      |          |                 |        |
|               | E2   |                 |           | <b>Allow for adequate cabling for the wiring of the fire detection system to specification.</b>  |      |          |                 |        |
| 3.E2.3.2.1.60 | E2   | 39.002          |           | (PH-120 only – 1mm <sup>2</sup> minimum - 2 core)  | m    | 2500     |                 |        |
|               | E2   |                 |           | <b>Fibre Optic Cable</b>   |      |          |                 |        |
| 3.E2.3.2.1.61 | E2   | 39.002          |           | Allow for adequate cabling for the networking of the main addressable fire detection and repeater control panels to specification.   | m    | 500      |                 |        |
|               |      |                 |           |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|               |      | Reference |           |   |      |          |                 |        |
|               |      |           |           |   |      |          | Brought Forward |        |
|               | E2   |           |           | <b>Conduit and Couplings</b>  |      |          |                 |        |
| 3.E2.3.2.1.62 | E2   | 39.002    |           | Procurement and installation of 25mm dia. Bosal conduit (with necessary couplings, junction boxes, etc.) for all detection and electrical reticulation in terms of the specifications. Include for all drilling, fixing and making good of same.  | m    | 1000     |                 |        |
|               | E2   |           |           | .   |      |          |                 |        |
|               | E2   |           |           | <b>P2000 Galvanized Trunking and Accessories</b>  |      |          |                 |        |
| 3.E2.3.2.1.63 | E2   | 39.002    |           | Allow for the procurement and installation of P2000 trunking (with necessary couplings, junction boxes, accessories etc.) in terms of the specifications.   | m    | 50       |                 |        |
|               | E2   |           |           | <b>Flexible Galvanized Steel Conduit with IP 40 Rating Including Steel Couplings</b>  |      |          |                 |        |
| 3.E2.3.2.1.64 | E2   | 39.002    |           | Provide for the supply and installation of flexible galvanized steel conduit with steel couplings to be used between cylinder actuators and gas and test interface units as well as between other devices where a flexible connections would be required..  | m    | 50       |                 |        |
| 3.E2.3.2.1.65 | E2   | 39.002    |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.E2.3.2.1.66 | E2   | 39.002    |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.2.1.67 | E2   | 39.002    |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.2.1.68 | E2   | 39.002    |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.2.1.69 | E2   | 39.002    |           | .....   | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>DETECTION</b>  |      |          |                 |        |
|               | E2   |           |           | <b>Analogue Addressable Optical Smoke Detectors</b>   |      |          |                 |        |
| 3.E2.3.2.1.70 | E2   | 39.002    |           | Allow for the procurement, installation, testing and commissioning of analogue addressable optical smoke detectors complete with mounting bases as indicated on plans to specification.   | No   | 5        |                 |        |
|               | E2   |           |           | <b>Addressable Manual Alarm Point Complete With Base and Flaps</b>  |      |          |                 |        |
| 3.E2.3.2.1.71 | E2   | 39.002    |           | Allow for the procurement, installation, testing and commissioning of conventional bases for installation of manual fire alarm points above.  | No   | 5        |                 |        |
|               | E2   |           |           | <b>Green Break Glass Unit to Override Access Control</b>  |      |          |                 |        |
| 3.E2.3.2.1.72 | E2   | 39.002    |           | Allow for the procurement, installation, testing and commissioning of green break glass units to specification.   | No   | 6        |                 |        |
|               | E2   |           |           | <b>OSID Beam Detectors – Pump Room Open Area</b>  |      |          |                 |        |
| 3.E2.3.2.1.73 | E2   | 39.002    |           | Allow for the procurement, installation, testing and commissioning of OSID beam detectors complete with Emitter and Imager as indicated on plans to specification complete with all transformers, power supplies, mounting brackets, batteries, fittings and related plant to provide a complete hard wired installation. | No   | 2        |                 |        |
|               |      |           |           |   |      |          | Carried Forward |        |



| Item no.      | Part | Payment         | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------------|-----------|---|------|----------|-----------------|--------|
|               |      | Reference       |           |   |      |          |                 |        |
|               |      |                 |           |   |      |          | Brought Forward |        |
|               | E2   |                 |           | <b>High Sensitivity Smoke Detector – HSSD 2 Pipe HSSD Scanner with Individual Scanners Complete with Touch Screen Display and Hybrid Technology</b>   |      |          |                 |        |
|               | E2   |                 |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of HSSD detectors as indicated on plans to specification and all other plant necessary to provide a complete, functional and compliant installation.</b> |      |          |                 |        |
| 3.E2.3.2.1.74 | E2   | 39.001 & 39.002 |           | Battery Room  | No   | 2        |                 |        |
| 3.E2.3.2.1.75 | E2   | 39.001 & 39.002 |           | UPS Room  | No   | 2        |                 |        |
| 3.E2.3.2.1.76 | E2   | 39.001 & 39.002 |           | LV & MCC  | No   | 2        |                 |        |
| 3.E2.3.2.1.77 | E2   | 39.001 & 39.002 |           | MV  | No   | 2        |                 |        |
| 3.E2.3.2.1.78 | E2   | 39.001 & 39.002 |           | VSD   | No   | 2        |                 |        |
| 3.E2.3.2.1.79 | E2   | 39.001 & 39.002 |           | Facility - Reference Detectors  | No   | 2        |                 |        |
|               | E2   |                 |           | <b>25mm Red Sampling Pipe 3m Length</b>   |      |          |                 |        |
| 3.E2.3.2.1.80 | E2   | 39.002          |           | Allow for the detailed design, procurement, installation, testing and commissioning of 25mm dia. red sampling pipe.   | Sum  | 1        |                 |        |
|               | E2   |                 |           | <b>Pipe Clip (Red)</b>  |      |          |                 |        |
| 3.E2.3.2.1.81 | E2   | 39.002          |           | Allow for the procurement, installation, testing and commissioning of red pipe clips single point fix   | Sum  | 1        |                 |        |
|               | E2   |                 |           | <b>90 Degree Elbow Slow Bend (Red)</b>  |      |          |                 |        |
| 3.E2.3.2.1.82 | E2   | 39.002          |           | Allow for the procurement, installation, testing and commissioning of red elbow.  | Sum  | 1        |                 |        |
|               | E2   |                 |           | <b>End Cap (Red)</b>  |      |          |                 |        |
| 3.E2.3.2.1.83 | E2   | 39.002          |           | Allow for the detailed design, procurement, installation, testing and commissioning of red end cap.   | Sum  | 1        |                 |        |
|               | E2   |                 |           | <b>25mm Pipe Red Socket</b>   |      |          |                 |        |
| 3.E2.3.2.1.84 | E2   | 39.002          |           | Allow for the detailed design, procurement, installation, testing and commissioning of 25mm dia. red socket.  | Sum  | 1        |                 |        |
|               | E2   |                 |           | <b>Labels - Smoke Detection Sampling Pipes</b>  |      |          |                 |        |
| 3.E2.3.2.1.85 | E2   | 39.002          |           | Allow for the detailed design procurement and installation of identification labels to all pipe work.   | Sum  | 1        |                 |        |
|               | E2   |                 |           | <b>Inline Filter – Triple Stage Filter for All HSSD</b>   |      |          |                 |        |
|               | E2   |                 |           | <b>Allow for the procurement, installation, testing and commissioning of triple stage filters to all HSSD as per manufacturer's specifications.</b>   |      |          |                 |        |
| 3.E2.3.2.1.86 | E2   | 39.002          |           | Battery Room  | No   | 4        |                 |        |
| 3.E2.3.2.1.87 | E2   | 39.002          |           | UPS Room  | No   | 4        |                 |        |
| 3.E2.3.2.1.88 | E2   | 39.002          |           | LV & MCC  | No   | 4        |                 |        |
| 3.E2.3.2.1.89 | E2   | 39.002          |           | MV  | No   | 4        |                 |        |
| 3.E2.3.2.1.90 | E2   | 39.002          |           | VSD   | No   | 4        |                 |        |
|               |      |                 |           |   |      |          | Carried Forward |        |

| Item no.       | Part | Payment | Breakdown Reference | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|---------|---------------------|--|------|----------|-----------------|--------|
|                |      |         |                     |  |      |          |                 |        |
|                |      |         |                     |  |      |          | Brought Forward |        |
| 3.E2.3.2.1.91  | E2   | 39.002  |                     | Facility - Reference Detectors   | No   | 4        |                 |        |
| 3.E2.3.2.1.92  | E2   | 39.002  |                     | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.93  | E2   | 39.002  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.94  | E2   | 39.002  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.95  | E2   | 39.002  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.96  | E2   | 39.002  |                     | .....  | Sum  | 1        |                 |        |
|                | E2   |         |                     | <b>AUXILIARY PLANT</b>   |      |          |                 |        |
|                | E2   |         |                     | <b>Conventional Siren / Strobe -</b>   |      |          |                 |        |
|                | E2   |         |                     | <b>Allow for the procurement, installation, testing and commissioning of 100dB(A) ASTrobe or similar approved combination siren/strobe</b>   |      |          |                 |        |
| 3.E2.3.2.1.97  | E2   | 39.002  |                     | Battery Room   | No   | 2        |                 |        |
| 3.E2.3.2.1.98  | E2   | 39.002  |                     | UPS Room   | No   | 2        |                 |        |
| 3.E2.3.2.1.99  | E2   | 39.002  |                     | LV & MCC   | No   | 2        |                 |        |
| 3.E2.3.2.1.100 | E2   | 39.002  |                     | MV   | No   | 4        |                 |        |
| 3.E2.3.2.1.101 | E2   | 39.002  |                     | VSD  | No   | 4        |                 |        |
|                | E2   |         |                     | <b>Fire Bell</b>   |      |          |                 |        |
|                | E2   |         |                     | <b>Allow for the procurement, installation, testing and commissioning of an fire alarm Bell.</b>   |      |          |                 |        |
| 3.E2.3.2.1.102 | E2   | 39.002  |                     | Battery Room   | No   | 1        |                 |        |
| 3.E2.3.2.1.103 | E2   | 39.002  |                     | UPS Room   | No   | 1        |                 |        |
| 3.E2.3.2.1.104 | E2   | 39.002  |                     | LV & MCC   | No   | 1        |                 |        |
| 3.E2.3.2.1.105 | E2   | 39.002  |                     | MV   | No   | 2        |                 |        |
| 3.E2.3.2.1.106 | E2   | 39.002  |                     | VSD  | No   | 2        |                 |        |
| 3.E2.3.2.1.107 | E2   | 39.002  |                     | Facility - Reference Detectors   | No   | 2        |                 |        |
|                | E2   |         |                     | <b>Addressable Loop Powered Siren / Strobe</b>   |      |          |                 |        |
|                | E2   |         |                     | <b>Allow for the procurement, installation, testing and commissioning of 100dB(A) ASTrobe or similar approved combination siren / strobe.</b>  |      |          |                 |        |
| 3.E2.3.2.1.108 | E2   | 39.002  |                     | Facility   | No   | 4        |                 |        |
|                | E2   |         |                     | <b>High Output Sounder</b>   |      |          |                 |        |
|                | E2   |         |                     | <b>Provide for the procurement and installation of 120 dB high output sounders to specification complete with power supply, battery back-up and any plant required for a complete and functional installation. EN-Approved</b> |      |          |                 |        |
| 3.E2.3.2.1.109 | E2   | 39.002  |                     | Facility   | No   | 2        |                 |        |
|                | E2   |         |                     | <b>Interfaces with Other Systems</b>   |      |          |                 |        |
|                | E2   |         |                     | Provide for connection to interface with the following systems and programming of relay inputs / outputs:  |      |          |                 |        |
| 3.E2.3.2.1.110 | E2   | 39.002  |                     | Fresh air supply units shut-down   | No   | 10       |                 |        |
|                |      |         |                     |  |      |          | Carried Forward |        |

| Item no.       | Part | Payment         | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-----------------|-----------|--|------|----------|-----------------|--------|
|                |      | Reference       |           |  |      |          |                 |        |
|                |      |                 |           |  |      |          | Brought Forward |        |
| 3.E2.3.2.1.111 | E2   | 39.002          |           | Closing of fire dampers  | No   | 4        |                 |        |
| 3.E2.3.2.1.112 | E2   | 39.002          |           | Smoke extraction fans - HVAC   | No   | 4        |                 |        |
| 3.E2.3.2.1.113 | E2   | 39.002          |           | Mains Supply Circuit Breaker – Switch off  | No   | 4        |                 |        |
| 3.E2.3.2.1.114 | E2   | 39.002          |           | Reference Sampling – Auto / Manual Switching   | No   | 4        |                 |        |
| 3.E2.3.2.1.115 | E2   | 39.002          |           | Access controlled doors  | No   | 6        |                 |        |
|                | E2   |                 |           | <b>GSM SMS Communicator – Up To 5 Users/Numbers</b>  |      |          |                 |        |
|                | E2   |                 |           | <b>Provide for procurement, installation, setup and programming of GSM SMS Communicators interfaces with the Combination Detection and Gas Release Panels:</b>   |      |          |                 |        |
| 3.E2.3.2.1.116 | E2   | 39.002          |           | Sim cards to be provided by client   | No   | 1        |                 |        |
|                | E2   |                 |           | <b>Surface Boxes</b>   |      |          |                 |        |
| 3.E2.3.2.1.117 | E2   | 39.002          |           | Provide for procurement and installation, of surface boxes to accommodate all interface relay units  | No   | 280      |                 |        |
|                | E2   |                 |           | <b>Waterproof Cabinets IP65 RATED</b>  |      |          |                 |        |
| 3.E2.3.2.1.118 | E2   | 39.002          |           | Provide for procurement and installation, of IP 65 Waterproof cabinets to accommodate the gas release control status units as per specification and design.  | No   | 2        |                 |        |
|                | E2   | 39.002          |           | <b>Test and Gas Release Interface Relay Unit</b>   |      |          |                 |        |
|                | E2   |                 |           | <b>Provide for procurement, installation, setup and programming of test and gas release interface relays to all Gas Suppression Cylinder Actuators.</b>  |      |          |                 |        |
| 3.E2.3.2.1.119 | E2   | 39.002          |           | Battery Room   | No   | 1        |                 |        |
| 3.E2.3.2.1.120 | E2   | 39.002          |           | UPS Room   | No   | 1        |                 |        |
| 3.E2.3.2.1.121 | E2   | 39.002          |           | LV & MCC   | No   | 1        |                 |        |
| 3.E2.3.2.1.122 | E2   | 39.002          |           | MV   | No   | 1        |                 |        |
| 3.E2.3.2.1.123 | E2   | 39.002          |           | VSD  | No   | 1        |                 |        |
|                | E2   |                 |           | <b>Addressable Programmable Input / Output Relay Unit</b>  |      |          |                 |        |
|                | E2   |                 |           | Provide for the detailed design, procurement, installation, setup and programming of Addressable Interface Relays to all HSSD devices, Gas Release Control Panels and other fire detection plant to monitor to following statuses: |      |          |                 |        |
| 3.E2.3.2.1.124 | E2   | 39.001 & 39.002 |           | General Fault, Alert, Fire, Auto / Manual Switching, Gas Discharge   | No   | 250      |                 |        |
|                | E2   |                 |           | <b>24V DC Contactor Switch</b>   |      |          |                 |        |
| 3.E2.3.2.1.125 | E2   | 39.002          |           | Provide for procurement, installation, setup and programming of 24V DC Contactor Switch to Interface and shut-down of electrical pumps   | No   | 4        |                 |        |
|                | E2   |                 |           | <b>Pressure Gauge Monitoring on All Pilot Cylinders</b>  |      |          |                 |        |
|                | E2   |                 |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of pressure monitoring of all gauges to the pilot cylinders.</b>  |      |          |                 |        |
| 3.E2.3.2.1.126 | E2   | 39.002          |           | Battery Room   | No   | 1        |                 |        |
|                |      |                 |           |  |      |          | Carried Forward |        |

| Item no.       | Part | Payment         | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------------|------|-----------------|-----------|---|------|----------|-----------------|--------|
|                |      | Reference       |           |   |      |          |                 |        |
|                |      |                 |           |   |      |          | Brought Forward |        |
| 3.E2.3.2.1.127 | E2   | 39.002          |           | UPS Room  | No   | 1        |                 |        |
| 3.E2.3.2.1.128 | E2   | 39.002          |           | LV & MCC  | No   | 1        |                 |        |
| 3.E2.3.2.1.129 | E2   | 39.002          |           | MV  | No   | 1        |                 |        |
| 3.E2.3.2.1.130 | E2   | 39.002          |           | VSD   | No   | 1        |                 |        |
| 3.E2.3.2.1.131 | E2   | 39.002          |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.E2.3.2.1.132 | E2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.2.1.133 | E2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.2.1.134 | E2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.2.1.135 | E2   | 39.002          |           | .....   | Sum  | 1        |                 |        |
|                | E2   |                 |           | <b>GAS SUPPRESSION PLANT</b>  |      |          |                 |        |
|                | E2   |                 |           | <b>200 Bar 80 Litre Pyroshield</b>  |      |          |                 |        |
|                | E2   |                 |           | <b>(IG-55) Cylinders System Complete</b>  |      |          |                 |        |
|                | E2   |                 |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of 200 Bar 80 Litre Pyroshield IG-55 systems to specification, complete with manifold, actuation lines, discharge hose, non-return valves, racking, labels &amp; nozzles, orifice unit required to provide a complete system as per manufacturer's specification :</b> |      |          |                 |        |
| 3.E2.3.2.1.136 | E2   | 39.001 & 39.002 |           | Battery Room  | No   | 5        |                 |        |
| 3.E2.3.2.1.137 | E2   | 39.001 & 39.002 |           | UPS Room  | No   | 5        |                 |        |
| 3.E2.3.2.1.138 | E2   | 39.001 & 39.002 |           | LV & MCC  | No   | 10       |                 |        |
| 3.E2.3.2.1.139 | E2   | 39.001 & 39.002 |           | MV  | No   | 25       |                 |        |
| 3.E2.3.2.1.140 | E2   | 39.001 & 39.002 |           | VSD   | No   | 50       |                 |        |
|                | E2   |                 |           | <b>Pilot Cylinders</b>  |      |          |                 |        |
|                | E2   |                 |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of 200 Bar pilot Cylinders to specification to provide a complete system as per manufacturer's specification :</b>   |      |          |                 |        |
| 3.E2.3.2.1.141 | E2   | 39.001 & 39.002 |           | Battery Room  | No   | 1        |                 |        |
| 3.E2.3.2.1.142 | E2   | 39.001 & 39.002 |           | UPS Room  | No   | 1        |                 |        |
| 3.E2.3.2.1.143 | E2   | 39.001 & 39.002 |           | LV & MCC  | No   | 1        |                 |        |
| 3.E2.3.2.1.144 | E2   | 39.001 & 39.002 |           | MV  | No   | 2        |                 |        |
| 3.E2.3.2.1.145 | E2   | 39.001 & 39.002 |           | VSD   | No   | 2        |                 |        |
|                |      |                 |           |   |      |          | Carried Forward |        |

| Item no.       | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                |      |                   |           |  |      |          |                 |        |
|                |      |                   |           |  |      |          | Brought Forward |        |
|                | E2   |                   |           | <b>Gas Distribution Pipework</b>   |      |          |                 |        |
|                | E2   |                   |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of Pyroshield IG-55 pipework to specification (including all elbows, tees, supports, painting and ancillary plant). All pipework to be ASTM A 106 Grade B Seamless and all fittings to be 3000lb and as specified in the relevant part of SANS 14520.</b> |      |          |                 |        |
| 3.E2.3.2.1.146 | E2   | 39.002            |           | Battery Room   | No   | 20       |                 |        |
| 3.E2.3.2.1.147 | E2   | 39.002            |           | UPS Room   | No   | 20       |                 |        |
| 3.E2.3.2.1.148 | E2   | 39.002            |           | LV & MCC   | No   | 50       |                 |        |
| 3.E2.3.2.1.149 | E2   | 39.002            |           | MV   | No   | 50       |                 |        |
| 3.E2.3.2.1.150 | E2   | 39.002            |           | VSD  | No   | 90       |                 |        |
|                | E2   |                   |           | <b>Nozzles</b>   |      |          |                 |        |
|                | E2   |                   |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of IG55 nozzles to specification</b>  |      |          |                 |        |
| 3.E2.3.2.1.151 | E2   | 39.002            |           | Battery Room   | No   | 1        |                 |        |
| 3.E2.3.2.1.152 | E2   | 39.002            |           | UPS Room   | No   | 1        |                 |        |
| 3.E2.3.2.1.153 | E2   | 39.002            |           | LV & MCC   | No   | 3        |                 |        |
| 3.E2.3.2.1.154 | E2   | 39.002            |           | MV   | No   | 3        |                 |        |
| 3.E2.3.2.1.155 | E2   | 39.002            |           | VSD  | No   | 8        |                 |        |
|                | E2   |                   |           | <b>Room Integrity Test</b>   |      |          |                 |        |
| 3.E2.3.2.1.156 | E2   | 39.002            |           | Battery Room   | No   | 4        |                 |        |
| 3.E2.3.2.1.157 | E2   | 39.002            |           | UPS Room   | No   | 4        |                 |        |
| 3.E2.3.2.1.158 | E2   | 39.002            |           | LV & MCC   | No   | 4        |                 |        |
| 3.E2.3.2.1.159 | E2   | 39.002            |           | MV   | No   | 4        |                 |        |
| 3.E2.3.2.1.160 | E2   | 39.002            |           | VSD  | No   | 4        |                 |        |
|                | E2   |                   |           | <b>Pressure Relief Dampers</b>   |      |          |                 |        |
|                | E2   |                   |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of pressure relief dampers. The quantity and sizes must be quantified based on the volume of gas release. Quantity and sizes must be specified and all costs must be included in the amount specified.</b>  |      |          |                 |        |
| 3.E2.3.2.1.161 | E2   | 39.002            |           | Battery Room   | No   | 2        |                 |        |
| 3.E2.3.2.1.162 | E2   | 39.002            |           | UPS Room   | No   | 2        |                 |        |
| 3.E2.3.2.1.163 | E2   | 39.002            |           | LV & MCC   | No   | 2        |                 |        |
| 3.E2.3.2.1.164 | E2   | 39.002            |           | MV   | No   | 2        |                 |        |
| 3.E2.3.2.1.165 | E2   | 39.002            |           | VSD  | No   | 2        |                 |        |
| 3.E2.3.2.1.166 | E2   | 39.002            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.167 | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.168 | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
|                |      |                   |           |  |      |          | Carried Forward |        |

| Item no.       | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                |      |                   |           |  |      |          |                 |        |
|                |      |                   |           |  |      |          | Brought Forward |        |
| 3.E2.3.2.1.169 | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.170 | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
|                | E2   |                   |           | <b>PASSIVE FIRE PROTECTION</b>   |      |          |                 |        |
|                | E2   |                   |           | <b>5KG CO2 Fire Extinguisher – SABS Approved</b>   |      |          |                 |        |
|                | E2   |                   |           | <b>Provide for the procurement and installation of S.A.B.S approved 5Kg Co2 Fire Extinguishers complete with wooden backing boards as per specification and drawings</b>                           |      |          |                 |        |
| 3.E2.3.2.1.171 | E2   | 39.002            |           | Battery Room   | No   | 2        |                 |        |
| 3.E2.3.2.1.172 | E2   | 39.002            |           | UPS Room   | No   | 2        |                 |        |
| 3.E2.3.2.1.173 | E2   | 39.002            |           | LV & MCC   | No   | 2        |                 |        |
| 3.E2.3.2.1.174 | E2   | 39.002            |           | MV   | No   | 2        |                 |        |
| 3.E2.3.2.1.175 | E2   | 39.002            |           | VSD  | No   | 2        |                 |        |
|                | E2   |                   |           | <b>Statutory Signage – Sabs Approved – Photo Luminescent</b>   |      |          |                 |        |
|                | E2   |                   |           | <b>Provide for the supply and installation of SABS approved photo luminescent 190 x 380 Emergency Exit Signage and Extinguisher Signage in aluminium frames as per specification and drawings.</b> |      |          |                 |        |
| 3.E2.3.2.1.176 | E2   | 39.002            |           | Battery Room   | No   | 2        |                 |        |
| 3.E2.3.2.1.177 | E2   | 39.002            |           | UPS Room   | No   | 2        |                 |        |
| 3.E2.3.2.1.178 | E2   | 39.002            |           | LV & MCC   | No   | 2        |                 |        |
| 3.E2.3.2.1.179 | E2   | 39.002            |           | MV   | No   | 4        |                 |        |
| 3.E2.3.2.1.180 | E2   | 39.002            |           | VSD  | No   | 4        |                 |        |
| 3.E2.3.2.1.181 | E2   | 39.002            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.182 | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.183 | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.184 | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.1.185 | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
|                | E2   |                   |           | <b>PART E2.3.2.2: GUARDHOUSE 1</b>   |      |          |                 |        |
|                | E2   |                   |           | <b>Passive Fire Protection Plant</b>   |      |          |                 |        |
| 3.E2.3.2.2.1   | E2   | 39.002            |           | 4,5kg DCP fire extinguishers fully installed on meranti backing boards   | No   | 1        |                 |        |
| 3.E2.3.2.2.2   | E2   | 39.002            |           | 5kg CO2 fire extinguishers fully installed on meranti backing boards   | No   | 1        |                 |        |
| 3.E2.3.2.2.3   | E2   | 39.002            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.2.2.4   | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.2.5   | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.2.6   | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.2.7   | E2   | 39.002            |           | .....  | Sum  | 1        |                 |        |
|                |      |                   |           |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|              |      | Reference |           |   |      |          |                 |        |
|              |      |           |           |   |      |          | Brought Forward |        |
|              | E2   |           |           | <b>Photo-Luminescent Statutory Emergency Signage</b>  |      |          |                 |        |
|              | E2   | 39.002    |           | Single-Sided Statutory Emergency Signage  |      |          |                 |        |
| 3.E2.3.2.2.8 | E2   | 39.002    |           | - 2 pictogram (290 x 290)   | No   | 4        |                 |        |
| 3.E2.3.2.2.9 | E2   | 39.002    |           | F45   | No   | 2        |                 |        |
|              | E2   |           |           | <b>PART E2.3.2.3: GUARDHOUSE 2</b>  |      |          |                 |        |
|              | E2   | 39.002    |           | <b>Passive Fire Protection Plant</b>  |      |          |                 |        |
| 3.E2.3.2.3.1 | E2   | 39.002    |           | 4,5kg DCP fire extinguishers fully installed on meranti backing boards  | No   | 1        |                 |        |
| 3.E2.3.2.3.2 | E2   | 39.002    |           | 5kg CO2 fire extinguishers fully installed on meranti backing boards  | No   | 1        |                 |        |
| 3.E2.3.2.3.3 | E2   | 39.002    |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.E2.3.2.3.4 | E2   | 39.002    |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.2.3.5 | E2   | 39.002    |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.2.3.6 | E2   | 39.002    |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.2.3.7 | E2   | 39.002    |           | .....   | Sum  | 1        |                 |        |
|              | E2   |           |           | <b>Photo-Luminescent Statutory Emergency Signage</b>  |      |          |                 |        |
|              | E2   |           |           | <b>Single-Sided Statutory Emergency Signage</b>   |      |          |                 |        |
| 3.E2.3.2.3.8 | E2   | 39.002    |           | - 2 pictogram (290 x 290)   | No   | 4        |                 |        |
| 3.E2.3.2.3.9 | E2   | 39.002    |           | - F45   | No   | 2        |                 |        |
|              | E2   |           |           | <b>PART E2.3.2.4: OPERATIONS AND CONTROL CENTRE</b>   |      |          |                 |        |
|              | E2   |           |           | <b>FIRE WATER</b>   |      |          |                 |        |
|              | E2   |           |           | <b>Supply Water</b>   |      |          |                 |        |
| 3.E2.3.2.4.1 | E2   | 39.002    |           | 32mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)                   | m    | 40       |                 |        |
| 3.E2.3.2.4.2 | E2   | 39.002    |           | 25mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)                   | m    | 15       |                 |        |
|              | E2   |           |           | <b>PASSIVE FIRE PROTECTION PLANT</b>  |      |          |                 |        |
| 3.E2.3.2.4.3 | E2   | 39.002    |           | Hose reels with 30 metres of 25mm diameter approved hose, 10m of 25mm steal piping and metal nozzle (not plastic) to SANS 10400 and SANS 10252. | No   | 3        |                 |        |
| 3.E2.3.2.4.4 | E2   | 39.002    |           | 9kg DCP fire extinguishers fully installed on meranti backing boards  | No   | 4        |                 |        |
| 3.E2.3.2.4.5 | E2   | 39.002    |           | 4,5kg DCP fire extinguishers fully installed on meranti backing boards  | No   | 2        |                 |        |
| 3.E2.3.2.4.6 | E2   | 39.002    |           | 2kg CO2 fire extinguishers fully installed on meranti backing boards  | No   | 4        |                 |        |
| 3.E2.3.2.4.7 | E2   | 39.002    |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.E2.3.2.4.8 | E2   | 39.002    |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.2.4.9 | E2   | 39.002    |           | .....   | Sum  | 1        |                 |        |
|              |      |           |           |   |      |          | Carried Forward |        |

| Item no.      | Part | Payment | Breakdown Reference | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|---------|---------------------|--|------|----------|-----------------|--------|
|               |      |         |                     |  |      |          |                 |        |
|               |      |         |                     |  |      |          | Brought Forward |        |
| 3.E2.3.2.4.10 | E2   | 39.002  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.4.11 | E2   | 39.002  |                     | .....  | Sum  | 1        |                 |        |
|               | E2   |         |                     | <b>FIRE SIGNAGE</b>  |      |          |                 |        |
|               | E2   |         |                     | <b>PHOTO-LUMINESCENT STATUTORY EMERGENCY SIGNAGE</b>                 |      |          |                 |        |
|               | E2   |         |                     | <b>Single-Sided Statutory Emergency Signage</b>                      |      |          |                 |        |
| 3.E2.3.2.4.12 | E2   | 39.002  |                     | - 2 pictogram (190 x 190)  | No   | 9        |                 |        |
| 3.E2.3.2.4.13 | E2   | 39.002  |                     | - 3 pictogram (190 x 190)  | No   | 6        |                 |        |
| 3.E2.3.2.4.14 | E2   | 39.002  |                     | - 2 pictogram (290 x 290)  | No   | 2        |                 |        |
| 3.E2.3.2.4.15 | E2   | 39.002  |                     | - F45  | No   | 2        |                 |        |
|               | E2   |         |                     | <b>Double-Sided Statutory Emergency Signage</b>                      |      |          |                 |        |
| 3.E2.3.2.4.16 | E2   | 39.002  |                     | - 2 pictogram (190 x 190)  | No   | 2        |                 |        |
| 3.E2.3.2.4.17 | E2   | 39.002  |                     | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.2.4.18 | E2   | 39.002  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.4.19 | E2   | 39.002  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.4.20 | E2   | 39.002  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.4.21 | E2   | 39.002  |                     | .....  | Sum  | 1        |                 |        |
|               | E2   |         |                     | <b>PART E2.3.2.5: FIRE DETECTION AND SUPPRESSIONS</b>                |      |          |                 |        |
|               | E2   |         |                     | <b>PASSIVE FIRE PROTECTION PLANT</b>                                 |      |          |                 |        |
| 3.E2.3.2.5.1  | E2   | 39.002  |                     | 5kg CO2 fire extinguishers fully installed on meranti backing boards | No   | 1        |                 |        |
| 3.E2.3.2.5.2  | E2   | 39.002  |                     | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.2.5.3  | E2   | 39.002  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.5.4  | E2   | 39.002  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.5.5  | E2   | 39.002  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.2.5.6  | E2   | 39.002  |                     | .....  | Sum  | 1        |                 |        |
|               | E2   |         |                     | <b>PHOTO-LUMINESCENT STATUTORY EMERGENCY SIGNAGE</b>                 |      |          |                 |        |
|               | E2   |         |                     | <b>Single-Sided Statutory Emergency Signage</b>                      |      |          |                 |        |
| 3.E2.3.2.5.7  | E2   | 39.002  |                     | - 2 pictogram (290 x 290)  | No   | 2        |                 |        |
| 3.E2.3.2.5.8  | E2   | 39.002  |                     | - F45  | No   | 2        |                 |        |
|               |      |         |                     |  |      |          | Carried Forward |        |



| Item no.      | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|---------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|               |      |                   |           |   |      |          |                 |        |
|               |      |                   |           |   |      |          | Brought Forward |        |
|               | E2   |                   |           | <b>PART E2.3.3: INSTALLATION</b>  |      |          |                 |        |
|               | E2   |                   |           | <b>PART E2.3.3.1: HIGH LIFT PUMPING STATION</b>   |      |          |                 |        |
|               | E2   |                   |           | <b>FIRE WATER</b>   |      |          |                 |        |
|               | E2   |                   |           | <b>Supply Water</b>   |      |          |                 |        |
|               | E2   |                   |           | <b>Design, supply, delivery, installation, connection, priming, painting, denso wrapping, testing and commissioning of 100mm dia. underground Main from water connection to valve chamber - connecting pipework and all additional pipework to accommodate coordination of services and off-sets around structure, supports, etc. required.</b> |      |          |                 |        |
| 3.E2.3.3.1.1  | E2   | 39.003            |           | 50mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)   | m    | 100      |                 |        |
| 3.E2.3.3.1.2  | E2   | 39.003            |           | 32mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)   | m    | 50       |                 |        |
| 3.E2.3.3.1.3  | E2   | 39.003            |           | 25mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)   | m    | 150      |                 |        |
| 3.E2.3.3.1.4  | E2   | 39.003            |           | 100mm Gear operated Butterfly valve on Delivery, with Pressure gauge before connecting to Civil Contractor's underground main   | item | 1        |                 |        |
|               | E2   |                   |           | <b>PASSIVE FIRE PROTECTION PLANT</b>  |      |          |                 |        |
| 3.E2.3.3.1.5  | E2   | 39.003            |           | Right Angled Fire hydrants with 65mm diameter instantaneous couplings to SANS 10400 and SANS 10252, including the extension from ground reticulation. Hydrants at 1,2m AFFL and to connect to the Civil underground main by purpose made Block piece  | No.  | 6        |                 |        |
| 3.E2.3.3.1.6  | E2   | 39.003            |           | Hose reels with 30 metres of 25mm diameter approved hose, 10m of 25mm steal piping and metal nozzle (not plastic) to SANS 10400 and SANS 10252.   | No.  | 14       |                 |        |
| 3.E2.3.3.1.7  | E2   | 39.003            |           | 9kg DCP fire extinguishers fully installed on meranti backing boards  | No.  | 28       |                 |        |
| 3.E2.3.3.1.8  | E2   | 39.003            |           | 4,5kg DCP fire extinguishers fully installed on meranti backing boards  | No.  | 4        |                 |        |
| 3.E2.3.3.1.9  | E2   | 39.003            |           | 5kg CO2 fire extinguishers fully installed on meranti backing boards  | No.  | 32       |                 |        |
| 3.E2.3.3.1.10 | E2   | 39.003            |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.11 | E2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.12 | E2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.13 | E2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.14 | E2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
|               | E2   |                   |           | <b>ROOF VENTILATORS</b>   |      |          |                 |        |
|               | E2   |                   |           | <b>Roof Ventilation Installation:</b>   |      |          |                 |        |
| 3.E2.3.3.1.15 | E2   | 39.003            |           | Supply, delivery, installation, testing and commissioning of a completely functioning smoke ventilation system as itemised below:   | Sum  | 1        |                 |        |
|               |      |                   |           |   |      |          | Carried Forward |        |

| Item no.      | Part | Payment Reference | Breakdown Reference | Description   | Unit | Quantity | Rate            | Amount |
|---------------|------|-------------------|---------------------|---|------|----------|-----------------|--------|
|               |      |                   |                     |   |      |          |                 |        |
|               |      |                   |                     |   |      |          | Brought Forward |        |
| 3.E2.3.3.1.16 | E2   | 39.003            |                     | An EN 12101-2 compliant slope mounted louvre ventilators of aerodynamic free area of 1,84sqm with a purlin spacing of 1600mm (TBC). Ventilators manufactured entirely from Chromadek material, complete with 24V DC power to open, power to close actuator and 72degree fusible links. Colour is to be Rain Cloud, RAL 7016 (to be confirmed) | No   | 15       |                 |        |
| 3.E2.3.3.1.17 | E2   | 39.003            |                     | H-frame to span the purlins spacing of 2m.<br>Note: As the purlin spacing is unknown. Should this not be required it can be removed from the scope of work.   | No   | 15       |                 |        |
| 3.E2.3.3.1.18 | E2   | 39.003            |                     | Back Flashing at a rate sufficient for each vent in accordance with suppliers specifications  | No   | 15       |                 |        |
| 3.E2.3.3.1.19 | E2   | 39.003            |                     | Rain sensor   | Sum  | 1        |                 |        |
|               | E2   |                   |                     | <b>Cabling</b>  |      |          |                 |        |
| 3.E2.3.3.1.20 | E2   | 39.003            |                     | 4mm² 2 core PH-30 cable complete with steel conduit   | m    | 1100     |                 |        |
|               | E2   |                   |                     | <b>Control Panel Installation</b>   |      |          |                 |        |
|               | E2   |                   |                     | <b>Supply, delivery, installation, testing and commissioning of a completely functioning system as itemised below:</b>  |      |          |                 |        |
| 3.E2.3.3.1.21 | E2   | 39.003            |                     | IP55 Control panel(s) for the roof ventilators - Quantity of panels to be confirmed by contractor (Panels to be EN12101 Compliant)  | Sum  | 1        |                 |        |
| 3.E2.3.3.1.22 | E2   | 39.003            |                     | Override switch.<br>Allow for an override switch located at an entrance door for the fire installation to control the smoke ventilation.  | No   | 2        |                 |        |
| 3.E2.3.3.1.23 | E2   | 39.003            |                     | 72 Hour battery back-up for ventilators   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.24 | E2   | 39.003            |                     | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.25 | E2   | 39.003            |                     | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.26 | E2   | 39.003            |                     | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.27 | E2   | 39.003            |                     | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.28 | E2   | 39.003            |                     | .....   | Sum  | 1        |                 |        |
|               | E2   |                   |                     | <b>FIRE SIGNAGE</b>   |      |          |                 |        |
|               | E2   |                   |                     | <b>PHOTO-LUMINESCENT STATUTORY EMERGENCY SIGNAGE</b>  |      |          |                 |        |
|               | E2   |                   |                     | <b>Single-Sided Statutory Emergency Signage</b>   |      |          |                 |        |
| 3.E2.3.3.1.29 | E2   | 39.003            |                     | - 2 pictogram (290 x 290)   | No   | 32       |                 |        |
| 3.E2.3.3.1.30 | E2   | 39.003            |                     | - 3 pictogram (290 x 290)   | No   | 16       |                 |        |
| 3.E2.3.3.1.31 | E2   | 39.003            |                     | - F45   | No   | 6        |                 |        |
|               | E2   |                   |                     | <b>Double-Sided Statutory Emergency Signage</b>   |      |          |                 |        |
| 3.E2.3.3.1.32 | E2   | 39.003            |                     | - 2 pictogram (290 x 290)   | No   | 4        |                 |        |
| 3.E2.3.3.1.33 | E2   | 39.003            |                     | - 3 pictogram (290 x 290)   | No   | 4        |                 |        |
| 3.E2.3.3.1.34 | E2   | 39.003            |                     | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.35 | E2   | 39.003            |                     | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.36 | E2   | 39.003            |                     | .....   | Sum  | 1        |                 |        |
|               |      |                   |                     |   |      |          | Carried Forward |        |

| Item no.      | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|               |      | Reference |           |  |      |          |                 |        |
|               |      |           |           |  |      |          | Brought Forward |        |
| 3.E2.3.3.1.37 | E2   | 39.003    |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.1.38 | E2   | 39.003    |           | .....  | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>Photo-Luminescent Statutory Emergency Signage - 3 Dimensional Frame on Pole</b>   |      |          |                 |        |
| 3.E2.3.3.1.39 | E2   | 39.003    |           | - 2 pictogram (290 x 290)  | No   | 6        |                 |        |
| 3.E2.3.3.1.40 | E2   | 39.003    |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.3.1.41 | E2   | 39.003    |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.1.42 | E2   | 39.003    |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.1.43 | E2   | 39.003    |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.1.44 | E2   | 39.003    |           | .....  | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>FIRE DETECTION CONTROL PLANT AND POWER SUPPLIES</b>   |      |          |                 |        |
|               | E2   |           |           | <b>4 Loop Addressable Fire Detection Control Panel</b>   |      |          |                 |        |
| 3.E2.3.3.1.45 | E2   | 39.003    |           | Allow for the detailed design, programming, procurement, delivery, installation, connection, testing and commissioning of an advanced 4 loop Addressable Fire Detection Control Panel to tender specification.           | No   | 1        |                 |        |
|               | E2   |           |           | <b>Addressable Repeater Fire Detection Control Panel</b>   |      |          |                 |        |
| 3.E2.3.3.1.46 | E2   | 39.003    |           | Allow for the detailed design, programming, procurement, delivery, installation, connection, testing and commissioning of an advanced Addressable Repeater Fire Detection Control Panel to tender specification.         | No   | 1        |                 |        |
|               | E2   |           |           | <b>Combination 3 Zone Detection and Gas Release Control Panel – ADVANCED TC3001</b>  |      |          |                 |        |
|               | E2   |           |           | <b>Allow for the procurement, delivery, installation, connection, testing and commissioning of an advanced combination 3 Zone Detection and Gas Release Control Panel (Advanced TC3001 only.)</b>                        |      |          |                 |        |
| 3.E2.3.3.1.47 | E2   | 39.003    |           | Battery Room   | No   | 1        |                 |        |
| 3.E2.3.3.1.48 | E2   | 39.003    |           | UPS Room   | No   | 1        |                 |        |
| 3.E2.3.3.1.49 | E2   | 39.003    |           | LV & MCC   | No   | 1        |                 |        |
| 3.E2.3.3.1.50 | E2   | 39.003    |           | MV   | No   | 1        |                 |        |
| 3.E2.3.3.1.51 | E2   | 39.003    |           | VSD  | No   | 1        |                 |        |
|               | E2   |           |           | <b>Combination 3 Zone Detection and Gas Release Status Control Panel EX 3020</b>   |      |          |                 |        |
|               | E2   |           |           | <b>Allow for the procurement, delivery, installation, connection, testing and commissioning of an advanced combination 3 Zone Detection and Gas Release Status Control Panel1 complete with manual gas release unit.</b> |      |          |                 |        |
| 3.E2.3.3.1.52 | E2   | 39.003    |           | MV   | No   | 1        |                 |        |
| 3.E2.3.3.1.53 | E2   | 39.003    |           | VSD  | No   | 1        |                 |        |
|               |      |           |           |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|               |      | Reference |           |   |      |          |                 |        |
|               |      |           |           |   |      |          | Brought Forward |        |
|               | E2   |           |           | <b>EMERGENCY POWER SUPPLY</b>   |      |          |                 |        |
| 3.E2.3.3.1.54 | E2   | 39.003    |           | Provide emergency batteries as per calculation sheet – Gas Release Control Panels and Addressable Panels.   | No   | 14       |                 |        |
|               | E2   |           |           | <b>Blue Ginger or Similar Approved 24v DC Power Supply Complete with Back-Up, Batteries and Charger</b>   |      |          |                 |        |
| 3.E2.3.3.1.55 | E2   | 39.003    |           | Provide for the supply of a Blue Ginger or similar approved 24 DC Power Supply complete with back-up Batteries and Charger to the Aspirating Detectors, Gas Release Status Units and OSID Beam Detectors.   | No   | 40       |                 |        |
| 3.E2.3.3.1.56 | E2   | 39.003    |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.57 | E2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.58 | E2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.59 | E2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.60 | E2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>CONDUIT AND CABLING</b>  |      |          |                 |        |
|               | E2   |           |           | <b>Fire Resistant Cabling – PH120</b>   |      |          |                 |        |
|               | E2   |           |           | Allow for adequate cabling for the wiring of the fire detection system to specification.  |      |          |                 |        |
| 3.E2.3.3.1.61 | E2   | 39.003    |           | (PH-120 only – 1mm <sup>2</sup> minimum - 2 core)   | m    | 2500     |                 |        |
|               | E2   |           |           | <b>Fibre Optic Cable</b>  |      |          |                 |        |
| 3.E2.3.3.1.62 | E2   | 39.003    |           | Allow for adequate cabling for the networking of the main addressable fire detection and repeater control panels to specification.  | m    | 500      |                 |        |
|               | E2   |           |           | <b>Conduit and Couplings</b>  |      |          |                 |        |
| 3.E2.3.3.1.63 | E2   | 39.003    |           | Procurement and installation of 25mm dia. Bosal conduit (with necessary couplings, junction boxes, etc.) for all detection and electrical reticulation in terms of the specifications. Include for all drilling, fixing and making good of same.          | m    | 1000     |                 |        |
|               | E2   |           |           | <b>P2000 Galvanized Trunking and Accessories</b>  |      |          |                 |        |
| 3.E2.3.3.1.64 | E2   | 39.003    |           | Allow for the procurement and installation of P2000 trunking (with necessary couplings, junction boxes, accessories etc.) in terms of the specifications.   | m    | 50       |                 |        |
|               | E2   |           |           | <b>Flexible Galvanized Steel Conduit with IP 40 Rating Including Steel Couplings</b>  |      |          |                 |        |
| 3.E2.3.3.1.65 | E2   | 39.003    |           | Provide for the supply and installation of flexible galvanized steel conduit with steel couplings to be used between cylinder actuators and gas and test interface units as well as between other devices where a flexible connections would be required. | m    | 50       |                 |        |
| 3.E2.3.3.1.66 | E2   | 39.003    |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.67 | E2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.68 | E2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.69 | E2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.70 | E2   | 39.003    |           | .....   | Sum  | 1        |                 |        |
|               |      |           |           |   |      |          | Carried Forward |        |

| Item no.      | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|               |      | Reference |           |   |      |          |                 |        |
|               |      |           |           |   |      |          | Brought Forward |        |
|               | E2   |           |           | <b>DETECTION</b>  |      |          |                 |        |
|               | E2   |           |           | <b>Analogue Addressable Optical Smoke Detectors</b>   |      |          |                 |        |
| 3.E2.3.3.1.71 | E2   | 39.003    |           | Allow for the procurement, installation, testing and commissioning of analogue addressable optical smoke detectors complete with mounting bases as indicated on plans to specification.   | No   | 5        |                 |        |
|               | E2   |           |           | <b>Addressable Manual Alarm Point Complete With Base and Flaps</b>  |      |          |                 |        |
| 3.E2.3.3.1.72 | E2   | 39.003    |           | Allow for the procurement, installation, testing and commissioning of conventional bases for installation of manual fire alarm points above.  | No   | 5        |                 |        |
|               | E2   |           |           | <b>Green Break Glass Unit to Override Access Control</b>  |      |          |                 |        |
| 3.E2.3.3.1.73 | E2   | 39.003    |           | Allow for the procurement, installation, testing and commissioning of green break glass units to specification.   | No   | 6        |                 |        |
|               | E2   |           |           | <b>OSID Beam Detectors – Pump Room Open Area</b>  |      |          |                 |        |
| 3.E2.3.3.1.74 | E2   | 39.003    |           | Allow for the procurement, installation, testing and commissioning of OSID beam detectors complete with Emitter and Imager as indicated on plans to specification complete with all transformers, power supplies, mounting brackets, batteries, fittings and related plant to provide a complete hard wired installation. | No   | 2        |                 |        |
|               | E2   |           |           | <b>High Sensitivity Smoke Detector – HSSD 2 Pipe HSSD Scanner with Individual Scanners Complete with Touch Screen Display and Hybrid Technology</b>   |      |          |                 |        |
|               | E2   |           |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of HSSD detectors as indicated on plans to specification and all other plant necessary to provide a complete, functional and compliant installation.</b>   |      |          |                 |        |
| 3.E2.3.3.1.75 | E2   | 39.003    |           | Battery Room  | No   | 2        |                 |        |
| 3.E2.3.3.1.76 | E2   | 39.003    |           | UPS Room  | No   | 2        |                 |        |
| 3.E2.3.3.1.77 | E2   | 39.003    |           | LV & MCC  | No   | 2        |                 |        |
| 3.E2.3.3.1.78 | E2   | 39.003    |           | MV  | No   | 2        |                 |        |
| 3.E2.3.3.1.79 | E2   | 39.003    |           | VSD   | No   | 2        |                 |        |
| 3.E2.3.3.1.80 | E2   | 39.003    |           | Facility - Reference Detectors  | No   | 2        |                 |        |
|               | E2   |           |           | <b>25mm Red Sampling Pipe 3m Length</b>   |      |          |                 |        |
| 3.E2.3.3.1.81 | E2   | 39.003    |           | Allow for the detailed design, procurement, installation, testing and commissioning of 25mm dia. red sampling pipe.   | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>Pipe Clip (Red)</b>  |      |          |                 |        |
| 3.E2.3.3.1.82 | E2   | 39.003    |           | Allow for the procurement, installation, testing and commissioning of red pipe clips single point fix   | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>90 Degree Elbow Slow Bend (Red)</b>  |      |          |                 |        |
| 3.E2.3.3.1.83 | E2   | 39.003    |           | Allow for the procurement, installation, testing and commissioning of red elbow.  | Sum  | 1        |                 |        |
|               |      |           |           |   |      |          | Carried Forward |        |

| Item no.       | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                |      |                   |           |  |      |          |                 |        |
|                |      |                   |           |  |      |          | Brought Forward |        |
|                | E2   |                   |           | <b>End Cap (Red)</b>   |      |          |                 |        |
| 3.E2.3.3.1.84  | E2   | 39.003            |           | Allow for the detailed design, procurement, installation, testing and commissioning of red end cap.  | Sum  | 1        |                 |        |
|                | E2   |                   |           | <b>25mm Pipe Red Socket</b>  |      |          |                 |        |
| 3.E2.3.3.1.85  | E2   | 39.003            |           | Allow for the detailed design, procurement, installation, testing and commissioning of 25mm dia. red socket.                                 | Sum  | 1        |                 |        |
|                | E2   |                   |           | <b>Labels - Smoke Detection Sampling Pipes</b>   |      |          |                 |        |
| 3.E2.3.3.1.86  | E2   | 39.003            |           | Allow for the detailed design procurement and installation of identification labels to all pipe work.  | Sum  | 1        |                 |        |
|                | E2   |                   |           | <b>Inline Filter – Triple Stage Filter for All HSSD</b>  |      |          |                 |        |
| 3.E2.3.3.1.87  | E2   | 39.003            |           | Allow for the procurement, installation, testing and commissioning of triple stage filters to all HSSD as per manufacturer's specifications. |      |          |                 |        |
|                | E2   |                   |           | <b>Battery Room</b>  | No   | 4        |                 |        |
| 3.E2.3.3.1.88  | E2   | 39.003            |           | UPS Room   | No   | 4        |                 |        |
| 3.E2.3.3.1.89  | E2   | 39.003            |           | LV & MCC   | No   | 4        |                 |        |
| 3.E2.3.3.1.90  | E2   | 39.003            |           | MV   | No   | 4        |                 |        |
| 3.E2.3.3.1.91  | E2   | 39.003            |           | VSD  | No   | 4        |                 |        |
| 3.E2.3.3.1.92  | E2   | 39.003            |           | Facility - Reference Detectors   | No   | 4        |                 |        |
| 3.E2.3.3.1.93  | E2   | 39.003            |           | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.3.1.94  | E2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.1.95  | E2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.1.96  | E2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.1.97  | E2   | 39.003            |           | .....  | Sum  | 1        |                 |        |
|                | E2   |                   |           | <b>AUXILIARY PLANT</b>   |      |          |                 |        |
|                | E2   |                   |           | <b>Conventional Siren / Strobe -</b>   |      |          |                 |        |
|                | E2   |                   |           | <b>Allow for the procurement, installation, testing and commissioning of 100dB(A) ASTrobe or similar approved combination siren/strobe</b>   |      |          |                 |        |
| 3.E2.3.3.1.98  | E2   | 39.003            |           | Battery Room   | No   | 2        |                 |        |
| 3.E2.3.3.1.99  | E2   | 39.003            |           | UPS Room   | No   | 2        |                 |        |
| 3.E2.3.3.1.100 | E2   | 39.003            |           | LV & MCC   | No   | 2        |                 |        |
| 3.E2.3.3.1.101 | E2   | 39.003            |           | MV   | No   | 4        |                 |        |
| 3.E2.3.3.1.102 | E2   | 39.003            |           | VSD  | No   | 4        |                 |        |
|                | E2   |                   |           | <b>Fire Bell</b>   |      |          |                 |        |
|                | E2   |                   |           | <b>Allow for the procurement, installation, testing and commissioning of an fire alarm Bell.</b>   |      |          |                 |        |
| 3.E2.3.3.1.103 | E2   | 39.003            |           | Battery Room   | No   | 1        |                 |        |
| 3.E2.3.3.1.104 | E2   | 39.003            |           | UPS Room   | No   | 1        |                 |        |
| 3.E2.3.3.1.105 | E2   | 39.003            |           | LV & MCC   | No   | 1        |                 |        |
|                |      |                   |           |  |      |          | Carried Forward |        |

| Item no.       | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                |      |                   |           |  |      |          |                 |        |
|                |      |                   |           |  |      |          | Brought Forward |        |
| 3.E2.3.3.1.106 | E2   | 39.003            |           | MV   | No   | 2        |                 |        |
| 3.E2.3.3.1.107 | E2   | 39.003            |           | VSD  | No   | 2        |                 |        |
| 3.E2.3.3.1.108 | E2   | 39.003            |           | Facility - Reference Detectors   | No   | 2        |                 |        |
|                | E2   |                   |           | <b>Addressable Loop Powered Siren / Strobe</b>   |      |          |                 |        |
|                | E2   |                   |           | Allow for the procurement, installation, testing and commissioning of 100dB(A) ASTrobe or similar approved combination siren / strobe.   |      |          |                 |        |
| 3.E2.3.3.1.109 | E2   | 39.003            |           | Facility   | No   | 4        |                 |        |
|                | E2   |                   |           | <b>High Output Sounder</b>   |      |          |                 |        |
|                | E2   |                   |           | <b>Provide for the procurement and installation of 120 dB high output sounders to specification complete with power supply, battery back-up and any plant required for a complete and functional installation. EN-Approved</b> |      |          |                 |        |
| 3.E2.3.3.1.110 | E2   | 39.003            |           | Facility   | No   | 2        |                 |        |
|                | E2   |                   |           | <b>Interfaces with Other Systems</b>   |      |          |                 |        |
|                | E2   |                   |           | <b>Provide for connection to interface with the following systems and programming of relay inputs / outputs:</b>   |      |          |                 |        |
| 3.E2.3.3.1.111 | E2   | 39.003            |           | Fresh air supply units shut-down   | No   | 10       |                 |        |
| 3.E2.3.3.1.112 | E2   | 39.003            |           | Closing of fire dampers  | No   | 4        |                 |        |
| 3.E2.3.3.1.113 | E2   | 39.003            |           | Smoke extraction fans - HVAC   | No   | 4        |                 |        |
| 3.E2.3.3.1.114 | E2   | 39.003            |           | Mains Supply Circuit Breaker – Switch off  | No   | 4        |                 |        |
| 3.E2.3.3.1.115 | E2   | 39.003            |           | Reference Sampling – Auto / Manual Switching   | No   | 4        |                 |        |
| 3.E2.3.3.1.116 | E2   | 39.003            |           | Access controlled doors  | No   | 6        |                 |        |
|                | E2   |                   |           | <b>GSM SMS Communicator – Up To 5 Users/Numbers</b>  |      |          |                 |        |
|                | E2   |                   |           | Provide for procurement, installation, setup and programming of GSM SMS Communicators interfaces with the Combination Detection and Gas Release Panels:  |      |          |                 |        |
| 3.E2.3.3.1.117 | E2   | 39.003            |           | Sim cards to be provided by client   | No   | 1        |                 |        |
|                | E2   |                   |           | <b>Surface Boxes</b>   |      |          |                 |        |
| 3.E2.3.3.1.118 | E2   | 39.003            |           | Provide for procurement and installation, of surface boxes to accommodate all interface relay units  | No   | 280      |                 |        |
|                | E2   |                   |           | <b>Waterproof Cabinets IP65 RATED</b>  |      |          |                 |        |
| 3.E2.3.3.1.119 | E2   | 39.003            |           | Provide for procurement and installation, of IP 65 Waterproof cabinets to accommodate the gas release control status units as per specification and design.  | No   | 2        |                 |        |
|                | E2   |                   |           | <b>Test and Gas Release Interface Relay Unit</b>   |      |          |                 |        |
|                | E2   |                   |           | <b>Provide for procurement, installation, setup and programming of test and gas release interface relays to all Gas Suppression Cylinder Actuators.</b>  |      |          |                 |        |
| 3.E2.3.3.1.120 | E2   | 39.003            |           | Battery Room   | No   | 1        |                 |        |
| 3.E2.3.3.1.121 | E2   | 39.003            |           | UPS Room   | No   | 1        |                 |        |
|                |      |                   |           |  |      |          | Carried Forward |        |

| Item no.       | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|                |      |                   |           |   |      |          |                 |        |
|                |      |                   |           |   |      |          | Brought Forward |        |
| 3.E2.3.3.1.122 | E2   | 39.003            |           | LV & MCC  | No   | 1        |                 |        |
| 3.E2.3.3.1.123 | E2   | 39.003            |           | MV  | No   | 1        |                 |        |
| 3.E2.3.3.1.124 | E2   | 39.003            |           | VSD   | No   | 1        |                 |        |
|                | E2   |                   |           | <b>Addressable Programmable Input / Output Relay Unit</b>   |      |          |                 |        |
|                | E2   |                   |           | <b>Provide for the detailed design, procurement, installation, setup and programming of Addressable Interface Relays to all HSSD devices, Gas Release Control Panels and other fire detection plant to monitor to following statuses:</b>   |      |          |                 |        |
| 3.E2.3.3.1.125 | E2   | 39.003            |           | General Fault, Alert, Fire, Auto / Manual Switching, Gas Discharge  | No   | 250      |                 |        |
|                | E2   |                   |           | <b>24V DC Contactor Switch</b>  |      |          |                 |        |
| 3.E2.3.3.1.126 | E2   | 39.003            |           | Provide for procurement, installation, setup and programming of 24V DC Contactor Switch to Interface and shut-down of electrical pumps  | No   | 4        |                 |        |
|                | E2   |                   |           | <b>Pressure Gauge Monitoring on All Pilot Cylinders</b>   |      |          |                 |        |
|                | E2   |                   |           | Allow for the detailed design, procurement, installation, testing and commissioning of pressure monitoring of all gauges to the pilot cylinders.  |      |          |                 |        |
| 3.E2.3.3.1.127 | E2   | 39.003            |           | Battery Room  | No   | 1        |                 |        |
| 3.E2.3.3.1.128 | E2   | 39.003            |           | UPS Room  | No   | 1        |                 |        |
| 3.E2.3.3.1.129 | E2   | 39.003            |           | LV & MCC  | No   | 1        |                 |        |
| 3.E2.3.3.1.130 | E2   | 39.003            |           | MV  | No   | 1        |                 |        |
| 3.E2.3.3.1.131 | E2   | 39.003            |           | VSD   | No   | 1        |                 |        |
| 3.E2.3.3.1.132 | E2   | 39.003            |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.133 | E2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.134 | E2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.135 | E2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.136 | E2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
|                | E2   |                   |           | <b>GAS SUPPRESSION PLANT</b>  |      |          |                 |        |
|                | E2   |                   |           | <b>200 Bar 80 Litre Pyroshield (IG-55) Cylinders System Complete</b>  |      |          |                 |        |
|                | E2   |                   |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of 200 Bar 80 Litre Pyroshield IG-55 systems to specification, complete with manifold, actuation lines, discharge hose, non-return valves, racking, labels &amp; nozzles, orifice unit required to provide a complete system as per manufacturer's specification :</b> |      |          |                 |        |
| 3.E2.3.3.1.137 | E2   | 39.003            |           | Battery Room  | No   | 5        |                 |        |
| 3.E2.3.3.1.138 | E2   | 39.003            |           | UPS Room  | No   | 5        |                 |        |
| 3.E2.3.3.1.139 | E2   | 39.003            |           | LV & MCC  | No   | 10       |                 |        |
| 3.E2.3.3.1.140 | E2   | 39.003            |           | MV  | No   | 25       |                 |        |
| 3.E2.3.3.1.141 | E2   | 39.003            |           | VSD   | No   | 50       |                 |        |
|                |      |                   |           |   |      |          | Carried Forward |        |



| Item no.       | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|                |      | Reference |           |  |      |          |                 |        |
|                |      |           |           |  |      |          | Brought Forward |        |
|                | E2   |           |           | <b>Pilot Cylinders</b>   |      |          |                 |        |
|                | E2   |           |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of 200 Bar pilot Cylinders to specification to provide a complete system as per manufacturer's specification :</b>  |      |          |                 |        |
| 3.E2.3.3.1.142 | E2   | 39.003    |           | Battery Room   | No   | 1        |                 |        |
| 3.E2.3.3.1.143 | E2   | 39.003    |           | UPS Room   | No   | 1        |                 |        |
| 3.E2.3.3.1.144 | E2   | 39.003    |           | LV & MCC   | No   | 1        |                 |        |
| 3.E2.3.3.1.145 | E2   | 39.003    |           | MV   | No   | 2        |                 |        |
| 3.E2.3.3.1.146 | E2   | 39.003    |           | VSD  | No   | 2        |                 |        |
|                | E2   |           |           | <b>Gas Distribution Pipework</b>   |      |          |                 |        |
|                | E2   |           |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of Pyroshield IG-55 pipework to specification (including all elbows, tees, supports, painting and ancillary plant). All pipework to be ASTM A 106 Grade B Seamless and all fittings to be 3000lb and as specified in the relevant part of SANS 14520.</b> |      |          |                 |        |
| 3.E2.3.3.1.147 | E2   | 39.003    |           | Battery Room   | No   | 20       |                 |        |
| 3.E2.3.3.1.148 | E2   | 39.003    |           | UPS Room   | No   | 20       |                 |        |
| 3.E2.3.3.1.149 | E2   | 39.003    |           | LV & MCC   | No   | 50       |                 |        |
| 3.E2.3.3.1.150 | E2   | 39.003    |           | MV   | No   | 50       |                 |        |
| 3.E2.3.3.1.151 | E2   | 39.003    |           | VSD  | No   | 90       |                 |        |
|                | E2   |           |           | <b>Nozzles</b>   |      |          |                 |        |
|                | E2   |           |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of IG55 nozzles to specification</b>  |      |          |                 |        |
| 3.E2.3.3.1.152 | E2   | 39.003    |           | Battery Room   | No   | 1        |                 |        |
| 3.E2.3.3.1.153 | E2   | 39.003    |           | UPS Room   | No   | 1        |                 |        |
| 3.E2.3.3.1.154 | E2   | 39.003    |           | LV & MCC   | No   | 3        |                 |        |
| 3.E2.3.3.1.155 | E2   | 39.003    |           | MV   | No   | 3        |                 |        |
| 3.E2.3.3.1.156 | E2   | 39.003    |           | VSD  | No   | 8        |                 |        |
|                | E2   |           |           | <b>Room Integrity Test</b>   |      |          |                 |        |
| 3.E2.3.3.1.157 | E2   | 39.003    |           | Battery Room   | No   | 4        |                 |        |
| 3.E2.3.3.1.158 | E2   | 39.003    |           | UPS Room   | No   | 4        |                 |        |
| 3.E2.3.3.1.159 | E2   | 39.003    |           | LV & MCC   | No   | 4        |                 |        |
| 3.E2.3.3.1.160 | E2   | 39.003    |           | MV   | No   | 4        |                 |        |
| 3.E2.3.3.1.161 | E2   | 39.003    |           | VSD  | No   | 4        |                 |        |
|                |      |           |           |  |      |          | Carried Forward |        |

| Item no.       | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|                |      |                   |           |   |      |          |                 |        |
|                |      |                   |           |   |      |          | Brought Forward |        |
|                | E2   |                   |           | <b>Pressure Relief Dampers</b>  |      |          |                 |        |
|                | E2   |                   |           | <b>Allow for the detailed design, procurement, installation, testing and commissioning of pressure relief dampers. The quantity and sizes must be quantified based on the volume of gas release. Quantity and sizes must be specified and all costs must be included in the amount specified.</b> |      |          |                 |        |
| 3.E2.3.3.1.162 | E2   | 39.003            |           | Battery Room  | No   | 2        |                 |        |
| 3.E2.3.3.1.163 | E2   | 39.003            |           | UPS Room  | No   | 2        |                 |        |
| 3.E2.3.3.1.164 | E2   | 39.003            |           | LV & MCC  | No   | 2        |                 |        |
| 3.E2.3.3.1.165 | E2   | 39.003            |           | MV  | No   | 2        |                 |        |
| 3.E2.3.3.1.166 | E2   | 39.003            |           | VSD   | No   | 2        |                 |        |
|                | E2   |                   |           | <b>PASSIVE FIRE PROTECTION</b>  |      |          |                 |        |
|                | E2   |                   |           | <b>5KG CO2 Fire Extinguisher – SABS Approved</b>  |      |          |                 |        |
|                | E2   |                   |           | <b>Provide for the procurement and installation of S.A.B.S approved 5Kg Co2 Fire Extinguishers complete with wooden backing boards as per specification and drawings</b>  |      |          |                 |        |
| 3.E2.3.3.1.167 | E2   | 39.003            |           | Battery Room  | No   | 2        |                 |        |
| 3.E2.3.3.1.168 | E2   | 39.003            |           | UPS Room  | No   | 2        |                 |        |
| 3.E2.3.3.1.169 | E2   | 39.003            |           | LV & MCC  | No   | 2        |                 |        |
| 3.E2.3.3.1.170 | E2   | 39.003            |           | MV  | No   | 2        |                 |        |
| 3.E2.3.3.1.171 | E2   | 39.003            |           | VSD   | No   | 2        |                 |        |
|                | E2   |                   |           | <b>Statutory Signage – Sabs Approved – Photo Luminescent</b>  |      |          |                 |        |
|                | E2   |                   |           | <b>Provide for the supply and installation of SABS approved photo luminescent 190 x 380 Emergency Exit Signage and Extinguisher Signage in aluminium frames as per specification and drawings.</b>  |      |          |                 |        |
| 3.E2.3.3.1.172 | E2   | 39.003            |           | Battery Room  | No   | 2        |                 |        |
| 3.E2.3.3.1.173 | E2   | 39.003            |           | UPS Room  | No   | 2        |                 |        |
| 3.E2.3.3.1.174 | E2   | 39.003            |           | LV & MCC  | No   | 2        |                 |        |
| 3.E2.3.3.1.175 | E2   | 39.003            |           | MV  | No   | 4        |                 |        |
| 3.E2.3.3.1.176 | E2   | 39.003            |           | VSD   | No   | 4        |                 |        |
| 3.E2.3.3.1.177 | E2   | 39.003            |           | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.178 | E2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.179 | E2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.180 | E2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.1.181 | E2   | 39.003            |           | .....   | Sum  | 1        |                 |        |
|                | E2   |                   |           | <b>PART E2.3.3.2: GUARDHOUSE 1</b>  |      |          |                 |        |
|                | E2   |                   |           | <b>Passive Fire Protection Plant</b>  |      |          |                 |        |
| 3.E2.3.3.2.1   | E2   | 39.003            |           | 9kg DCP fire extinguishers fully installed on meranti backing boards  | No   | 1        |                 |        |
|                |      |                   |           |   |      |          | Carried Forward |        |

| Item no.     | Part | Payment | Breakdown Reference | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|---------|---------------------|---|------|----------|-----------------|--------|
|              |      |         |                     |   |      |          |                 |        |
|              |      |         |                     |   |      |          | Brought Forward |        |
| 3.E2.3.3.2.2 | E2   | 39.003  |                     | 4,5kg DCP fire extinguishers fully installed on meranti backing boards  | No   | 1        |                 |        |
| 3.E2.3.3.2.3 | E2   | 39.003  |                     | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.E2.3.3.2.4 | E2   | 39.003  |                     | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.2.5 | E2   | 39.003  |                     | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.2.6 | E2   | 39.003  |                     | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.2.7 | E2   | 39.003  |                     | .....   | Sum  | 1        |                 |        |
|              | E2   |         |                     | <b>Photo-Luminescent Statutory Emergency Signage</b>  |      |          |                 |        |
|              | E2   |         |                     | <b>Single-Sided Statutory Emergency Signage</b>   |      |          |                 |        |
| 3.E2.3.3.2.8 | E2   | 39.003  |                     | - 2 pictogram (290 x 290)   | No   | 4        |                 |        |
| 3.E2.3.3.2.9 | E2   | 39.003  |                     | F45   | No   | 2        |                 |        |
|              | E2   |         |                     | <b>PART E2.3.3.3: GUARDHOUSE 2</b>  |      |          |                 |        |
|              | E2   |         |                     | <b>Passive Fire Protection Plant</b>  |      |          |                 |        |
| 3.E2.3.3.3.1 | E2   | 39.003  |                     | 9kg DCP fire extinguishers fully installed on meranti backing boards  | No   | 1        |                 |        |
| 3.E2.3.3.3.2 | E2   | 39.003  |                     | 4,5kg DCP fire extinguishers fully installed on meranti backing boards  | No   | 1        |                 |        |
| 3.E2.3.3.3.3 | E2   | 39.003  |                     | Any item not listed (Specify)   | Sum  | 1        |                 |        |
| 3.E2.3.3.3.4 | E2   | 39.003  |                     | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.3.5 | E2   | 39.003  |                     | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.3.6 | E2   | 39.003  |                     | .....   | Sum  | 1        |                 |        |
| 3.E2.3.3.3.7 | E2   | 39.003  |                     | .....   | Sum  | 1        |                 |        |
|              | E2   |         |                     | <b>Photo-Luminescent Statutory Emergency Signage</b>  |      |          |                 |        |
|              | E2   |         |                     | <b>Single-Sided Statutory Emergency Signage</b>   |      |          |                 |        |
| 3.E2.3.3.3.8 | E2   | 39.003  |                     | - 2 pictogram (290 x 290)   | No   | 4        |                 |        |
| 3.E2.3.3.3.9 | E2   | 39.003  |                     | F45   | No   | 2        |                 |        |
|              | E2   |         |                     | <b>PART E2.3.3.4: OPERATIONAL CONTROL CENTRE</b>  |      |          |                 |        |
|              | E2   |         |                     | <b>FIRE WATER</b>   |      |          |                 |        |
| 3.E2.3.3.4.1 | E2   | 39.003  |                     | 32mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)                   | m    | 40       |                 |        |
| 3.E2.3.3.4.2 | E2   | 39.003  |                     | 25mm diameter above-ground main (including elbows, fittings, hangers, tee's etc. to accommodate structure and other services)                   | m    | 15       |                 |        |
|              | E2   |         |                     | <b>PASSIVE FIRE PROTECTION PLANT</b>  |      |          |                 |        |
| 3.E2.3.3.4.3 | E2   | 39.003  |                     | Hose reels with 30 metres of 25mm diameter approved hose, 10m of 25mm steal piping and metal nozzle (not plastic) to SANS 10400 and SANS 10252. | No   | 3        |                 |        |
| 3.E2.3.3.4.4 | E2   | 39.003  |                     | 9kg DCP fire extinguishers fully installed on meranti backing boards  | No   | 4        |                 |        |
|              |      |         |                     |   |      |          | Carried Forward |        |

| Item no.      | Part | Payment | Breakdown Reference | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|---------|---------------------|--|------|----------|-----------------|--------|
|               |      |         |                     |  |      |          |                 |        |
|               |      |         |                     |  |      |          | Brought Forward |        |
| 3.E2.3.3.4.5  | E2   | 39.003  |                     | 4,5kg DCP fire extinguishers fully installed on meranti backing boards | No   | 2        |                 |        |
| 3.E2.3.3.4.6  | E2   | 39.003  |                     | 2kg CO2 fire extinguishers fully installed on meranti backing boards   | No   | 4        |                 |        |
| 3.E2.3.3.4.7  | E2   | 39.003  |                     | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.3.4.8  | E2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.4.9  | E2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.4.10 | E2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.4.11 | E2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
|               | E2   |         |                     | <b>FIRE SIGNAGE</b>  |      |          |                 |        |
|               | E2   |         |                     | <b>PHOTO-LUMINESCENT STATUTORY EMERGENCY SIGNAGE</b>                   |      |          |                 |        |
|               | E2   |         |                     | <b>Single-Sided Statutory Emergency Signage</b>                        |      |          |                 |        |
| 3.E2.3.3.4.12 | E2   | 39.003  |                     | - 2 pictogram (190 x 190)  | No   | 9        |                 |        |
| 3.E2.3.3.4.13 | E2   | 39.003  |                     | - 3 pictogram (190 x 190)  | No   | 6        |                 |        |
| 3.E2.3.3.4.14 | E2   | 39.003  |                     | - 2 pictogram (290 x 290)  | No   | 2        |                 |        |
| 3.E2.3.3.4.15 | E2   | 39.003  |                     | - F45  | No   | 2        |                 |        |
|               | E2   |         |                     | <b>Double-Sided Statutory Emergency Signage</b>                        |      |          |                 |        |
| 3.E2.3.3.4.16 | E2   | 39.003  |                     | - 2 pictogram (190 x 190)  | No   | 2        |                 |        |
| 3.E2.3.3.4.17 | E2   | 39.003  |                     | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.3.4.18 | E2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.4.19 | E2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.4.20 | E2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.4.21 | E2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
|               | E2   |         |                     | <b>PART E2.3.3.5: FIRE DETECTION AND SUPPRESSIONS</b>                  |      |          |                 |        |
|               | E2   |         |                     | <b>PASSIVE FIRE PROTECTION PLANT</b>                                   |      |          |                 |        |
| 3.E2.3.3.5.1  | E2   | 39.003  |                     | 5kg CO2 fire extinguishers fully installed on meranti backing boards   | No   | 1        |                 |        |
| 3.E2.3.3.5.2  | E2   | 39.003  |                     | Any item not listed (Specify)  | Sum  | 1        |                 |        |
| 3.E2.3.3.5.3  | E2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.5.4  | E2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.5.5  | E2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
| 3.E2.3.3.5.6  | E2   | 39.003  |                     | .....  | Sum  | 1        |                 |        |
|               |      |         |                     |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              |      |           |           |  |      |          | Brought Forward |        |
|              | E2   |           |           | <b>PHOTO-LUMINESCENT STATUTORY EMERGENCY SIGNAGE</b>                           |      |          |                 |        |
|              | E2   |           |           | <b>Single-Sided Statutory Emergency Signage</b>                                |      |          |                 |        |
| 3.E2.3.3.5.7 | E2   | 39.003    |           | - 2 pictogram (290 x 290)  | No   | 2        |                 |        |
| 3.E2.3.3.5.8 | E2   | 39.003    |           | - F45  | No   | 2        |                 |        |
|              | E2   |           |           | <b>PART E: HIGH-LIFT PUMPING STATION (Carried forward to Summary of Bills)</b> |      |          |                 |        |
|              |      |           |           | <b>BILL 3: MECHANICAL TOTAL</b>  |      |          |                 |        |

| Item no. | Part | Payment       | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|---------------|-----------|--|------|----------|-----------------|--------|
|          |      | Reference     |           |  |      |          |                 |        |
| 4        |      |               |           | <b>BILL 4: ELECTRICAL</b>  |      |          |                 |        |
|          | A4   |               |           | <b>PART A4: PRELIMINARY AND GENERAL (SECONDARY)</b>  |      |          |                 |        |
|          | A4   | 1.002         |           | <b>FIXED CHARGES - GENERAL OBLIGATIONS</b>   |      |          |                 |        |
| 4.A4.1   | A4   |               | X         | Head Office Contract Management and Overheads  | Sum  | 1        |                 |        |
| 4.A4.2   | A4   |               | X         | General Site Supervision and Overheads   | Sum  | 1        |                 |        |
| 4.A4.3   | A4   |               | X         | Method statements (1.10.1)   | Sum  | 1        |                 |        |
| 4.A4.4   | A4   |               | X         | Competency training (1.10.2.4)   | Sum  | 1        |                 |        |
| 4.A4.5   | A4   |               | X         | Returns and reporting (1.10.3)   | Sum  | 1        |                 |        |
| 4.A4.6   | A4   |               | X         | Management meetings (1.10.4)   | Sum  | 1        |                 |        |
| 4.A4.7   | A4   |               | X         | Integration management (1.10.5)  | Sum  | 1        |                 |        |
| 4.A4.8   | A4   |               | X         | Programming Requirements (1.9)   | Sum  | 1        |                 |        |
| 4.A4.9   | A4   |               | X         | Quality Management (1.10.2)  | Sum  | 1        |                 |        |
| 4.A4.10  | A4   |               | X         | Socio Economic Requirements (1.11)   | Sum  | 1        |                 |        |
| 4.A4.11  | A4   |               | X         | Occupational Health and Safety Requirements (1.12)   | Sum  | 1        |                 |        |
| 4.A4.12  | A4   |               | X         | Environmental Requirements (1.13)  | Sum  | 1        |                 |        |
|          | A4   |               |           | <b>Any other charges not included elsewhere. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 4.A4.13  | A4   |               | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.14  | A4   |               | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.15  | A4   |               | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.16  | A4   |               | X         | .....  | Sum  | 1        |                 |        |
|          | A4   | 1.003 & 1.004 |           | <b>FIXED CHARGES - FACILITIES FOR THE CONTRACTOR (1.8)</b>   |      |          |                 |        |
| 4.A4.17  | A4   |               | X         | Transport of Staff and Labour (1.8.1.4)  | Sum  | 1        |                 |        |
| 4.A4.18  | A4   |               | X         | Construction Establishment Fencing (1.8.3.1)   | Sum  | 1        |                 |        |
| 4.A4.19  | A4   |               | X         | Lighting of Construction Establishment Areas (1.8.3.2)   | Sum  | 1        |                 |        |
| 4.A4.20  | A4   |               | X         | Electrical power and distribution (1.8.3.4)  | Sum  | 1        |                 |        |
| 4.A4.21  | A4   |               | X         | Standby power (1.8.3.4)  | Sum  | 1        |                 |        |
| 4.A4.22  | A4   |               | X         | Communications (1.8.3.7)   | Sum  | 1        |                 |        |
|          | A4   |               |           | <b>Office, Accommodation and Other Site facilities</b>   |      |          |                 |        |
| 4.A4.23  | A4   |               | X         | Accommodation for staff and workforce (1.8.3.8b)   | Sum  | 1        |                 |        |
| 4.A4.24  | A4   |               | X         | Offices (1.8.3.8c)   | Sum  | 1        |                 |        |
| 4.A4.25  | A4   |               | X         | Other establishment facilities (1.8.3.8d)  | Sum  | 1        |                 |        |
| 4.A4.26  | A4   |               | X         | Storage (1.8.3.8e)   | Sum  | 1        |                 |        |
|          | A4   |               |           | <b>Other services</b>  |      |          |                 |        |
| 4.A4.27  | A4   |               | X         | Medical (1.8.3.12)   | Sum  | 1        |                 |        |
|          |      |               |           |  |      |          | Carried Forward |        |

| Item no. | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|          |      | Reference |           |  |      |          |                 |        |
|          |      |           |           |  |      |          | Brought Forward |        |
| 4.A4.28  | A4   |           | X         | Sanitation and Cleaning (1.8.3.13)   | Sum  | 1        |                 |        |
| 4.A4.29  | A4   |           | X         | Access control and security (1.8.3.14)   | Sum  | 1        |                 |        |
|          | A4   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("nil" to be entered if not required)</b> |      |          |                 |        |
| 4.A4.30  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.31  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.32  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.33  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
|          | A4   | 1.004     |           | <b>FIXED CHARGES - SPECIFIC EQUIPMENT</b>  |      |          |                 |        |
| 4.A4.34  | A4   |           | X         | Equipment for construction and maintenance of the Contractor's work areas  | Sum  | 1        |                 |        |
| 4.A4.35  | A4   |           | X         | Minor equipment and small tools  | Sum  | 1        |                 |        |
| 4.A4.36  | A4   |           | X         | Equipment for compliance with Environmental and OH&S requirement   | Sum  | 1        |                 |        |
| 4.A4.37  | A4   |           | X         | Construction services including electrical power, compressed air, water, communications, etc.  | Sum  | 1        |                 |        |
| 4.A4.38  | A4   |           | X         | Equipment for processing and transport of materials  | Sum  | 1        |                 |        |
| 4.A4.39  | A4   |           | X         | Specialised equipment for earthing, current, insulation, network analysers and other testing   | Sum  | 1        |                 |        |
| 4.A4.40  | A4   |           | X         | Specialised equipment for MV switching, racking and body suits   | Sum  | 1        |                 |        |
| 4.A4.41  | A4   |           | X         | Equipment for crange, winches and lifting  | Sum  | 1        |                 |        |
|          | A4   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 4.A4.42  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.43  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.44  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.45  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
|          | A4   | 1.006     |           | <b>TIME RELATED CHARGES - GENERAL OBLIGATIONS</b>  |      |          |                 |        |
| 4.A4.46  | A4   |           | X         | Head Office Contract Management and Overheads (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 4.A4.47  | A4   |           | X         | General Site Supervision and Overheads (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.48  | A4   |           | X         | Method Statements (1.10.1) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.49  | A4   |           | X         | Competency training (1.10.2.4) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.50  | A4   |           | X         | Returns and reporting (1.10.3) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.51  | A4   |           | X         | Management meetings (1.10.4) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.52  | A4   |           | X         | Integration management (1.10.5) (Duration ..... Weeks)   | Sum  | 1        |                 |        |
|          |      |           |           |  |      |          | Carried Forward |        |

| Item no. | Part | Payment       | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|---------------|-----------|--|------|----------|-----------------|--------|
|          |      | Reference     |           |  |      |          |                 |        |
|          |      |               |           |  |      |          | Brought Forward |        |
| 4.A4.53  | A4   |               | X         | Programming Requirements (1.9)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 4.A4.54  | A4   |               | X         | Quality Management (1.10.2)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.55  | A4   |               | X         | Socio Economic Requirements (1.11)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 4.A4.56  | A4   |               | X         | Occupational Health and Safety (1.12)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.57  | A4   |               | X         | Environmental Requirements (1.13)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
|          | A4   |               |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("nil" to be entered if not required)</b> |      |          |                 |        |
| 4.A4.58  | A4   |               | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.59  | A4   |               | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.60  | A4   |               | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.61  | A4   |               | X         | .....  | Sum  | 1        |                 |        |
|          | A4   | 1.007 & 1.008 |           | <b>TIME RELATED CHARGES - FACILITIES FOR THE CONTRACTOR (1.8)</b>  |      |          |                 |        |
| 4.A4.62  | A4   |               | X         | Transport of Staff and Labour (1.8.1.4)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.63  | A4   |               | X         | Construction Establishment Fencing (1.8.3.1)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 4.A4.64  | A4   |               | X         | Lighting of Construction Establishment Areas (1.8.3.2)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 4.A4.65  | A4   |               | X         | Electrical power and distribution (1.8.3.4)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.66  | A4   |               | X         | Standby power (1.8.3.4)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.67  | A4   |               | X         | Communications (1.8.3.7)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
|          | A4   |               |           | <b>Office, Accommodation and Other Site facilities</b>   |      |          |                 |        |
| 4.A4.68  | A4   |               | X         | Accommodation for staff and workforce (1.8.3.8b)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 4.A4.69  | A4   |               | X         | Offices (1.8.3.8c)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 4.A4.70  | A4   |               | X         | Other establishment facilities (1.8.3.8d)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.71  | A4   |               | X         | Storage (1.8.3.8e)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
|          | A4   |               |           | <b>Other services</b>  |      |          |                 |        |
| 4.A4.72  | A4   |               | X         | Medical (1.8.3.12)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 4.A4.73  | A4   |               | X         | Sanitation and Cleaning (1.8.3.13)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 4.A4.74  | A4   |               | X         | Access control and security (1.8.3.14)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
|          |      |               |           |  |      |          | Carried Forward |        |



| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--|------|-----------|-----------|--|------|----------|-----------------|--------|
|  |      | Reference |           |  |      |          |                 |        |
|  |      |           |           |  |      |          | Brought Forward |        |
|  | A4   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 4.A4.75  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.76  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.77  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.78  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
|  | A4   | 1.008     |           | <b>TIME RELATED CHARGES - SPECIFIC EQUIPMENT</b>   |      |          |                 |        |
| 4.A4.79  | A4   |           | X         | Equipment for construction and maintenance of the Contractor's work areas<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.80  | A4   |           | X         | Minor equipment and small tools<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.81  | A4   |           | X         | Equipment for compliance with Environmental and OH&S requirement<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 4.A4.82  | A4   |           | X         | Construction services including electrical power, compressed air, water, communications, etc.<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.83  | A4   |           | X         | Equipment for processing and transport of materials<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.84  | A4   |           | X         | Specialised equipment for earthing, current, insulation, network analysers and other testing (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 4.A4.85  | A4   |           | X         | Specialised equipment for MV switching, racking and body suits<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 4.A4.86  | A4   |           | X         | Equipment for crange, winches and lifting<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
|  | A4   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 4.A4.87  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.88  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.89  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
| 4.A4.90  | A4   |           | X         | .....  | Sum  | 1        |                 |        |
| <b>A4: Preliminary and General (Carried forward to Summary of Bills)</b> |      |           |           |  |      |          |                 |        |

| Item no.        | Part | Payment   | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|-----------------|------|-----------|-----------|---|----------------|----------|-----------------|--------|
|                 |      | Reference |           |   |                |          |                 |        |
|                 | B    |           |           | <b>PART B2.2: ABSTRACTION WORKS</b>   |                |          |                 |        |
|                 | B2   |           |           | <b>PART B2.2.4: DIVERSION WORKS AND LOW-LIFT PUMPING STATION</b>  |                |          |                 |        |
|                 | B2   |           |           | Employer's Requirements :<br>(Plant designed, tested, supplied and delivered by Contractor)                       |                |          |                 |        |
|                 | B2   |           |           | <b>PART B2.2.4.1: DESIGN</b>  |                |          |                 |        |
| 4.B2.2.4.1.1    | B2   | 39.001    |           | Design and documentation<br>(as required, should it not already be included with an item below)                   | Sum            | 1        |                 |        |
|                 | B2   |           |           | <b>PART B2.2.4.2: PROCUREMENT &amp; DELIVERY</b>  |                |          |                 |        |
|                 | B2   |           |           | <b>PART B2.2.4.2.1: DIVERSION WORKS</b>   |                |          |                 |        |
|                 | B2   |           |           | <b>Distribution transformers - Ground mounted</b>   |                |          |                 |        |
| 4.B2.2.4.2.1.1  | B2   | 39.002    |           | 25 kVA 11/0,4 kV  | No             | 1        |                 |        |
| 4.B2.2.4.2.1.2  | B2   | 39.002    |           | Pre-cast plinth for distribution transformers   | No             | 1        |                 |        |
| 4.B2.2.4.2.1.3  | B2   | 39.002    |           | Earthing for distribution transformers  | No             | 1        |                 |        |
|                 | B2   |           |           | <b>Cables, earth wires and ancillary</b>  |                |          |                 |        |
|                 | B2   |           |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>                                     |                |          |                 |        |
| 4.B2.2.4.2.1.4  | B2   | 39.002    |           | 25 mm <sup>2</sup> Cu - distribution transformers   | m              | 100      |                 |        |
|                 | B2   |           |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>   |                |          |                 |        |
| 4.B2.2.4.2.1.5  | B2   | 39.002    |           | 6 mm <sup>2</sup> Cu x 3c   | m              | 100      |                 |        |
|                 | B2   |           |           | <b>Terminations</b>   |                |          |                 |        |
|                 | B2   |           |           | <b>6.35/11 kV Type A XLPE terminations</b>  |                |          |                 |        |
| 4.B2.2.4.2.1.6  | B2   | 39.002    |           | Three core XLPE 25mm <sup>2</sup> (Cu) - Indoor   | No             | 2        |                 |        |
|                 | B2   |           |           | <b>Trenching, excavations and backfilling</b>   |                |          |                 |        |
| 4.B2.2.4.2.1.7  | B2   | 39.002    |           | Excavation in soft material   | m <sup>3</sup> | 180      |                 |        |
| 4.B2.2.4.2.1.8  | B2   | 39.002    |           | Excavation in hard rock   | m <sup>3</sup> | 20       |                 |        |
| 4.B2.2.4.2.1.9  | B2   | 39.002    |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 120      |                 |        |
| 4.B2.2.4.2.1.10 | B2   | 39.002    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 80       |                 |        |
| 4.B2.2.4.2.1.11 | B2   | 39.002    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Sum            | 1        |                 |        |
| 4.B2.2.4.2.1.12 | B2   | 39.002    |           | Danger tape installation  | m              | 200      |                 |        |
| 4.B2.2.4.2.1.13 | B2   | 39.002    |           | Cable markers   | No             | 4        |                 |        |
| 4.B2.2.4.2.1.14 | B2   | 39.002    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No             | 1        |                 |        |
|                 | B2   |           |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |                |          |                 |        |
| 4.B2.2.4.2.1.15 | B2   | 39.002    |           | Drawing 2A-E2.3-004: 2A-SD-06   | No             | 1        |                 |        |
| 4.B2.2.4.2.1.16 | B2   | 39.002    |           | Drawing 2A-E2.3-005: 2A-SD-05   | No             | 2        |                 |        |
| 4.B2.2.4.2.1.17 | B2   | 39.002    |           | Drawing 2B-E2.3-009: 2B-SD-07   | No             | 1        |                 |        |
|                 | B2   |           |           | <b>Small power and lighting</b>   |                |          |                 |        |
|                 | B2   |           |           | <b>Wiring, conduits and accessories</b>   |                |          |                 |        |
|                 | B2   |           |           | <b>Conduits - PVC</b>   |                |          |                 |        |
| 4.B2.2.4.2.1.18 | B2   | 39.002    |           | 20 mm diameter  | m              | 30       |                 |        |
| 4.B2.2.4.2.1.19 | B2   | 39.002    |           | 25 mm diameter  | m              | 10       |                 |        |
| 4.B2.2.4.2.1.20 | B2   | 39.002    |           | 50 mm diameter  | m              |          |                 |        |
|                 | B2   |           |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |                |          |                 |        |
| 4.B2.2.4.2.1.21 | B2   | 39.002    |           | 4 mm <sup>2</sup>   | m              | 90       |                 |        |
| 4.B2.2.4.2.1.22 | B2   | 39.002    |           | 2.5 mm <sup>2</sup>   | m              | 90       |                 |        |
|                 | B2   |           |           | <b>Socket outlets</b>   |                |          |                 |        |
| 4.B2.2.4.2.1.23 | B2   | 39.002    |           | 16A Standard SSO (WT)   | No             | 4        |                 |        |
|                 | B2   |           |           | <b>Switches</b>   |                |          |                 |        |
| 4.B2.2.4.2.1.24 | B2   | 39.002    |           | Single Lever 1-Way Light switch (WT)  | No             | 2        |                 |        |
| 4.B2.2.4.2.1.25 | B2   | 39.002    |           | Photo cell  | No             | 1        |                 |        |
|                 |      |           |           |   |                |          | Carried Forward |        |

| Item no.        | Part | Payment | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------------|------|---------|-----------|--|------|----------|-----------------|--------|
|                 |      |         |           |  |      |          |                 |        |
|                 |      |         |           |  |      |          | Brought Forward |        |
| 4.B2.2.4.2.1.26 | B2   | 39.002  |           | <b>Isolators</b><br>60A double pole isolator (WT)  | No   | 2        |                 |        |
| 4.B2.2.4.2.1.27 | B2   | 39.002  |           | <b>Powerskirting and trunking</b><br>P2000   | m    | 10       |                 |        |
| 4.B2.2.4.2.1.28 | B2   | 39.002  |           | <b>Two compartment, two cover sheet metal powerskirting</b><br>Straight lengths  | m    | 18       |                 |        |
| 4.B2.2.4.2.1.29 | B2   | 39.002  |           | 90 degree bends  | No   | 4        |                 |        |
|                 | B2   |         |           | <b>Cable ladder, trays and supports</b>  |      |          |                 |        |
| 4.B2.2.4.2.1.30 | B2   | 39.002  |           | <b>Medium duty perforated cable tray</b><br>Straight lengths<br>76 mm wide   | m    | 10       |                 |        |
| 4.B2.2.4.2.1.31 | B2   | 39.002  |           | <b>90 degree bends</b><br>76 mm wide   | No   | 4        |                 |        |
| 4.B2.2.4.2.1.32 | B2   | 39.002  |           | <b>Tees</b><br>76 mm wide  | No   | 2        |                 |        |
| 4.B2.2.4.2.1.33 | B2   | 39.002  |           | <b>Light fittings</b><br>Type B  | No   | 12       |                 |        |
| 4.B2.2.4.2.1.34 | B2   | 39.002  |           | <b>Lightning protection, bonding and earthing</b><br><b>Earthing and bonding of plant</b><br>Low voltage AC system and plant   | Sum  | 1        |                 |        |
| 4.B2.2.4.2.1.35 | B2   | 39.002  |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 4.B2.2.4.2.1.36 | B2   | 39.001  |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
| 4.B2.2.4.2.1.37 | B2   | 39.002  |           | <b>Earthing and lightning protection</b><br>Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 4.B2.2.4.2.1.38 | B2   | 39.002  |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
| 4.B2.2.4.2.1.39 | B2   | 39.002  |           | <b>Miscellaneous and general</b><br>Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 4.B2.2.4.2.1.40 | B2   | 39.002  |           | Safety plant   | Sum  | 1        |                 |        |
|                 | B2   |         |           | <b>PART B2.2.4.2.2: LOW LIFT PUMPING STATION SITE AND BUILDING</b>   |      |          |                 |        |
|                 | B2   |         |           | <b>Medium voltage (MV) plant</b>   |      |          |                 |        |
| 4.B2.2.4.2.2.1  | B2   | 39.002  | x         | <b>11 kV medium voltage switchgear</b><br>Main incomer panels - 1250A  | No   | 2        |                 |        |
| 4.B2.2.4.2.2.2  | B2   | 39.002  |           | Buscoupler panels - 1250A  | No   | 2        |                 |        |
| 4.B2.2.4.2.2.3  | B2   | 39.002  |           | Bussection panels - 1250A  | No   | 1        |                 |        |
| 4.B2.2.4.2.2.4  | B2   | 39.002  |           | Feeder panels (VSD) - 800A   | No   | 4        |                 |        |
| 4.B2.2.4.2.2.5  | B2   | 39.002  |           | Feeder panels (MSS) - 800A   | No   | 2        |                 |        |
| 4.B2.2.4.2.2.6  | B2   | 39.002  |           | Busbar VT Panels   | No   | 3        |                 |        |
| 4.B2.2.4.2.2.7  | B2   | 39.001  |           | Design and documentation   | Sum  | 1        |                 |        |
| 4.B2.2.4.2.2.8  | B2   | 39.002  |           | Switchgear Tools (End Items/Cabinet/Paint/Handles)   | Sum  | 1        |                 |        |
| 4.B2.2.4.2.2.9  | B2   | 39.002  |           | <b>11kV on board protection &amp; control plant c/w all IED's, system mimic and associated plant</b><br>Incomer protection scheme  | No   | 2        |                 |        |
| 4.B2.2.4.2.2.10 | B2   | 39.002  |           | Buscoupler protection scheme   | No   | 2        |                 |        |
| 4.B2.2.4.2.2.11 | B2   | 39.002  |           | Bussection protection scheme   | No   | 1        |                 |        |
| 4.B2.2.4.2.2.12 | B2   | 39.002  |           | Feeder panel protection scheme   | No   | 4        |                 |        |
| 4.B2.2.4.2.2.13 | B2   | 39.002  |           | Arc flash protection scheme (all panels)   | No   | 11       |                 |        |
| 4.B2.2.4.2.2.14 | B2   | 39.001  |           | Design and documentation   | Sum  | 1        |                 |        |
| 4.B2.2.4.2.2.15 | B2   | 39.002  |           | Protection settings engineering  | Sum  | 1        |                 |        |
| 4.B2.2.4.2.2.16 | B2   | 39.002  |           | Independent protection schemes commissioning   | Sum  | 1        |                 |        |
|                 |      |         |           |  |      |          | Carried Forward |        |

| Item no.        | Part | Payment | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|---------|-----------|---|------|----------|-----------------|--------|
|                 |      |         |           |   |      |          |                 |        |
|                 |      |         |           |   |      |          | Brought Forward |        |
|                 | B2   |         |           | <b>Substation Local Area Network c/w MEAP, managed industrial type Ethernet switches, patch panels, patch leads and network cabling</b> |      |          |                 |        |
| 4.B2.2.4.2.2.17 | B2   | 39.002  |           | GPS Synchronized Clock  | No   | 1        |                 |        |
| 4.B2.2.4.2.2.18 | B2   | 39.002  |           | Managed Industrial type switched, 24-port   | No   | 6        |                 |        |
| 4.B2.2.4.2.2.19 | B2   | 39.002  |           | Patch panels  | No   | 6        |                 |        |
| 4.B2.2.4.2.2.20 | B2   | 39.002  |           | Patch leads   | Sum  | 1        |                 |        |
| 4.B2.2.4.2.2.21 | B2   | 39.002  |           | All network cabling (both copper and fibre-optic)   | Sum  | 1        |                 |        |
| 4.B2.2.4.2.2.22 | B2   | 39.002  |           | Switch set-up and configuration   | No   | 6        |                 |        |
| 4.B2.2.4.2.2.23 | B2   | 39.001  |           | Design and documentation  | Sum  | 1        |                 |        |
|                 | B2   |         |           | <b>Metering</b>   |      |          |                 |        |
| 4.B2.2.4.2.2.24 | B2   | 39.002  |           | Quality of Supply, main & check metering for incomers and summation   | No   | 2        |                 |        |
| 4.B2.2.4.2.2.25 | B2   | 39.002  |           | Feeder main metering  | No   | 6        |                 |        |
| 4.B2.2.4.2.2.26 | B2   | 39.002  |           | Panels required for metering (including metering PC & QOS software)   | No   | 1        |                 |        |
| 4.B2.2.4.2.2.27 | B2   | 39.001  |           | Design and documentation  | Sum  | 1        |                 |        |
|                 | B2   |         |           | <b>DC distribution systems</b>  |      |          |                 |        |
| 4.B2.2.4.2.2.28 | B2   | 39.002  |           | 110 Volt Substation Battery chargers  | No   | 2        |                 |        |
| 4.B2.2.4.2.2.29 | B2   | 39.002  |           | 110 Volt Ni-Cd Battery banks complete with mounting racks   | No   | 2        |                 |        |
| 4.B2.2.4.2.2.30 | B2   | 39.002  |           | 110 Volt DC distribution board complete with selection system   | No   | 1        |                 |        |
| 4.B2.2.4.2.2.31 | B2   | 39.001  |           | Design and documentation  | Sum  | 1        |                 |        |
|                 | B2   |         | x         | <b>Variable speed drives (VSD's)</b>  |      |          |                 |        |
| 4.B2.2.4.2.2.32 | B2   | 39.002  |           | 1,25MW 3,3kV VSD's  | No   | 4        |                 |        |
| 4.B2.2.4.2.2.33 | B2   | 39.001  |           | Design and documentation  | Sum  | 1        |                 |        |
|                 | B2   |         |           | <b>Motor surge protection</b>   |      |          |                 |        |
| 4.B2.2.4.2.2.34 | B2   | 39.002  |           | 3,3kV Motor Surge Protection  | No   | 4        |                 |        |
| 4.B2.2.4.2.2.35 | B2   | 39.001  |           | Design and Documentation  | No   | 1        |                 |        |
|                 | B2   |         |           | <b>Miniature substation (MSS)</b>   |      |          |                 |        |
| 4.B2.2.4.2.2.36 | B2   | 39.002  |           | 500 kVA 11/0,4 kV   | No   | 2        |                 |        |
| 4.B2.2.4.2.2.37 | B2   | 39.002  |           | Pre-cast plinth for MSS   | No   | 2        |                 |        |
| 4.B2.2.4.2.2.38 | B2   | 39.002  |           | Earthing for MSS  | No   | 2        |                 |        |
|                 | B2   |         |           | <b>Distribution transformers - Ground mounted</b>   |      |          |                 |        |
| 4.B2.2.4.2.2.39 | B2   | 39.002  |           | 25 kVA 11/0,4 kV  | No   | 1        |                 |        |
| 4.B2.2.4.2.2.40 | B2   | 39.002  |           | Pre-cast plinth for distribution transformers   | No   | 1        |                 |        |
| 4.B2.2.4.2.2.41 | B2   | 39.002  |           | Earthing for distribution transformers  | No   | 1        |                 |        |
|                 | B2   |         |           | <b>Ring Main Units (RMU)</b>  |      |          |                 |        |
| 4.B2.2.4.2.2.42 | B2   | 39.002  |           | 11 kV SF6 (2SD &CB)   | No   | 2        |                 |        |
| 4.B2.2.4.2.2.43 | B2   | 39.002  |           | Pre-cast plinth for RMU   | No   | 2        |                 |        |
| 4.B2.2.4.2.2.44 | B2   | 39.002  |           | Earthing for RMU  | No   | 2        |                 |        |
|                 | B2   |         |           | <b>Cables, earth wires and ancillary</b>  |      |          |                 |        |
|                 | B2   |         |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>   |      |          |                 |        |
| 4.B2.2.4.2.2.45 | B2   | 39.002  |           | 185 mm <sup>2</sup> Cu - HLPS supply  | m    | 12100    |                 |        |
| 4.B2.2.4.2.2.46 | B2   | 39.002  |           | 70 mm <sup>2</sup> Cu - VSD supply  | m    | 200      |                 |        |
| 4.B2.2.4.2.2.47 | B2   | 39.002  |           | 70 mm <sup>2</sup> Cu - MSS supply  | m    | 70       |                 |        |
| 4.B2.2.4.2.2.48 | B2   | 39.002  |           | 70 mm <sup>2</sup> Cu - Valve chambers  | m    | 450      |                 |        |
|                 | B2   |         |           | <b>3.8/6.6 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>   |      |          |                 |        |
| 4.B2.2.4.2.2.49 | B2   | 39.002  |           | 95 mm <sup>2</sup> Cu - pump motor supply   | m    | 150      |                 |        |
|                 | B2   |         |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>   |      |          |                 |        |
| 4.B2.2.4.2.2.51 | B2   | 39.002  |           | 185 mm <sup>2</sup> Cu x 4c ECC   | m    | 220      |                 |        |
| 4.B2.2.4.2.2.52 | B2   | 39.002  |           | 35 mm <sup>2</sup> Cu x 4c ECC  | m    | 100      |                 |        |
| 4.B2.2.4.2.2.53 | B2   | 39.002  |           | 25 mm <sup>2</sup> Cu x 4c ECC  | m    | 60       |                 |        |
| 4.B2.2.4.2.2.54 | B2   | 39.002  |           | 10 mm <sup>2</sup> Cu x 4c ECC  | m    | 560      |                 |        |
| 4.B2.2.4.2.2.55 | B2   | 39.002  |           | 10 mm <sup>2</sup> Cu x 3c  | m    | 80       |                 |        |
| 4.B2.2.4.2.2.56 | B2   | 39.002  |           | 6 mm <sup>2</sup> Cu x 4c ECC   | m    | 60       |                 |        |
| 4.B2.2.4.2.2.57 | B2   | 39.002  |           | 6 mm <sup>2</sup> Cu x 3c   | m    | 80       |                 |        |
| 4.B2.2.4.2.2.58 | B2   | 39.002  |           | 4 mm <sup>2</sup> Cu x 3c   | m    | 640      |                 |        |
| 4.B2.2.4.2.2.59 | B2   | 39.002  |           | 2.5 mm <sup>2</sup> Cu x 3c   | m    | 50       |                 |        |
|                 |      |         |           |   |      |          | Carried Forward |        |

| Item no.         | Part | Payment   | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|------------------|------|-----------|-----------|---|----------------|----------|-----------------|--------|
|                  |      | Reference |           |   |                |          |                 |        |
|                  |      |           |           |   |                |          | Brought Forward |        |
|                  | B2   |           |           | <b>Stranded conductor single core earth wires</b>   |                |          |                 |        |
|                  | B2   |           |           | <b>Bare copper earth wire (BCEW)</b>  |                |          |                 |        |
| 4.B2.2.4.2.2.60  | B2   | 39.002    |           | 95 mm <sup>2</sup>  | m              | 12100    |                 |        |
| 4.B2.2.4.2.2.61  | B2   | 39.002    |           | 35 mm <sup>2</sup>  | m              | 70       |                 |        |
|                  | B2   |           |           | <b>600/1000 V PVC green and yellow insulated</b>  |                |          |                 |        |
| 4.B2.2.4.2.2.62  | B2   | 39.002    |           | 25 mm <sup>2</sup>  | m              | 20       |                 |        |
| 4.B2.2.4.2.2.63  | B2   | 39.002    |           | 16 mm <sup>2</sup>  | m              | 150      |                 |        |
| 4.B2.2.4.2.2.64  | B2   | 39.002    |           | 10 mm <sup>2</sup>  | m              | 40       |                 |        |
| 4.B2.2.4.2.2.65  | B2   | 39.002    |           | 2.5 mm <sup>2</sup>   | m              | 355      |                 |        |
|                  | B2   |           |           | <b>Cabling for control, protection &amp; metering c/w LV and DC supplies</b>                                      |                |          |                 |        |
| 4.B2.2.4.2.2.66  | B2   | 39.002    |           | Main incomer feeder units - HLPS  | Sets           | 2        |                 |        |
| 4.B2.2.4.2.2.67  | B2   | 39.002    |           | Buscoupler units  | Sets           | 2        |                 |        |
| 4.B2.2.4.2.2.68  | B2   | 39.002    |           | Bussection units  | Sets           | 1        |                 |        |
| 4.B2.2.4.2.2.69  | B2   | 39.002    |           | Outgoing feeder units - VSD's   | Sets           | 4        |                 |        |
| 4.B2.2.4.2.2.70  | B2   | 39.002    |           | Outgoing feeder units - MSS   | Sets           | 2        |                 |        |
| 4.B2.2.4.2.2.71  | B2   | 39.002    |           | Arc flash protection - complete 11 kV switchboard   | Sets           | 11       |                 |        |
| 4.B2.2.4.2.2.72  | B2   | 39.002    |           | DC distribution system  | Sets           | 1        |                 |        |
|                  | B2   |           |           | <b>Fibre optic cable for differential protection on Main Feeder circuits including all terminations.</b>          |                |          |                 |        |
| 4.B2.2.4.2.2.73  | B2   | 39.002    |           | 40mm diameter HDPE class 6 sleeve for HDD fibre optic cable - 300m lengths coupled through                        | m              | 6050     |                 |        |
| 4.B2.2.4.2.2.74  | B2   | 39.002    |           | 48 SM HDD fibre cable in 40mm sleeve  | m              | 6050     |                 |        |
| 4.B2.2.4.2.2.75  | B2   | 39.002    |           | Draw pits every 900m.   | No.            | 15       |                 |        |
|                  | B2   |           |           | <b>Joints</b>   |                |          |                 |        |
|                  | B2   |           |           | <b>6.35/11 kV Type A XLPE joints</b>  |                |          |                 |        |
| 4.B2.2.4.2.2.76  | B2   | 39.002    |           | Single core XLPE 1000mm <sup>2</sup> (Al)   | No             |          |                 |        |
| 4.B2.2.4.2.2.77  | B2   | 39.002    |           | Three core XLPE 185mm <sup>2</sup> (Cu)   | No             | 22       |                 |        |
| 4.B2.2.4.2.2.78  | B2   | 39.002    |           | Three core XLPE 70mm <sup>2</sup> (Cu)  | No             | 1        |                 |        |
|                  | B2   |           |           | <b>Terminations</b>   |                |          |                 |        |
|                  | B2   |           |           | <b>6.35/11 kV Type A XLPE terminations</b>  |                |          |                 |        |
| 4.B2.2.4.2.2.79  | B2   | 39.002    |           | Three core XLPE 185mm <sup>2</sup> (Cu) - Indoor  | No             | 4        |                 |        |
| 4.B2.2.4.2.2.80  | B2   | 39.002    |           | Three core XLPE 70mm <sup>2</sup> (Cu) - Indoor   | No             | 12       |                 |        |
|                  | B2   |           |           | <b>600/1000 V PVC SWA multi core terminations</b>   |                |          |                 |        |
| 4.B2.2.4.2.2.81  | B2   | 39.002    |           | 185 mm <sup>2</sup> Cu x 4c ECC   | No             | 12       |                 |        |
| 4.B2.2.4.2.2.82  | B2   | 39.002    |           | 35 mm <sup>2</sup> Cu x 4c ECC  | No             | 2        |                 |        |
| 4.B2.2.4.2.2.83  | B2   | 39.002    |           | 25 mm <sup>2</sup> Cu x 4c ECC  | No             | 2        |                 |        |
| 4.B2.2.4.2.2.84  | B2   | 39.002    |           | 10 mm <sup>2</sup> Cu x 4c ECC  | No             | 4        |                 |        |
| 4.B2.2.4.2.2.85  | B2   | 39.002    |           | 10 mm <sup>2</sup> Cu x 3c  | No             | 2        |                 |        |
| 4.B2.2.4.2.2.86  | B2   | 39.002    |           | 6 mm <sup>2</sup> Cu x 4c ECC   | No             | 2        |                 |        |
| 4.B2.2.4.2.2.87  | B2   | 39.002    |           | 6 mm <sup>2</sup> Cu x 3c   | No             | 2        |                 |        |
| 4.B2.2.4.2.2.88  | B2   | 39.002    |           | 4 mm <sup>2</sup> Cu x 3c   | No             | 20       |                 |        |
| 4.B2.2.4.2.2.89  | B2   | 39.002    |           | 2.5 mm <sup>2</sup> Cu x 3c   | No             | 6        |                 |        |
|                  | B2   |           |           | <b>Trenching, excavations and backfilling</b>   |                |          |                 |        |
| 4.B2.2.4.2.2.90  | B2   | 39.002    |           | Excavation in soft material   | m <sup>3</sup> | 5810     |                 |        |
| 4.B2.2.4.2.2.91  | B2   | 39.002    |           | Excavation in hard rock   | m <sup>3</sup> | 650      |                 |        |
| 4.B2.2.4.2.2.92  | B2   | 39.002    |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 3880     |                 |        |
| 4.B2.2.4.2.2.93  | B2   | 39.002    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 2580     |                 |        |
| 4.B2.2.4.2.2.94  | B2   | 39.002    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Sum            | 1        |                 |        |
| 4.B2.2.4.2.2.95  | B2   | 39.002    |           | Danger tape installation  | m              | 12100    |                 |        |
| 4.B2.2.4.2.2.96  | B2   | 39.002    |           | Cable markers   | No             | 262      |                 |        |
| 4.B2.2.4.2.2.97  | B2   | 39.002    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No             | 6        |                 |        |
|                  | B2   |           |           | <b>Cable sleeves</b>  |                |          |                 |        |
| 4.B2.2.4.2.2.98  | B2   | 39.002    |           | 160mm HDPE Class 6  | m              | 300      |                 |        |
| 4.B2.2.4.2.2.99  | B2   | 39.002    |           | 110mm HDPE Class 6  | m              | 420      |                 |        |
| 4.B2.2.4.2.2.100 | B2   | 39.002    |           | 50mm HDPE Class 6   | m              | 120      |                 |        |
|                  | B2   |           |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |                |          |                 |        |
| 4.B2.2.4.2.2.101 | B2   | 39.002    |           | Drawing 2B-E2,3-001: 2B-SD-01   | No             | 1        |                 |        |
|                  |      |           |           |   |                |          | Carried Forward |        |

| Item no.         | Part | Payment | Breakdown Reference | Description   | Unit | Quantity | Rate            | Amount |
|------------------|------|---------|---------------------|---|------|----------|-----------------|--------|
|                  |      |         |                     |   |      |          |                 |        |
|                  |      |         |                     |   |      |          | Brought Forward |        |
| 4.B2.2.4.2.2.102 | B2   | 39.002  |                     | Drawing 2B-E2.3-002: 2B-SD-02                               | No   | 1        |                 |        |
| 4.B2.2.4.2.2.103 | B2   | 39.002  |                     | Drawing 2B-E2.3-003: 2B-SD-03                               | No   | 1        |                 |        |
| 4.B2.2.4.2.2.104 | B2   | 39.002  |                     | Drawing 2B-E2.3-003: 2B-SD-04                               | No   | 1        |                 |        |
| 4.B2.2.4.2.2.105 | B2   | 39.002  |                     | Drawing 2B-E2.3-007: 2B-SD-08 & 2B-SD-09                    | No   | 1        |                 |        |
|                  | B2   |         |                     | <b>Small power and lighting</b>                             |      |          |                 |        |
|                  | B2   |         |                     | <b>Wiring, conduits and accessories</b>                     |      |          |                 |        |
|                  | B2   |         |                     | <b>Conduits - PVC</b>                                       |      |          |                 |        |
| 4.B2.2.4.2.2.106 | B2   | 39.002  |                     | 20 mm diameter  | m    | 230      |                 |        |
| 4.B2.2.4.2.2.107 | B2   | 39.002  |                     | 25 mm diameter  | m    | 30       |                 |        |
| 4.B2.2.4.2.2.108 | B2   | 39.002  |                     | 50 mm diameter  | m    | 50       |                 |        |
|                  | B2   |         |                     | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |      |          |                 |        |
| 4.B2.2.4.2.2.110 | B2   | 39.002  |                     | 4 mm <sup>2</sup>   | m    | 810      |                 |        |
| 4.B2.2.4.2.2.111 | B2   | 39.002  |                     | 2.5 mm <sup>2</sup>   | m    | 750      |                 |        |
|                  | B2   |         |                     | <b>Socket outlets</b>                                       |      |          |                 |        |
| 4.B2.2.4.2.2.112 | B2   | 39.002  |                     | 16A Standard SSO  | No   | 25       |                 |        |
| 4.B2.2.4.2.2.113 | B2   | 39.002  |                     | 13A Dedicated SSO   | No   | 2        |                 |        |
|                  | B2   |         |                     | <b>Switches</b>   |      |          |                 |        |
| 4.B2.2.4.2.2.114 | B2   | 39.002  |                     | Single Lever 1-Way Light switch                             | No   | 18       |                 |        |
| 4.B2.2.4.2.2.115 | B2   | 39.002  |                     | Single Lever 2-Way Light switch                             | No   | 2        |                 |        |
| 4.B2.2.4.2.2.116 | B2   | 39.002  |                     | Photo cell  | No   | 1        |                 |        |
|                  | B2   |         |                     | <b>Isolators</b>  |      |          |                 |        |
| 4.B2.2.4.2.2.117 | B2   | 39.002  |                     | 60A double pole isolator                                    | No   | 16       |                 |        |
| 4.B2.2.4.2.2.118 | B2   | 39.002  |                     | 60A triple pole isolator                                    | No   | 5        |                 |        |
|                  | B2   |         |                     | <b>Powerskirting and trunking</b>                           |      |          |                 |        |
| 4.B2.2.4.2.2.119 | B2   | 39.002  |                     | P2000   | m    | 330      |                 |        |
|                  | B2   |         |                     | <b>Two compartment, two cover sheet metal powerskirting</b> |      |          |                 |        |
| 4.B2.2.4.2.2.120 | B2   | 39.002  |                     | Straight lengths  | m    | 18       |                 |        |
| 4.B2.2.4.2.2.121 | B2   | 39.002  |                     | 90 degree bends   | No   | 4        |                 |        |
|                  | B2   |         |                     | <b>Cable ladder, trays and supports</b>                     |      |          |                 |        |
|                  | B2   |         |                     | <b>Heavy duty cable ladder</b>                              |      |          |                 |        |
|                  | B2   |         |                     | <b>Straight lengths</b>                                     |      |          |                 |        |
| 4.B2.2.4.2.2.122 | B2   | 39.002  |                     | 800 mm wide   | m    | 30       |                 |        |
| 4.B2.2.4.2.2.123 | B2   | 39.002  |                     | 600 mm wide   | m    | 120      |                 |        |
| 4.B2.2.4.2.2.124 | B2   | 39.002  |                     | 300 mm wide   | m    | 50       |                 |        |
|                  | B2   |         |                     | <b>90 degree bends</b>                                      |      |          |                 |        |
| 4.B2.2.4.2.2.125 | B2   | 39.002  |                     | 800 mm wide   | No   | 2        |                 |        |
| 4.B2.2.4.2.2.126 | B2   | 39.002  |                     | 600 mm wide   | No   | 6        |                 |        |
| 4.B2.2.4.2.2.127 | B2   | 39.002  |                     | 300 mm wide   | No   | 8        |                 |        |
|                  | B2   |         |                     | <b>Tees</b>   |      |          |                 |        |
| 4.B2.2.4.2.2.128 | B2   | 39.002  |                     | 800 mm wide   | No   | 2        |                 |        |
| 4.B2.2.4.2.2.129 | B2   | 39.002  |                     | 600 mm wide   | No   | 3        |                 |        |
| 4.B2.2.4.2.2.130 | B2   | 39.002  |                     | 300 mm wide   | No   | 5        |                 |        |
|                  | B2   |         |                     | <b>Medium duty perforated cable tray</b>                    |      |          |                 |        |
|                  | B2   |         |                     | <b>Straight lengths</b>                                     |      |          |                 |        |
| 4.B2.2.4.2.2.131 | B2   | 39.002  |                     | 200 mm wide   | m    | 25       |                 |        |
| 4.B2.2.4.2.2.132 | B2   | 39.002  |                     | 100 mm wide   | m    | 22       |                 |        |
| 4.B2.2.4.2.2.133 | B2   | 39.002  |                     | 76 mm wide  | m    | 100      |                 |        |
|                  | B2   |         |                     | <b>90 degree bends</b>                                      |      |          |                 |        |
| 4.B2.2.4.2.2.134 | B2   | 39.002  |                     | 200 mm wide   | No   | 2        |                 |        |
| 4.B2.2.4.2.2.135 | B2   | 39.002  |                     | 100 mm wide   | No   | 2        |                 |        |
| 4.B2.2.4.2.2.136 | B2   | 39.002  |                     | 76 mm wide  | No   | 6        |                 |        |
|                  | B2   |         |                     | <b>Tees</b>   |      |          |                 |        |
| 4.B2.2.4.2.2.137 | B2   | 39.002  |                     | 200 mm wide   | No   | 2        |                 |        |
| 4.B2.2.4.2.2.138 | B2   | 39.002  |                     | 100 mm wide   | No   | 2        |                 |        |
| 4.B2.2.4.2.2.139 | B2   | 39.002  |                     | 76 mm wide  | No   | 6        |                 |        |
|                  |      |         |                     |   |      |          | Carried Forward |        |

| Item no.         | Part | Payment Reference | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|------------------|------|-------------------|-----------|--|----------------|----------|-----------------|--------|
|                  |      |                   |           |  |                |          | Brought Forward |        |
|                  | B2   |                   |           | <b>Light fittings</b>  |                |          |                 |        |
| 4.B2.2.4.2.2.140 | B2   | 39.002            |           | Type A   | No             | 15       |                 |        |
| 4.B2.2.4.2.2.141 | B2   | 39.002            |           | Type A1  | No             | 10       |                 |        |
| 4.B2.2.4.2.2.142 | B2   | 39.002            |           | Type A2  | No             | 5        |                 |        |
| 4.B2.2.4.2.2.143 | B2   | 39.002            |           | Type A3  | No             | 5        |                 |        |
| 4.B2.2.4.2.2.144 | B2   | 39.002            |           | Type B   | No             | 30       |                 |        |
| 4.B2.2.4.2.2.145 | B2   | 39.002            |           | Type B1  | No             | 8        |                 |        |
| 4.B2.2.4.2.2.146 | B2   | 39.002            |           | Type C   | No             | 2        |                 |        |
| 4.B2.2.4.2.2.147 | B2   | 39.002            |           | Type D   | No             | 12       |                 |        |
| 4.B2.2.4.2.2.148 | B2   | 39.002            |           | Type F1  | No             | 10       |                 |        |
| 4.B2.2.4.2.2.149 | B2   | 39.002            |           | Type M   | No             | 12       |                 |        |
| 4.B2.2.4.2.2.150 | B2   | 39.002            |           | Type M pole  | No             | 12       |                 |        |
|                  | B2   |                   | x         | <b>Standby generator systems</b>   |                |          |                 |        |
| 4.B2.2.4.2.2.151 | B2   | 39.002            |           | 200kVA Generator   | No             | 1        |                 |        |
| 4.B2.2.4.2.2.152 | B2   | 39.002            |           | 40% of 200kVA Two-step Dummy Load  | No             | 1        |                 |        |
| 4.B2.2.4.2.2.153 | B2   | 39.001            |           | Design and documentation   | Sum            | 1        |                 |        |
|                  | B2   |                   |           | <b>Uninterruptible power supplies (UPS)</b>  |                |          |                 |        |
| 4.B2.2.4.2.2.154 | B2   | 39.002            |           | LLPS - 15kVA   | No             | 2        |                 |        |
| 4.B2.2.4.2.2.155 | B2   | 39.002            |           | LLPS - 1kVA  | No             | 2        |                 |        |
| 4.B2.2.4.2.2.156 | B2   | 39.001            |           | Design and documentation   | Sum            | 1        |                 |        |
|                  | B2   |                   |           | <b>Lightning protection, bonding and earthing</b>  |                |          |                 |        |
|                  | B2   |                   |           | <b>Earthing and bonding of plant</b>   |                |          |                 |        |
| 4.B2.2.4.2.2.157 | B2   | 39.002            |           | MV 11 kV switchgear and protection bays  | Sum            | 1        |                 |        |
| 4.B2.2.4.2.2.158 | B2   | 39.002            |           | DC System, Metering Panel, etc.  | Sum            | 1        |                 |        |
| 4.B2.2.4.2.2.159 | B2   | 39.002            |           | Low voltage AC system and plant  | Sum            | 1        |                 |        |
| 4.B2.2.4.2.2.160 | B2   | 39.002            |           | Cable trays and supports   | Sum            | 1        |                 |        |
| 4.B2.2.4.2.2.161 | B2   | 39.002            |           | All duct, trench and basement earthing   | Sum            | 1        |                 |        |
| 4.B2.2.4.2.2.162 | B2   | 39.001            |           | Earthing and bonding design and documentation  | Sum            | 1        |                 |        |
|                  | B2   |                   |           | <b>Earthing and lightning protection</b>   |                |          |                 |        |
| 4.B2.2.4.2.2.163 | B2   | 39.002            |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum            | 1        |                 |        |
| 4.B2.2.4.2.2.164 | B2   | 39.002            |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum            | 1        |                 |        |
| 4.B2.2.4.2.2.165 | B2   | 39.002            |           | Complete lightning risk analysis in terms of SANS 62305-2  | Sum            | 1        |                 |        |
| 4.B2.2.4.2.2.166 | B2   | 39.002            |           | Complete lightning protection system conforming to the relevant SANS, comprising either or all of air termination systems (ATS), down conductor systems (DCS) and earth termination systems (ETS).   | Sum            | 1        |                 |        |
| 4.B2.2.4.2.2.167 | B2   | 39.002            |           | Special Tools and Test plant   | Sum            | 1        |                 |        |
| 4.B2.2.4.2.2.168 | B2   | 39.001            |           | Earthing and lightning protection design and documentation   | Sum            | 1        |                 |        |
|                  | B2   |                   |           | <b>Miscellaneous and general</b>   |                |          |                 |        |
| 4.B2.2.4.2.2.169 | B2   | 39.002            |           | Motor field isolators and e-stops  | Sum            | 1        |                 |        |
| 4.B2.2.4.2.2.170 | B2   | 39.002            |           | Safety plant   | Sum            | 1        |                 |        |
|                  | B2   |                   |           | <b>PART B2.2.4.2.3: GUARDHOUSE</b>   |                |          |                 |        |
|                  | B2   |                   |           | <b>Cables, earth wires and ancillary</b>   |                |          |                 |        |
|                  | B2   |                   |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>  |                |          |                 |        |
| 4.B2.2.4.2.3.1   | B2   | 39.002            |           | 25 mm <sup>2</sup> Cu x 3c   | m              | 150      |                 |        |
|                  | B2   |                   |           | <b>600/1000 V PVC SWA multi core terminations</b>  |                |          |                 |        |
| 4.B2.2.4.2.3.2   | B2   | 39.002            |           | 25 mm <sup>2</sup> Cu x 3c   | No             | 2        |                 |        |
|                  | B2   |                   |           | <b>Trenching, excavations and backfilling</b>  |                |          |                 |        |
| 4.B2.2.4.2.3.3   | B2   | 39.002            |           | Excavation in soft material  | m <sup>3</sup> | 140      |                 |        |
| 4.B2.2.4.2.3.4   | B2   | 39.002            |           | Excavation in hard rock  | m <sup>3</sup> | 20       |                 |        |
| 4.B2.2.4.2.3.5   | B2   | 39.002            |           | Soft soil backfilling and compaction   | m <sup>3</sup> | 100      |                 |        |
| 4.B2.2.4.2.3.6   | B2   | 39.002            |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity  | m <sup>3</sup> | 60       |                 |        |
| 4.B2.2.4.2.3.7   | B2   | 39.002            |           | Barricading of trenches (install and remove only - Contractor to use own barricading   | Sum            | 1        |                 |        |
|                  |      |                   |           |  |                |          | Carried Forward |        |

| Item no.        | Part | Payment | Breakdown Reference | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|---------|---------------------|---|------|----------|-----------------|--------|
|                 |      |         |                     |   |      |          |                 |        |
|                 |      |         |                     |   |      |          | Brought Forward |        |
| 4.B2.2.4.2.3.8  | B2   | 39.002  |                     | Danger tape installation  | m    | 150      |                 |        |
| 4.B2.2.4.2.3.9  | B2   | 39.002  |                     | Cable markers   | No   | 3        |                 |        |
| 4.B2.2.4.2.3.10 | B2   | 39.002  |                     | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No   | 1        |                 |        |
|                 |      |         |                     | <b>Cable sleeves</b>  |      |          |                 |        |
| 4.B2.2.4.2.3.11 | B2   | 39.002  |                     | 50mm HDPE Class 6   | m    | 40       |                 |        |
|                 |      |         |                     | <b>MCC's, distribution boards and switch board as per drawings</b>  |      |          |                 |        |
| 4.B2.2.4.2.3.12 | B2   | 39.002  |                     | Drawing 2A-E2.3-003: 2A-SD-03   | No   | 1        |                 |        |
|                 |      |         |                     | <b>Small power and lighting</b>   |      |          |                 |        |
|                 |      |         |                     | <b>Wiring, conduits and accessories</b>   |      |          |                 |        |
|                 |      |         |                     | <b>Conduits - PVC</b>   |      |          |                 |        |
| 4.B2.2.4.2.3.13 | B2   | 39.002  |                     | 20 mm diameter  | m    | 20       |                 |        |
| 4.B2.2.4.2.3.14 | B2   | 39.002  |                     | 25 mm diameter  | m    | 20       |                 |        |
| 4.B2.2.4.2.3.15 | B2   | 39.002  |                     | 50 mm diameter  | m    | 5        |                 |        |
|                 |      |         |                     | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |      |          |                 |        |
| 4.B2.2.4.2.3.17 | B2   | 39.002  |                     | 4 mm <sup>2</sup>   | m    | 90       |                 |        |
| 4.B2.2.4.2.3.18 | B2   | 39.002  |                     | 2.5 mm <sup>2</sup>   | m    | 90       |                 |        |
|                 |      |         |                     | <b>Socket outlets</b>   |      |          |                 |        |
| 4.B2.2.4.2.3.19 | B2   | 39.002  |                     | 16A Standard SSO  | No   | 5        |                 |        |
| 4.B2.2.4.2.3.20 | B2   | 39.002  |                     | 13A Dedicated SSO   | No   | 3        |                 |        |
|                 |      |         |                     | <b>Switches</b>   |      |          |                 |        |
| 4.B2.2.4.2.3.21 | B2   | 39.002  |                     | Single Lever 1-Way Light switch   | No   | 4        |                 |        |
| 4.B2.2.4.2.3.22 | B2   | 39.002  |                     | Single Lever 1-Way Dimmer Switch  | No   | 1        |                 |        |
| 4.B2.2.4.2.3.23 | B2   | 39.002  |                     | Photo cell  | No   | 1        |                 |        |
|                 |      |         |                     | <b>Isolators</b>  |      |          |                 |        |
| 4.B2.2.4.2.3.24 | B2   | 39.002  |                     | 60A double pole isolator  | No   | 2        |                 |        |
|                 |      |         |                     | <b>Powerskirting and trunking</b>   |      |          |                 |        |
| 4.B2.2.4.2.3.25 | B2   | 39.002  |                     | P2000   | m    | 10       |                 |        |
|                 |      |         |                     | <b>Two compartment, two cover sheet metal powerskirting</b>   |      |          |                 |        |
| 4.B2.2.4.2.3.26 | B2   | 39.002  |                     | Straight lengths  | m    | 18       |                 |        |
| 4.B2.2.4.2.3.27 | B2   | 39.002  |                     | 90 degree bends   | No   | 4        |                 |        |
|                 |      |         |                     | <b>Cable ladder, trays and supports</b>   |      |          |                 |        |
|                 |      |         |                     | <b>Medium duty perforated cable tray</b>  |      |          |                 |        |
|                 |      |         |                     | <b>Straight lengths</b>   |      |          |                 |        |
| 4.B2.2.4.2.3.28 | B2   | 39.002  |                     | 76 mm wide  | m    | 10       |                 |        |
|                 |      |         |                     | <b>90 degree bends</b>  |      |          |                 |        |
| 4.B2.2.4.2.3.29 | B2   | 39.002  |                     | 76 mm wide  | No   | 4        |                 |        |
|                 |      |         |                     | <b>Tees</b>   |      |          |                 |        |
| 4.B2.2.4.2.3.30 | B2   | 39.002  |                     | 76 mm wide  | No   | 2        |                 |        |
|                 |      |         |                     | <b>Light fittings</b>   |      |          |                 |        |
| 4.B2.2.4.2.3.31 | B2   | 39.002  |                     | Type B  | No   | 6        |                 |        |
| 4.B2.2.4.2.3.32 | B2   | 39.002  |                     | Type E  | No   | 2        |                 |        |
| 4.B2.2.4.2.3.33 | B2   | 39.002  |                     | Type H1   | No   | 2        |                 |        |
|                 |      |         |                     | <b>Uninterruptible power supplies (UPS)</b>   |      |          |                 |        |
| 4.B2.2.4.2.3.34 | B2   | 39.002  |                     | Guardhouse - 6kVA   | No   | 1        |                 |        |
|                 |      |         |                     | <b>Lightning protection, bonding and earthing</b>   |      |          |                 |        |
|                 |      |         |                     | <b>Earthing and bonding of plant</b>  |      |          |                 |        |
| 4.B2.2.4.2.3.35 | B2   | 39.002  |                     | Low voltage AC system and plant   | Sum  | 1        |                 |        |
| 4.B2.2.4.2.3.36 | B2   | 39.002  |                     | Cable trays and supports  | Sum  | 1        |                 |        |
| 4.B2.2.4.2.3.37 | B2   | 39.001  |                     | Earthing and bonding design and documentation   | Sum  | 1        |                 |        |
|                 |      |         |                     |   |      |          | Carried Forward |        |



| Item no.        | Part | Payment | Breakdown Reference | Description  | Unit           | Quantity | Rate            | Amount |
|-----------------|------|---------|---------------------|--|----------------|----------|-----------------|--------|
|                 |      |         |                     |  |                |          |                 |        |
|                 |      |         |                     |  |                |          | Brought Forward |        |
|                 | B2   |         |                     | <b>Earthing and lightning protection</b>   |                |          |                 |        |
| 4.B2.2.4.2.3.38 | B2   | 39.002  |                     | Conduct, record, tabulate, certify soil resistivity tests  | Sum            | 1        |                 |        |
| 4.B2.2.4.2.3.39 | B2   | 39.002  |                     | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum            | 1        |                 |        |
|                 | B2   |         |                     | <b>Miscellaneous and general</b>   |                |          |                 |        |
| 4.B2.2.4.2.3.40 | B2   | 39.002  |                     | Motor field isolators and e-stops  | Sum            | 1        |                 |        |
| 4.B2.2.4.2.3.41 | B2   | 39.002  |                     | Safety plant   | Sum            | 1        |                 |        |
|                 | B2   |         |                     | <b>PART B2.2.4.3: INSTALLATION</b>   |                |          |                 |        |
|                 | B2   |         |                     | <b>PART B2.2.4.3.1: DIVERSION WORKS</b>  |                |          |                 |        |
|                 | B2   |         |                     | <b>Distribution transformers - Ground mounted</b>  |                |          |                 |        |
| 4.B2.2.4.3.1.1  | B2   | 39.003  |                     | 25 kVA 11/0,4 kV   | No             | 1        |                 |        |
| 4.B2.2.4.3.1.2  | B2   | 39.003  |                     | Pre-cast plinth for distribution transformers  | No             | 1        |                 |        |
| 4.B2.2.4.3.1.3  | B2   | 39.003  |                     | Earthing for distribution transformers   | No             | 1        |                 |        |
|                 | B2   |         |                     | <b>Cables, earth wires and ancillary</b>   |                |          |                 |        |
|                 | B2   | 39.003  |                     | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>  |                |          |                 |        |
| 4.B2.2.4.3.1.4  | B2   | 39.003  |                     | 25 mm <sup>2</sup> Cu - distribution transformers  | m              | 100      |                 |        |
|                 | B2   |         |                     | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>  |                |          |                 |        |
| 4.B2.2.4.3.1.5  | B2   | 39.003  |                     | 6 mm <sup>2</sup> Cu x 3c  | m              | 100      |                 |        |
|                 | B2   |         |                     | <b>Terminations</b>  |                |          |                 |        |
|                 | B2   |         |                     | <b>6.35/11 kV Type A XLPE terminations</b>   |                |          |                 |        |
| 4.B2.2.4.3.1.6  | B2   | 39.003  |                     | Three core XLPE 25mm <sup>2</sup> (Cu) - Indoor  | No             | 2        |                 |        |
|                 | B2   |         |                     | <b>Trenching, excavations and backfilling</b>  |                |          |                 |        |
| 4.B2.2.4.3.1.7  | B2   | 39.003  |                     | Excavation in soft material  | m <sup>3</sup> | 180      |                 |        |
| 4.B2.2.4.3.1.8  | B2   | 39.003  |                     | Excavation in hard rock  | m <sup>3</sup> | 20       |                 |        |
| 4.B2.2.4.3.1.9  | B2   | 39.003  |                     | Soft soil backfilling and compaction   | m <sup>3</sup> | 120      |                 |        |
| 4.B2.2.4.3.1.10 | B2   | 39.003  |                     | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity  | m <sup>3</sup> | 80       |                 |        |
| 4.B2.2.4.3.1.11 | B2   | 39.003  |                     | Barricading of trenches (install and remove only - Contractor to use own barricading)  | Sum            | 1        |                 |        |
| 4.B2.2.4.3.1.12 | B2   | 39.003  |                     | Danger tape installation   | m              | 200      |                 |        |
| 4.B2.2.4.3.1.13 | B2   | 39.003  |                     | Cable markers  | No             | 4        |                 |        |
| 4.B2.2.4.3.1.14 | B2   | 39.003  |                     | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction  | No             | 1        |                 |        |
|                 | B2   |         |                     | <b>MCC's, distribution boards and switch board as per drawings</b>   |                |          |                 |        |
| 4.B2.2.4.3.1.15 | B2   | 39.003  |                     | Drawing 2A-E2.3-004: 2A-SD-06  | No             | 1        |                 |        |
| 4.B2.2.4.3.1.16 | B2   | 39.003  |                     | Drawing 2A-E2.3-005: 2A-SD-05  | No             | 1        |                 |        |
| 4.B2.2.4.3.1.17 | B2   | 39.003  |                     | Drawing 2B-E2.3-009: 2B-SD-07  | No             | 1        |                 |        |
|                 | B2   |         |                     | <b>Small power and lighting</b>  |                |          |                 |        |
|                 | B2   |         |                     | <b>Wiring, conduits and accessories</b>  |                |          |                 |        |
|                 | B2   |         |                     | <b>Conduits - PVC</b>  |                |          |                 |        |
| 4.B2.2.4.3.1.18 | B2   | 39.003  |                     | 20 mm diameter   | m              | 30       |                 |        |
| 4.B2.2.4.3.1.19 | B2   | 39.003  |                     | 25 mm diameter   | m              | 10       |                 |        |
|                 | B2   |         |                     | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>   |                |          |                 |        |
| 4.B2.2.4.3.1.21 | B2   | 39.003  |                     | 4 mm <sup>2</sup>  | m              | 90       |                 |        |
| 4.B2.2.4.3.1.22 | B2   | 39.003  |                     | 2.5 mm <sup>2</sup>  | m              | 90       |                 |        |
|                 | B2   |         |                     | <b>Socket outlets</b>  |                |          |                 |        |
| 4.B2.2.4.3.1.23 | B2   | 39.003  |                     | 16A Standard SSO (WT)  | No             | 4        |                 |        |
|                 | B2   |         |                     | <b>Switches</b>  |                |          |                 |        |
| 4.B2.2.4.3.1.24 | B2   | 39.003  |                     | Single Lever 1-Way Light switch (WT)   | No             | 2        |                 |        |
| 4.B2.2.4.3.1.25 | B2   | 39.003  |                     | Photo cell   | No             | 1        |                 |        |
|                 |      |         |                     |  |                |          | Carried Forward |        |

| Item no.        | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                 |      |                   |           |  |      |          |                 |        |
|                 |      |                   |           |  |      |          | Brought Forward |        |
| 4.B2.2.4.3.1.26 | B2   | 39.003            |           | <b>Isolators</b><br>60A double pole isolator (WT)  | No   | 2        |                 |        |
| 4.B2.2.4.3.1.27 | B2   | 39.003            |           | <b>Powerskirting and trunking</b><br>P2000   | m    | 10       |                 |        |
| 4.B2.2.4.3.1.28 | B2   | 39.003            |           | <b>Two compartment, two cover sheet metal powerskirting</b><br>Straight lengths  | m    | 18       |                 |        |
| 4.B2.2.4.3.1.29 | B2   | 39.003            |           | 90 degree bends  | No   | 4        |                 |        |
| 4.B2.2.4.3.1.30 | B2   | 39.003            |           | <b>Cable ladder, trays and supports</b><br><b>Medium duty perforated cable tray</b><br>Straight lengths<br>76 mm wide  | m    | 10       |                 |        |
| 4.B2.2.4.3.1.31 | B2   | 39.003            |           | <b>90 degree bends</b><br>76 mm wide   | No   | 4        |                 |        |
| 4.B2.2.4.3.1.32 | B2   | 39.003            |           | <b>Tees</b><br>76 mm wide  | No   | 2        |                 |        |
| 4.B2.2.4.3.1.33 | B2   | 39.003            |           | <b>Light fittings</b><br>Type B  | No   | 12       |                 |        |
| 4.B2.2.4.3.1.34 | B2   | 39.003            |           | <b>Lightning protection, bonding and earthing</b><br><b>Earthing and bonding of plant</b><br>Low voltage AC system and plant   | Sum  | 1        |                 |        |
| 4.B2.2.4.3.1.35 | B2   | 39.003            |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 4.B2.2.4.3.1.36 | B2   | 39.001            |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
| 4.B2.2.4.3.1.37 | B2   | 39.003            |           | <b>Earthing and lightning protection</b><br>Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 4.B2.2.4.3.1.38 | B2   | 39.003            |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
| 4.B2.2.4.3.1.39 | B2   | 39.003            |           | <b>Miscellaneous and general</b><br>Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 4.B2.2.4.3.1.40 | B2   | 39.003            |           | Safety plant   | Sum  | 1        |                 |        |
|                 | B2   |                   |           | <b>PART B2.2.4.3.2: LOW LIFT PUMPING STATION SITE AND BUILDING</b>   |      |          |                 |        |
|                 | B2   |                   |           | <b>Medium voltage (MV) plant</b>   |      |          |                 |        |
| 4.B2.2.4.3.2.1  | B2   | 39.003            | x         | <b>11 kV medium voltage switchgear</b><br>Main incomer panels - 1250A  | No   | 2        |                 |        |
| 4.B2.2.4.3.2.2  | B2   | 39.003            |           | Buscoupler panels - 1250A  | No   | 2        |                 |        |
| 4.B2.2.4.3.2.3  | B2   | 39.003            |           | Bussection panels - 1250A  | No   | 1        |                 |        |
| 4.B2.2.4.3.2.4  | B2   | 39.003            |           | Feeder panels (VSD) - 800A   | No   | 4        |                 |        |
| 4.B2.2.4.3.2.5  | B2   | 39.003            |           | Feeder panels (MSS) - 800A   | No   | 2        |                 |        |
| 4.B2.2.4.3.2.6  | B2   | 39.003            |           | Busbar VT Panels   | No   | 3        |                 |        |
| 4.B2.2.4.3.2.7  | B2   | 39.001            |           | Design and documentation   | Sum  | 1        |                 |        |
| 4.B2.2.4.3.2.8  | B2   | 39.003            |           | Switchgear Tools (End Items/Cabinet/Paint/Handles)   | Sum  | 1        |                 |        |
| 4.B2.2.4.3.2.9  | B2   | 39.003            |           | Delivery   | Sum  | 1        |                 |        |
| 4.B2.2.4.3.2.10 | B2   | 39.003            |           | <b>11kV on board protection &amp; control plant c/w all IED's, system mimic and associated plant</b><br>Incomer protection scheme  | No   | 2        |                 |        |
| 4.B2.2.4.3.2.11 | B2   | 39.003            |           | Buscoupler protection scheme   | No   | 2        |                 |        |
| 4.B2.2.4.3.2.12 | B2   | 39.003            |           | Bussection protection scheme   | No   | 1        |                 |        |
| 4.B2.2.4.3.2.13 | B2   | 39.003            |           | Feeder panel protection scheme   | No   | 4        |                 |        |
| 4.B2.2.4.3.2.14 | B2   | 39.003            |           | Arc flash protection scheme (all panels)   | No   | 11       |                 |        |
| 4.B2.2.4.3.2.15 | B2   | 39.001            |           | Design and documentation   | Sum  | 1        |                 |        |
| 4.B2.2.4.3.2.16 | B2   | 39.003            |           | Protection settings engineering  | Sum  | 1        |                 |        |
| 4.B2.2.4.3.2.17 | B2   | 39.003            |           | Independent protection schemes commissioning   | Sum  | 1        |                 |        |
|                 |      |                   |           |  |      |          | Carried Forward |        |

| Item no.        | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|                 |      |                   |           |   |      |          |                 |        |
|                 |      |                   |           |   |      |          | Brought Forward |        |
|                 | B2   |                   |           | <b>Substation Local Area Network c/w MEAP, managed industrial type Ethernet switches, patch panels, patch leads and network cabling</b> |      |          |                 |        |
| 4.B2.2.4.3.2.18 | B2   | 39.003            |           | GPS Synchronized Clock  | No   | 1        |                 |        |
| 4.B2.2.4.3.2.19 | B2   | 39.003            |           | Managed Industrial type switched, 24-port   | No   | 6        |                 |        |
| 4.B2.2.4.3.2.20 | B2   | 39.003            |           | Patch panels  | No   | 6        |                 |        |
| 4.B2.2.4.3.2.21 | B2   | 39.003            |           | Patch leads   | Sum  | 1        |                 |        |
| 4.B2.2.4.3.2.22 | B2   | 39.003            |           | All network cabling (both copper and fibre-optic)   | Sum  | 1        |                 |        |
| 4.B2.2.4.3.2.23 | B2   | 39.003            |           | Switch set-up and configuration   | No   | 6        |                 |        |
| 4.B2.2.4.3.2.24 | B2   | 39.001            |           | Design and documentation  | Sum  | 1        |                 |        |
|                 | B2   |                   |           | <b>Metering</b>   |      |          |                 |        |
| 4.B2.2.4.3.2.25 | B2   | 39.003            |           | Quality of Supply, main & check metering for incomers and summation   | No   | 2        |                 |        |
| 4.B2.2.4.3.2.26 | B2   | 39.003            |           | Feeder main metering  | No   | 6        |                 |        |
| 4.B2.2.4.3.2.27 | B2   | 39.003            |           | Panels required for metering (including metering PC & QOS software)   | No   | 1        |                 |        |
| 4.B2.2.4.3.2.28 | B2   | 39.001            |           | Design and documentation  | Sum  | 1        |                 |        |
|                 | B2   |                   |           | <b>DC distribution systems</b>  |      |          |                 |        |
| 4.B2.2.4.3.2.29 | B2   | 39.003            |           | 110 Volt Substation Battery chargers  | No   | 2        |                 |        |
| 4.B2.2.4.3.2.30 | B2   | 39.003            |           | 110 Volt Ni-Cd Battery banks complete with mounting racks   | No   | 2        |                 |        |
| 4.B2.2.4.3.2.31 | B2   | 39.003            |           | 110 Volt DC distribution board complete with selection system   | No   | 1        |                 |        |
| 4.B2.2.4.3.2.32 | B2   | 39.001            |           | Design and documentation  | Sum  | 1        |                 |        |
|                 | B2   |                   | x         | <b>Variable speed drives (VSD's)</b>  |      |          |                 |        |
| 4.B2.2.4.3.2.33 | B2   | 39.003            |           | 1.25MW 3.3kV VSD's  | No   | 4        |                 |        |
| 4.B2.2.4.3.2.34 | B2   | 39.003            |           | Critical Spares   | Sum  | 1        |                 |        |
| 4.B2.2.4.3.2.35 | B2   | 39.001            |           | Design and documentation  | Sum  | 1        |                 |        |
|                 | B2   |                   |           | <b>Motor surge protection</b>   |      |          |                 |        |
| 4.B2.2.4.3.2.36 | B2   | 39.003            |           | 3.3kV Motor Surge Protection  | No   | 4        |                 |        |
| 4.B2.2.4.3.2.37 | B2   | 39.001            |           | Design and Documentation  | No   | 1        |                 |        |
|                 | B2   |                   |           | <b>Miniature substation (MSS)</b>   |      |          |                 |        |
| 4.B2.2.4.3.2.38 | B2   | 39.003            |           | 500 kVA 11/0.4 kV   | No   | 2        |                 |        |
| 4.B2.2.4.3.2.39 | B2   | 39.003            |           | Pre-cast plinth for MSS   | No   | 2        |                 |        |
| 4.B2.2.4.3.2.40 | B2   | 39.003            |           | Earthing for MSS  | No   | 2        |                 |        |
|                 | B2   |                   |           | <b>Distribution transformers - Ground mounted</b>   |      |          |                 |        |
| 4.B2.2.4.3.2.41 | B2   | 39.003            |           | 25 kVA 11/0.4 kV  | No   | 1        |                 |        |
| 4.B2.2.4.3.2.42 | B2   | 39.003            |           | Pre-cast plinth for distribution transformers   | No   | 1        |                 |        |
| 4.B2.2.4.3.2.43 | B2   | 39.003            |           | Earthing for distribution transformers  | No   | 1        |                 |        |
|                 | B2   |                   |           | <b>Ring Main Units (RMU)</b>  |      |          |                 |        |
| 4.B2.2.4.3.2.44 | B2   | 39.003            |           | 11 kV SF6 (sSD &CB)   | No   | 2        |                 |        |
| 4.B2.2.4.3.2.45 | B2   | 39.003            |           | Pre-cast plinth for RMU   | No   | 2        |                 |        |
| 4.B2.2.4.3.2.46 | B2   | 39.003            |           | Earthing for RMU  | No   | 2        |                 |        |
|                 | B2   |                   |           | <b>Cables, earth wires and ancillary</b>  |      |          |                 |        |
|                 | B2   |                   |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>   |      |          |                 |        |
| 4.B2.2.4.3.2.47 | B2   | 39.003            |           | 185 mm <sup>2</sup> Cu - HLPS supply  | m    | 12100    |                 |        |
| 4.B2.2.4.3.2.48 | B2   | 39.003            |           | 70 mm <sup>2</sup> Cu - VSD supply  | m    | 200      |                 |        |
| 4.B2.2.4.3.2.49 | B2   | 39.003            |           | 70 mm <sup>2</sup> Cu - MSS supply  | m    | 70       |                 |        |
| 4.B2.2.4.3.2.50 | B2   | 39.003            |           | 70 mm <sup>2</sup> Cu - Valve chambers  | m    | 450      |                 |        |
|                 | B2   |                   |           | <b>3.8/6.6 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>   |      |          |                 |        |
| 4.B2.2.4.3.2.51 | B2   | 39.003            |           | 95 mm <sup>2</sup> Cu - pump motor supply   | m    | 150      |                 |        |
|                 | B2   |                   |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>   |      |          |                 |        |
| 4.B2.2.4.3.2.53 | B2   | 39.003            |           | 185 mm <sup>2</sup> Cu x 4c ECC   | m    | 220      |                 |        |
| 4.B2.2.4.3.2.54 | B2   | 39.003            |           | 35 mm <sup>2</sup> Cu x 4c ECC  | m    | 100      |                 |        |
| 4.B2.2.4.3.2.55 | B2   | 39.003            |           | 25 mm <sup>2</sup> Cu x 4c ECC  | m    | 60       |                 |        |
| 4.B2.2.4.3.2.56 | B2   | 39.003            |           | 10 mm <sup>2</sup> Cu x 4c ECC  | m    | 560      |                 |        |
| 4.B2.2.4.3.2.57 | B2   | 39.003            |           | 10 mm <sup>2</sup> Cu x 3c  | m    | 80       |                 |        |
| 4.B2.2.4.3.2.58 | B2   | 39.003            |           | 6 mm <sup>2</sup> Cu x 4c ECC   | m    | 60       |                 |        |
| 4.B2.2.4.3.2.59 | B2   | 39.003            |           | 6 mm <sup>2</sup> Cu x 3c   | m    | 80       |                 |        |
| 4.B2.2.4.3.2.60 | B2   | 39.003            |           | 4 mm <sup>2</sup> Cu x 3c   | m    | 640      |                 |        |
| 4.B2.2.4.3.2.61 | B2   | 39.003            |           | 2.5 mm <sup>2</sup> Cu x 3c   | m    | 50       |                 |        |
|                 |      |                   |           |   |      |          | Carried Forward |        |

| Item no.         | Part | Payment   | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|------------------|------|-----------|-----------|---|----------------|----------|-----------------|--------|
|                  |      | Reference |           |   |                |          |                 |        |
|                  |      |           |           |   |                |          | Brought Forward |        |
|                  | B2   |           |           | <b>Stranded conductor single core earth wires</b>   |                |          |                 |        |
|                  | B2   |           |           | <b>Bare copper earth wire (BCEW)</b>  |                |          |                 |        |
| 4.B2.2.4.3.2.62  | B2   | 39.003    |           | 95 mm <sup>2</sup>  | m              | 12100    |                 |        |
| 4.B2.2.4.3.2.63  | B2   | 39.003    |           | 35 mm <sup>2</sup>  | m              | 70       |                 |        |
|                  | B2   |           |           | <b>600/1000 V PVC green and yellow insulated</b>  |                |          |                 |        |
| 4.B2.2.4.3.2.64  | B2   | 39.003    |           | 25 mm <sup>2</sup>  | m              | 20       |                 |        |
| 4.B2.2.4.3.2.65  | B2   | 39.003    |           | 16 mm <sup>2</sup>  | m              | 150      |                 |        |
| 4.B2.2.4.3.2.66  | B2   | 39.003    |           | 10 mm <sup>2</sup>  | m              | 40       |                 |        |
| 4.B2.2.4.3.2.67  | B2   | 39.003    |           | 2.5 mm <sup>2</sup>   | m              | 355      |                 |        |
|                  | B2   |           |           | <b>Cabling for control, protection &amp; metering c/w LV and DC supplies</b>                                      |                |          |                 |        |
| 4.B2.2.4.3.2.68  | B2   | 39.003    |           | Main incomer feeder units - HLPS  | Sets           | 2        |                 |        |
| 4.B2.2.4.3.2.69  | B2   | 39.003    |           | Buscoupler units  | Sets           | 2        |                 |        |
| 4.B2.2.4.3.2.70  | B2   | 39.003    |           | Bussection units  | Sets           | 1        |                 |        |
| 4.B2.2.4.3.2.71  | B2   | 39.003    |           | Outgoing feeder units - VSD's   | Sets           | 4        |                 |        |
| 4.B2.2.4.3.2.72  | B2   | 39.003    |           | Outgoing feeder units - MSS   | Sets           | 2        |                 |        |
| 4.B2.2.4.3.2.73  | B2   | 39.003    |           | Arc flash protection - complete 11 kV switchboard   | Sets           | 11       |                 |        |
| 4.B2.2.4.3.2.74  | B2   | 39.003    |           | DC distribution system  | Sets           | 1        |                 |        |
|                  | B2   |           |           | <b>Fibre optic cable for differential protection on Main Feeder circuits including all terminations.</b>          |                |          |                 |        |
| 4.B2.2.4.3.2.75  | B2   | 39.003    |           | 40mm diameter HDPE class 6 sleeve for HDD fibre optic cable - 300m lengths coupled through                        | m              | 6050     |                 |        |
| 4.B2.2.4.3.2.76  | B2   | 39.003    |           | 48 SM HDD fibre cable in 40mm sleeve  | m              | 6050     |                 |        |
| 4.B2.2.4.3.2.77  | B2   | 39.003    |           | Draw pits every 900m.   | No.            | 15       |                 |        |
|                  | B2   |           |           | <b>Joints</b>   |                |          |                 |        |
|                  | B2   |           |           | <b>6.35/11 kV Type A XLPE joints</b>  |                |          |                 |        |
| 4.B2.2.4.3.2.78  | B2   | 39.003    |           | Three core XLPE 185mm <sup>2</sup> (Cu)   | No             | 22       |                 |        |
| 4.B2.2.4.3.2.79  | B2   | 39.003    |           | Three core XLPE 70mm <sup>2</sup> (Cu)  | No             | 1        |                 |        |
|                  | B2   |           |           | <b>Terminations</b>   |                |          |                 |        |
|                  | B2   |           |           | <b>6.35/11 kV Type A XLPE terminations</b>  |                |          |                 |        |
| 4.B2.2.4.3.2.80  | B2   | 39.003    |           | Three core XLPE 185mm <sup>2</sup> (Cu) - Indoor  | No             | 4        |                 |        |
| 4.B2.2.4.3.2.81  | B2   | 39.003    |           | Three core XLPE 70mm <sup>2</sup> (Cu) - Indoor   | No             | 12       |                 |        |
|                  | B2   |           |           | <b>600/1000 V PVC SWA multi core terminations</b>   |                |          |                 |        |
| 4.B2.2.4.3.2.82  | B2   | 39.003    |           | 185 mm <sup>2</sup> Cu x 4c ECC   | No             | 12       |                 |        |
| 4.B2.2.4.3.2.83  | B2   | 39.003    |           | 35 mm <sup>2</sup> Cu x 4c ECC  | No             | 2        |                 |        |
| 4.B2.2.4.3.2.84  | B2   | 39.003    |           | 25 mm <sup>2</sup> Cu x 4c ECC  | No             | 2        |                 |        |
| 4.B2.2.4.3.2.85  | B2   | 39.003    |           | 10 mm <sup>2</sup> Cu x 4c ECC  | No             | 4        |                 |        |
| 4.B2.2.4.3.2.86  | B2   | 39.003    |           | 10 mm <sup>2</sup> Cu x 3c  | No             | 2        |                 |        |
| 4.B2.2.4.3.2.87  | B2   | 39.003    |           | 6 mm <sup>2</sup> Cu x 4c ECC   | No             | 2        |                 |        |
| 4.B2.2.4.3.2.88  | B2   | 39.003    |           | 6 mm <sup>2</sup> Cu x 3c   | No             | 2        |                 |        |
| 4.B2.2.4.3.2.89  | B2   | 39.003    |           | 4 mm <sup>2</sup> Cu x 3c   | No             | 20       |                 |        |
| 4.B2.2.4.3.2.90  | B2   | 39.003    |           | 2.5 mm <sup>2</sup> Cu x 3c   | No             | 6        |                 |        |
|                  | B2   |           |           | <b>Trenching, excavations and backfilling</b>   |                |          |                 |        |
| 4.B2.2.4.3.2.91  | B2   | 39.003    |           | Excavation in soft material   | m <sup>3</sup> | 5810     |                 |        |
| 4.B2.2.4.3.2.92  | B2   | 39.003    |           | Excavation in hard rock   | m <sup>3</sup> | 650      |                 |        |
| 4.B2.2.4.3.2.93  | B2   | 39.003    |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 3880     |                 |        |
| 4.B2.2.4.3.2.94  | B2   | 39.003    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 2580     |                 |        |
| 4.B2.2.4.3.2.95  | B2   | 39.003    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Sum            | 1        |                 |        |
| 4.B2.2.4.3.2.96  | B2   | 39.003    |           | Danger tape installation  | m              | 12100    |                 |        |
| 4.B2.2.4.3.2.97  | B2   | 39.003    |           | Cable markers   | No             | 262      |                 |        |
| 4.B2.2.4.3.2.98  | B2   | 39.003    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No             | 6        |                 |        |
|                  | B2   |           |           | <b>Cable sleeves</b>  |                |          |                 |        |
| 4.B2.2.4.3.2.99  | B2   | 39.003    |           | 160mm HDPE Class 6  | m              | 300      |                 |        |
| 4.B2.2.4.3.2.100 | B2   | 39.003    |           | 110mm HDPE Class 6  | m              | 420      |                 |        |
| 4.B2.2.4.3.2.101 | B2   | 39.003    |           | 50mm HDPE Class 6   | m              | 120      |                 |        |
|                  | B2   |           |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |                |          |                 |        |
| 4.B2.2.4.3.2.102 | B2   | 39.003    |           | Drawing 2B-E2,3-001: 2B-SD-01   | No             | 1        |                 |        |
| 4.B2.2.4.3.2.103 | B2   | 39.003    |           | Drawing 2B-E2,3-002: 2B-SD-02   | No             | 1        |                 |        |
|                  |      |           |           |   |                |          | Carried Forward |        |

| Item no.         | Part | Payment | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------------|------|---------|-----------|---|------|----------|-----------------|--------|
|                  |      |         |           |   |      |          |                 |        |
|                  |      |         |           |   |      |          | Brought Forward |        |
| 4.B2.2.4.3.2.104 | B2   | 39.003  |           | Drawing 2B-E2.3-003: 2B-SD-03                               | No   | 1        |                 |        |
| 4.B2.2.4.3.2.105 | B2   | 39.003  |           | Drawing 2B-E2.3-003: 2B-SD-04                               | No   | 1        |                 |        |
| 4.B2.2.4.3.2.106 | B2   | 39.003  |           | Drawing 2B-E2.3-007: 2B-SD-08 & 2B-SD-09                    | No   | 1        |                 |        |
|                  | B2   |         |           | <b>Small power and lighting</b>                             |      |          |                 |        |
|                  | B2   |         |           | <b>Wiring, conduits and accessories</b>                     |      |          |                 |        |
|                  | B2   |         |           | <b>Conduits - PVC</b>                                       |      |          |                 |        |
| 4.B2.2.4.3.2.107 | B2   | 39.003  |           | 20 mm diameter  | m    | 230      |                 |        |
| 4.B2.2.4.3.2.108 | B2   | 39.003  |           | 25 mm diameter  | m    | 30       |                 |        |
| 4.B2.2.4.3.2.109 | B2   | 39.003  |           | 50 mm diameter  | m    | 50       |                 |        |
| 4.B2.2.4.3.2.110 | B2   |         |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |      |          |                 |        |
| 4.B2.2.4.3.2.111 | B2   | 39.003  |           | 4 mm <sup>2</sup>   | m    | 810      |                 |        |
| 4.B2.2.4.3.2.112 | B2   | 39.003  |           | 2.5 mm <sup>2</sup>   | m    | 750      |                 |        |
|                  | B2   |         |           | <b>Socket outlets</b>                                       |      |          |                 |        |
| 4.B2.2.4.3.2.113 | B2   | 39.003  |           | 16A Standard SSO  | No   | 25       |                 |        |
| 4.B2.2.4.3.2.114 | B2   | 39.003  |           | 13A Dedicated SSO   | No   | 2        |                 |        |
|                  | B2   |         |           | <b>Switches</b>   |      |          |                 |        |
| 4.B2.2.4.3.2.115 | B2   | 39.003  |           | Single Lever 1-Way Light switch                             | No   | 18       |                 |        |
| 4.B2.2.4.3.2.116 | B2   | 39.003  |           | Single Lever 2-Way Light switch                             | No   | 2        |                 |        |
| 4.B2.2.4.3.2.117 | B2   | 39.003  |           | Photo cell  | No   | 1        |                 |        |
|                  | B2   |         |           | <b>Isolators</b>  |      |          |                 |        |
| 4.B2.2.4.3.2.118 | B2   | 39.003  |           | 60A double pole isolator                                    | No   | 16       |                 |        |
| 4.B2.2.4.3.2.119 | B2   | 39.003  |           | 60A triple pole isolator                                    | No   | 5        |                 |        |
|                  | B2   |         |           | <b>Powerskirting and trunking</b>                           |      |          |                 |        |
| 4.B2.2.4.3.2.120 | B2   | 39.003  |           | P2000   | m    | 330      |                 |        |
|                  | B2   |         |           | <b>Two compartment, two cover sheet metal powerskirting</b> |      |          |                 |        |
| 4.B2.2.4.3.2.121 | B2   | 39.003  |           | Straight lengths  | m    | 18       |                 |        |
| 4.B2.2.4.3.2.122 | B2   | 39.003  |           | 90 degree bends   | No   | 4        |                 |        |
|                  | B2   |         |           | <b>Cable ladder, trays and supports</b>                     |      |          |                 |        |
|                  | B2   |         |           | <b>Heavy duty cable ladder</b>                              |      |          |                 |        |
|                  | B2   |         |           | <b>Straight lengths</b>                                     |      |          |                 |        |
| 4.B2.2.4.3.2.123 | B2   | 39.003  |           | 800 mm wide   | m    | 30       |                 |        |
| 4.B2.2.4.3.2.124 | B2   | 39.003  |           | 600 mm wide   | m    | 120      |                 |        |
| 4.B2.2.4.3.2.125 | B2   | 39.003  |           | 300 mm wide   | m    | 50       |                 |        |
|                  | B2   |         |           | <b>90 degree bends</b>                                      |      |          |                 |        |
| 4.B2.2.4.3.2.126 | B2   | 39.003  |           | 800 mm wide   | No   | 2        |                 |        |
| 4.B2.2.4.3.2.127 | B2   | 39.003  |           | 600 mm wide   | No   | 6        |                 |        |
| 4.B2.2.4.3.2.128 | B2   | 39.003  |           | 300 mm wide   | No   | 8        |                 |        |
|                  | B2   |         |           | <b>Tees</b>   |      |          |                 |        |
| 4.B2.2.4.3.2.129 | B2   | 39.003  |           | 800 mm wide   | No   | 2        |                 |        |
| 4.B2.2.4.3.2.130 | B2   | 39.003  |           | 600 mm wide   | No   | 3        |                 |        |
| 4.B2.2.4.3.2.131 | B2   | 39.003  |           | 300 mm wide   | No   | 5        |                 |        |
|                  | B2   |         |           | <b>Medium duty perforated cable tray</b>                    |      |          |                 |        |
|                  | B2   |         |           | <b>Straight lengths</b>                                     |      |          |                 |        |
| 4.B2.2.4.3.2.132 | B2   | 39.003  |           | 200 mm wide   | m    | 25       |                 |        |
| 4.B2.2.4.3.2.133 | B2   | 39.003  |           | 100 mm wide   | m    | 22       |                 |        |
| 4.B2.2.4.3.2.134 | B2   | 39.003  |           | 76 mm wide  | m    | 100      |                 |        |
|                  | B2   |         |           | <b>90 degree bends</b>                                      |      |          |                 |        |
| 4.B2.2.4.3.2.135 | B2   | 39.003  |           | 200 mm wide   | No   | 2        |                 |        |
| 4.B2.2.4.3.2.136 | B2   | 39.003  |           | 100 mm wide   | No   | 2        |                 |        |
| 4.B2.2.4.3.2.137 | B2   | 39.003  |           | 76 mm wide  | No   | 6        |                 |        |
|                  | B2   |         |           | <b>Tees</b>   |      |          |                 |        |
| 4.B2.2.4.3.2.138 | B2   | 39.003  |           | 200 mm wide   | No   | 2        |                 |        |
| 4.B2.2.4.3.2.139 | B2   | 39.003  |           | 100 mm wide   | No   | 2        |                 |        |
| 4.B2.2.4.3.2.140 | B2   | 39.003  |           | 76 mm wide  | No   | 6        |                 |        |
|                  | B2   |         |           | <b>Light fittings</b>                                       |      |          |                 |        |
| 4.B2.2.4.3.2.141 | B2   | 39.003  |           | Type A  | No   | 15       |                 |        |
|                  |      |         |           |   |      |          | Carried Forward |        |

| Item no.         | Part | Payment | Breakdown Reference | Description  | Unit           | Quantity | Rate            | Amount |
|------------------|------|---------|---------------------|--|----------------|----------|-----------------|--------|
|                  |      |         |                     |  |                |          | Brought Forward |        |
| 4.B2.2.4.3.2.142 | B2   | 39.003  |                     | Type A1  | No             | 10       |                 |        |
| 4.B2.2.4.3.2.143 | B2   | 39.003  |                     | Type A2  | No             | 5        |                 |        |
| 4.B2.2.4.3.2.144 | B2   | 39.003  |                     | Type A3  | No             | 5        |                 |        |
| 4.B2.2.4.3.2.145 | B2   | 39.003  |                     | Type B   | No             | 30       |                 |        |
| 4.B2.2.4.3.2.146 | B2   | 39.003  |                     | Type B1  | No             | 8        |                 |        |
| 4.B2.2.4.3.2.147 | B2   | 39.003  |                     | Type C   | No             | 2        |                 |        |
| 4.B2.2.4.3.2.148 | B2   | 39.003  |                     | Type D   | No             | 12       |                 |        |
| 4.B2.2.4.3.2.149 | B2   | 39.003  |                     | Type F1  | No             | 10       |                 |        |
| 4.B2.2.4.3.2.150 | B2   | 39.003  |                     | Type M   | No             | 12       |                 |        |
| 4.B2.2.4.3.2.151 | B2   | 39.003  |                     | Type M pole  | No             | 12       |                 |        |
|                  | B2   |         | x                   | <b>Standby generator systems</b>   |                |          |                 |        |
| 4.B2.2.4.3.2.152 | B2   | 39.003  |                     | 200kVA Generator   | No             | 1        |                 |        |
| 4.B2.2.4.3.2.153 | B2   | 39.003  |                     | 40% of 350kVA Two-step Dummy Load  | No             | 1        |                 |        |
| 4.B2.2.4.3.2.154 | B2   | 39.001  |                     | Design and documentation   | Sum            | 1        |                 |        |
|                  | B2   |         |                     | <b>Uninterruptible power supplies (UPS)</b>  |                |          |                 |        |
| 4.B2.2.4.3.2.155 | B2   | 39.003  |                     | LLPS - 15kVA   | No             | 2        |                 |        |
| 4.B2.2.4.3.2.156 | B2   | 39.003  |                     | LLPS - 1kVA  | No             | 2        |                 |        |
| 4.B2.2.4.3.2.157 | B2   | 39.001  |                     | Design and documentation   | Sum            | 1        |                 |        |
|                  | B2   |         |                     | <b>Lightning protection, bonding and earthing</b>  |                |          |                 |        |
|                  | B2   |         |                     | <b>Earthing and bonding of plant</b>   |                |          |                 |        |
| 4.B2.2.4.3.2.158 | B2   | 39.003  |                     | MV 11 kV switchgear and protection bays  | Sum            | 1        |                 |        |
| 4.B2.2.4.3.2.159 | B2   | 39.003  |                     | DC System, Metering Panel, etc.  | Sum            | 1        |                 |        |
| 4.B2.2.4.3.2.160 | B2   | 39.003  |                     | Low voltage AC system and plant  | Sum            | 1        |                 |        |
| 4.B2.2.4.3.2.161 | B2   | 39.003  |                     | Cable trays and supports   | Sum            | 1        |                 |        |
| 4.B2.2.4.3.2.162 | B2   | 39.003  |                     | All duct, trench and basement earthing   | Sum            | 1        |                 |        |
| 4.B2.2.4.3.2.163 | B2   | 39.001  |                     | Earthing and bonding design and documentation  | Sum            | 1        |                 |        |
|                  | B2   |         |                     | <b>Earthing and lightning protection</b>   |                |          |                 |        |
| 4.B2.2.4.3.2.164 | B2   | 39.003  |                     | Conduct, record, tabulate, certify soil resistivity tests  | Sum            | 1        |                 |        |
| 4.B2.2.4.3.2.165 | B2   | 39.003  |                     | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum            | 1        |                 |        |
| 4.B2.2.4.3.2.166 | B2   | 39.003  |                     | Complete lightning risk analysis in terms of SANS 62305-2  | Sum            | 1        |                 |        |
| 4.B2.2.4.3.2.167 | B2   | 39.003  |                     | Complete lightning protection system conforming to the relevant SANS, comprising either or all of air termination systems (ATS), down conductor systems (DCS) and earth termination systems (ETS).   | Sum            | 1        |                 |        |
| 4.B2.2.4.3.2.168 | B2   | 39.003  |                     | Special Tools and Test plant   | Sum            | 1        |                 |        |
| 4.B2.2.4.3.2.169 | B2   | 39.001  |                     | Earthing and lightning protection design and documentation   | Sum            | 1        |                 |        |
|                  | B2   |         |                     | <b>Miscellaneous and general</b>   |                |          |                 |        |
| 4.B2.2.4.3.2.170 | B2   | 39.003  |                     | Motor field isolators and e-stops  | Sum            | 1        |                 |        |
| 4.B2.2.4.3.2.171 | B2   | 39.003  |                     | Safety plant   | Sum            | 1        |                 |        |
|                  | B2   |         |                     | <b>PART B2.2.4.3.3: GUARDHOUSE</b>   |                |          |                 |        |
|                  | B2   |         |                     | <b>Cables, earth wires and ancillary</b>   |                |          |                 |        |
|                  | B2   |         |                     | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>  |                |          |                 |        |
| 4.B2.2.4.3.3.1   | B2   | 39.003  |                     | 25 mm <sup>2</sup> Cu x 3c   | m              | 150      |                 |        |
|                  | B2   |         |                     | <b>600/1000 V PVC SWA multi core terminations</b>  |                |          |                 |        |
| 4.B2.2.4.3.3.2   | B2   | 39.003  |                     | 25 mm <sup>2</sup> Cu x 3c   | No             | 2        |                 |        |
|                  | B2   |         |                     | <b>Trenching, excavations and backfilling</b>  |                |          |                 |        |
| 4.B2.2.4.3.3.3   | B2   | 39.003  |                     | Excavation in soft material  | m <sup>3</sup> | 140      |                 |        |
| 4.B2.2.4.3.3.4   | B2   | 39.003  |                     | Excavation in hard rock  | m <sup>3</sup> | 20       |                 |        |
| 4.B2.2.4.3.3.5   | B2   | 39.003  |                     | Soft soil backfilling and compaction   | m <sup>3</sup> | 100      |                 |        |
| 4.B2.2.4.3.3.6   | B2   | 39.003  |                     | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity  | m <sup>3</sup> | 60       |                 |        |
| 4.B2.2.4.3.3.7   | B2   | 39.003  |                     | Barricading of trenches (install and remove only - Contractor to use own barricading   | Sum            | 1        |                 |        |
| 4.B2.2.4.3.3.8   | B2   | 39.003  |                     | Danger tape installation   | m              | 150      |                 |        |
| 4.B2.2.4.3.3.9   | B2   | 39.003  |                     | Cable markers  | No             | 3        |                 |        |
|                  |      |         |                     |  |                |          | Carried Forward |        |

| Item no.        | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                 |      |                   |           |  |      |          |                 |        |
|                 |      |                   |           |  |      |          | Brought Forward |        |
| 4.B2.2.4.3.3.10 | B2   | 39.003            |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction            | No   | 1        |                 |        |
| 4.B2.2.4.3.3.11 | B2   | 39.003            |           | <b>Cable sleeves</b><br>50mm HDPE Class 6  | m    | 40       |                 |        |
| 4.B2.2.4.3.3.12 | B2   | 39.003            |           | <b>MCC's, distribution boards and switch board as per drawings</b><br>Drawing 2A-E2.3-003: 2A-SD-03                          | No   | 1        |                 |        |
| 4.B2.2.4.3.3.13 | B2   | 39.003            |           | <b>Small power and lighting</b><br><b>Wiring, conduits and accessories</b><br><b>Conduits - PVC</b><br>20 mm diameter        | m    | 20       |                 |        |
| 4.B2.2.4.3.3.14 | B2   | 39.003            |           | 25 mm diameter   | m    | 20       |                 |        |
| 4.B2.2.4.3.3.15 | B2   | 39.003            |           | 50 mm diameter   | m    | 5        |                 |        |
| 4.B2.2.4.3.3.16 | B2   |                   |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>   |      |          |                 |        |
| 4.B2.2.4.3.3.17 | B2   | 39.003            |           | 4 mm <sup>2</sup>  | m    | 90       |                 |        |
| 4.B2.2.4.3.3.18 | B2   | 39.003            |           | 2.5 mm <sup>2</sup>  | m    | 90       |                 |        |
| 4.B2.2.4.3.3.19 | B2   | 39.003            |           | <b>Socket outlets</b><br>16A Standard SSO  | No   | 5        |                 |        |
| 4.B2.2.4.3.3.20 | B2   | 39.003            |           | 13A Dedicated SSO  | No   | 3        |                 |        |
| 4.B2.2.4.3.3.21 | B2   | 39.003            |           | <b>Switches</b><br>Single Lever 1-Way Light switch   | No   | 4        |                 |        |
| 4.B2.2.4.3.3.22 | B2   | 39.003            |           | Single Lever 1-Way Dimmer Switch   | No   | 1        |                 |        |
| 4.B2.2.4.3.3.23 | B2   | 39.003            |           | Photo cell   | No   | 1        |                 |        |
| 4.B2.2.4.3.3.24 | B2   | 39.003            |           | <b>Isolators</b><br>60A double pole isolator   | No   | 2        |                 |        |
| 4.B2.2.4.3.3.25 | B2   | 39.003            |           | <b>Powerskirting and trunking</b><br>P2000   | m    | 10       |                 |        |
| 4.B2.2.4.3.3.26 | B2   | 39.003            |           | <b>Two compartment, two cover sheet metal powerskirting</b><br>Straight lengths  | m    | 18       |                 |        |
| 4.B2.2.4.3.3.27 | B2   | 39.003            |           | 90 degree bends  | No   | 4        |                 |        |
| 4.B2.2.4.3.3.28 | B2   | 39.003            |           | <b>Cable ladder, trays and supports</b><br><b>Medium duty perforated cable tray</b><br><b>Straight lengths</b><br>76 mm wide | m    | 10       |                 |        |
| 4.B2.2.4.3.3.29 | B2   | 39.003            |           | <b>90 degree bends</b><br>76 mm wide   | No   | 4        |                 |        |
| 4.B2.2.4.3.3.30 | B2   | 39.003            |           | <b>Tees</b><br>76 mm wide  | No   | 2        |                 |        |
| 4.B2.2.4.3.3.31 | B2   | 39.003            |           | <b>Light fittings</b><br>Type B  | No   | 6        |                 |        |
| 4.B2.2.4.3.3.32 | B2   | 39.003            |           | Type E   | No   | 2        |                 |        |
| 4.B2.2.4.3.3.33 | B2   | 39.003            |           | Type H1  | No   | 2        |                 |        |
| 4.B2.2.4.3.3.34 | B2   | 39.003            |           | <b>Uninterruptible power supplies (UPS)</b><br>Guardhouse - 6kVA   | No   | 1        |                 |        |
| 4.B2.2.4.3.3.35 | B2   | 39.003            |           | <b>Lightning protection, bonding and earthing</b><br><b>Earthing and bonding of plant</b><br>Low voltage AC system and plant | Sum  | 1        |                 |        |
| 4.B2.2.4.3.3.36 | B2   | 39.003            |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 4.B2.2.4.3.3.37 | B2   | 39.001            |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|                 |      |                   |           |  |      |          | Carried Forward |        |

| Item no.        | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|                 |      | Reference |           |  |      |          |                 |        |
|                 |      |           |           |  |      |          | Brought Forward |        |
| 4.B2.2.4.3.3.38 | B2   | 39.003    |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
|                 | B2   |           |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 4.B2.2.4.3.3.39 | B2   | 39.003    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. |      |          |                 |        |
|                 | B2   |           |           |  | Sum  | 1        |                 |        |
| 4.B2.2.4.3.3.40 | B2   | 39.003    |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
|                 | B2   |           |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 4.B2.2.4.3.3.41 | B2   | 39.003    |           | Safety plant   | Sum  | 1        |                 |        |
|                 |      |           |           |  |      |          |                 |        |
|                 | B2   |           |           | <b>PART B2: DIVERSION WORKS AND LOW-LIFT PUMPING STATION TOTAL</b><br><i>(Carried forward to Summary of Bills)</i>   |      |          |                 |        |



| Item no.      | Part | Payment   | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|---------------|------|-----------|-----------|--|----------------|----------|-----------------|--------|
|               |      | Reference |           |  |                |          |                 |        |
|               | D    |           |           | <b>PART D: BALANCING RESERVOIR &amp; SEDIMENTATION WORKS</b>   |                |          |                 |        |
|               | D1   |           |           | <b>PART D1.8: SEDIMENTATION WORKS</b>  |                |          |                 |        |
|               | D1   |           |           | <b>Employer's Requirements :</b><br><b>(Plant designed, tested, supplied and delivered by Contractor)</b>  |                |          |                 |        |
|               | D1   |           |           | <b>PART D1.8.1: DESIGN</b>   |                |          |                 |        |
| 4.D1.8.1.1    | D1   | 39.001    |           | Design and documentation<br>(as required, should it not already be included with an item below)  | Sum            | 1        |                 |        |
|               | D1   |           |           | <b>PART D1.8.2: PROCUREMENT &amp; DELIVERY</b>   |                |          |                 |        |
|               | D1   |           |           | <b>PART D1.8.2.1: INSTRUMENTATION HUT - SEDIMENTATION WORKS</b>  |                |          |                 |        |
| 4.D1.8.2.1.1  | D1   | 39.002    |           | <b>Miniature substation (MSS)</b><br>200 kVA 11/0.4 kV   | No             | 1        |                 |        |
| 4.D1.8.2.1.2  | D1   | 39.002    |           | Pre-cast plinth for MSS  | No             | 1        |                 |        |
| 4.D1.8.2.1.3  | D1   | 39.002    |           | Earthing for MSS   | No             | 1        |                 |        |
| 4.D1.8.2.1.4  | D1   | 39.002    |           | <b>Cables, earth wires and ancillary</b><br><b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b><br>70 mm <sup>2</sup> Cu - from MSS3 to MSS4 | m              | 800      |                 |        |
| 4.D1.8.2.1.5  | D1   | 39.002    |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b><br>16 mm <sup>2</sup> Cu x 4c ECC (sed. works and bal. res.)                                   | m              | 150      |                 |        |
| 4.D1.8.2.1.6  | D1   | 39.002    |           | 10 mm <sup>2</sup> Cu x 4c ECC   | m              | 50       |                 |        |
| 4.D1.8.2.1.7  | D1   | 39.002    |           | 6 mm <sup>2</sup> Cu x 3c  | m              | 60       |                 |        |
| 4.D1.8.2.1.8  | D1   | 39.002    |           | <b>Joints</b><br><b>6.35/11 kV Type A XLPE joints</b><br>Three core XLPE 70mm <sup>2</sup> (Cu)  | No             | 3        |                 |        |
| 4.D1.8.2.1.9  | D1   | 39.002    |           | <b>Terminations</b><br><b>6.35/11 kV Type A XLPE terminations</b><br>Three core XLPE 70mm <sup>2</sup> (Cu) - Indoor   | No             | 2        |                 |        |
| 4.D1.8.2.1.10 | D1   | 39.002    |           | <b>600/1000 V PVC SWA multi core terminations</b><br>16 mm <sup>2</sup> Cu x 4c ECC  | No             | 4        |                 |        |
| 4.D1.8.2.1.11 | D1   | 39.002    |           | 10 mm <sup>2</sup> Cu x 4c ECC   | No             | 2        |                 |        |
| 4.D1.8.2.1.12 | D1   | 39.002    |           | 6 mm <sup>2</sup> Cu x 3c  | No             | 20       |                 |        |
| 4.D1.8.2.1.13 | D1   | 39.002    |           | <b>Trenching, excavations and backfilling</b><br>Excavation in soft material   | m <sup>3</sup> | 570      |                 |        |
| 4.D1.8.2.1.14 | D1   | 39.002    |           | Excavation in hard rock  | m <sup>3</sup> | 100      |                 |        |
| 4.D1.8.2.1.15 | D1   | 39.002    |           | Soft soil backfilling and compaction   | m <sup>3</sup> | 400      |                 |        |
| 4.D1.8.2.1.16 | D1   | 39.002    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity  | m <sup>3</sup> | 270      |                 |        |
| 4.D1.8.2.1.17 | D1   | 39.002    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)  | Sum            | 1        |                 |        |
| 4.D1.8.2.1.18 | D1   | 39.002    |           | Danger tape installation   | m              | 400      |                 |        |
| 4.D1.8.2.1.19 | D1   | 39.002    |           | Cable markers  | No             | 8        |                 |        |
| 4.D1.8.2.1.20 | D1   | 39.002    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction  | No             | 2        |                 |        |
| 4.D1.8.2.1.21 | D1   | 39.002    |           | <b>MCC's, distribution boards and switch board as per drawings</b><br>Drawing 2A-E2,3-005: 2A-SD-004   | No             | 2        |                 |        |
| 4.D1.8.2.1.22 | D1   | 39.002    |           | Drawing 2A-E2,3-006: 2A-SD-001   | No             | 1        |                 |        |
| 4.D1.8.2.1.23 | D1   | 39.002    |           | Drawing 2A-E2,3-007: 2D-SD-02 & 2D-SD-03   | No             | 2        |                 |        |
| 4.D1.8.2.1.24 | D1   | 39.002    |           | <b>Small power and lighting</b><br><b>Wiring, conduits and accessories</b><br><b>Conduits - PVC</b><br>20 mm diameter  | m              | 85       |                 |        |
| 4.D1.8.2.1.25 | D1   | 39.002    |           | 25 mm diameter   | m              | 20       |                 |        |
|               |      |           |           |  |                |          | Carried Forward |        |

| Item no.      | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|               |      | Reference |           |  |      |          |                 |        |
|               |      |           |           |  |      |          | Brought Forward |        |
| 4.D1.8.2.1.26 | D1   |           |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>   |      |          |                 |        |
| 4.D1.8.2.1.27 | D1   | 39.002    |           | 4 mm <sup>2</sup>  | m    | 90       |                 |        |
| 4.D1.8.2.1.28 | D1   | 39.002    |           | 2.5 mm <sup>2</sup>  | m    | 90       |                 |        |
|               | D1   |           |           | <b>Socket outlets</b>  |      |          |                 |        |
| 4.D1.8.2.1.29 | D1   | 39.002    |           | 16A Standard SSO   | No   | 4        |                 |        |
|               | D1   |           |           | <b>Switches</b>  |      |          |                 |        |
| 4.D1.8.2.1.30 | D1   | 39.002    |           | Single Lever 1-Way Light switch  | No   | 5        |                 |        |
| 4.D1.8.2.1.31 | D1   | 39.002    |           | Photo cell   | No   | 1        |                 |        |
|               | D1   |           |           | <b>Isolators</b>   |      |          |                 |        |
| 4.D1.8.2.1.32 | D1   | 39.002    |           | 60A double pole isolator   | No   | 3        |                 |        |
| 4.D1.8.2.1.33 | D1   | 39.002    |           | 60A triple pole isolator   | No   | 2        |                 |        |
|               | D1   |           |           | <b>Powerskirting and trunking</b>  |      |          |                 |        |
| 4.D1.8.2.1.34 | D1   | 39.002    |           | P2000  | m    | 20       |                 |        |
|               | D1   |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>  |      |          |                 |        |
| 4.D1.8.2.1.35 | D1   | 39.002    |           | Straight lengths   | m    | 18       |                 |        |
| 4.D1.8.2.1.36 | D1   | 39.002    |           | 90 degree bends  | No   | 4        |                 |        |
|               | D1   |           |           | <b>Cable ladder, trays and supports</b>  |      |          |                 |        |
|               | D1   |           |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
|               | D1   |           |           | <b>Straight lengths</b>  |      |          |                 |        |
| 4.D1.8.2.1.37 | D1   | 39.002    |           | 76 mm wide   | m    | 10       |                 |        |
|               | D1   |           |           | <b>90 degree bends</b>   |      |          |                 |        |
| 4.D1.8.2.1.38 | D1   | 39.002    |           | 76 mm wide   | No   | 4        |                 |        |
|               | D1   |           |           | <b>Tees</b>  |      |          |                 |        |
| 4.D1.8.2.1.39 | D1   | 39.002    |           | 76 mm wide   | No   | 2        |                 |        |
|               | D1   |           |           | <b>Light fittings</b>  |      |          |                 |        |
| 4.D1.8.2.1.40 | D1   | 39.002    |           | Type A2  | No   | 1        |                 |        |
| 4.D1.8.2.1.41 | D1   | 39.002    |           | Type A3  | No   | 1        |                 |        |
| 4.D1.8.2.1.42 | D1   | 39.002    |           | Type B   | No   | 13       |                 |        |
| 4.D1.8.2.1.43 | D1   | 39.002    |           | Type F1  | No   | 1        |                 |        |
| 4.D1.8.2.1.44 | D1   | 39.002    |           | Type M   | No   | 5        |                 |        |
| 4.D1.8.2.1.45 | D1   | 39.002    |           | Type M Pole  | No   | 5        |                 |        |
|               | D1   |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 4.D1.8.2.1.46 | D1   | 39.002    |           | IH - 10kVA   | No   | 2        |                 |        |
|               | D1   |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|               | D1   |           |           | <b>Earthing and bonding of plant</b>   |      |          |                 |        |
| 4.D1.8.2.1.47 | D1   | 39.002    |           | Low voltage AC system and plant  | Sum  | 1        |                 |        |
| 4.D1.8.2.1.48 | D1   | 39.002    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 4.D1.8.2.1.49 | D1   | 39.001    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|               | D1   |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 4.D1.8.2.1.50 | D1   | 39.002    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 4.D1.8.2.1.51 | D1   | 39.002    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|               | D1   |           |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 4.D1.8.2.1.52 | D1   | 39.002    |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 4.D1.8.2.1.53 | D1   | 39.002    |           | Safety plant   | Sum  | 1        |                 |        |
|               | D1   |           |           | <b>PART D1.8.3: INSTALLATION</b>   |      |          |                 |        |
|               | D1   |           |           | <b>PART D1.8.3.1: INSTRUMENTATION HUT - SEDIMENTATION WORKS</b>  |      |          |                 |        |
|               | D1   |           |           | <b>Miniature substation (MSS)</b>  |      |          |                 |        |
| 4.D1.8.3.1.1  | D1   | 39.003    |           | 200 kVA 11/0.4 kV  | No   | 1        |                 |        |
| 4.D1.8.3.1.2  | D1   | 39.003    |           | Pre-cast plinth for MSS  | No   | 2        |                 |        |
|               |      |           |           |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment Reference | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|---------------|------|-------------------|-----------|---|----------------|----------|-----------------|--------|
|               |      |                   |           |   |                |          | Brought Forward |        |
| 4.D1.8.3.1.3  | D1   | 39.003            |           | Earthing for MSS  | No             | 2        |                 |        |
|               | D1   |                   |           | <b>Cables, earth wires and ancillary</b>  |                |          |                 |        |
|               | D1   |                   |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>                                     |                |          |                 |        |
| 4.D1.8.3.1.4  | D1   | 39.003            |           | 70 mm <sup>2</sup> Cu - from MSS3 to MSS4   | m              | 800      |                 |        |
|               | D1   |                   |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>   |                |          |                 |        |
| 4.D1.8.3.1.5  | D1   | 39.003            |           | 16 mm <sup>2</sup> Cu x 4c ECC (sed. works and bal. res.)   | m              | 150      |                 |        |
| 4.D1.8.3.1.6  | D1   | 39.003            |           | 10 mm <sup>2</sup> Cu x 4c ECC  | m              | 50       |                 |        |
| 4.D1.8.3.1.7  | D1   | 39.003            |           | 6 mm <sup>2</sup> Cu x 3c   | m              | 60       |                 |        |
|               | D1   |                   |           | <b>Joints</b>   |                |          |                 |        |
|               | D1   |                   |           | <b>6.35/11 kV Type A XLPE joints</b>  |                |          |                 |        |
| 4.D1.8.3.1.8  | D1   | 39.003            |           | Three core XLPE 70mm <sup>2</sup> (Cu)  | No             | 3        |                 |        |
|               | D1   |                   |           | <b>Terminations</b>   |                |          |                 |        |
|               | D1   |                   |           | <b>6.35/11 kV Type A XLPE terminations</b>  |                |          |                 |        |
| 4.D1.8.3.1.9  | D1   | 39.003            |           | Three core XLPE 70mm <sup>2</sup> (Cu) - Indoor   | No             | 2        |                 |        |
|               | D1   |                   |           | <b>600/1000 V PVC SWA multi core terminations</b>   |                |          |                 |        |
| 4.D1.8.3.1.10 | D1   | 39.003            |           | 16 mm <sup>2</sup> Cu x 4c ECC  | No             | 4        |                 |        |
| 4.D1.8.3.1.11 | D1   | 39.003            |           | 10 mm <sup>2</sup> Cu x 4c ECC  | No             | 2        |                 |        |
| 4.D1.8.3.1.12 | D1   | 39.003            |           | 6 mm <sup>2</sup> Cu x 3c   | No             | 20       |                 |        |
|               | D1   |                   |           | <b>Trenching, excavations and backfilling</b>   |                |          |                 |        |
| 4.D1.8.3.1.13 | D1   | 39.003            |           | Excavation in soft material   | m <sup>3</sup> | 570      |                 |        |
| 4.D1.8.3.1.14 | D1   | 39.003            |           | Excavation in hard rock   | m <sup>3</sup> | 100      |                 |        |
| 4.D1.8.3.1.15 | D1   | 39.003            |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 400      |                 |        |
| 4.D1.8.3.1.16 | D1   | 39.003            |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 270      |                 |        |
| 4.D1.8.3.1.17 | D1   | 39.003            |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Sum            | 1        |                 |        |
| 4.D1.8.3.1.18 | D1   | 39.003            |           | Danger tape installation  | m              | 400      |                 |        |
| 4.D1.8.3.1.19 | D1   | 39.003            |           | Cable markers   | No             | 8        |                 |        |
| 4.D1.8.3.1.20 | D1   | 39.003            |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No             | 2        |                 |        |
|               | D1   |                   |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |                |          |                 |        |
| 4.D1.8.3.1.21 | D1   | 39.003            |           | Drawing 2A-E2,3-005: 2A-SD-004  | No             | 2        |                 |        |
| 4.D1.8.3.1.22 | D1   | 39.003            |           | Drawing 2A-E2,3-006: 2A-SD-001  | No             | 1        |                 |        |
| 4.D1.8.3.1.23 | D1   | 39.003            |           | Drawing 2A-E2,3-007: 2D-SD-02 & 2D-SD-03  | No             | 2        |                 |        |
|               | D1   |                   |           | <b>Small power and lighting</b>   |                |          |                 |        |
|               | D1   |                   |           | <b>Wiring, conduits and accessories</b>   |                |          |                 |        |
|               | D1   |                   |           | <b>Conduits - PVC</b>   |                |          |                 |        |
| 4.D1.8.3.1.24 | D1   | 39.003            |           | 20 mm diameter  | m              | 85       |                 |        |
| 4.D1.8.3.1.25 | D1   | 39.003            |           | 25 mm diameter  | m              | 20       |                 |        |
|               | D1   |                   |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |                |          |                 |        |
| 4.D1.8.3.1.27 | D1   | 39.003            |           | 4 mm <sup>2</sup>   | m              | 90       |                 |        |
| 4.D1.8.3.1.28 | D1   | 39.003            |           | 2.5 mm <sup>2</sup>   | m              | 90       |                 |        |
|               | D1   |                   |           | <b>Socket outlets</b>   |                |          |                 |        |
| 4.D1.8.3.1.29 | D1   | 39.003            |           | 16A Standard SSO  | No             | 4        |                 |        |
| 4.D1.8.3.1.30 | D1   | 39.003            |           | 13A Dedicated SSO   | No             |          |                 |        |
|               | D1   |                   |           | <b>Switches</b>   |                |          |                 |        |
| 4.D1.8.3.1.31 | D1   | 39.003            |           | Single Lever 1-Way Light switch   | No             | 5        |                 |        |
| 4.D1.8.3.1.32 | D1   | 39.003            |           | Photo cell  | No             | 1        |                 |        |
|               | D1   |                   |           | <b>Isolators</b>  |                |          |                 |        |
| 4.D1.8.3.1.33 | D1   | 39.003            |           | 60A double pole isolator  | No             | 3        |                 |        |
| 4.D1.8.3.1.34 | D1   | 39.003            |           | 60A triple pole isolator  | No             | 2        |                 |        |
|               | D1   |                   |           | <b>Powerskirting and trunking</b>   |                |          |                 |        |
| 4.D1.8.3.1.35 | D1   | 39.003            |           | P2000   | m              | 20       |                 |        |
|               |      |                   |           |   |                |          | Carried Forward |        |

| Item no.      | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|               |      | Reference |           |  |      |          |                 |        |
|               |      |           |           |  |      |          | Brought Forward |        |
|               | D1   |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>  |      |          |                 |        |
| 4.D1.8.3.1.36 | D1   | 39.003    |           | Straight lengths   | m    | 18       |                 |        |
| 4.D1.8.3.1.37 | D1   | 39.003    |           | 90 degree bends  | No   | 4        |                 |        |
|               | D1   |           |           | <b>Cable ladder, trays and supports</b>  |      |          |                 |        |
|               | D1   |           |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
|               | D1   |           |           | <b>Straight lengths</b>  |      |          |                 |        |
| 4.D1.8.3.1.38 | D1   | 39.003    |           | 76 mm wide   | m    | 10       |                 |        |
|               | D1   |           |           | <b>90 degree bends</b>   |      |          |                 |        |
| 4.D1.8.3.1.39 | D1   | 39.003    |           | 76 mm wide   | No   | 4        |                 |        |
|               | D1   |           |           | <b>Tees</b>  |      |          |                 |        |
| 4.D1.8.3.1.40 | D1   | 39.003    |           | 76 mm wide   | No   | 2        |                 |        |
|               | D1   |           |           | <b>Light fittings</b>  |      |          |                 |        |
| 4.D1.8.3.1.41 | D1   | 39.003    |           | Type A2  | No   | 1        |                 |        |
| 4.D1.8.3.1.42 | D1   | 39.003    |           | Type A3  | No   | 1        |                 |        |
| 4.D1.8.3.1.43 | D1   | 39.003    |           | Type B   | No   | 13       |                 |        |
| 4.D1.8.3.1.44 | D1   | 39.003    |           | Type F1  | No   | 1        |                 |        |
| 4.D1.8.3.1.45 | D1   | 39.003    |           | Type M   | No   | 5        |                 |        |
| 4.D1.8.3.1.46 | D1   | 39.003    |           | Type M Pole  | No   | 5        |                 |        |
|               | D1   |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 4.D1.8.3.1.47 | D1   | 39.003    |           | IH - 10kVA   | No   | 2        |                 |        |
|               | D1   |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|               | D1   |           |           | <b>Earthing and bonding of plant</b>   |      |          |                 |        |
| 4.D1.8.3.1.48 | D1   | 39.003    |           | Low voltage AC system and plant  | Sum  | 1        |                 |        |
| 4.D1.8.3.1.49 | D1   | 39.003    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 4.D1.8.3.1.50 | D1   | 39.003    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|               | D1   |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 4.D1.8.3.1.51 | D1   | 39.003    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 4.D1.8.3.1.52 | D1   | 39.003    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|               | D1   |           |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 4.D1.8.3.1.53 | D1   | 39.003    |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 4.D1.8.3.1.54 | D1   | 39.003    |           | Safety plant   | Sum  | 1        |                 |        |
|               | D1   |           |           | <b>PART D1: SEDIMENTATION WORKS TOTAL</b>  |      |          |                 |        |

| Item no.       | Part | Payment Reference | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|---|----------------|----------|-----------------|--------|
|                |      |                   |           |   |                |          |                 |        |
|                | D2   |                   |           | <b>PART D2: BALANCING RESERVOIR</b>   |                |          |                 |        |
|                | D2   |                   |           | <b>Employer's Requirements :</b><br><b>(Plant designed, tested, supplied and delivered by Contractor)</b>         |                |          |                 |        |
|                | D2   |                   |           | <b>PART D2.10.1: DESIGN</b>   |                |          |                 |        |
| 4.D2.10.1.1    | D2   | 39.001            |           | Design and documentation<br>(as required, should it not already be included with an item below)                   | Sum            | 1        |                 |        |
|                | D2   |                   |           | <b>PART D2.10.2: PROCUREMENT &amp; DELIVERY</b>   |                |          |                 |        |
|                | D2   |                   |           | <b>PART D2.10.2.1: BUILDING</b>   |                |          |                 |        |
|                | D2   |                   |           | <b>Miniature substation (MSS)</b>   |                |          |                 |        |
| 4.D2.10.2.1.1  | D2   | 39.002            |           | 200 kVA 11/0.4 kV   | No             | 1        |                 |        |
| 4.D2.10.2.1.2  | D2   | 39.002            |           | Pre-cast plinth for MSS   | No             | 1        |                 |        |
| 4.D2.10.2.1.3  | D2   | 39.002            |           | Earthing for MSS  | No             | 1        |                 |        |
|                | D2   |                   |           | <b>Cables, earth wires and ancillary</b>  |                |          |                 |        |
|                | D2   |                   |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>                                     |                |          |                 |        |
| 4.D2.10.2.1.4  | D2   | 39.002            |           | 70 mm <sup>2</sup> Cu - from MSS4 to MSS5   | m              | 1000     |                 |        |
|                | D2   |                   |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>   |                |          |                 |        |
| 4.D2.10.2.1.5  | D2   | 39.002            |           | 16 mm <sup>2</sup> Cu x 4c ECC (Iso valves.)  | m              | 300      |                 |        |
| 4.D2.10.2.1.6  | D2   | 39.002            |           | 6 mm <sup>2</sup> Cu x 3c   | m              | 40       |                 |        |
|                | D2   |                   |           | <b>Joints</b>   |                |          |                 |        |
|                | D2   |                   |           | <b>6.35/11 kV Type A XLPE joints</b>  |                |          |                 |        |
| 4.D2.10.2.1.7  | D2   | 39.002            |           | Three core XLPE 70mm <sup>2</sup> (Cu)  | No             | 4        |                 |        |
|                | D2   |                   |           | <b>Terminations</b>   |                |          |                 |        |
|                | D2   |                   |           | <b>6.35/11 kV Type A XLPE terminations</b>  |                |          |                 |        |
| 4.D2.10.2.1.8  | D2   | 39.002            |           | Three core XLPE 70mm <sup>2</sup> (Cu) - Indoor   | No             | 2        |                 |        |
|                | D2   |                   |           | <b>600/1000 V PVC SWA multi core terminations</b>   |                |          |                 |        |
| 4.D2.10.2.1.9  | D2   | 39.002            |           | 16 mm <sup>2</sup> Cu x 4c ECC  | No             | 6        |                 |        |
|                | D2   |                   |           | <b>Trenching, excavations and backfilling</b>   |                |          |                 |        |
| 4.D2.10.2.1.10 | D2   | 39.002            |           | Excavation in soft material   | m <sup>3</sup> | 740      |                 |        |
| 4.D2.10.2.1.11 | D2   | 39.002            |           | Excavation in hard rock   | m <sup>3</sup> | 130      |                 |        |
| 4.D2.10.2.1.12 | D2   | 39.002            |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 520      |                 |        |
| 4.D2.10.2.1.13 | D2   | 39.002            |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 350      |                 |        |
| 4.D2.10.2.1.14 | D2   | 39.002            |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Sum            | 1        |                 |        |
| 4.D2.10.2.1.15 | D2   | 39.002            |           | Danger tape installation  | m              | 200      |                 |        |
| 4.D2.10.2.1.16 | D2   | 39.002            |           | Cable markers   | No             | 4        |                 |        |
| 4.D2.10.2.1.17 | D2   | 39.002            |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No             | 3        |                 |        |
|                | D2   |                   |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |                |          |                 |        |
| 4.D2.10.2.1.18 | D2   | 39.002            |           | Drawing 2A-E2,3-005: 2A-SD-004  | No             | 3        |                 |        |
|                | D2   |                   |           | <b>Small power and lighting</b>   |                |          |                 |        |
|                | D2   |                   |           | <b>Wiring, conduits and accessories</b>   |                |          |                 |        |
|                | D2   |                   |           | <b>Conduits - PVC</b>   |                |          |                 |        |
| 4.D2.10.2.1.19 | D2   | 39.002            |           | 20 mm diameter  | m              | 55       |                 |        |
| 4.D2.10.2.1.20 | D2   | 39.002            |           | 25 mm diameter  | m              | 10       |                 |        |
|                | D2   |                   |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |                |          |                 |        |
| 4.D2.10.2.1.22 | D2   | 39.002            |           | 4 mm <sup>2</sup>   | m              | 90       |                 |        |
| 4.D2.10.2.1.23 | D2   | 39.002            |           | 2.5 mm <sup>2</sup>   | m              | 90       |                 |        |
|                | D2   |                   |           | <b>Socket outlets</b>   |                |          |                 |        |
| 4.D2.10.2.1.24 | D2   | 39.002            |           | 16A Standard SSO (WT)   | No             | 4        |                 |        |
|                |      |                   |           |   |                |          | Carried Forward |        |

| Item no.       | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|                |      |                   |           |  |      |          |                 |        |
|                |      |                   |           |  |      |          | Brought Forward |        |
|                | D2   |                   |           | <b>Switches</b>  |      |          |                 |        |
| 4.D2.10.2.1.25 | D2   | 39.002            |           | Single Lever 1-Way Light switch (WT)   | No   | 4        |                 |        |
|                | D2   |                   |           | <b>Isolators</b>   |      |          |                 |        |
| 4.D2.10.2.1.26 | D2   | 39.002            |           | 60A double pole isolator (WT)  | No   | 2        |                 |        |
|                | D2   |                   |           | <b>Powerskirting and trunking</b>  |      |          |                 |        |
| 4.D2.10.2.1.27 | D2   | 39.002            |           | P2000  | m    | 10       |                 |        |
|                | D2   |                   |           | <b>Two compartment, two cover sheet metal powerskirting</b>  |      |          |                 |        |
| 4.D2.10.2.1.28 | D2   | 39.002            |           | Straight lengths   | m    | 18       |                 |        |
| 4.D2.10.2.1.29 | D2   | 39.002            |           | 90 degree bends  | No   | 4        |                 |        |
|                | D2   |                   |           | <b>Cable ladder, trays and supports</b>  |      |          |                 |        |
|                | D2   |                   |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
|                | D2   |                   |           | <b>Straight lengths</b>  |      |          |                 |        |
| 4.D2.10.2.1.30 | D2   | 39.002            |           | 76 mm wide   | m    | 10       |                 |        |
|                | D2   |                   |           | <b>90 degree bends</b>   |      |          |                 |        |
| 4.D2.10.2.1.31 | D2   | 39.002            |           | 76 mm wide   | No   | 4        |                 |        |
|                | D2   |                   |           | <b>Tees</b>  |      |          |                 |        |
| 4.D2.10.2.1.32 | D2   | 39.002            |           | 76 mm wide   | No   | 2        |                 |        |
|                | D2   |                   |           | <b>Light fittings</b>  |      |          |                 |        |
| 4.D2.10.2.1.33 | D2   | 39.002            |           | Type B   | No   | 12       |                 |        |
| 4.D2.10.2.1.34 | D2   | 39.002            |           | Type M   | No   | 5        |                 |        |
| 4.D2.10.2.1.35 | D2   | 39.002            |           | Type M Pole  | No   | 5        |                 |        |
|                | D2   |                   |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|                | D2   |                   |           | <b>Earthing and bonding of plant</b>   |      |          |                 |        |
| 4.D2.10.2.1.36 | D2   | 39.002            |           | Low voltage AC system and plant  | Sum  | 1        |                 |        |
| 4.D2.10.2.1.37 | D2   | 39.002            |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 4.D2.10.2.1.38 | D2   | 39.001            |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|                | D2   |                   |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 4.D2.10.2.1.39 | D2   | 39.002            |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 4.D2.10.2.1.40 | D2   | 39.002            |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|                | D2   |                   |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 4.D2.10.2.1.41 | D2   | 39.002            |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 4.D2.10.2.1.42 | D2   | 39.002            |           | Safety plant   | Sum  | 1        |                 |        |
|                | D2   |                   |           | <b>PART D2.10.3: INSTALLATION</b>  |      |          |                 |        |
|                | D2   |                   |           | <b>PART D2.10.3.1: BUILDING</b>  |      |          |                 |        |
|                | D2   |                   |           | <b>Miniature substation (MSS)</b>  |      |          |                 |        |
| 4.D2.10.3.1.1  | D2   | 39.003            |           | 200 kVA 11/0.4 kV  | No   | 1        |                 |        |
| 4.D2.10.3.1.2  | D2   | 39.003            |           | Pre-cast plinth for MSS  | No   | 2        |                 |        |
| 4.D2.10.3.1.3  | D2   | 39.003            |           | Earthing for MSS   | No   | 2        |                 |        |
|                | D2   |                   |           | <b>Cables, earth wires and ancillary</b>   |      |          |                 |        |
|                | D2   |                   |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>  |      |          |                 |        |
| 4.D2.10.3.1.4  | D2   | 39.003            |           | 70 mm <sup>2</sup> Cu - from MSS3 to MSS4  | m    | 1000     |                 |        |
|                | D2   |                   |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>  |      |          |                 |        |
| 4.D2.10.3.1.5  | D2   | 39.003            |           | 16 mm <sup>2</sup> Cu x 4c ECC (sed. works and bal. res.)  | m    | 300      |                 |        |
| 4.D2.10.3.1.6  | D2   | 39.003            |           | 6 mm <sup>2</sup> Cu x 3c  | m    | 40       |                 |        |
|                | D2   |                   |           | <b>Joints</b>  |      |          |                 |        |
|                | D2   |                   |           | <b>6.35/11 kV Type A XLPE joints</b>   |      |          |                 |        |
| 4.D2.10.3.1.7  | D2   | 39.003            |           | Three core XLPE 70mm <sup>2</sup> (Cu)   | No   | 4        |                 |        |
|                |      |                   |           |  |      |          | Carried Forward |        |

| Item no.       | Part | Payment Reference | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|--|----------------|----------|-----------------|--------|
|                |      |                   |           |  |                |          |                 |        |
|                |      |                   |           |  |                |          | Brought Forward |        |
|                | D2   |                   |           | <b>Terminations</b>  |                |          |                 |        |
| 4.D2.10.3.1.8  | D2   | 39.003            |           | <b>6.35/11 kV Type A XLPE terminations</b><br>Three core XLPE 70mm <sup>2</sup> (Cu) - Indoor                                | No             | 2        |                 |        |
| 4.D2.10.3.1.9  | D2   | 39.003            |           | <b>600/1000 V PVC SWA multi core terminations</b><br>16 mm <sup>2</sup> Cu x 4c ECC  | No             | 6        |                 |        |
| 4.D2.10.3.1.10 | D2   | 39.003            |           | <b>Trenching, excavations and backfilling</b><br>Excavation in soft material   | m <sup>3</sup> | 740      |                 |        |
| 4.D2.10.3.1.11 | D2   | 39.003            |           | Excavation in hard rock  | m <sup>3</sup> | 130      |                 |        |
| 4.D2.10.3.1.12 | D2   | 39.003            |           | Soft soil backfilling and compaction   | m <sup>3</sup> | 520      |                 |        |
| 4.D2.10.3.1.13 | D2   | 39.003            |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity  | m <sup>3</sup> | 350      |                 |        |
| 4.D2.10.3.1.14 | D2   | 39.003            |           | Barricading of trenches (install and remove only - Contractor to use own barricading)  | Sum            | 1        |                 |        |
| 4.D2.10.3.1.15 | D2   | 39.003            |           | Danger tape installation   | m              | 200      |                 |        |
| 4.D2.10.3.1.16 | D2   | 39.003            |           | Cable markers  | No             | 4        |                 |        |
| 4.D2.10.3.1.17 | D2   | 39.003            |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction            | No             | 3        |                 |        |
| 4.D2.10.3.1.18 | D2   | 39.003            |           | <b>MCC's, distribution boards and switch board as per drawings</b><br>Drawing 2A-E2,3-005: 2A-SD-004                         | No             | 3        |                 |        |
| 4.D2.10.3.1.19 | D2   | 39.003            |           | <b>Small power and lighting</b><br><b>Wiring, conduits and accessories</b><br><b>Conduits - PVC</b><br>20 mm diameter        | m              | 55       |                 |        |
| 4.D2.10.3.1.20 | D2   | 39.003            |           | 25 mm diameter   | m              | 10       |                 |        |
| 4.D2.10.3.1.21 | D2   |                   |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>   |                |          |                 |        |
| 4.D2.10.3.1.22 | D2   | 39.003            |           | 4 mm <sup>2</sup>  | m              | 90       |                 |        |
| 4.D2.10.3.1.23 | D2   | 39.003            |           | 2.5 mm <sup>2</sup>  | m              | 90       |                 |        |
| 4.D2.10.3.1.24 | D2   | 39.003            |           | <b>Socket outlets</b><br>16A Standard SSO (WT)   | No             | 4        |                 |        |
| 4.D2.10.3.1.25 | D2   | 39.003            |           | <b>Switches</b><br>Single Lever 1-Way Light switch (WT)  | No             | 4        |                 |        |
| 4.D2.10.3.1.26 | D2   | 39.003            |           | <b>Isolators</b><br>60A double pole isolator (WT)  | No             | 2        |                 |        |
| 4.D2.10.3.1.27 | D2   | 39.003            |           | <b>Powerskirting and trunking</b><br>P2000   | m              | 10       |                 |        |
| 4.D2.10.3.1.28 | D2   | 39.003            |           | <b>Two compartment, two cover sheet metal powerskirting</b><br>Straight lengths  | m              | 18       |                 |        |
| 4.D2.10.3.1.29 | D2   | 39.003            |           | 90 degree bends  | No             | 4        |                 |        |
| 4.D2.10.3.1.30 | D2   | 39.003            |           | <b>Cable ladder, trays and supports</b><br><b>Medium duty perforated cable tray</b><br><b>Straight lengths</b><br>76 mm wide | m              | 10       |                 |        |
| 4.D2.10.3.1.31 | D2   | 39.003            |           | <b>90 degree bends</b><br>76 mm wide   | No             | 4        |                 |        |
| 4.D2.10.3.1.32 | D2   | 39.003            |           | <b>Tees</b><br>76 mm wide  | No             | 2        |                 |        |
| 4.D2.10.3.1.33 | D2   | 39.003            |           | <b>Light fittings</b><br>Type B  | No             | 12       |                 |        |
| 4.D2.10.3.1.34 | D2   | 39.003            |           | Type M   | No             | 5        |                 |        |
| 4.D2.10.3.1.35 | D2   | 39.003            |           | Type M Pole  | No             | 5        |                 |        |
|                |      |                   |           |  |                |          | Carried Forward |        |

| Item no.       | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|                |      | Reference |           |  |      |          |                 |        |
|                |      |           |           |  |      |          | Brought Forward |        |
|                | D2   |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|                | D2   |           |           | <b>Earthing and bonding of plant</b>   |      |          |                 |        |
| 4.D2.10.3.1.36 | D2   | 39.003    |           | Low voltage AC system and plant  | Sum  | 1        |                 |        |
| 4.D2.10.3.1.37 | D2   | 39.003    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 4.D2.10.3.1.38 | D2   | 39.001    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|                | D2   |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 4.D2.10.3.1.39 | D2   | 39.003    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 4.D2.10.3.1.40 | D2   | 39.003    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|                | D2   |           |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 4.D2.10.3.1.41 | D2   | 39.003    |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 4.D2.10.3.1.42 | D2   | 39.003    |           | Safety plant   | Sum  | 1        |                 |        |
|                | D2   |           |           | <b>PART D2: BALANCING RESERVOIR</b>  |      |          |                 |        |
|                | D    |           |           | <b>PART D: BALANCING RESERVOIR &amp; SEDIMENTATION WORKS</b><br>(Carried forward to Summary of Bills)  |      |          |                 |        |



| Item no.      | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|               |      | Reference |           |   |      |          |                 |        |
|               | E    |           |           | <b>PART E: HIGH-LIFT PUMPING STATION</b>  |      |          |                 |        |
|               | E2   |           |           | <b>Employer's Requirements :</b><br><b>(Plant designed, tested, supplied and delivered by Contractor)</b>                               |      |          |                 |        |
|               | E2   |           |           | <b>PART E2.4.1: DESIGN</b>  |      |          |                 |        |
| 4.E2.4.1.1    | E2   | 39.001    |           | Design and documentation<br>(as required, should it not already be included with an item below)   | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>PART E2.4.2: PROCUREMENT &amp; DELIVERY</b>  |      |          |                 |        |
|               | E2   |           |           | <b>PART E2.4.2.1: High Lift Pumping Station Site and Building</b>   |      |          |                 |        |
|               | E2   |           |           | <b>Medium voltage (MV) plant</b>  |      |          |                 |        |
|               | E2   |           | x         | <b>11 kV medium voltage switchgear</b>  |      |          |                 |        |
| 4.E2.4.2.1.1  | E2   | 39.002    |           | Main incomer panels - 2500A   | No   | 2        |                 |        |
| 4.E2.4.2.1.2  | E2   | 39.002    |           | Buscoupler panels - 2500A   | No   | 2        |                 |        |
| 4.E2.4.2.1.3  | E2   | 39.002    |           | Bussection panels - 2500A   | No   | 1        |                 |        |
| 4.E2.4.2.1.4  | E2   | 39.002    |           | Feeder panels (LLPS) - 1250A  | No   | 2        |                 |        |
| 4.E2.4.2.1.5  | E2   | 39.002    |           | Feeder panels (VSD) - 800A  | No   | 7        |                 |        |
| 4.E2.4.2.1.6  | E2   | 39.002    |           | Feeder panels (MSS) - 800A  | No   | 2        |                 |        |
| 4.E2.4.2.1.7  | E2   | 39.002    |           | Feeder panels (PFC) - 800A  | No   | 1        |                 |        |
| 4.E2.4.2.1.8  | E2   | 39.002    |           | Busbar VT Panels  | No   | 3        |                 |        |
| 4.E2.4.2.1.9  | E2   | 39.001    |           | Design and documentation  | Sum  | 1        |                 |        |
| 4.E2.4.2.1.10 | E2   | 39.002    |           | Switchgear Tools (End Items/Cabinet/Paint/Handles)  | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>11kV on board protection &amp; control plant c/w all IED's, system mimic and associated plant</b>                                    |      |          |                 |        |
| 4.E2.4.2.1.11 | E2   | 39.002    |           | Incomer protection scheme   | No   | 2        |                 |        |
| 4.E2.4.2.1.12 | E2   | 39.002    |           | Buscoupler protection scheme  | No   | 2        |                 |        |
| 4.E2.4.2.1.13 | E2   | 39.002    |           | Bussection protection scheme  | No   | 1        |                 |        |
| 4.E2.4.2.1.14 | E2   | 39.002    |           | Feeder panel protection scheme  | No   | 12       |                 |        |
| 4.E2.4.2.1.15 | E2   | 39.002    |           | Arc flash protection scheme (all panels)  | No   | 17       |                 |        |
| 4.E2.4.2.1.16 | E2   | 39.001    |           | Design and documentation  | Sum  | 1        |                 |        |
| 4.E2.4.2.1.17 | E2   | 39.002    |           | Protection settings engineering   | Sum  | 1        |                 |        |
| 4.E2.4.2.1.18 | E2   | 39.002    |           | Independent protection schemes commissioning  | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>Substation Local Area Network c/w MEAP, managed industrial type Ethernet switches, patch panels, patch leads and network cabling</b> |      |          |                 |        |
| 4.E2.4.2.1.19 | E2   | 39.002    |           | GPS Synchronized Clock  | No   | 1        |                 |        |
| 4.E2.4.2.1.20 | E2   | 39.002    |           | Managed Industrial type switched, 24-port   | No   | 8        |                 |        |
|               | E2   | 39.002    |           | Patch panels  |      | 8        |                 |        |
| 4.E2.4.2.1.21 | E2   | 39.002    |           | Patch leads   | Sum  | 1        |                 |        |
| 4.E2.4.2.1.22 | E2   | 39.002    |           | All network cabling (both copper and fibre-optic)   | Sum  | 1        |                 |        |
| 4.E2.4.2.1.23 | E2   | 39.002    |           | Switch set-up and configuration   | No   | 8        |                 |        |
| 4.E2.4.2.1.24 | E2   | 39.001    |           | Design and documentation  | Sum  | 1        |                 |        |
|               | E2   |           | x         | <b>Power factor correction plant</b>  |      |          |                 |        |
| 4.E2.4.2.1.25 | E2   | 39.002    |           | 11kV High Lift Pump power factor correction   | Sum  | 1        |                 |        |
| 4.E2.4.2.1.26 | E2   | 39.001    |           | Design and documentation  | Sum  | 1        |                 |        |
| 4.E2.4.2.1.27 | E2   | 39.002    |           | Delivery  | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>Metering</b>   |      |          |                 |        |
| 4.E2.4.2.1.28 | E2   | 39.002    |           | Quality of Supply, main & check metering for incomers and summation   | No   | 2        |                 |        |
| 4.E2.4.2.1.29 | E2   | 39.002    |           | Feeder main metering  | No   | 12       |                 |        |
| 4.E2.4.2.1.30 | E2   | 39.002    |           | Panels required for metering (including metering PC & QOS software)   | No   | 1        |                 |        |
| 4.E2.4.2.1.31 | E2   | 39.001    |           | Design and documentation  | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>DC distribution systems</b>  |      |          |                 |        |
| 4.E2.4.2.1.32 | E2   | 39.002    |           | 110 Volt Substation Battery chargers  | No   | 2        |                 |        |
| 4.E2.4.2.1.33 | E2   | 39.002    |           | 110 Volt Ni-Cd Battery banks complete with mounting racks   | No   | 2        |                 |        |
| 4.E2.4.2.1.34 | E2   | 39.002    |           | 110 Volt DC distribution board complete with selection system   | No   | 1        |                 |        |
| 4.E2.4.2.1.35 | E2   | 39.001    |           | Design and documentation  | Sum  | 1        |                 |        |
|               |      |           |           |   |      |          | Carried Forward |        |

| Item no.      | Part | Payment | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|---------|-----------|--|------|----------|-----------------|--------|
|               |      |         |           |  |      |          |                 |        |
|               |      |         |           |  |      |          | Brought Forward |        |
|               |      |         | x         | <b>Variable speed drives (VSD's)</b>   |      |          |                 |        |
| 4.E2.4.2.1.36 | E2   | 39.002  |           | 4.5MW 6.6kV VSD's  | No   | 4        |                 |        |
| 4.E2.4.2.1.37 | E2   | 39.001  |           | Design and documentation   | Sum  | 1        |                 |        |
|               | E2   |         |           | <b>Motor surge protection</b>  |      |          |                 |        |
| 4.E2.4.2.1.38 | E2   | 39.002  |           | 6.6 kV Motor Surge Protection  | No   | 4        |                 |        |
| 4.E2.4.2.1.39 | E2   | 39.001  |           | Design and Documentation   | No   | 1        |                 |        |
|               | E2   |         |           | <b>Miniature substation (MSS)</b>  |      |          |                 |        |
| 4.E2.4.2.1.40 | E2   | 39.002  |           | 200 kVA 11/0.4 kV  | No   | 1        |                 |        |
| 4.E2.4.2.1.41 | E2   | 39.002  |           | 315 kVA 11/0.4 kV  | No   | 1        |                 |        |
| 4.E2.4.2.1.42 | E2   | 39.002  |           | 1000 kVA 11/0.4 kV   | No   | 2        |                 |        |
| 4.E2.4.2.1.43 | E2   | 39.002  |           | Pre-cast plinth for MSS  | No   | 3        |                 |        |
| 4.E2.4.2.1.44 | E2   | 39.002  |           | Earthing for MSS   | No   | 3        |                 |        |
|               | E2   |         |           | <b>Cables, earth wires and ancillary</b>   |      |          |                 |        |
|               | E2   |         |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) single core cables</b>                           |      |          |                 |        |
| 4.E2.4.2.1.45 | E2   | 39.002  |           | 500 mm <sup>2</sup> Al - Eskom supply  | m    | 1800     |                 |        |
|               | E2   |         |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>                            |      |          |                 |        |
| 4.E2.4.2.1.46 | E2   | 39.002  |           | 185 mm <sup>2</sup> Cu - VSD supply  | m    | 200      |                 |        |
| 4.E2.4.2.1.47 | E2   | 39.002  |           | 70 mm <sup>2</sup> Cu - ring feeder (MSS5/MSS1/MSS2/MSS3)  | m    | 600      |                 |        |
|               | E2   |         |           | <b>3.8/6.6 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>                            |      |          |                 |        |
| 4.E2.4.2.1.48 | E2   | 39.002  |           | 150mm <sup>2</sup> (Cu) - pump motor supply  | m    | 400      |                 |        |
| 4.E2.4.2.1.49 | E2   |         |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>                                  |      |          |                 |        |
| 4.E2.4.2.1.50 | E2   | 39.002  |           | 185 mm <sup>2</sup> Cu x 4c ECC  | m    | 800      |                 |        |
| 4.E2.4.2.1.51 | E2   | 39.002  |           | 150 mm <sup>2</sup> Cu x 4c ECC  | m    | 10       |                 |        |
| 4.E2.4.2.1.52 | E2   | 39.002  |           | 25 mm <sup>2</sup> Cu x 4c ECC   | m    | 40       |                 |        |
| 4.E2.4.2.1.53 | E2   | 39.002  |           | 10 mm <sup>2</sup> Cu x 4c ECC   | m    | 740      |                 |        |
| 4.E2.4.2.1.54 | E2   | 39.002  |           | 6 mm <sup>2</sup> Cu x 4c ECC  | m    | 60       |                 |        |
| 4.E2.4.2.1.55 | E2   | 39.002  |           | 4 mm <sup>2</sup> Cu x 3c  | m    | 360      |                 |        |
| 4.E2.4.2.1.56 | E2   | 39.002  |           | 2.5 mm <sup>2</sup> Cu x 3c  | m    | 45       |                 |        |
|               | E2   |         |           | <b>Stranded conductor single core earth wires</b>  |      |          |                 |        |
|               | E2   |         |           | <b>Bare copper earth wire (BCEW)</b>   |      |          |                 |        |
| 4.E2.4.2.1.57 | E2   | 39.002  |           | 185 mm <sup>2</sup>  | m    | 600      |                 |        |
| 4.E2.4.2.1.58 | E2   | 39.002  |           | 35 mm <sup>2</sup>   | m    | 700      |                 |        |
| 4.E2.4.2.1.59 | E2   | 39.002  |           | 16 mm <sup>2</sup>   | m    | 300      |                 |        |
|               | E2   |         |           | <b>600/1000 V PVC green and yellow insulated</b>   |      |          |                 |        |
| 4.E2.4.2.1.60 | E2   | 39.002  |           | 95 mm <sup>2</sup>   | m    | 10       |                 |        |
| 4.E2.4.2.1.61 | E2   | 39.002  |           | 50 mm <sup>2</sup>   | m    | 70       |                 |        |
| 4.E2.4.2.1.62 | E2   | 39.002  |           | 6 mm <sup>2</sup>  | m    | 30       |                 |        |
| 4.E2.4.2.1.63 | E2   | 39.002  |           | 4 mm <sup>2</sup>  | m    | 10       |                 |        |
| 4.E2.4.2.1.64 | E2   | 39.002  |           | 2.5 mm <sup>2</sup>  | m    | 430      |                 |        |
|               | E2   |         |           | <b>Cabling for control, protection &amp; metering c/w LV and DC supplies</b>                             |      |          |                 |        |
| 4.E2.4.2.1.65 | E2   | 39.002  |           | Main incomer feeder units - Eskom  | Sets | 2        |                 |        |
| 4.E2.4.2.1.66 | E2   | 39.002  |           | Buscoupler units   | Sets | 2        |                 |        |
| 4.E2.4.2.1.67 | E2   | 39.002  |           | Bussection units   | Sets | 1        |                 |        |
| 4.E2.4.2.1.68 | E2   | 39.002  |           | Outgoing feeder units - LLPS   | Sets | 2        |                 |        |
| 4.E2.4.2.1.69 | E2   | 39.002  |           | Outgoing feeder units - VSD's  | Sets | 7        |                 |        |
| 4.E2.4.2.1.70 | E2   | 39.002  |           | Outgoing feeder units - MSS  | Sets | 2        |                 |        |
| 4.E2.4.2.1.71 | E2   | 39.002  |           | Arc flash protection - complete 11 kV switchboard  | Sets | 17       |                 |        |
| 4.E2.4.2.1.72 | E2   | 39.002  |           | DC distribution system   | Sets | 1        |                 |        |
|               | E2   |         |           | <b>Fibre optic cable for differential protection on Main Feeder circuits including all terminations.</b> |      |          |                 |        |
| 4.E2.4.2.1.73 | E2   | 39.002  |           | 40mm diameter HDPE class 6 sleeve for HDD fibre optic cable - 300m lengths coupled through               | m    | 100      |                 |        |
| 4.E2.4.2.1.74 | E2   | 39.002  |           | 48 SM HDD fibre cable in 40mm sleeve   | m    | 100      |                 |        |
| 4.E2.4.2.1.75 | E2   | 39.002  |           | Draw pits every 900m.  | No.  | 3        |                 |        |
|               |      |         |           |  |      |          | Carried Forward |        |

| Item no.       | Part | Payment   | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|---|----------------|----------|-----------------|--------|
|                |      | Reference |           |   |                |          |                 |        |
|                |      |           |           |   |                |          | Brought Forward |        |
|                | E2   |           |           | <b>Joints</b>   |                |          |                 |        |
|                | E2   |           |           | <b>6.35/11 kV Type A XLPE joints</b>  |                |          |                 |        |
| 4.E2.4.2.1.76  | E2   | 39.002    |           | Three core XLPE 70mm <sup>2</sup> (Cu)  | No             | 5        |                 |        |
|                | E2   |           |           | <b>Terminations</b>   |                |          |                 |        |
|                | E2   |           |           | <b>6.35/11 kV Type A XLPE terminations</b>  |                |          |                 |        |
| 4.E2.4.2.1.77  | E2   | 39.002    |           | Single core XLPE 500mm <sup>2</sup> (Al) - Outdoor  | No             | 18       |                 |        |
| 4.E2.4.2.1.78  | E2   | 39.002    |           | Single core XLPE 500mm <sup>2</sup> (Al) - Indoor   | No             | 18       |                 |        |
| 4.E2.4.2.1.79  | E2   | 39.002    |           | Three core XLPE 185mm <sup>2</sup> (Cu) - Indoor  | No             | 8        |                 |        |
| 4.E2.4.2.1.80  | E2   | 39.002    |           | Three core XLPE 70mm <sup>2</sup> (Cu) - Indoor   | No             | 4        |                 |        |
|                | E2   |           |           | <b>3.8/6.6 kV Type A XLPE terminations</b>  |                |          |                 |        |
| 4.E2.4.2.1.81  | E2   | 39.002    |           | Three core XLPE 150mm <sup>2</sup> (Cu) - Indoor  | No             | 16       |                 |        |
|                | E2   |           |           | <b>600/1000 V PVC SWA multi core terminations</b>   |                |          |                 |        |
| 4.E2.4.2.1.82  | E2   | 39.002    |           | 185 mm <sup>2</sup> Cu x 4c ECC   | No             | 24       |                 |        |
| 4.E2.4.2.1.83  | E2   | 39.002    |           | 150 mm <sup>2</sup> Cu x 4c ECC   | No             | 4        |                 |        |
| 4.E2.4.2.1.84  | E2   | 39.002    |           | 25 mm <sup>2</sup> Cu x 4c ECC  | No             | 4        |                 |        |
| 4.E2.4.2.1.85  | E2   | 39.002    |           | 10 mm <sup>2</sup> Cu x 4c ECC  | No             | 10       |                 |        |
| 4.E2.4.2.1.86  | E2   | 39.002    |           | 6 mm <sup>2</sup> Cu x 4c   | No             | 8        |                 |        |
| 4.E2.4.2.1.87  | E2   | 39.002    |           | 4 mm <sup>2</sup> Cu x 3c   | No             | 20       |                 |        |
| 4.E2.4.2.1.88  | E2   | 39.002    |           | 2.5 mm <sup>2</sup> Cu x 3c   | No             | 16       |                 |        |
|                | E2   |           |           | <b>Trenching, excavations and backfilling</b>   |                |          |                 |        |
| 4.E2.4.2.1.89  | E2   | 39.002    |           | Excavation in soft material   | m <sup>3</sup> | 700      |                 |        |
| 4.E2.4.2.1.90  | E2   | 39.002    |           | Excavation in hard rock   | m <sup>3</sup> | 120      |                 |        |
| 4.E2.4.2.1.91  | E2   | 39.002    |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 490      |                 |        |
| 4.E2.4.2.1.92  | E2   | 39.002    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 330      |                 |        |
| 4.E2.4.2.1.93  | E2   | 39.002    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Sum            | 1        |                 |        |
| 4.E2.4.2.1.94  | E2   | 39.002    |           | Danger tape installation  | m              | 800      |                 |        |
| 4.E2.4.2.1.95  | E2   | 39.002    |           | Cable markers   | No             | 21       |                 |        |
| 4.E2.4.2.1.96  | E2   | 39.002    |           | Cable sleeves - 160mm HDPE Class 6  | m              | 120      |                 |        |
| 4.E2.4.2.1.97  | E2   | 39.002    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No             | 10       |                 |        |
|                | E2   |           |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |                |          |                 |        |
| 4.E2.4.2.1.98  | E2   | 39.002    |           | Drawing 2E-E2.3-001: 2E-SD-01   | No             | 1        |                 |        |
| 4.E2.4.2.1.99  | E2   | 39.002    |           | Drawing 2E-E2.3-002: 2E-SD-02   | No             | 1        |                 |        |
| 4.E2.4.2.1.100 | E2   | 39.002    |           | Drawing 2E-E2.3-003: 2E-SD-03   | No             | 1        |                 |        |
| 4.E2.4.2.1.101 | E2   | 39.002    |           | Drawing 2E-E2.3-006: 2E-SD-04   | No             | 1        |                 |        |
| 4.E2.4.2.1.102 | E2   | 39.002    |           | Drawing 2E-E2.3-008: 2E-SD-05   | No             | 1        |                 |        |
| 4.E2.4.2.1.103 | E2   | 39.002    |           | Drawing 2E-E2.3-006: 2E-SD-08   | No             | 1        |                 |        |
| 4.E2.4.2.1.104 | E2   | 39.002    |           | Drawing 2E-E2.3-014: 2E-SD-14 & 2E-SD-115   | No             | 2        |                 |        |
| 4.E2.4.2.1.105 | E2   | 39.002    |           | Drawing 2E-E2.3-009: 2E-SD-09   | No             | 1        |                 |        |
| 4.E2.4.2.1.106 | E2   | 39.002    |           | Drawing 2A-E2.3-001: 2E-SD-11   | No             | 1        |                 |        |
| 4.E2.4.2.1.107 | E2   | 39.002    |           | Drawing 2E-E2.3-005: 2E-SD-02   | No             | 1        |                 |        |
|                | E2   |           |           | <b>Small power and lighting</b>   |                |          |                 |        |
|                | E2   |           |           | <b>Wiring, conduits and accessories</b>   |                |          |                 |        |
|                | E2   |           |           | <b>Conduits - PVC</b>   |                |          |                 |        |
| 4.E2.4.2.1.108 | E2   | 39.002    |           | 20 mm diameter  | m              | 340      |                 |        |
| 4.E2.4.2.1.109 | E2   | 39.002    |           | 25 mm diameter  | m              | 30       |                 |        |
| 4.E2.4.2.1.110 | E2   | 39.002    |           | 50 mm diameter  | m              | 10       |                 |        |
|                | E2   |           |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |                |          |                 |        |
| 4.E2.4.2.1.112 | E2   | 39.002    |           | 4 mm <sup>2</sup>   | m              | 1440     |                 |        |
| 4.E2.4.2.1.113 | E2   | 39.002    |           | 2.5 mm <sup>2</sup>   | m              | 1800     |                 |        |
|                | E2   |           |           | <b>Socket outlets</b>   |                |          |                 |        |
| 4.E2.4.2.1.114 | E2   | 39.002    |           | 16A Standard SSO  | No             | 30       |                 |        |
| 4.E2.4.2.1.115 | E2   | 39.002    |           | 13A Dedicated SSO   | No             | 2        |                 |        |
|                | E2   |           |           | <b>Switches</b>   |                |          |                 |        |
| 4.E2.4.2.1.116 | E2   | 39.002    |           | Single Lever 1-Way Light switch   | No             | 18       |                 |        |
| 4.E2.4.2.1.117 | E2   | 39.002    |           | Single Lever 2-Way Light switch   | No             | 2        |                 |        |
| 4.E2.4.2.1.118 | E2   | 39.002    |           | Photo cell  | No             | 1        |                 |        |
|                |      |           |           |   |                |          | Carried Forward |        |

| Item no.       | Part | Payment | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------------|------|---------|-----------|---|------|----------|-----------------|--------|
|                |      |         |           |   |      |          |                 |        |
|                |      |         |           |   |      |          | Brought Forward |        |
|                | E2   |         |           | <b>Isolators</b>  |      |          |                 |        |
| 4.E2.4.2.1.119 | E2   | 39.002  |           | 60A double pole isolator                                    | No   | 20       |                 |        |
| 4.E2.4.2.1.120 | E2   | 39.002  |           | 60A triple pole isolator                                    | No   | 5        |                 |        |
|                | E2   |         |           | <b>Powerskirting and trunking</b>                           |      |          |                 |        |
| 4.E2.4.2.1.121 | E2   | 39.002  |           | P2000   | m    | 580      |                 |        |
|                | E2   |         |           | <b>Two compartment, two cover sheet metal powerskirting</b> |      |          |                 |        |
| 4.E2.4.2.1.122 | E2   | 39.002  |           | Straight lengths  | m    | 18       |                 |        |
| 4.E2.4.2.1.123 | E2   | 39.002  |           | 90 degree bends   | No   | 4        |                 |        |
|                | E2   |         |           | <b>Cable ladder, trays and supports</b>                     |      |          |                 |        |
|                | E2   |         |           | <b>Heavy duty cable ladder</b>                              |      |          |                 |        |
|                | E2   |         |           | <b>Straight lengths</b>                                     |      |          |                 |        |
| 4.E2.4.2.1.124 | E2   | 39.002  |           | 800 mm wide   | m    | 60       |                 |        |
| 4.E2.4.2.1.125 | E2   | 39.002  |           | 600 mm wide   | m    | 255      |                 |        |
| 4.E2.4.2.1.126 | E2   | 39.002  |           | 300 mm wide   | m    | 100      |                 |        |
|                | E2   |         |           | <b>90 degree bends</b>                                      |      |          |                 |        |
| 4.E2.4.2.1.127 | E2   | 39.002  |           | 800 mm wide   | No   | 4        |                 |        |
| 4.E2.4.2.1.128 | E2   | 39.002  |           | 600 mm wide   | No   | 8        |                 |        |
| 4.E2.4.2.1.129 | E2   | 39.002  |           | 300 mm wide   | No   | 15       |                 |        |
|                | E2   |         |           | <b>Tees</b>   |      |          |                 |        |
| 4.E2.4.2.1.130 | E2   | 39.002  |           | 800 mm wide   | No   | 3        |                 |        |
| 4.E2.4.2.1.131 | E2   | 39.002  |           | 600 mm wide   | No   | 5        |                 |        |
| 4.E2.4.2.1.132 | E2   | 39.002  |           | 300 mm wide   | No   | 17       |                 |        |
|                | E2   |         |           | <b>Medium duty perforated cable tray</b>                    |      |          |                 |        |
|                | E2   |         |           | <b>Straight lengths</b>                                     |      |          |                 |        |
| 4.E2.4.2.1.133 | E2   | 39.002  |           | 200 mm wide   | m    | 70       |                 |        |
| 4.E2.4.2.1.134 | E2   | 39.002  |           | 100 mm wide   | m    | 15       |                 |        |
| 4.E2.4.2.1.135 | E2   | 39.002  |           | 76 mm wide  | m    | 180      |                 |        |
|                | E2   |         |           | <b>90 degree bends</b>                                      |      |          |                 |        |
| 4.E2.4.2.1.136 | E2   | 39.002  |           | 200 mm wide   | No   | 8        |                 |        |
| 4.E2.4.2.1.137 | E2   | 39.002  |           | 100 mm wide   | No   | 5        |                 |        |
| 4.E2.4.2.1.138 | E2   | 39.002  |           | 76 mm wide  | No   | 20       |                 |        |
|                | E2   |         |           | <b>Tees</b>   |      |          |                 |        |
| 4.E2.4.2.1.139 | E2   | 39.002  |           | 200 mm wide   | No   | 2        |                 |        |
| 4.E2.4.2.1.140 | E2   | 39.002  |           | 100 mm wide   | No   | 1        |                 |        |
| 4.E2.4.2.1.141 | E2   | 39.002  |           | 76 mm wide  | No   | 2        |                 |        |
|                | E2   |         |           | <b>Light fittings</b>                                       |      |          |                 |        |
| 4.E2.4.2.1.142 | E2   | 39.002  |           | Type A  | No   | 25       |                 |        |
| 4.E2.4.2.1.143 | E2   | 39.002  |           | Type A1   | No   | 11       |                 |        |
| 4.E2.4.2.1.144 | E2   | 39.002  |           | Type A2   | No   | 20       |                 |        |
| 4.E2.4.2.1.145 | E2   | 39.002  |           | Type A3   | No   | 12       |                 |        |
| 4.E2.4.2.1.146 | E2   | 39.002  |           | Type B  | No   | 45       |                 |        |
| 4.E2.4.2.1.147 | E2   | 39.002  |           | Type B1   | No   | 10       |                 |        |
| 4.E2.4.2.1.148 | E2   | 39.002  |           | Type C  | No   | 1        |                 |        |
| 4.E2.4.2.1.149 | E2   | 39.002  |           | Type D  | No   | 12       |                 |        |
| 4.E2.4.2.1.150 | E2   | 39.002  |           | Type F1   | No   | 10       |                 |        |
| 4.E2.4.2.1.151 | E2   | 39.002  |           | Type M  | No   | 20       |                 |        |
| 4.E2.4.2.1.152 | E2   | 39.002  |           | Type M pole   | No   | 20       |                 |        |
|                | E2   |         | x         | <b>Standby generator systems</b>                            |      |          |                 |        |
| 4.E2.4.2.1.153 | E2   | 39.002  |           | 350 kVA Generator   | No   | 1        |                 |        |
| 4.E2.4.2.1.154 | E2   | 39.002  |           | 40% of 350kVA Two-step Dummy Load                           | No   | 1        |                 |        |
| 4.E2.4.2.1.155 | E2   | 39.001  |           | Design and documentation                                    | Sum  | 1        |                 |        |
|                | E2   |         |           | <b>Uninterruptible power supplies (UPS)</b>                 |      |          |                 |        |
| 4.E2.4.2.1.156 | E2   | 39.002  |           | LLPS - 15kVA  | No   | 2        |                 |        |
| 4.E2.4.2.1.157 | E2   | 39.002  |           | LLPS - 1kVA   | No   | 2        |                 |        |
| 4.E2.4.2.1.158 | E2   | 39.001  |           | Design and documentation                                    | Sum  | 1        |                 |        |
|                |      |         |           |   |      |          | Carried Forward |        |

| Item no.       | Part | Payment Reference | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|--|----------------|----------|-----------------|--------|
|                |      |                   |           |  |                |          |                 |        |
|                |      |                   |           |  |                |          | Brought Forward |        |
|                | E2   |                   |           | <b>Lightning protection, bonding and earthing</b>  |                |          |                 |        |
|                | E2   |                   |           | <b>Earthing and bonding of plant</b>   |                |          |                 |        |
| 4.E2.4.2.1.159 | E2   | 39.002            |           | MV 11 kV switchgear and protection bays  | Sum            | 1        |                 |        |
| 4.E2.4.2.1.160 | E2   | 39.002            |           | DC System, Metering Panel, etc.  | Sum            | 1        |                 |        |
| 4.E2.4.2.1.161 | E2   | 39.002            |           | Low voltage AC system and plant  | Sum            | 1        |                 |        |
| 4.E2.4.2.1.162 | E2   | 39.002            |           | Cable trays and supports   | Sum            | 1        |                 |        |
| 4.E2.4.2.1.163 | E2   | 39.002            |           | All duct, trench and basement earthing   | Sum            | 1        |                 |        |
| 4.E2.4.2.1.164 | E2   | 39.001            |           | Earthing and bonding design and documentation  | Sum            | 1        |                 |        |
|                | E2   |                   |           | <b>Earthing and lightning protection</b>   |                |          |                 |        |
| 4.E2.4.2.1.165 | E2   | 39.002            |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum            | 1        |                 |        |
| 4.E2.4.2.1.166 | E2   | 39.002            |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum            | 1        |                 |        |
| 4.E2.4.2.1.167 | E2   | 39.002            |           | Complete lightning risk analysis in terms of SANS 62305-2  | Sum            | 1        |                 |        |
| 4.E2.4.2.1.168 | E2   | 39.002            |           | Complete lightning protection system conforming to the relevant SANS, comprising either or all of air termination systems (ATS), down conductor systems (DCS) and earth termination systems (ETS).   | Sum            | 1        |                 |        |
| 4.E2.4.2.1.169 | E2   | 39.002            |           | Special Tools and Test plant   | Sum            | 1        |                 |        |
| 4.E2.4.2.1.170 | E2   | 39.001            |           | Earthing and lightning protection design and documentation   | Sum            | 1        |                 |        |
|                | E2   |                   |           | <b>Miscellaneous and general</b>   |                |          |                 |        |
| 4.E2.4.2.1.171 | E2   | 39.002            |           | Motor field isolators and e-stops  | Sum            | 1        |                 |        |
| 4.E2.4.2.1.172 | E2   | 39.002            |           | Safety plant   | Sum            | 1        |                 |        |
|                | E2   |                   |           | <b>PART E2.4.2.2: GUARDHOUSE 1</b>   |                |          |                 |        |
|                | E2   |                   |           | <b>Cables, earth wires and ancillary</b>   |                |          |                 |        |
|                | E2   |                   |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>  |                |          |                 |        |
| 4.E2.4.2.2.1   | E2   | 39.002            |           | 35 mm <sup>2</sup> Cu x 4c   | m              | 80       |                 |        |
|                | E2   |                   |           | <b>600/1000 V PVC SWA multi core terminations</b>  |                |          |                 |        |
| 4.E2.4.2.2.2   | E2   | 39.002            |           | 35 mm <sup>2</sup> Cu x 4c   | No             | 2        |                 |        |
|                | E2   |                   |           | <b>Trenching, excavations and backfilling</b>  |                |          |                 |        |
| 4.E2.4.2.2.3   | E2   | 39.002            |           | Excavation in soft material  | m <sup>3</sup> | 50       |                 |        |
| 4.E2.4.2.2.4   | E2   | 39.002            |           | Excavation in hard rock  | m <sup>3</sup> | 10       |                 |        |
| 4.E2.4.2.2.5   | E2   | 39.002            |           | Soft soil backfilling and compaction   | m <sup>3</sup> | 40       |                 |        |
| 4.E2.4.2.2.6   | E2   | 39.002            |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity  | m <sup>3</sup> | 20       |                 |        |
| 4.E2.4.2.2.7   | E2   | 39.002            |           | Barricading of trenches (install and remove only - Contractor to use own barricading)  | Sum            | 1        |                 |        |
| 4.E2.4.2.2.8   | E2   | 39.002            |           | Danger tape installation   | m              | 150      |                 |        |
| 4.E2.4.2.2.9   | E2   | 39.002            |           | Cable markers  | No             | 3        |                 |        |
| 4.E2.4.2.2.10  | E2   | 39.002            |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction  | No             | 1        |                 |        |
|                | E2   |                   |           | <b>Cable sleeves</b>   |                |          |                 |        |
| 4.E2.4.2.2.11  | E2   | 39.002            |           | 50mm HDPE Class 6  | m              | 40       |                 |        |
|                | E2   |                   |           | <b>MCC's, distribution boards and switch board as per drawings</b>   |                |          |                 |        |
| 4.E2.4.2.2.12  | E2   | 39.002            |           | Drawing 2A-E2.3-003: 2A-SD-03  | No             | 1        |                 |        |
|                | E2   |                   |           | <b>Small power and lighting</b>  |                |          |                 |        |
|                | E2   |                   |           | <b>Wiring, conduits and accessories</b>  |                |          |                 |        |
|                | E2   |                   |           | <b>Conduits - PVC</b>  |                |          |                 |        |
| 4.E2.4.2.2.13  | E2   | 39.002            |           | 20 mm diameter   | m              | 20       |                 |        |
| 4.E2.4.2.2.14  | E2   | 39.002            |           | 25 mm diameter   | m              | 20       |                 |        |
| 4.E2.4.2.2.15  | E2   | 39.002            |           | 50 mm diameter   | m              | 5        |                 |        |
| 4.E2.4.2.2.16  | E2   |                   |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>   |                |          |                 |        |
| 4.E2.4.2.2.17  | E2   | 39.002            |           | 4 mm <sup>2</sup>  | m              | 90       |                 |        |
| 4.E2.4.2.2.18  | E2   | 39.002            |           | 2.5 mm <sup>2</sup>  | m              | 90       |                 |        |
|                |      |                   |           |  |                |          | Carried Forward |        |

| Item no.      | Part | Payment   | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|---------------|------|-----------|-----------|--|----------------|----------|-----------------|--------|
|               |      | Reference |           |  |                |          |                 |        |
|               |      |           |           |  |                |          | Brought Forward |        |
|               | E2   | 39.002    |           | <b>Socket outlets</b>  |                |          |                 |        |
| 4.E2.4.2.2.19 | E2   | 39.002    |           | 16A Standard SSO   | No             | 5        |                 |        |
| 4.E2.4.2.2.20 | E2   | 39.002    |           | 13A Dedicated SSO  | No             | 3        |                 |        |
|               | E2   |           |           | <b>Switches</b>  |                |          |                 |        |
| 4.E2.4.2.2.21 | E2   | 39.002    |           | Single Lever 1-Way Light switch  | No             | 4        |                 |        |
| 4.E2.4.2.2.22 | E2   | 39.002    |           | Single Lever 1-Way Dimmer Switch   | No             | 1        |                 |        |
| 4.E2.4.2.2.23 | E2   | 39.002    |           | Photo cell   | No             | 1        |                 |        |
|               | E2   |           |           | <b>Isolators</b>   |                |          |                 |        |
| 4.E2.4.2.2.24 | E2   | 39.002    |           | 60A double pole isolator   | No             | 2        |                 |        |
|               | E2   |           |           | <b>Powerskirting and trunking</b>  |                |          |                 |        |
| 4.E2.4.2.2.25 | E2   | 39.002    |           | P2000  | m              | 10       |                 |        |
|               | E2   |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>  |                |          |                 |        |
| 4.E2.4.2.2.26 | E2   | 39.002    |           | Straight lengths   | m              | 18       |                 |        |
| 4.E2.4.2.2.27 | E2   | 39.002    |           | 90 degree bends  | No             | 4        |                 |        |
|               | E2   |           |           | <b>Cable ladder, trays and supports</b>  |                |          |                 |        |
|               | E2   |           |           | <b>Medium duty perforated cable tray</b>   |                |          |                 |        |
|               | E2   |           |           | <b>Straight lengths</b>  |                |          |                 |        |
| 4.E2.4.2.2.28 | E2   | 39.002    |           | 76 mm wide   | m              | 10       |                 |        |
|               | E2   |           |           | <b>90 degree bends</b>   |                |          |                 |        |
| 4.E2.4.2.2.29 | E2   | 39.002    |           | 76 mm wide   | No             | 4        |                 |        |
|               | E2   |           |           | <b>Tees</b>  |                |          |                 |        |
| 4.E2.4.2.2.30 | E2   | 39.002    |           | 76 mm wide   | No             | 2        |                 |        |
|               | E2   |           |           | <b>Light fittings</b>  |                |          |                 |        |
| 4.E2.4.2.2.31 | E2   | 39.002    |           | Type B   | No             | 6        |                 |        |
| 4.E2.4.2.2.32 | E2   | 39.002    |           | Type E   | No             | 2        |                 |        |
| 4.E2.4.2.2.33 | E2   | 39.002    |           | Type H1  | No             | 2        |                 |        |
|               | E2   |           |           | <b>Uninterruptible power supplies (UPS)</b>  |                |          |                 |        |
| 4.E2.4.2.2.34 | E2   | 39.002    |           | Guardhouse - 6kVA  | No             | 1        |                 |        |
| 4.E2.4.2.2.35 | E2   | 39.001    |           | Design and documentation   | No             | 1        |                 |        |
|               | E2   |           |           | <b>Lightning protection, bonding and earthing</b>  |                |          |                 |        |
|               | E2   |           |           | <b>Earthing and bonding of plant</b>   |                |          |                 |        |
| 4.E2.4.2.2.36 | E2   | 39.002    |           | Low voltage AC system and plant  | Sum            | 1        |                 |        |
| 4.E2.4.2.2.37 | E2   | 39.002    |           | Cable trays and supports   | Sum            | 1        |                 |        |
| 4.E2.4.2.2.38 | E2   | 39.001    |           | Earthing and bonding design and documentation  | Sum            | 1        |                 |        |
|               | E2   |           |           | <b>Earthing and lightning protection</b>   |                |          |                 |        |
| 4.E2.4.2.2.39 | E2   | 39.002    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum            | 1        |                 |        |
| 4.E2.4.2.2.40 | E2   | 39.002    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum            | 1        |                 |        |
|               | E2   |           |           | <b>Miscellaneous and general</b>   |                |          |                 |        |
| 4.E2.4.2.2.41 | E2   | 39.002    |           | Motor field isolators and e-stops  | Sum            | 1        |                 |        |
| 4.E2.4.2.2.42 | E2   | 39.002    |           | Safety plant   | Sum            | 1        |                 |        |
|               | E2   |           |           | <b>PART E2.4.2.3: GUARDHOUSE 2</b>   |                |          |                 |        |
|               | E2   |           |           | <b>Cables, earth wires and ancillary</b>   |                |          |                 |        |
|               | E2   |           |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>  |                |          |                 |        |
| 4.E2.4.2.3.1  | E2   | 39.002    |           | 35 mm <sup>2</sup> Cu x 4c   | m              | 150      |                 |        |
|               | E2   |           |           | <b>600/1000 V PVC SWA multi core terminations</b>  |                |          |                 |        |
| 4.E2.4.2.3.2  | E2   | 39.002    |           | 35 mm <sup>2</sup> Cu x 4c   | No             | 2        |                 |        |
|               | E2   |           |           | <b>Trenching, excavations and backfilling</b>  |                |          |                 |        |
| 4.E2.4.2.3.3  | E2   | 39.002    |           | Excavation in soft material  | m <sup>3</sup> | 130      |                 |        |
| 4.E2.4.2.3.4  | E2   | 39.002    |           | Excavation in hard rock  | m <sup>3</sup> | 20       |                 |        |
|               |      |           |           |  |                |          | Carried Forward |        |

| Item no.      | Part | Payment | Breakdown Reference | Description   | Unit | Quantity | Rate            | Amount |
|---------------|------|---------|---------------------|---|------|----------|-----------------|--------|
|               |      |         |                     |   |      |          |                 |        |
|               |      |         |                     |   |      |          | Brought Forward |        |
| 4.E2.4.2.3.5  | E2   | 39.002  |                     | Soft soil backfilling and compaction  | m³   | 90       |                 |        |
| 4.E2.4.2.3.6  | E2   | 39.002  |                     | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m³   | 60       |                 |        |
| 4.E2.4.2.3.7  | E2   | 39.002  |                     | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Sum  | 1        |                 |        |
| 4.E2.4.2.3.8  | E2   | 39.002  |                     | Danger tape installation  | m    | 150      |                 |        |
| 4.E2.4.2.3.9  | E2   | 39.002  |                     | Cable markers   | No   | 3        |                 |        |
| 4.E2.4.2.3.10 | E2   | 39.002  |                     | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No   | 1        |                 |        |
|               |      |         |                     | <b>Cable sleeves</b>  |      |          |                 |        |
| 4.E2.4.2.3.11 | E2   | 39.002  |                     | 50mm HDPE Class 6   | m    | 40       |                 |        |
|               |      |         |                     | <b>MCC's, distribution boards and switch board as per drawings</b>  |      |          |                 |        |
| 4.E2.4.2.3.12 | E2   | 39.002  |                     | Drawing 2A-E2.3-003: 2A-SD-03   | No   | 1        |                 |        |
|               |      |         |                     | <b>Small power and lighting</b>   |      |          |                 |        |
|               |      |         |                     | <b>Wiring, conduits and accessories</b>   |      |          |                 |        |
|               |      |         |                     | <b>Conduits - PVC</b>   |      |          |                 |        |
| 4.E2.4.2.3.13 | E2   | 39.002  |                     | 20 mm diameter  | m    | 20       |                 |        |
| 4.E2.4.2.3.14 | E2   | 39.002  |                     | 25 mm diameter  | m    | 20       |                 |        |
| 4.E2.4.2.3.15 | E2   | 39.002  |                     | 50 mm diameter  | m    | 5        |                 |        |
|               |      |         |                     | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |      |          |                 |        |
| 4.E2.4.2.3.17 | E2   | 39.002  |                     | 4 mm²   | m    | 90       |                 |        |
| 4.E2.4.2.3.18 | E2   | 39.002  |                     | 2.5 mm²   | m    | 90       |                 |        |
|               |      |         |                     | <b>Socket outlets</b>   |      |          |                 |        |
| 4.E2.4.2.3.19 | E2   | 39.002  |                     | 16A Standard SSO  | No   | 5        |                 |        |
| 4.E2.4.2.3.20 | E2   | 39.002  |                     | 13A Dedicated SSO   | No   | 3        |                 |        |
|               |      |         |                     | <b>Switches</b>   |      |          |                 |        |
| 4.E2.4.2.3.21 | E2   | 39.002  |                     | Single Lever 1-Way Light switch   | No   | 4        |                 |        |
| 4.E2.4.2.3.22 | E2   | 39.002  |                     | Single Lever 1-Way Dimmer Switch  | No   | 1        |                 |        |
| 4.E2.4.2.3.23 | E2   | 39.002  |                     | Photo cell  | No   | 1        |                 |        |
|               |      |         |                     | <b>Isolators</b>  |      |          |                 |        |
| 4.E2.4.2.3.24 | E2   | 39.002  |                     | 60A double pole isolator  | No   | 2        |                 |        |
|               |      |         |                     | <b>Powerskirting and trunking</b>   |      |          |                 |        |
| 4.E2.4.2.3.25 | E2   | 39.002  |                     | P2000   | m    | 10       |                 |        |
|               |      |         |                     | <b>Two compartment, two cover sheet metal powerskirting</b>   |      |          |                 |        |
| 4.E2.4.2.3.26 | E2   | 39.002  |                     | Straight lengths  | m    | 18       |                 |        |
| 4.E2.4.2.3.27 | E2   | 39.002  |                     | 90 degree bends   | No   | 4        |                 |        |
|               |      |         |                     | <b>Cable ladder, trays and supports</b>   |      |          |                 |        |
|               |      |         |                     | <b>Medium duty perforated cable tray</b>  |      |          |                 |        |
|               |      |         |                     | <b>Straight lengths</b>   |      |          |                 |        |
| 4.E2.4.2.3.28 | E2   | 39.002  |                     | 76 mm wide  | m    | 10       |                 |        |
|               |      |         |                     | <b>90 degree bends</b>  |      |          |                 |        |
| 4.E2.4.2.3.29 | E2   | 39.002  |                     | 76 mm wide  | No   | 4        |                 |        |
|               |      |         |                     | <b>Tees</b>   |      |          |                 |        |
| 4.E2.4.2.3.30 | E2   | 39.002  |                     | 76 mm wide  | No   | 2        |                 |        |
|               |      |         |                     | <b>Light fittings</b>   |      |          |                 |        |
| 4.E2.4.2.3.31 | E2   | 39.002  |                     | Type B  | No   | 6        |                 |        |
| 4.E2.4.2.3.32 | E2   | 39.002  |                     | Type E  | No   | 2        |                 |        |
| 4.E2.4.2.3.33 | E2   | 39.002  |                     | Type H1   | No   | 2        |                 |        |
|               |      |         |                     | <b>Uninterruptible power supplies (UPS)</b>   |      |          |                 |        |
| 4.E2.4.2.3.34 | E2   | 39.002  |                     | Guardhouse - 6kVA   | No   | 1        |                 |        |
| 4.E2.4.2.3.35 | E2   | 39.001  |                     | Design and documentation  | No   | 1        |                 |        |
|               |      |         |                     |   |      |          | Carried Forward |        |

| Item no.      | Part | Payment Reference | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|---------------|------|-------------------|-----------|--|----------------|----------|-----------------|--------|
|               |      |                   |           |  |                |          |                 |        |
|               |      |                   |           |  |                |          | Brought Forward |        |
|               | E2   |                   |           | <b>Lightning protection, bonding and earthing</b>  |                |          |                 |        |
|               | E2   |                   |           | <b>Earthing and bonding of plant</b>   |                |          |                 |        |
| 4.E2.4.2.3.36 | E2   | 39.002            |           | Low voltage AC system and plant  | Sum            | 1        |                 |        |
| 4.E2.4.2.3.37 | E2   | 39.002            |           | Cable trays and supports   | Sum            | 1        |                 |        |
| 4.E2.4.2.3.38 | E2   | 39.001            |           | Earthing and bonding design and documentation  | Sum            | 1        |                 |        |
|               | E2   |                   |           | <b>Earthing and lightning protection</b>   |                |          |                 |        |
| 4.E2.4.2.3.39 | E2   | 39.002            |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum            | 1        |                 |        |
| 4.E2.4.2.3.40 | E2   | 39.002            |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum            | 1        |                 |        |
|               | E2   |                   |           | <b>Miscellaneous and general</b>   |                |          |                 |        |
| 4.E2.4.2.3.41 | E2   | 39.002            |           | Motor field isolators and e-stops  | Sum            | 1        |                 |        |
| 4.E2.4.2.3.42 | E2   | 39.002            |           | Safety plant   | Sum            | 1        |                 |        |
|               | E2   |                   |           | <b>PART E2.4.2.4: OPERATIONAL AND CONTROL CENTRE</b>   |                |          |                 |        |
|               | E2   |                   |           | <b>Cables, earth wires and ancillary</b>   |                |          |                 |        |
|               | E2   |                   |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>  |                |          |                 |        |
| 4.E2.4.2.4.1  | E2   | 39.002            |           | 50 mm <sup>2</sup> Cu x 4c ECC   | m              | 50       |                 |        |
| 4.E2.4.2.4.2  | E2   | 39.002            |           | 6 mm <sup>2</sup> Cu x 4c ECC  | m              | 20       |                 |        |
| 4.E2.4.2.4.3  | E2   | 39.002            |           | 4 mm <sup>2</sup> Cu x 3c  | m              | 60       |                 |        |
| 4.E2.4.2.4.4  | E2   | 39.002            |           | 2.5 mm <sup>2</sup> Cu x 3c  | m              | 12       |                 |        |
|               | E2   |                   |           | <b>600/1000 V PVC green and yellow insulated</b>   |                |          |                 |        |
| 4.E2.4.2.4.5  | E2   | 39.002            |           | 6 mm <sup>2</sup>  | m              | 30       |                 |        |
| 4.E2.4.2.4.6  | E2   | 39.002            |           | 4 mm <sup>2</sup>  | m              | 10       |                 |        |
| 4.E2.4.2.4.7  | E2   | 39.002            |           | 2.5 mm <sup>2</sup>  | m              | 430      |                 |        |
|               | E2   |                   |           | <b>600/1000 V PVC SWA multi core terminations</b>  |                |          |                 |        |
| 4.E2.4.2.4.8  | E2   | 39.002            |           | 50 mm <sup>2</sup> Cu x 4c ECC   | No             | 2        |                 |        |
| 4.E2.4.2.4.9  | E2   | 39.002            |           | 6 mm <sup>2</sup> Cu x 4c ECC  | No             | 2        |                 |        |
| 4.E2.4.2.4.10 | E2   | 39.002            |           | 4 mm <sup>2</sup> Cu x 3c  | No             | 20       |                 |        |
| 4.E2.4.2.4.11 | E2   | 39.002            |           | 2.5 mm <sup>2</sup> Cu x 3c  | No             | 6        |                 |        |
|               | E2   |                   |           | <b>Trenching, excavations and backfilling</b>  |                |          |                 |        |
| 4.E2.4.2.4.12 | E2   | 39.002            |           | Excavation in soft material  | m <sup>3</sup> |          |                 |        |
| 4.E2.4.2.4.13 | E2   | 39.002            |           | Excavation in hard rock  | m <sup>3</sup> |          |                 |        |
| 4.E2.4.2.4.14 | E2   | 39.002            |           | Soft soil backfilling and compaction   | m <sup>3</sup> |          |                 |        |
| 4.E2.4.2.4.15 | E2   | 39.002            |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction  | No             | 1        |                 |        |
|               | E2   |                   |           | <b>Cable sleeves</b>   |                |          |                 |        |
| 4.E2.4.2.4.16 | E2   | 39.002            |           | 110mm HDPE Class 6   | m              | 60       |                 |        |
| 4.E2.4.2.4.17 | E2   | 39.002            |           | 50mm HDPE Class 6  | m              | 120      |                 |        |
|               | E2   |                   |           | <b>MCC's, distribution boards and switch board as per drawings</b>   |                |          |                 |        |
| 4.E2.4.2.4.18 | E2   | 39.002            |           | Drawing 2E-E2.3-011: 2E-SD-07  | No             | 1        |                 |        |
| 4.E2.4.2.4.19 | E2   | 39.002            |           | Drawing 2B-E2.3-013: 2E-SD-12 & 2E-SD-11   | No             | 3        |                 |        |
|               | E2   |                   |           | <b>Small power and lighting</b>  |                |          |                 |        |
|               | E2   |                   |           | <b>Wiring, conduits and accessories</b>  |                |          |                 |        |
|               | E2   |                   |           | <b>Conduits - PVC</b>  |                |          |                 |        |
| 4.E2.4.2.4.20 | E2   | 39.002            |           | 20 mm diameter   | m              | 120      |                 |        |
| 4.E2.4.2.4.21 | E2   | 39.002            |           | 25 mm diameter   | m              | 120      |                 |        |
| 4.E2.4.2.4.22 | E2   | 39.002            |           | 50 mm diameter   | m              | 10       |                 |        |
|               | E2   |                   |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>   |                |          |                 |        |
| 4.E2.4.2.4.23 | E2   | 39.002            |           | 4 mm <sup>2</sup>  | m              | 6000     |                 |        |
| 4.E2.4.2.4.24 | E2   | 39.002            |           | 2.5 mm <sup>2</sup>  | m              | 9000     |                 |        |
|               | E2   |                   |           | <b>Socket outlets</b>  |                |          |                 |        |
| 4.E2.4.2.4.25 | E2   | 39.002            |           | 16A Standard SSO   | No             | 35       |                 |        |
| 4.E2.4.2.4.26 | E2   | 39.002            |           | 13A Dedicated SSO  | No             | 2        |                 |        |
| 4.E2.4.2.4.27 | E2   | 39.002            |           | UPS SSO  | No             | 5        |                 |        |
|               |      |                   |           |  |                |          | Carried Forward |        |



| Item no.      | Part | Payment | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|---------------|------|---------|-----------|---|------|----------|-----------------|--------|
|               |      |         |           |   |      |          |                 |        |
|               |      |         |           |   |      |          | Brought Forward |        |
|               |      |         |           | <b>Switches</b>   |      |          |                 |        |
| 4.E2.4.2.4.28 | E2   | 39.002  |           | Single Lever 1-Way Light switch                             | No   | 20       |                 |        |
| 4.E2.4.2.4.29 | E2   | 39.002  |           | Single Lever 1-Way Dimmer Switch                            | No   | 5        |                 |        |
| 4.E2.4.2.4.30 | E2   | 39.002  |           | Photo cell  | No   | 1        |                 |        |
|               |      |         |           | <b>Isolators</b>  |      |          |                 |        |
| 4.E2.4.2.4.31 | E2   | 39.002  |           | 60A double pole isolator                                    | No   | 17       |                 |        |
| 4.E2.4.2.4.32 | E2   | 39.002  |           | 60A triple pole isolator                                    | No   | 5        |                 |        |
| 4.E2.4.2.4.33 | E2   | 39.002  |           | Three compartment floor box                                 | No   | 13       |                 |        |
|               |      |         |           | <b>Powerskirting and trunking</b>                           |      |          |                 |        |
| 4.E2.4.2.4.34 | E2   | 39.002  |           | P2000   | m    | 260      |                 |        |
|               |      |         |           | <b>Two compartment, two cover sheet metal powerskirting</b> |      |          |                 |        |
| 4.E2.4.2.4.35 | E2   | 39.002  |           | Straight lengths  | m    | 69       |                 |        |
| 4.E2.4.2.4.36 | E2   | 39.002  |           | 90 degree bends   | No   | 20       |                 |        |
|               |      |         |           | <b>Cable ladder, trays and supports</b>                     |      |          |                 |        |
|               |      |         |           | <b>Medium duty perforated cable tray</b>                    |      |          |                 |        |
|               |      |         |           | <b>Straight lengths</b>                                     |      |          |                 |        |
| 4.E2.4.2.4.37 | E2   | 39.002  |           | 100 mm wide   | m    | 20       |                 |        |
| 4.E2.4.2.4.38 | E2   | 39.002  |           | 76 mm wide  | m    | 50       |                 |        |
|               |      |         |           | <b>90 degree bends</b>                                      |      |          |                 |        |
| 4.E2.4.2.4.39 | E2   | 39.002  |           | 100 mm wide   | No   | 3        |                 |        |
| 4.E2.4.2.4.40 | E2   | 39.002  |           | 76 mm wide  | No   | 5        |                 |        |
|               |      |         |           | <b>Tees</b>   |      |          |                 |        |
| 4.E2.4.2.4.41 | E2   | 39.002  |           | 100 mm wide   | No   | 2        |                 |        |
| 4.E2.4.2.4.42 | E2   | 39.002  |           | 76 mm wide  | No   | 4        |                 |        |
|               |      |         |           | <b>Light fittings</b>                                       |      |          |                 |        |
| 4.E2.4.2.4.43 | E2   | 39.002  |           | Type B  | No   | 8        |                 |        |
| 4.E2.4.2.4.44 | E2   | 39.002  |           | Type I  | No   | 30       |                 |        |
| 4.E2.4.2.4.45 | E2   | 39.002  |           | Type J  | No   | 10       |                 |        |
| 4.E2.4.2.4.46 | E2   | 39.002  |           | Type K  | No   | 16       |                 |        |
| 4.E2.4.2.4.47 | E2   | 39.002  |           | Type L  | No   | 30       |                 |        |
| 4.E2.4.2.4.48 | E2   | 39.002  |           | Type L1   | No   | 4        |                 |        |
| 4.E2.4.2.4.49 | E2   | 39.002  |           | Type O  | No   | 10       |                 |        |
| 4.E2.4.2.4.50 | E2   | 39.002  |           | Type O1   | No   | 5        |                 |        |
| 4.E2.4.2.4.51 | E2   | 39.002  |           | Type P  | No   | 5        |                 |        |
| 4.E2.4.2.4.52 | E2   | 39.002  |           | Type R  | No   | 30       |                 |        |
| 4.E2.4.2.4.53 | E2   | 39.002  |           | Type S  | No   | 8        |                 |        |
| 4.E2.4.2.4.54 | E2   | 39.002  |           | Type T  | No   | 4        |                 |        |
|               |      |         |           | <b>Standby generator systems</b>                            |      |          |                 |        |
| 4.E2.4.2.4.55 | E2   | 39.002  |           | 100kVA Generator  | No   | 1        |                 |        |
| 4.E2.4.2.4.56 | E2   | 39.002  |           | 40% of 100kVA Two-step Dummy Load                           | No   | 1        |                 |        |
| 4.E2.4.2.4.57 | E2   | 39.001  |           | Design and documentation                                    | No   | 1        |                 |        |
|               |      |         |           | <b>Uninterruptible power supplies (UPS)</b>                 |      |          |                 |        |
| 4.E2.4.2.4.58 | E2   | 39.002  |           | OCC - 15kVA   | No   | 2        |                 |        |
| 4.E2.4.2.4.59 | E2   | 39.002  |           | OCC - 3kVA  | No   | 1        |                 |        |
| 4.E2.4.2.4.60 | E2   | 39.001  |           | Design and documentation                                    | No   | 1        |                 |        |
|               |      |         |           | <b>Lightning protection, bonding and earthing</b>           |      |          |                 |        |
|               |      |         |           | <b>Earthing and bonding of plant</b>                        |      |          |                 |        |
| 4.E2.4.2.4.61 | E2   | 39.002  |           | Low voltage AC system and plant                             | Sum  | 1        |                 |        |
| 4.E2.4.2.4.62 | E2   | 39.002  |           | Cable trays and supports                                    | Sum  | 1        |                 |        |
| 4.E2.4.2.4.63 | E2   | 39.002  |           | All duct, trench and basement earthing                      | Sum  | 1        |                 |        |
| 4.E2.4.2.4.64 | E2   | 39.001  |           | Earthing and bonding design and documentation               | Sum  | 1        |                 |        |
|               |      |         |           |   |      |          | Carried Forward |        |

| Item no.      | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|               |      |                   |           |  |      |          |                 |        |
|               |      |                   |           |  |      |          | Brought Forward |        |
|               | E2   |                   |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 4.E2.4.2.4.65 | E2   | 39.002            |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 4.E2.4.2.4.66 | E2   | 39.002            |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
| 4.E2.4.2.4.67 | E2   | 39.002            |           | Complete lightning risk analysis in terms of SANS 62305-2  | Sum  | 1        |                 |        |
| 4.E2.4.2.4.68 | E2   | 39.002            |           | Complete lightning protection system conforming to the relevant SANS, comprising either or all of air termination systems (ATS), down conductor systems (DCS) and earth termination systems (ETS).   | Sum  | 1        |                 |        |
| 4.E2.4.2.4.69 | E2   | 39.002            |           | Special Tools and Test plant   | Sum  | 1        |                 |        |
| 4.E2.4.2.4.70 | E2   | 39.001            |           | Earthing and lightning protection design and documentation   | Sum  | 1        |                 |        |
|               | E2   |                   |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 4.E2.4.2.4.71 | E2   | 39.002            |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 4.E2.4.2.4.72 | E2   | 39.002            |           | Safety plant   | Sum  | 1        |                 |        |
|               | E2   |                   |           | <b>PART E2.4.3: INSTALLATION</b>   |      |          |                 |        |
|               | E2   |                   |           | <b>PART E2.4.3.1: HIGH LIFT PUMPING STATION SITE AND BUILDING</b>  |      |          |                 |        |
|               | E2   |                   |           | <b>Medium voltage (MV) plant</b>   |      |          |                 |        |
|               | E2   |                   | x         | <b>11 kV medium voltage switchgear</b>   |      |          |                 |        |
| 4.E2.4.3.1.1  | E2   | 39.003            |           | Main incomer panels - 2500A  | No   | 2        |                 |        |
| 4.E2.4.3.1.2  | E2   | 39.003            |           | Buscoupler panels - 2500A  | No   | 2        |                 |        |
| 4.E2.4.3.1.3  | E2   | 39.003            |           | Bussection panels - 2500A  | No   | 1        |                 |        |
| 4.E2.4.3.1.4  | E2   | 39.003            |           | Feeder panels (LLPS) - 1250A   | No   | 2        |                 |        |
| 4.E2.4.3.1.5  | E2   | 39.003            |           | Feeder panels (VSD) - 800A   | No   | 7        |                 |        |
| 4.E2.4.3.1.6  | E2   | 39.003            |           | Feeder panels (MSS) - 800A   | No   | 2        |                 |        |
| 4.E2.4.3.1.7  | E2   | 39.003            |           | Feeder panels (PFC) - 800A   | No   | 1        |                 |        |
| 4.E2.4.3.1.8  | E2   | 39.003            |           | Busbar VT Panels   | No   | 3        |                 |        |
| 4.E2.4.3.1.9  | E2   | 39.001            |           | Design and documentation   | Sum  | 1        |                 |        |
| 4.E2.4.3.1.10 | E2   | 39.003            |           | Switchgear Tools (End Items/Cabinet/Paint/Handles)   | Sum  | 1        |                 |        |
| 4.E2.4.3.1.11 | E2   | 39.003            |           | Delivery   | Sum  | 1        |                 |        |
|               | E2   |                   |           | <b>11kV on board protection &amp; control plant c/w all IED's, system mimic and associated plant</b>   |      |          |                 |        |
| 4.E2.4.3.1.12 | E2   | 39.003            |           | Incomer protection scheme  | No   | 2        |                 |        |
| 4.E2.4.3.1.13 | E2   | 39.003            |           | Buscoupler protection scheme   | No   | 2        |                 |        |
| 4.E2.4.3.1.14 | E2   | 39.003            |           | Bussection protection scheme   | No   | 1        |                 |        |
| 4.E2.4.3.1.15 | E2   | 39.003            |           | Feeder panel protection scheme   | No   | 12       |                 |        |
| 4.E2.4.3.1.16 | E2   | 39.003            |           | Arc flash protection scheme (all panels)   | No   | 17       |                 |        |
| 4.E2.4.3.1.17 | E2   | 39.001            |           | Design and documentation   | Sum  | 1        |                 |        |
| 4.E2.4.3.1.18 | E2   | 39.003            |           | Protection settings engineering  | Sum  | 1        |                 |        |
| 4.E2.4.3.1.19 | E2   | 39.003            |           | Independent protection schemes commissioning   | Sum  | 1        |                 |        |
|               | E2   |                   |           | <b>Substation Local Area Network c/w MEAP, managed industrial type Ethernet switches, patch panels, patch leads and network cabling</b>  |      |          |                 |        |
| 4.E2.4.3.1.20 | E2   | 39.003            |           | GPS Synchronized Clock   | No   | 1        |                 |        |
| 4.E2.4.3.1.21 | E2   | 39.003            |           | Managed Industrial type switched, 24-port  | No   | 8        |                 |        |
|               | E2   | 39.003            |           | Patch panels   |      | 8        |                 |        |
| 4.E2.4.3.1.22 | E2   | 39.003            |           | Patch leads  | Sum  | 1        |                 |        |
| 4.E2.4.3.1.23 | E2   | 39.003            |           | All network cabling (both copper and fibre-optic)  | Sum  | 1        |                 |        |
| 4.E2.4.3.1.24 | E2   | 39.003            |           | Switch set-up and configuration  | No   | 8        |                 |        |
| 4.E2.4.3.1.25 | E2   | 39.001            |           | Design and documentation   | Sum  | 1        |                 |        |
|               | E2   |                   | x         | <b>Power factor correction plant</b>   |      |          |                 |        |
| 4.E2.4.3.1.26 | E2   | 39.003            |           | 11kV High Lift Pump power factor correction  | Sum  | 1        |                 |        |
| 4.E2.4.3.1.27 | E2   | 39.001            |           | Design and documentation   | Sum  | 1        |                 |        |
| 4.E2.4.3.1.28 | E2   | 39.003            |           | Delivery   | Sum  | 1        |                 |        |
|               |      |                   |           |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|               |      |                   |           |  |      |          | Brought Forward |        |
|               |      |                   |           |  |      |          | Brought Forward |        |
|               | E2   |                   |           | <b>Metering</b>  |      |          |                 |        |
| 4.E2.4.3.1.29 | E2   | 39.003            |           | Quality of Supply, main & check metering for incomers and summation            | No   | 2        |                 |        |
| 4.E2.4.3.1.30 | E2   | 39.003            |           | Feeder main metering   | No   | 12       |                 |        |
| 4.E2.4.3.1.31 | E2   | 39.003            |           | Panels required for metering (including metering PC & QOS software)            | No   | 1        |                 |        |
| 4.E2.4.3.1.32 | E2   | 39.001            |           | Design and documentation   | Sum  | 1        |                 |        |
|               | E2   |                   |           | <b>DC distribution systems</b>   |      |          |                 |        |
| 4.E2.4.3.1.33 | E2   | 39.003            |           | 110 Volt Substation Battery chargers   | No   | 2        |                 |        |
| 4.E2.4.3.1.34 | E2   | 39.003            |           | 110 Volt Ni-Cd Battery banks complete with mounting racks                      | No   | 2        |                 |        |
| 4.E2.4.3.1.35 | E2   | 39.003            |           | 110 Volt DC distribution board complete with selection system                  | No   | 1        |                 |        |
| 4.E2.4.3.1.36 | E2   | 39.001            |           | Design and documentation   | Sum  | 1        |                 |        |
|               | E2   |                   |           | <b>Variable speed drives (VSD's)</b>   |      |          |                 |        |
| 4.E2.4.3.1.37 | E2   | 39.003            |           | 4.5MW 6.6kV VSD's  | No   | 4        |                 |        |
| 4.E2.4.3.1.38 | E2   | 39.003            |           | Critical Spares  | Sum  | 1        |                 |        |
| 4.E2.4.3.1.39 | E2   | 39.001            |           | Design and documentation   | Sum  | 1        |                 |        |
|               | E2   |                   |           | <b>Motor surge protection</b>  |      |          |                 |        |
| 4.E2.4.3.1.40 | E2   | 39.003            |           | 6.6 kV Motor Surge Protection  | No   | 4        |                 |        |
| 4.E2.4.3.1.41 | E2   | 39.001            |           | Design and Documentation   | No   | 1        |                 |        |
|               | E2   |                   |           | <b>Miniature substation (MSS)</b>  |      |          |                 |        |
| 4.E2.4.3.1.42 | E2   | 39.003            |           | 315 kVA 11/0.4 kV  | No   | 1        |                 |        |
| 4.E2.4.3.1.43 | E2   | 39.003            |           | 1000 kVA 11/0.4 kV   | No   | 2        |                 |        |
| 4.E2.4.3.1.44 | E2   | 39.003            |           | Pre-cast plinth for MSS  | No   | 3        |                 |        |
| 4.E2.4.3.1.45 | E2   | 39.003            |           | Earthing for MSS   | No   | 3        |                 |        |
|               | E2   |                   |           | <b>Cables, earth wires and ancillary</b>                                       |      |          |                 |        |
|               | E2   |                   |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) single core cables</b> |      |          |                 |        |
| 4.E2.4.3.1.46 | E2   | 39.003            |           | 500 mm <sup>2</sup> Al - Eskom supply  | m    | 1800     |                 |        |
|               | E2   |                   |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>  |      |          |                 |        |
| 4.E2.4.3.1.47 | E2   | 39.003            |           | 185 mm <sup>2</sup> Cu - VSD supply  | m    | 200      |                 |        |
| 4.E2.4.3.1.48 | E2   | 39.003            |           | 70 mm <sup>2</sup> Cu - ring feeder (MSS5/MSS1/MSS2/MSS3)                      | m    | 600      |                 |        |
|               | E2   |                   |           | <b>3.8/6.6 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>  |      |          |                 |        |
| 4.E2.4.3.1.49 | E2   | 39.003            |           | 150mm <sup>2</sup> (Cu) - pump motor supply                                    | m    | 400      |                 |        |
| 4.E2.4.3.1.50 | E2   | 39.003            |           | 95 mm <sup>2</sup> Cu - pump motor supply                                      | m    |          |                 |        |
|               | E2   |                   |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>        |      |          |                 |        |
| 4.E2.4.3.1.52 | E2   | 39.003            |           | 185 mm <sup>2</sup> Cu x 4c ECC  | m    | 800      |                 |        |
| 4.E2.4.3.1.53 | E2   | 39.003            |           | 150 mm <sup>2</sup> Cu x 4c ECC  | m    | 10       |                 |        |
| 4.E2.4.3.1.54 | E2   | 39.003            |           | 25 mm <sup>2</sup> Cu x 4c ECC   | m    | 40       |                 |        |
| 4.E2.4.3.1.55 | E2   | 39.003            |           | 10 mm <sup>2</sup> Cu x 4c ECC   | m    | 740      |                 |        |
| 4.E2.4.3.1.56 | E2   | 39.003            |           | 6 mm <sup>2</sup> Cu x 4c ECC  | m    | 60       |                 |        |
| 4.E2.4.3.1.57 | E2   | 39.003            |           | 4 mm <sup>2</sup> Cu x 3c  | m    | 360      |                 |        |
| 4.E2.4.3.1.58 | E2   | 39.003            |           | 2.5 mm <sup>2</sup> Cu x 3c  | m    | 45       |                 |        |
|               | E2   |                   |           | <b>Stranded conductor single core earth wires</b>                              |      |          |                 |        |
|               | E2   |                   |           | <b>Bare copper earth wire (BCEW)</b>   |      |          |                 |        |
| 4.E2.4.3.1.59 | E2   | 39.003            |           | 185 mm <sup>2</sup>  | m    | 600      |                 |        |
| 4.E2.4.3.1.60 | E2   | 39.003            |           | 35 mm <sup>2</sup>   | m    | 700      |                 |        |
| 4.E2.4.3.1.61 | E2   | 39.003            |           | 16 mm <sup>2</sup>   | m    | 300      |                 |        |
|               | E2   |                   |           | <b>600/1000 V PVC green and yellow insulated</b>                               |      |          |                 |        |
| 4.E2.4.3.1.62 | E2   | 39.003            |           | 95 mm <sup>2</sup>   | m    | 10       |                 |        |
| 4.E2.4.3.1.63 | E2   | 39.003            |           | 50 mm <sup>2</sup>   | m    | 70       |                 |        |
| 4.E2.4.3.1.64 | E2   | 39.003            |           | 6 mm <sup>2</sup>  | m    | 30       |                 |        |
| 4.E2.4.3.1.65 | E2   | 39.003            |           | 4 mm <sup>2</sup>  | m    | 10       |                 |        |
| 4.E2.4.3.1.66 | E2   | 39.003            |           | 2.5 mm <sup>2</sup>  | m    | 430      |                 |        |
|               |      |                   |           |  |      |          | Carried Forward |        |

| Item no.       | Part | Payment Reference | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|---|----------------|----------|-----------------|--------|
|                |      |                   |           |   |                |          |                 |        |
|                |      |                   |           |   |                |          | Brought Forward |        |
|                | E2   |                   |           | <b>Cablings for control, protection &amp; metering c/w LV and DC supplies</b>                                     |                |          |                 |        |
| 4.E2.4.3.1.67  | E2   | 39.003            |           | Main incomer feeder units - Eskom   | Sets           | 2        |                 |        |
| 4.E2.4.3.1.68  | E2   | 39.003            |           | Buscoupler units  | Sets           | 2        |                 |        |
| 4.E2.4.3.1.69  | E2   | 39.003            |           | Bussection units  | Sets           | 1        |                 |        |
| 4.E2.4.3.1.70  | E2   | 39.003            |           | Outgoing feeder units - LLPS  | Sets           | 2        |                 |        |
| 4.E2.4.3.1.71  | E2   | 39.003            |           | Outgoing feeder units - VSD's   | Sets           | 7        |                 |        |
| 4.E2.4.3.1.72  | E2   | 39.003            |           | Outgoing feeder units - MSS   | Sets           | 2        |                 |        |
| 4.E2.4.3.1.73  | E2   | 39.003            |           | Arc flash protection - complete 11 kV switchboard   | Sets           | 17       |                 |        |
| 4.E2.4.3.1.74  | E2   | 39.003            |           | DC distribution system  | Sets           | 1        |                 |        |
|                | E2   |                   |           | <b>Fibre optic cable for differential protection on Main Feeder circuits including all terminations.</b>          |                |          |                 |        |
| 4.E2.4.3.1.75  | E2   | 39.003            |           | 40mm diameter HDPE class 6 sleeve for HDD fibre optic cable - 300m lengths coupled through                        | m              | 100      |                 |        |
| 4.E2.4.3.1.76  | E2   | 39.003            |           | 48 SM HDD fibre cable in 40mm sleeve  | m              | 100      |                 |        |
| 4.E2.4.3.1.77  | E2   | 39.003            |           | Draw pits every 900m.   | No.            | 3        |                 |        |
|                | E2   |                   |           | <b>Joints</b>   |                |          |                 |        |
|                | E2   |                   |           | <b>6.35/11 kV Type A XLPE joints</b>  |                |          |                 |        |
| 4.E2.4.3.1.78  | E2   | 39.003            |           | Three core XLPE 70mm <sup>2</sup> (Cu)  | No             | 5        |                 |        |
|                | E2   |                   |           | <b>Terminations</b>   |                |          |                 |        |
|                | E2   |                   |           | <b>6.35/11 kV Type A XLPE terminations</b>  |                |          |                 |        |
| 4.E2.4.3.1.79  | E2   | 39.003            |           | Single core XLPE 500mm <sup>2</sup> (Al) - Outdoor  | No             | 18       |                 |        |
| 4.E2.4.3.1.80  | E2   | 39.003            |           | Single core XLPE 500mm <sup>2</sup> (Al) - Indoor   | No             | 18       |                 |        |
| 4.E2.4.3.1.81  | E2   | 39.003            |           | Three core XLPE 185mm <sup>2</sup> (Cu) - Indoor  | No             | 8        |                 |        |
| 4.E2.4.3.1.82  | E2   | 39.003            |           | Three core XLPE 70mm <sup>2</sup> (Cu) - Indoor   | No             | 4        |                 |        |
|                | E2   |                   |           | <b>3.8/6.6 kV Type A XLPE terminations</b>  |                |          |                 |        |
| 4.E2.4.3.1.83  | E2   | 39.003            |           | Three core XLPE 150mm <sup>2</sup> (Cu) - Indoor  | No             | 16       |                 |        |
|                | E2   |                   |           | <b>600/1000 V PVC SWA multi core terminations</b>   |                |          |                 |        |
| 4.E2.4.3.1.84  | E2   | 39.003            |           | 185 mm <sup>2</sup> Cu x 4c ECC   | No             | 24       |                 |        |
| 4.E2.4.3.1.85  | E2   | 39.003            |           | 150 mm <sup>2</sup> Cu x 4c ECC   | No             | 4        |                 |        |
| 4.E2.4.3.1.86  | E2   | 39.003            |           | 25 mm <sup>2</sup> Cu x 4c ECC  | No             | 4        |                 |        |
| 4.E2.4.3.1.87  | E2   | 39.003            |           | 10 mm <sup>2</sup> Cu x 4c ECC  | No             | 10       |                 |        |
| 4.E2.4.3.1.88  | E2   | 39.003            |           | 6 mm <sup>2</sup> Cu x 4c   | No             | 8        |                 |        |
| 4.E2.4.3.1.89  | E2   | 39.003            |           | 4 mm <sup>2</sup> Cu x 3c   | No             | 20       |                 |        |
| 4.E2.4.3.1.90  | E2   | 39.003            |           | 2.5 mm <sup>2</sup> Cu x 3c   | No             | 16       |                 |        |
|                | E2   |                   |           | <b>Trenching, excavations and backfilling</b>   |                |          |                 |        |
| 4.E2.4.3.1.91  | E2   | 39.003            |           | Excavation in soft material   | m <sup>3</sup> | 700      |                 |        |
| 4.E2.4.3.1.92  | E2   | 39.003            |           | Excavation in hard rock   | m <sup>3</sup> | 120      |                 |        |
| 4.E2.4.3.1.93  | E2   | 39.003            |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 490      |                 |        |
| 4.E2.4.3.1.94  | E2   | 39.003            |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 330      |                 |        |
| 4.E2.4.3.1.95  | E2   | 39.003            |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Sum            | 1        |                 |        |
| 4.E2.4.3.1.96  | E2   | 39.003            |           | Danger tape installation  | m              | 800      |                 |        |
| 4.E2.4.3.1.97  | E2   | 39.003            |           | Cable markers   | No             | 21       |                 |        |
| 4.E2.4.3.1.98  | E2   | 39.003            |           | Cable sleeves - 160mm HDPE Class 6  | m              | 120      |                 |        |
| 4.E2.4.3.1.99  | E2   | 39.003            |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No             | 10       |                 |        |
|                | E2   |                   |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |                |          |                 |        |
| 4.E2.4.3.1.100 | E2   | 39.003            |           | Drawing 2E-E2,3-001: 2E-SD-01   | No             | 1        |                 |        |
| 4.E2.4.3.1.101 | E2   | 39.003            |           | Drawing 2E-E2.3-002: 2E-SD-02   | No             | 1        |                 |        |
| 4.E2.4.3.1.102 | E2   | 39.003            |           | Drawing 2E-E2.3-003: 2E-SD-03   | No             | 1        |                 |        |
| 4.E2.4.3.1.103 | E2   | 39.003            |           | Drawing 2E-E2.3-006: 2E-SD-04   | No             | 1        |                 |        |
| 4.E2.4.3.1.104 | E2   | 39.003            |           | Drawing 2E-E2.3-008: 2E-SD-05   | No             | 1        |                 |        |
| 4.E2.4.3.1.105 | E2   | 39.003            |           | Drawing 2E-E2.3-006: 2E-SD-08   | No             | 1        |                 |        |
| 4.E2.4.3.1.106 | E2   | 39.003            |           | Drawing 2E-E2.3-014: 2E-SD-14 & 2E-SD-115   | No             | 2        |                 |        |
| 4.E2.4.3.1.107 | E2   | 39.003            |           | Drawing 2E-E2.3-009: 2E-SD-09   | No             | 1        |                 |        |
| 4.E2.4.3.1.108 | E2   | 39.003            |           | Drawing 2A-E2.3-001: 2E-SD-11   | No             | 1        |                 |        |
| 4.E2.4.3.1.109 | E2   | 39.003            |           | Drawing 2E-E2.3-005: 2E-SD-02   | No             | 1        |                 |        |
|                |      |                   |           |   |                |          | Carried Forward |        |

| Item no.       | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|                |      | Reference |           |   |      |          |                 |        |
|                |      |           |           |   |      |          | Brought Forward |        |
|                | E2   |           |           | <b>Small power and lighting</b>                             |      |          |                 |        |
|                | E2   |           |           | <b>Wiring, conduits and accessories</b>                     |      |          |                 |        |
|                | E2   |           |           | <b>Conduits - PVC</b>                                       |      |          |                 |        |
| 4.E2.4.3.1.110 | E2   | 39.003    |           | 20 mm diameter  | m    | 340      |                 |        |
| 4.E2.4.3.1.111 | E2   | 39.003    |           | 25 mm diameter  | m    | 30       |                 |        |
| 4.E2.4.3.1.112 | E2   | 39.003    |           | 50 mm diameter  | m    | 10       |                 |        |
| 4.E2.4.3.1.113 | E2   |           |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |      |          |                 |        |
| 4.E2.4.3.1.114 | E2   | 39.003    |           | 4 mm <sup>2</sup>   | m    | 1440     |                 |        |
| 4.E2.4.3.1.115 | E2   | 39.003    |           | 2.5 mm <sup>2</sup>   | m    | 1800     |                 |        |
|                | E2   |           |           | <b>Socket outlets</b>                                       |      |          |                 |        |
| 4.E2.4.3.1.116 | E2   | 39.003    |           | 16A Standard SSO  | No   | 30       |                 |        |
| 4.E2.4.3.1.117 | E2   | 39.003    |           | 13A Dedicated SSO   | No   | 2        |                 |        |
|                | E2   |           |           | <b>Switches</b>   |      |          |                 |        |
| 4.E2.4.3.1.118 | E2   | 39.003    |           | Single Lever 1-Way Light switch                             | No   | 18       |                 |        |
| 4.E2.4.3.1.119 | E2   | 39.003    |           | Single Lever 2-Way Light switch                             | No   | 2        |                 |        |
| 4.E2.4.3.1.120 | E2   | 39.003    |           | Photo cell  | No   | 1        |                 |        |
|                | E2   |           |           | <b>Isolators</b>  |      |          |                 |        |
| 4.E2.4.3.1.121 | E2   | 39.003    |           | 60A double pole isolator                                    | No   | 20       |                 |        |
| 4.E2.4.3.1.122 | E2   | 39.003    |           | 60A triple pole isolator                                    | No   | 5        |                 |        |
|                | E2   |           |           | <b>Powerskirting and trunking</b>                           |      |          |                 |        |
| 4.E2.4.3.1.123 | E2   | 39.003    |           | P2000   | m    | 580      |                 |        |
|                | E2   |           |           | <b>Two compartment, two cover sheet metal powerskirting</b> |      |          |                 |        |
| 4.E2.4.3.1.124 | E2   | 39.003    |           | Straight lengths  | m    | 18       |                 |        |
| 4.E2.4.3.1.125 | E2   | 39.003    |           | 90 degree bends   | No   | 4        |                 |        |
|                | E2   |           |           | <b>Cable ladder, trays and supports</b>                     |      |          |                 |        |
|                | E2   |           |           | <b>Heavy duty cable ladder</b>                              |      |          |                 |        |
|                | E2   |           |           | <b>Straight lengths</b>                                     |      |          |                 |        |
| 4.E2.4.3.1.126 | E2   | 39.003    |           | 800 mm wide   | m    | 60       |                 |        |
| 4.E2.4.3.1.127 | E2   | 39.003    |           | 600 mm wide   | m    | 255      |                 |        |
| 4.E2.4.3.1.128 | E2   | 39.003    |           | 300 mm wide   | m    | 100      |                 |        |
|                | E2   |           |           | <b>90 degree bends</b>                                      |      |          |                 |        |
| 4.E2.4.3.1.129 | E2   | 39.003    |           | 800 mm wide   | No   | 4        |                 |        |
| 4.E2.4.3.1.130 | E2   | 39.003    |           | 600 mm wide   | No   | 8        |                 |        |
| 4.E2.4.3.1.131 | E2   | 39.003    |           | 300 mm wide   | No   | 15       |                 |        |
|                | E2   |           |           | <b>Tees</b>   |      |          |                 |        |
| 4.E2.4.3.1.132 | E2   | 39.003    |           | 800 mm wide   | No   | 3        |                 |        |
| 4.E2.4.3.1.133 | E2   | 39.003    |           | 600 mm wide   | No   | 5        |                 |        |
| 4.E2.4.3.1.134 | E2   | 39.003    |           | 300 mm wide   | No   | 17       |                 |        |
|                | E2   |           |           | <b>Medium duty perforated cable tray</b>                    |      |          |                 |        |
|                | E2   |           |           | <b>Straight lengths</b>                                     |      |          |                 |        |
| 4.E2.4.3.1.135 | E2   | 39.003    |           | 200 mm wide   | m    | 70       |                 |        |
| 4.E2.4.3.1.136 | E2   | 39.003    |           | 100 mm wide   | m    | 15       |                 |        |
| 4.E2.4.3.1.137 | E2   | 39.003    |           | 76 mm wide  | m    | 180      |                 |        |
|                | E2   |           |           | <b>90 degree bends</b>                                      |      |          |                 |        |
| 4.E2.4.3.1.138 | E2   | 39.003    |           | 200 mm wide   | No   | 8        |                 |        |
| 4.E2.4.3.1.139 | E2   | 39.003    |           | 100 mm wide   | No   | 5        |                 |        |
| 4.E2.4.3.1.140 | E2   | 39.003    |           | 76 mm wide  | No   | 20       |                 |        |
|                | E2   |           |           | <b>Tees</b>   |      |          |                 |        |
| 4.E2.4.3.1.141 | E2   | 39.003    |           | 200 mm wide   | No   | 2        |                 |        |
| 4.E2.4.3.1.142 | E2   | 39.003    |           | 100 mm wide   | No   | 1        |                 |        |
| 4.E2.4.3.1.143 | E2   | 39.003    |           | 76 mm wide  | No   | 2        |                 |        |
|                | E2   |           |           | <b>Light fittings</b>                                       |      |          |                 |        |
| 4.E2.4.3.1.144 | E2   | 39.003    |           | Type A  | No   | 25       |                 |        |
| 4.E2.4.3.1.145 | E2   | 39.003    |           | Type A1   | No   | 11       |                 |        |
| 4.E2.4.3.1.146 | E2   | 39.003    |           | Type A2   | No   | 20       |                 |        |
| 4.E2.4.3.1.147 | E2   | 39.003    |           | Type A3   | No   | 12       |                 |        |
| 4.E2.4.3.1.148 | E2   | 39.003    |           | Type B  | No   | 45       |                 |        |
|                |      |           |           |   |      |          | Carried Forward |        |

| Item no.       | Part | Payment | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|----------------|------|---------|-----------|--|----------------|----------|-----------------|--------|
|                |      |         |           |  |                |          | Reference       |        |
|                |      |         |           |  |                |          | Brought Forward |        |
| 4.E2.4.3.1.149 | E2   | 39.003  |           | Type B1  | No             | 10       |                 |        |
| 4.E2.4.3.1.150 | E2   | 39.003  |           | Type C   | No             | 1        |                 |        |
| 4.E2.4.3.1.151 | E2   | 39.003  |           | Type D   | No             | 12       |                 |        |
| 4.E2.4.3.1.152 | E2   | 39.003  |           | Type F1  | No             | 10       |                 |        |
| 4.E2.4.3.1.153 | E2   | 39.003  |           | Type M   | No             | 20       |                 |        |
| 4.E2.4.3.1.154 | E2   | 39.003  |           | Type M pole  | No             | 20       |                 |        |
|                | E2   |         | x         | <b>Standby generator systems</b>   |                |          |                 |        |
| 4.E2.4.3.1.155 | E2   | 39.003  |           | 350 kVA Generator  | No             | 1        |                 |        |
| 4.E2.4.3.1.156 | E2   | 39.003  |           | Delivery of Generator  | Sum            | 1        |                 |        |
| 4.E2.4.3.1.157 | E2   | 39.003  |           | 40% of 350kVA Two-step Dummy Load  | No             | 1        |                 |        |
| 4.E2.4.3.1.158 | E2   | 39.001  |           | Design and documentation   | Sum            | 1        |                 |        |
|                | E2   |         |           | <b>Uninterruptible power supplies (UPS)</b>  |                |          |                 |        |
| 4.E2.4.3.1.159 | E2   | 39.003  |           | LLPS - 15kVA   | No             | 2        |                 |        |
| 4.E2.4.3.1.160 | E2   | 39.003  |           | LLPS - 1kVA  | No             | 2        |                 |        |
| 4.E2.4.3.1.161 | E2   | 39.001  |           | Design and documentation   | Sum            | 1        |                 |        |
|                | E2   |         |           | <b>Lightning protection, bonding and earthing</b>  |                |          |                 |        |
|                | E2   |         |           | <b>Earthing and bonding of plant</b>   |                |          |                 |        |
| 4.E2.4.3.1.162 | E2   | 39.003  |           | MV 11 kV switchgear and protection bays  | Sum            | 1        |                 |        |
| 4.E2.4.3.1.163 | E2   | 39.003  |           | DC System, Metering Panel, etc.  | Sum            | 1        |                 |        |
| 4.E2.4.3.1.164 | E2   | 39.003  |           | Low voltage AC system and plant  | Sum            | 1        |                 |        |
| 4.E2.4.3.1.165 | E2   | 39.003  |           | Cable trays and supports   | Sum            | 1        |                 |        |
| 4.E2.4.3.1.166 | E2   | 39.003  |           | All duct, trench and basement earthing   | Sum            | 1        |                 |        |
| 4.E2.4.3.1.167 | E2   | 39.001  |           | Earthing and bonding design and documentation  | Sum            | 1        |                 |        |
|                | E2   |         |           | <b>Earthing and lightning protection</b>   |                |          |                 |        |
| 4.E2.4.3.1.168 | E2   | 39.003  |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum            | 1        |                 |        |
| 4.E2.4.3.1.169 | E2   | 39.003  |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum            | 1        |                 |        |
| 4.E2.4.3.1.170 | E2   | 39.003  |           | Complete lightning risk analysis in terms of SANS 62305-2  | Sum            | 1        |                 |        |
| 4.E2.4.3.1.171 | E2   | 39.003  |           | Complete lightning protection system conforming to the relevant SANS, comprising either or all of air termination systems (ATS), down conductor systems (DCS) and earth termination systems (ETS).   | Sum            | 1        |                 |        |
| 4.E2.4.3.1.172 | E2   | 39.003  |           | Special Tools and Test plant   | Sum            | 1        |                 |        |
| 4.E2.4.3.1.173 | E2   | 39.001  |           | Earthing and lightning protection design and documentation   | Sum            | 1        |                 |        |
|                | E2   |         |           | <b>Miscellaneous and general</b>   |                |          |                 |        |
| 4.E2.4.3.1.174 | E2   | 39.003  |           | Motor field isolators and e-stops  | Sum            | 1        |                 |        |
| 4.E2.4.3.1.175 | E2   | 39.003  |           | Safety plant   | Sum            | 1        |                 |        |
|                | E2   |         |           | <b>PART E2.4.3.2: GUARDHOUSE 1</b>   |                |          |                 |        |
|                | E2   |         |           | <b>Cables, earth wires and ancillary</b>   |                |          |                 |        |
|                | E2   |         |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>  |                |          |                 |        |
| 4.E2.4.3.2.1   | E2   | 39.003  |           | 35 mm <sup>2</sup> Cu x 4c   | m              | 80       |                 |        |
|                | E2   |         |           | <b>600/1000 V PVC SWA multi core terminations</b>  |                |          |                 |        |
| 4.E2.4.3.2.2   | E2   | 39.003  |           | 35 mm <sup>2</sup> Cu x 4c   | No             | 2        |                 |        |
|                | E2   |         |           | <b>Trenching, excavations and backfilling</b>  |                |          |                 |        |
| 4.E2.4.3.2.3   | E2   | 39.003  |           | Excavation in soft material  | m <sup>3</sup> | 50       |                 |        |
| 4.E2.4.3.2.4   | E2   | 39.003  |           | Excavation in hard rock  | m <sup>3</sup> | 10       |                 |        |
| 4.E2.4.3.2.5   | E2   | 39.003  |           | Soft soil backfilling and compaction   | m <sup>3</sup> | 40       |                 |        |
| 4.E2.4.3.2.6   | E2   | 39.003  |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity  | m <sup>3</sup> | 20       |                 |        |
| 4.E2.4.3.2.7   | E2   | 39.003  |           | Barricading of trenches (install and remove only - Contractor to use own barricading   | Sum            | 1        |                 |        |
| 4.E2.4.3.2.8   | E2   | 39.003  |           | Danger tape installation   | m              | 150      |                 |        |
| 4.E2.4.3.2.9   | E2   | 39.003  |           | Cable markers  | No             | 3        |                 |        |
| 4.E2.4.3.2.10  | E2   | 39.003  |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction  | No             | 1        |                 |        |
|                |      |         |           |  |                |          | Carried Forward |        |

| Item no.      | Part | Payment | Breakdown Reference | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|---------|---------------------|--|------|----------|-----------------|--------|
|               |      |         |                     |  |      |          | Brought Forward |        |
|               |      |         |                     |  |      |          | Brought Forward |        |
| 4.E2.4.3.2.11 | E2   | 39.003  |                     | <b>Cable sleeves</b><br>50mm HDPE Class 6  | m    | 40       |                 |        |
| 4.E2.4.3.2.12 | E2   | 39.003  |                     | <b>MCC's, distribution boards and switch board as per drawings</b><br>Drawing 2A-E2.3-003: 2A-SD-03                          | No   | 1        |                 |        |
| 4.E2.4.3.2.13 | E2   | 39.003  |                     | <b>Small power and lighting</b><br><b>Wiring, conduits and accessories</b><br><b>Conduits - PVC</b><br>20 mm diameter        | m    | 20       |                 |        |
| 4.E2.4.3.2.14 | E2   | 39.003  |                     | 25 mm diameter   | m    | 20       |                 |        |
| 4.E2.4.3.2.15 | E2   | 39.003  |                     | 50 mm diameter   | m    | 5        |                 |        |
| 4.E2.4.3.2.16 | E2   |         |                     | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>   |      |          |                 |        |
| 4.E2.4.3.2.17 | E2   | 39.003  |                     | 4 mm <sup>2</sup>  | m    | 90       |                 |        |
| 4.E2.4.3.2.18 | E2   | 39.003  |                     | 2.5 mm <sup>2</sup>  | m    | 90       |                 |        |
| 4.E2.4.3.2.19 | E2   | 39.003  |                     | <b>Socket outlets</b><br>16A Standard SSO  | No   | 5        |                 |        |
| 4.E2.4.3.2.20 | E2   | 39.003  |                     | 13A Dedicated SSO  | No   | 3        |                 |        |
| 4.E2.4.3.2.21 | E2   | 39.003  |                     | <b>Switches</b><br>Single Lever 1-Way Light switch   | No   | 4        |                 |        |
| 4.E2.4.3.2.22 | E2   | 39.003  |                     | Single Lever 1-Way Dimmer Switch   | No   | 1        |                 |        |
| 4.E2.4.3.2.23 | E2   | 39.003  |                     | Photo cell   | No   | 1        |                 |        |
| 4.E2.4.3.2.24 | E2   | 39.003  |                     | <b>Isolators</b><br>60A double pole isolator   | No   | 2        |                 |        |
| 4.E2.4.3.2.25 | E2   | 39.003  |                     | 60A triple pole isolator   | No   |          |                 |        |
| 4.E2.4.3.2.26 | E2   | 39.003  |                     | <b>Powerskirting and trunking</b><br>P2000   | m    | 10       |                 |        |
| 4.E2.4.3.2.27 | E2   | 39.003  |                     | <b>Two compartment, two cover sheet metal powerskirting</b><br>Straight lengths  | m    | 18       |                 |        |
| 4.E2.4.3.2.28 | E2   | 39.003  |                     | 90 degree bends  | No   | 4        |                 |        |
| 4.E2.4.3.2.29 | E2   | 39.003  |                     | <b>Cable ladder, trays and supports</b><br><b>Medium duty perforated cable tray</b><br><b>Straight lengths</b><br>76 mm wide | m    | 10       |                 |        |
| 4.E2.4.3.2.30 | E2   | 39.003  |                     | <b>90 degree bends</b><br>76 mm wide   | No   | 4        |                 |        |
| 4.E2.4.3.2.31 | E2   | 39.003  |                     | <b>Tees</b><br>76 mm wide  | No   | 2        |                 |        |
| 4.E2.4.3.2.32 | E2   | 39.003  |                     | <b>Light fittings</b><br>Type B  | No   | 6        |                 |        |
| 4.E2.4.3.2.33 | E2   | 39.003  |                     | Type E   | No   | 2        |                 |        |
| 4.E2.4.3.2.34 | E2   | 39.003  |                     | Type H1  | No   | 2        |                 |        |
| 4.E2.4.3.2.35 | E2   | 39.003  |                     | <b>Uninterruptible power supplies (UPS)</b><br>Guardhouse - 6kVA   | No   | 1        |                 |        |
| 4.E2.4.3.2.36 | E2   | 39.001  |                     | Design and documentation   | No   | 1        |                 |        |
| 4.E2.4.3.2.37 | E2   | 39.003  |                     | <b>Lightning protection, bonding and earthing</b><br>Earthing and bonding of plant   | Sum  | 1        |                 |        |
| 4.E2.4.3.2.38 | E2   | 39.003  |                     | Low voltage AC system and plant  | Sum  | 1        |                 |        |
| 4.E2.4.3.2.39 | E2   | 39.001  |                     | Cable trays and supports   | Sum  | 1        |                 |        |
|               |      |         |                     | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|               |      |         |                     |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment Reference | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|---------------|------|-------------------|-----------|--|----------------|----------|-----------------|--------|
|               |      |                   |           |  |                |          |                 |        |
|               |      |                   |           |  |                |          | Brought Forward |        |
|               | E2   |                   |           | <b>Earthing and lightning protection</b>   |                |          |                 |        |
| 4.E2.4.3.2.40 | E2   | 39.003            |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum            | 1        |                 |        |
| 4.E2.4.3.2.41 | E2   | 39.003            |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum            | 1        |                 |        |
|               | E2   |                   |           | <b>Miscellaneous and general</b>   |                |          |                 |        |
| 4.E2.4.3.2.42 | E2   | 39.003            |           | Motor field isolators and e-stops  | Sum            | 1        |                 |        |
| 4.E2.4.3.2.43 | E2   | 39.003            |           | Safety plant   | Sum            | 1        |                 |        |
|               | E2   |                   |           | <b>PART E2.4.3.3: GUARDHOUSE-2</b>   |                |          |                 |        |
|               | E2   |                   |           | <b>Cables, earth wires and ancillary</b>   |                |          |                 |        |
|               | E2   |                   |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>  |                |          |                 |        |
| 4.E2.4.3.3.1  | E2   | 39.003            |           | 35 mm <sup>2</sup> Cu x 4c   | m              | 150      |                 |        |
|               | E2   |                   |           | <b>600/1000 V PVC SWA multi core terminations</b>  |                |          |                 |        |
| 4.E2.4.3.3.2  | E2   | 39.003            |           | 35 mm <sup>2</sup> Cu x 4c   | No             | 2        |                 |        |
|               | E2   |                   |           | <b>Trenching, excavations and backfilling</b>  |                |          |                 |        |
| 4.E2.4.3.3.3  | E2   | 39.003            |           | Excavation in soft material  | m <sup>3</sup> | 130      |                 |        |
| 4.E2.4.3.3.4  | E2   | 39.003            |           | Excavation in hard rock  | m <sup>3</sup> | 20       |                 |        |
| 4.E2.4.3.3.5  | E2   | 39.003            |           | Soft soil backfilling and compaction   | m <sup>3</sup> | 90       |                 |        |
| 4.E2.4.3.3.6  | E2   | 39.003            |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity  | m <sup>3</sup> | 60       |                 |        |
| 4.E2.4.3.3.7  | E2   | 39.003            |           | Barricading of trenches (install and remove only - Contractor to use own barricading   | Sum            | 1        |                 |        |
| 4.E2.4.3.3.8  | E2   | 39.003            |           | Danger tape installation   | m              | 150      |                 |        |
| 4.E2.4.3.3.9  | E2   | 39.003            |           | Cable markers  | No             | 3        |                 |        |
| 4.E2.4.3.3.10 | E2   | 39.003            |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction  | No             | 1        |                 |        |
|               | E2   |                   |           | <b>Cable sleeves</b>   |                |          |                 |        |
| 4.E2.4.3.3.11 | E2   | 39.003            |           | 50mm HDPE Class 6  | m              | 40       |                 |        |
|               | E2   |                   |           | <b>MCC's, distribution boards and switch board as per drawings</b>   |                |          |                 |        |
| 4.E2.4.3.3.12 | E2   | 39.003            |           | Drawing 2A-E2.3-003: 2A-SD-03  | No             | 1        |                 |        |
|               | E2   |                   |           | <b>Small power and lighting</b>  |                |          |                 |        |
|               | E2   |                   |           | <b>Wiring, conduits and accessories</b>  |                |          |                 |        |
|               | E2   |                   |           | <b>Conduits - PVC</b>  |                |          |                 |        |
| 4.E2.4.3.3.13 | E2   | 39.003            |           | 20 mm diameter   | m              | 20       |                 |        |
| 4.E2.4.3.3.14 | E2   | 39.003            |           | 25 mm diameter   | m              | 20       |                 |        |
| 4.E2.4.3.3.15 | E2   | 39.003            |           | 50 mm diameter   | m              | 5        |                 |        |
| 4.E2.4.3.3.16 | E2   |                   |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>   |                |          |                 |        |
| 4.E2.4.3.3.17 | E2   | 39.003            |           | 4 mm <sup>2</sup>  | m              | 90       |                 |        |
| 4.E2.4.3.3.18 | E2   | 39.003            |           | 2.5 mm <sup>2</sup>  | m              | 90       |                 |        |
|               | E2   |                   |           | <b>Socket outlets</b>  |                |          |                 |        |
| 4.E2.4.3.3.19 | E2   | 39.003            |           | 16A Standard SSO   | No             | 5        |                 |        |
| 4.E2.4.3.3.20 | E2   | 39.003            |           | 13A Dedicated SSO  | No             | 3        |                 |        |
|               | E2   |                   |           | <b>Switches</b>  |                |          |                 |        |
| 4.E2.4.3.3.21 | E2   | 39.003            |           | Single Lever 1-Way Light switch  | No             | 4        |                 |        |
| 4.E2.4.3.3.22 | E2   | 39.003            |           | Single Lever 1-Way Dimmer Switch   | No             | 1        |                 |        |
| 4.E2.4.3.3.23 | E2   | 39.003            |           | Photo cell   | No             | 1        |                 |        |
|               | E2   |                   |           | <b>Isolators</b>   |                |          |                 |        |
| 4.E2.4.3.3.24 | E2   | 39.003            |           | 60A double pole isolator   | No             | 2        |                 |        |
|               | E2   |                   |           | <b>Powerskirting and trunking</b>  |                |          |                 |        |
| 4.E2.4.3.3.25 | E2   | 39.003            |           | P2000  | m              | 10       |                 |        |
|               |      |                   |           |  |                |          | Carried Forward |        |



| Item no.      | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|               |      | Reference |           |  |      |          |                 |        |
|               |      |           |           |  |      |          | Brought Forward |        |
|               | E2   |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>  |      |          |                 |        |
| 4.E2.4.3.3.26 | E2   | 39.003    |           | Straight lengths   | m    | 18       |                 |        |
| 4.E2.4.3.3.27 | E2   | 39.003    |           | 90 degree bends  | No   | 4        |                 |        |
|               | E2   |           |           | <b>Cable ladder, trays and supports</b>  |      |          |                 |        |
|               | E2   |           |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
|               | E2   |           |           | <b>Straight lengths</b>  |      |          |                 |        |
| 4.E2.4.3.3.28 | E2   | 39.003    |           | 76 mm wide   | m    | 10       |                 |        |
|               | E2   |           |           | <b>90 degree bends</b>   |      |          |                 |        |
| 4.E2.4.3.3.29 | E2   | 39.003    |           | 76 mm wide   | No   | 4        |                 |        |
|               | E2   |           |           | <b>Tees</b>  |      |          |                 |        |
| 4.E2.4.3.3.30 | E2   | 39.003    |           | 76 mm wide   | No   | 2        |                 |        |
|               | E2   |           |           | <b>Light fittings</b>  |      |          |                 |        |
| 4.E2.4.3.3.31 | E2   | 39.003    |           | Type B   | No   | 6        |                 |        |
| 4.E2.4.3.3.32 | E2   | 39.003    |           | Type E   | No   | 2        |                 |        |
| 4.E2.4.3.3.33 | E2   | 39.003    |           | Type H1  | No   | 2        |                 |        |
|               | E2   |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 4.E2.4.3.3.34 | E2   | 39.003    |           | Guardhouse - 6kVA  | No   | 1        |                 |        |
| 4.E2.4.3.3.35 | E2   | 39.001    |           | Design and documentation   | No   | 1        |                 |        |
|               | E2   |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|               | E2   | 39.003    |           | Earthing and bonding of plant  |      |          |                 |        |
| 4.E2.4.3.3.36 | E2   | 39.003    |           | Low voltage AC system and plant  | Sum  | 1        |                 |        |
| 4.E2.4.3.3.37 | E2   | 39.003    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 4.E2.4.3.3.38 | E2   | 39.003    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 4.E2.4.3.3.39 | E2   | 39.003    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 4.E2.4.3.3.40 | E2   | 39.003    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 4.E2.4.3.3.41 | E2   | 39.003    |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 4.E2.4.3.3.42 | E2   | 39.003    |           | Safety plant   | Sum  | 1        |                 |        |
|               | E2   |           |           | <b>PART E2.4.3.4: OPERATIONAL AND CONTROL CENTRE</b>   |      |          |                 |        |
|               | E2   | 39.003    |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>  |      |          |                 |        |
| 4.E2.4.3.4.1  | E2   | 39.003    |           | 50 mm <sup>2</sup> Cu x 4c ECC   | m    | 50       |                 |        |
| 4.E2.4.3.4.2  | E2   | 39.003    |           | 6 mm <sup>2</sup> Cu x 4c ECC  | m    | 20       |                 |        |
| 4.E2.4.3.4.3  | E2   | 39.003    |           | 4 mm <sup>2</sup> Cu x 3c  | m    | 60       |                 |        |
| 4.E2.4.3.4.4  | E2   | 39.003    |           | 2.5 mm <sup>2</sup> Cu x 3c  | m    | 12       |                 |        |
|               | E2   |           |           | <b>Stranded conductor single core earth wires</b>  |      |          |                 |        |
|               | E2   |           |           | <b>600/1000 V PVC green and yellow insulated</b>   |      |          |                 |        |
| 4.E2.4.3.4.5  | E2   | 39.003    |           | 6 mm <sup>2</sup>  | m    | 30       |                 |        |
| 4.E2.4.3.4.6  | E2   | 39.003    |           | 4 mm <sup>2</sup>  | m    | 10       |                 |        |
| 4.E2.4.3.4.7  | E2   | 39.003    |           | 2.5 mm <sup>2</sup>  | m    | 430      |                 |        |
|               | E2   |           |           | <b>600/1000 V PVC SWA multi core terminations</b>  |      |          |                 |        |
| 4.E2.4.3.4.8  | E2   | 39.003    |           | 185 mm <sup>2</sup> Cu x 4c ECC  | No   |          |                 |        |
| 4.E2.4.3.4.9  | E2   | 39.003    |           | 50 mm <sup>2</sup> Cu x 4c ECC   | No   | 2        |                 |        |
| 4.E2.4.3.4.10 | E2   | 39.003    |           | 6 mm <sup>2</sup> Cu x 4c ECC  | No   | 2        |                 |        |
| 4.E2.4.3.4.11 | E2   | 39.003    |           | 4 mm <sup>2</sup> Cu x 3c  | No   | 20       |                 |        |
| 4.E2.4.3.4.12 | E2   | 39.003    |           | 2.5 mm <sup>2</sup> Cu x 3c  | No   | 6        |                 |        |
|               | E2   |           |           | <b>Trenching, excavations and backfilling</b>  |      |          |                 |        |
| 4.E2.4.3.4.13 | E2   | 39.003    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction  | No   | 1        |                 |        |
|               |      |           |           |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|               |      |                   |           |  |      |          |                 |        |
|               |      |                   |           |  |      |          | Brought Forward |        |
|               | E2   |                   |           | <b>Cable sleeves</b>   |      |          |                 |        |
| 4.E2.4.3.4.14 | E2   | 39.003            |           | 110mm HDPE Class 6   | m    | 60       |                 |        |
| 4.E2.4.3.4.15 | E2   | 39.003            |           | 50mm HDPE Class 6  | m    | 120      |                 |        |
|               | E2   |                   |           | <b>MCC's, distribution boards and switch board as per drawings</b> |      |          |                 |        |
| 4.E2.4.3.4.16 | E2   | 39.003            |           | Drawing 2E-E2.3-011: 2E-SD-07                                      | No   | 1        |                 |        |
| 4.E2.4.3.4.17 | E2   | 39.003            |           | Drawing 2B-E2.3-013: 2E-SD-12 & 2E-SD-11                           | No   | 3        |                 |        |
|               | E2   |                   |           | <b>Small power and lighting</b>                                    |      |          |                 |        |
|               | E2   |                   |           | <b>Wiring, conduits and accessories</b>                            |      |          |                 |        |
|               | E2   |                   |           | <b>Conduits - PVC</b>  |      |          |                 |        |
| 4.E2.4.3.4.18 | E2   | 39.003            |           | 20 mm diameter   | m    | 120      |                 |        |
| 4.E2.4.3.4.19 | E2   | 39.003            |           | 25 mm diameter   | m    | 120      |                 |        |
| 4.E2.4.3.4.20 | E2   | 39.003            |           | 50 mm diameter   | m    | 10       |                 |        |
|               | E2   |                   |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>         |      |          |                 |        |
| 4.E2.4.3.4.22 | E2   | 39.003            |           | 4 mm <sup>2</sup>  | m    | 6000     |                 |        |
| 4.E2.4.3.4.23 | E2   | 39.003            |           | 2.5 mm <sup>2</sup>  | m    | 9000     |                 |        |
|               | E2   |                   |           | <b>Socket outlets</b>  |      |          |                 |        |
| 4.E2.4.3.4.24 | E2   | 39.003            |           | 16A Standard SSO   | No   | 35       |                 |        |
| 4.E2.4.3.4.25 | E2   | 39.003            |           | 13A Dedicated SSO  | No   | 2        |                 |        |
| 4.E2.4.3.4.26 | E2   | 39.003            |           | UPS SSO  | No   | 5        |                 |        |
|               | E2   |                   |           | <b>Switches</b>  |      |          |                 |        |
| 4.E2.4.3.4.27 | E2   | 39.003            |           | Single Lever 1-Way Light switch                                    | No   | 20       |                 |        |
| 4.E2.4.3.4.28 | E2   | 39.003            |           | Single Lever 1-Way Dimmer Switch                                   | No   | 5        |                 |        |
| 4.E2.4.3.4.29 | E2   | 39.003            |           | Photo cell   | No   | 1        |                 |        |
|               | E2   |                   |           | <b>Isolators</b>   |      |          |                 |        |
| 4.E2.4.3.4.30 | E2   | 39.003            |           | 60A double pole isolator   | No   | 17       |                 |        |
| 4.E2.4.3.4.31 | E2   | 39.003            |           | 60A triple pole isolator   | No   | 5        |                 |        |
| 4.E2.4.3.4.32 | E2   | 39.003            |           | Three compartment floor box  | No   | 13       |                 |        |
|               | E2   |                   |           | <b>Powerskirting and trunking</b>                                  |      |          |                 |        |
| 4.E2.4.3.4.33 | E2   | 39.003            |           | P2000  | m    | 260      |                 |        |
|               | E2   |                   |           | <b>Two compartment, two cover sheet metal powerskirting</b>        |      |          |                 |        |
| 4.E2.4.3.4.34 | E2   | 39.003            |           | Straight lengths   | m    | 69       |                 |        |
| 4.E2.4.3.4.35 | E2   | 39.003            |           | 90 degree bends  | No   | 20       |                 |        |
|               | E2   |                   |           | <b>Cable ladder, trays and supports</b>                            |      |          |                 |        |
|               | E2   |                   |           | <b>Medium duty perforated cable tray</b>                           |      |          |                 |        |
|               | E2   |                   |           | <b>Straight lengths</b>  |      |          |                 |        |
| 4.E2.4.3.4.36 | E2   | 39.003            |           | 100 mm wide  | m    | 20       |                 |        |
| 4.E2.4.3.4.37 | E2   | 39.003            |           | 76 mm wide   | m    | 50       |                 |        |
|               | E2   |                   |           | <b>90 degree bends</b>   |      |          |                 |        |
| 4.E2.4.3.4.38 | E2   | 39.003            |           | 100 mm wide  | No   | 3        |                 |        |
| 4.E2.4.3.4.39 | E2   | 39.003            |           | 76 mm wide   | No   | 5        |                 |        |
|               | E2   |                   |           | <b>Tees</b>  |      |          |                 |        |
| 4.E2.4.3.4.40 | E2   | 39.003            |           | 100 mm wide  | No   | 2        |                 |        |
| 4.E2.4.3.4.41 | E2   | 39.003            |           | 76 mm wide   | No   | 4        |                 |        |
|               | E2   |                   |           | <b>Light fittings</b>  |      |          |                 |        |
| 4.E2.4.3.4.42 | E2   | 39.003            |           | Type B   | No   | 8        |                 |        |
| 4.E2.4.3.4.43 | E2   | 39.003            |           | Type I   | No   | 30       |                 |        |
| 4.E2.4.3.4.44 | E2   | 39.003            |           | Type J   | No   | 10       |                 |        |
| 4.E2.4.3.4.45 | E2   | 39.003            |           | Type K   | No   | 16       |                 |        |
| 4.E2.4.3.4.46 | E2   | 39.003            |           | Type L   | No   | 30       |                 |        |
| 4.E2.4.3.4.47 | E2   | 39.003            |           | Type L1  | No   | 4        |                 |        |
| 4.E2.4.3.4.48 | E2   | 39.003            |           | Type O   | No   | 10       |                 |        |
| 4.E2.4.3.4.49 | E2   | 39.003            |           | Type O1  | No   | 5        |                 |        |
| 4.E2.4.3.4.50 | E2   | 39.003            |           | Type P   | No   | 5        |                 |        |
| 4.E2.4.3.4.51 | E2   | 39.003            |           | Type R   | No   | 30       |                 |        |
| 4.E2.4.3.4.52 | E2   | 39.003            |           | Type S   | No   | 8        |                 |        |
| 4.E2.4.3.4.53 | E2   | 39.003            |           | Type T   | No   | 4        |                 |        |
|               |      |                   |           |  |      |          | Carried Forward |        |

| Item no.      | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|---------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|               |      |                   |           |  |      |          |                 |        |
|               |      |                   |           |  |      |          | Brought Forward |        |
|               | E2   |                   |           | <b>Standby generator systems</b>   |      |          |                 |        |
| 4.E2.4.3.4.54 | E2   | 39.003            |           | 100kVA Generator   | No   | 1        |                 |        |
| 4.E2.4.3.4.55 | E2   | 39.003            |           | Delivery of Generator  | Sum  | 1        |                 |        |
| 4.E2.4.3.4.56 | E2   | 39.003            |           | 40% of 100kVA Two-step Dummy Load  | No   | 1        |                 |        |
| 4.E2.4.3.4.57 | E2   | 39.001            |           | Design and documentation   | No   | 1        |                 |        |
|               | E2   |                   |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 4.E2.4.3.4.58 | E2   | 39.003            |           | OCC - 15kVA  | No   | 2        |                 |        |
| 4.E2.4.3.4.59 | E2   | 39.003            |           | OCC - 3kVA   | No   | 1        |                 |        |
| 4.E2.4.3.4.60 | E2   | 39.001            |           | Design and documentation   | No   | 1        |                 |        |
|               | E2   |                   |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|               | E2   |                   |           | <b>Earthing and bonding of plant</b>   |      |          |                 |        |
| 4.E2.4.3.4.61 | E2   | 39.003            |           | Low voltage AC system and plant  | Sum  | 1        |                 |        |
| 4.E2.4.3.4.62 | E2   | 39.003            |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 4.E2.4.3.4.63 | E2   | 39.003            |           | All duct, trench and basement earthing   | Sum  | 1        |                 |        |
| 4.E2.4.3.4.64 | E2   | 39.001            |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|               | E2   |                   |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 4.E2.4.3.4.65 | E2   | 39.003            |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 4.E2.4.3.4.66 | E2   | 39.003            |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
| 4.E2.4.3.4.67 | E2   | 39.003            |           | Complete lightning risk analysis in terms of SANS 62305-2  | Sum  | 1        |                 |        |
| 4.E2.4.3.4.68 | E2   | 39.003            |           | Complete lightning protection system conforming to the relevant SANS, comprising either or all of air termination systems (ATS), down conductor systems (DCS) and earth termination systems (ETS).   | Sum  | 1        |                 |        |
| 4.E2.4.3.4.69 | E2   | 39.003            |           | Special Tools and Test plant   | Sum  | 1        |                 |        |
| 4.E2.4.3.4.70 | E2   | 39.001            |           | Earthing and lightning protection design and documentation   | Sum  | 1        |                 |        |
|               | E2   |                   |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 4.E2.4.3.4.71 | E2   | 39.003            |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 4.E2.4.3.4.72 | E2   | 39.003            |           | Safety plant   | Sum  | 1        |                 |        |
|               | E2   |                   |           | <b>PART E: HIGH-LIFT PUMPING STATION (Carried forward to Summary of Bills)</b>   |      |          |                 |        |

| Item no.   | Part | Payment Reference | Breakdown Reference | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-------------------|---------------------|---|------|----------|-----------------|--------|
|            |      |                   |                     |   |      |          |                 |        |
|            | F    |                   |                     | <b>PART F12: HIGH LIFT RISING MAIN</b>  |      |          |                 |        |
|            |      |                   |                     | <b>PART F12.1: DESIGN</b>   |      |          |                 |        |
| 3.F12.1.1  | F    | 39.001            |                     | Design and documentation (as required, should it not already be included with an item below)                      | Sum  | 1        |                 |        |
|            | F    |                   |                     | <b>PART F12.2: SUPPLY AND DELIVER TO SITE</b>   |      |          |                 |        |
|            | F    |                   |                     | <b>INSTRUMENTATION HUT - BREAK PRESSURE TANK</b>  |      |          |                 |        |
|            | F    |                   |                     | <b>Distribution transformers - Ground mounted</b>   |      |          |                 |        |
| 3.F12.2.1  | F    | 39.002            |                     | 25 kVA 11/0,4 kV  | No   | 1        |                 |        |
| 3.F12.2.2  | F    | 39.002            |                     | Pre-cast plinth for distribution transformers   | No   | 1        |                 |        |
| 3.F12.2.3  | F    | 39.002            |                     | Earthing for distribution transformers  | No   | 1        |                 |        |
|            | F    |                   |                     | <b>Cables, earth wires and ancillary</b>  |      |          |                 |        |
|            | F    | 39.002            |                     | <b>6.35/11 kV Type A XLPE/LHPVC/SWALHPVC (blue stripe) three core cables</b>                                      |      |          |                 |        |
| 3.F12.2.4  | F    | 39.002            |                     | 25 mm² Cu - distribution transformers   | m    | 300      |                 |        |
|            | F    |                   |                     | <b>600/1000 V LHPVC/LHPVC/SWALHPVC (blue stripe) multi core cables</b>  |      |          |                 |        |
| 3.F12.2.5  | F    | 39.002            |                     | 16 mm² Cu x 4c ECC  | m    | 100      |                 |        |
|            | F    |                   |                     | <b>Joints</b>   |      |          |                 |        |
|            | F    |                   |                     | <b>6.35/11 kV Type A XLPE joints</b>  |      |          |                 |        |
| 3.F12.2.6  | F    | 39.002            |                     | Three core XLPE 25mm² (Cu)  | No   | 1        |                 |        |
|            | F    |                   |                     | <b>Terminations</b>   |      |          |                 |        |
|            | F    |                   |                     | <b>6.35/11 kV Type A XLPE terminations</b>  |      |          |                 |        |
| 3.F12.2.7  | F    | 39.002            |                     | Three core XLPE 25mm² (Cu)  | No   | 1        |                 |        |
|            | F    |                   |                     | <b>600/1000 V PVC SWA multi core terminations</b>   |      |          |                 |        |
| 3.F12.2.8  | F    | 39.002            |                     | 16 mm² Cu x 4c ECC  | No   | 2        |                 |        |
|            | F    |                   |                     | <b>Trenching, excavations and backfilling</b>   |      |          |                 |        |
| 3.F12.2.9  | F    | 39.002            |                     | Excavation in soft material   | m³   | 230      |                 |        |
| 3.F12.2.10 | F    | 39.002            |                     | Excavation in hard rock   | m³   | 40       |                 |        |
| 3.F12.2.11 | F    | 39.002            |                     | Soft soil backfilling and compaction  | m³   | 160      |                 |        |
| 3.F12.2.12 | F    | 39.002            |                     | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m³   | 110      |                 |        |
| 3.F12.2.13 | F    | 39.002            |                     | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Lot  | 1        |                 |        |
| 3.F12.2.14 | F    | 39.002            |                     | Danger tape installation  | m    | 400      |                 |        |
| 3.F12.2.15 | F    | 39.002            |                     | Cable markers   | No   | 8        |                 |        |
| 3.F12.2.16 | F    | 39.002            |                     | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No   | 1        |                 |        |
|            | F    |                   |                     | <b>MCC's, distribution boards and switch board as per drawings</b>  |      |          |                 |        |
| 3.F12.2.17 | F    | 39.002            |                     | Drawing 2A-E2,3-006: 2A-SD-001  | No   | 1        |                 |        |
| 3.F12.2.18 | F    | 39.002            |                     | Drawing 2A-E2,3-007:2B2-SD-01 & 2B-SD-02  | No   | 2        |                 |        |
|            | F    |                   |                     | <b>Small power and lighting</b>   |      |          |                 |        |
|            | F    |                   |                     | <b>Wiring, conduits and accessories</b>   |      |          |                 |        |
|            | F    |                   |                     | <b>Conduits - PVC</b>   |      |          |                 |        |
| 3.F12.2.19 | F    | 39.002            |                     | 20 mm diameter  | m    | 30       |                 |        |
| 3.F12.2.20 | F    | 39.002            |                     | 25 mm diameter  | m    | 10       |                 |        |
|            | F    |                   |                     | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |      |          |                 |        |
| 3.F12.2.21 | F    | 39.002            |                     | 4 mm²   | m    | 90       |                 |        |
| 3.F12.2.22 | F    | 39.002            |                     | 2.5 mm²   | m    | 90       |                 |        |
|            | F    |                   |                     | <b>Socket outlets</b>   |      |          |                 |        |
| 3.F12.2.23 | F    | 39.002            |                     | 16A Standard SSO  | No   | 4        |                 |        |
|            | F    |                   |                     | <b>Switches</b>   |      |          |                 |        |
| 3.F12.2.24 | F    | 39.002            |                     | Single Lever 1-Way Light switch   | No   | 2        |                 |        |
| 3.F12.2.25 | F    | 39.002            |                     | Photo cell  | No   | 1        |                 |        |
|            |      |                   |                     |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | F    |           |           | <b>Isolators</b>   |      |          |                 |        |
| 3.F12.2.26 | F    | 39.002    |           | 60A double pole isolator   | No   | 1        |                 |        |
| 3.F12.2.27 | F    | 39.002    |           | 60A tripple pole isolator  | No   | 2        |                 |        |
|            | F    |           |           | <b>Powerskirting and trunking</b>  |      |          |                 |        |
| 3.F12.2.28 | F    | 39.002    |           | P2000  | m    | 10       |                 |        |
|            | F    |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>  |      |          |                 |        |
| 3.F12.2.29 | F    | 39.002    |           | Straight lengths   | m    | 18       |                 |        |
| 3.F12.2.30 | F    | 39.002    |           | 90 degree bends  | No   | 4        |                 |        |
|            | F    |           |           | <b>Cabble ladder, trays and supports</b>   |      |          |                 |        |
|            | F    |           |           | <b>Heavy duty cable ladder</b>   |      |          |                 |        |
|            | F    |           |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
|            | F    |           |           | <b>Straight lengths</b>  |      |          |                 |        |
| 3.F12.2.31 | F    | 39.002    |           | 76 mm wide   | m    | 10       |                 |        |
|            | F    |           |           | <b>90 degree bends</b>   |      |          |                 |        |
| 3.F12.2.32 | F    | 39.002    |           | 76 mm wide   | No   | 4        |                 |        |
|            | F    |           |           | <b>Tees</b>  |      |          |                 |        |
| 3.F12.2.33 | F    | 39.002    |           | 76 mm wide   | No   | 2        |                 |        |
|            | F    |           |           | <b>Light fittings</b>  |      |          |                 |        |
| 3.F12.2.34 | F    | 39.002    |           | Type A2  | No   | 1        |                 |        |
| 3.F12.2.35 | F    | 39.002    |           | Type A3  | No   | 1        |                 |        |
| 3.F12.2.36 | F    | 39.002    |           | Type B   | No   | 5        |                 |        |
| 3.F12.2.37 | F    | 39.002    |           | Type F1  | No   | 1        |                 |        |
|            | F    |           |           | <b>Standby generator systems</b>   |      |          |                 |        |
|            | F    |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 3.F12.2.38 | F    | 39.002    |           | IH - 10kVA   | No   | 2        |                 |        |
| 3.F12.2.39 | F    | 39.002    |           | MWT - 1kVA   | No   | 1        |                 |        |
| 3.F12.2.40 | F    | 39.001    |           | Design and documentation   | Sum  | 1        |                 |        |
|            | F    |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|            | F    |           |           | <b>Earthing and bonding of equipment</b>   |      |          |                 |        |
| 3.F12.2.41 | F    | 39.002    |           | Low voltage AC system and equipment  | Sum  | 1        |                 |        |
| 3.F12.2.42 | F    | 39.002    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 3.F12.2.43 | F    | 39.001    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|            | F    |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 3.F12.2.44 | F    | 39.002    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 3.F12.2.45 | F    | 39.002    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|            | F    |           |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 3.F12.2.46 | F    | 39.002    |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 3.F12.2.47 | F    | 39.002    |           | Safety plant   | Sum  | 1        |                 |        |
|            | F    |           |           | <b>PART 12.3: INSTALLATION</b>   |      |          |                 |        |
|            | F    |           |           | <b>INSTRUMENTATION HUT - BREAK PRESSURE TANK</b>   |      |          |                 |        |
|            | F    |           |           | <b>Distribution transformers - Ground mounted</b>  |      |          |                 |        |
| 3.F12.3.1  | F    | 39.003    |           | 25 kVA 11/0,4 kV   | No   | 1        |                 |        |
| 3.F12.3.2  | F    | 39.003    |           | Pre-cast plinth for distribution transformers  | No   | 1        |                 |        |
| 3.F12.3.3  | F    | 39.003    |           | Earthing for distribution transformers   | No   | 1        |                 |        |
|            | F    |           |           | <b>Cables, earth wires and ancillary</b>   |      |          |                 |        |
|            | F    |           |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>  |      |          |                 |        |
| 3.F12.3.4  | F    | 39.003    |           | 25 mm² Cu - distribution transformers  | m    | 300      |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|----------------|----------|-----------------|--------|
|            |      | Reference |           |   |                |          |                 |        |
|            |      |           |           |   |                |          | Brought Forward |        |
| 3.F12.3.5  | F    | 39.003    |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b><br>16 mm <sup>2</sup> Cu x 4c ECC   | m              | 100      |                 |        |
| 3.F12.3.6  | F    | 39.003    |           | <b>Joints</b><br><b>6.35/11 kV Type A XLPE joints</b><br>Three core XLPE 25mm <sup>2</sup> (Cu)   | No             | 1        |                 |        |
| 3.F12.3.7  | F    | 39.003    |           | <b>Terminations</b><br><b>6.35/11 kV Type A XLPE terminations</b><br>Three core XLPE 25mm <sup>2</sup> (Cu)   | No             | 1        |                 |        |
| 3.F12.3.8  | F    | 39.003    |           | <b>600/1000 V PVC SWA multi core terminations</b><br>16 mm <sup>2</sup> Cu x 4c ECC   | No             | 2        |                 |        |
| 3.F12.3.9  | F    | 39.003    |           | <b>Trenching, excavations and backfilling</b><br>Excavation in soft material  | m <sup>3</sup> | 230      |                 |        |
| 3.F12.3.10 | F    | 39.003    |           | Excavation in hard rock   | m <sup>3</sup> | 40       |                 |        |
| 3.F12.3.11 | F    | 39.003    |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 160      |                 |        |
| 3.F12.3.12 | F    | 39.003    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 110      |                 |        |
| 3.F12.3.13 | F    | 39.003    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)   | Lot            | 1        |                 |        |
| 3.F12.3.14 | F    | 39.003    |           | Danger tape installation  | m              | 400      |                 |        |
| 3.F12.3.15 | F    | 39.003    |           | Cable markers   | No             | 8        |                 |        |
| 3.F12.3.16 | F    | 39.003    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction   | No             | 1        |                 |        |
| 3.F12.3.17 | F    | 39.003    |           | <b>MCC's, distribution boards and switch board as per drawings</b><br>Drawing 2A-E2,3-006: 2A-SD-001  | No             | 1        |                 |        |
| 3.F12.3.18 | F    | 39.003    |           | Drawing 2A-E2,3-007:2B2-SD-01 & 2B-SD-02  | No             | 2        |                 |        |
| 3.F12.3.19 | F    | 39.003    |           | <b>Small power and lighting</b><br><b>Wiring, conduits and accessories</b><br><b>Conduits - PVC</b><br>20 mm diameter                                       | m              | 30       |                 |        |
| 3.F12.3.20 | F    | 39.003    |           | 25 mm diameter  | m              | 10       |                 |        |
| 3.F12.3.21 | F    | 39.003    |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b><br>4 mm <sup>2</sup>   | m              | 90       |                 |        |
| 3.F12.3.22 | F    | 39.003    |           | 2.5 mm <sup>2</sup>   | m              | 90       |                 |        |
| 3.F12.3.23 | F    | 39.003    |           | <b>Socket outlets</b><br>16A Standard SSO   | No             | 4        |                 |        |
| 3.F12.3.24 | F    | 39.003    |           | <b>Switches</b><br>Single Lever 1-Way Light switch  | No             | 2        |                 |        |
| 3.F12.3.25 | F    | 39.003    |           | Photo cell  | No             | 1        |                 |        |
| 3.F12.3.26 | F    | 39.003    |           | <b>Isolators</b><br>60A double pole isolator  | No             | 1        |                 |        |
| 3.F12.3.27 | F    | 39.003    |           | 60A tripple pole isolator   | No             | 2        |                 |        |
| 3.F12.3.28 | F    | 39.003    |           | <b>Powerskirting and trunking</b><br>P2000  | m              | 10       |                 |        |
| 3.F12.3.29 | F    | 39.003    |           | <b>Two compartment, two cover sheet metal powerskirting</b><br>Straight lengths   | m              | 18       |                 |        |
| 3.F12.3.30 | F    | 39.003    |           | 90 degree bends   | No             | 4        |                 |        |
| 3.F12.3.31 | F    | 39.003    |           | <b>Cable ladder, trays and supports</b><br><b>Heavy duty cable ladder</b><br><br><b>Medium duty perforated cable tray</b><br>Straight lengths<br>76 mm wide | m              | 10       |                 |        |
| 3.F12.3.32 | F    | 39.003    |           | <b>90 degree bends</b><br>76 mm wide  | No             | 4        |                 |        |
|            |      |           |           |   |                |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 3.F12.3.33 | F    | 39.003    |           | <b>Tees</b><br>76 mm wide  | No   | 2        |                 |        |
| 3.F12.3.34 | F    | 39.003    |           | <b>Light fittings</b><br>Type A2   | No   | 1        |                 |        |
| 3.F12.3.35 | F    | 39.003    |           | Type A3  | No   | 1        |                 |        |
| 3.F12.3.36 | F    | 39.003    |           | Type B   | No   | 5        |                 |        |
| 3.F12.3.37 | F    | 39.003    |           | Type F1  | No   | 1        |                 |        |
|            | F    |           |           | <b>Standby generator systems</b>   |      |          |                 |        |
|            | F    |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 3.F12.3.38 | F    | 39.003    |           | IH - 10kVA   | No   | 2        |                 |        |
| 3.F12.3.39 | F    | 39.003    |           | MWT - 1kVA   | No   | 1        |                 |        |
| 3.F12.3.40 | F    | 39.001    |           | Design and documentation   | Sum  | 1        |                 |        |
|            | F    |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|            | F    |           |           | <b>Earthing and bonding of equipment</b>   |      |          |                 |        |
| 3.F12.3.41 | F    | 39.003    |           | Low voltage AC system and equipment  | Sum  | 1        |                 |        |
| 3.F12.3.42 | F    | 39.003    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 3.F12.3.43 | F    | 39.001    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|            | F    |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 3.F12.3.44 | F    | 39.003    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 3.F12.3.45 | F    | 39.003    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|            | F    |           |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 3.F12.3.46 | F    | 39.003    |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 3.F12.3.47 | F    | 39.003    |           | Safety plant   | Sum  | 1        |                 |        |
|            | F    |           |           | <b>PART F12: HIGH LIFT RISING MAIN TOTAL - Carried forward to Summary of Bills</b>   |      |          |                 |        |

| Item no.    | Part | Payment   | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|-------------|------|-----------|-----------|---|----------------|----------|-----------------|--------|
|             |      | Reference |           |   |                |          |                 |        |
|             | G    |           |           | <b>PART G7: BREAK PRESSURE RESERVOIR</b>  |                |          |                 |        |
|             |      |           |           | <b>PART G7.1: DESIGN</b>  |                |          |                 |        |
| 3.G7.1.1    | G    | 39.001    |           | Design and documentation (as required, should it not already be included with an item below)                      | Sum            | 1        |                 |        |
|             | G    |           |           | <b>PART G7.2: SUPPLY AND DELIVER TO SITE</b>  |                |          |                 |        |
|             | G    |           |           | <b>BPR OUTLET SIDE</b>  |                |          |                 |        |
|             | G    |           |           | <b>Miniature substation (MSS)</b>   |                |          |                 |        |
| 3.G7.2.1.1  | G    | 39.002    |           | 200 kVA 11/0,4 kV   | No             | 1        |                 |        |
| 3.G7.2.1.2  | G    | 39.002    |           | Pre-cast plinth for MSS   | No             | 1        |                 |        |
| 3.G7.2.1.3  | G    | 39.002    |           | Earthing for MSS  | No             | 1        |                 |        |
|             | G    |           |           | <b>Bulk metering kiosk (BMK)</b>  |                |          |                 |        |
| 3.G7.2.1.4  | G    | 39.002    |           | 11kV Bulk Metering Kiosk (BMK) (2SD & CB)   | No             | 1        |                 |        |
| 3.G7.2.1.5  | G    | 39.002    |           | Pre-cast plinth for BMK   | No             | 1        |                 |        |
| 3.G7.2.1.6  | G    | 39.002    |           | Earthing for BMK  | No             | 1        |                 |        |
|             | G    |           |           | <b>Cables, earth wires and ancillary</b>  |                |          |                 |        |
|             | G    | 39.002    |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>                                     |                |          |                 |        |
| 3.G7.2.1.7  | G    | 39.002    |           | 70 mm <sup>2</sup> Cu - from BMK to MSS1  | m              | 500      |                 |        |
|             | G    |           |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>   |                |          |                 |        |
| 3.G7.2.1.8  | G    | 39.002    |           | 6 mm <sup>2</sup> Cu x 4c ECC (valves)  | m              | 300      |                 |        |
| 3.G7.2.1.9  | G    | 39.002    |           | 4 mm <sup>2</sup> Cu x 4c ECC (flow meter)  | m              | 160      |                 |        |
|             | G    |           |           | <b>Joints</b>   |                |          |                 |        |
|             | G    |           |           | <b>6.35/11 kV Type A XLPE joints</b>  |                |          |                 |        |
| 3.G7.2.1.10 | G    | 39.002    |           | Three core XLPE 70mm <sup>2</sup> (Cu)  | No             | 2        |                 |        |
|             | G    |           |           | <b>Terminations</b>   |                |          |                 |        |
|             | G    |           |           | <b>6.35/11 kV Type A XLPE terminations</b>  |                |          |                 |        |
| 3.G7.2.1.11 | G    | 39.002    |           | Three core XLPE 70mm <sup>2</sup> (Cu) - Indoor   | No             | 2        |                 |        |
|             | G    |           |           | <b>600/1000 V PVC SWA multi core terminations</b>   |                |          |                 |        |
| 3.G7.2.1.12 | G    | 39.002    |           | 6 mm <sup>2</sup> Cu x 4c ECC (valves)  | No             | 6        |                 |        |
| 3.G7.2.1.13 | G    | 39.002    |           | 4 mm <sup>2</sup> Cu x 4c ECC (flow meter)  | No             | 2        |                 |        |
|             | G    |           |           | <b>Trenching, excavations and backfilling</b>   |                |          |                 |        |
| 3.G7.2.1.14 | G    | 39.002    |           | Excavation in soft material   | m <sup>3</sup> | 840      |                 |        |
| 3.G7.2.1.15 | G    | 39.002    |           | Excavation in hard rock   | m <sup>3</sup> | 150      |                 |        |
| 3.G7.2.1.16 | G    | 39.002    |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 590      |                 |        |
| 3.G7.2.1.17 | G    | 39.002    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 400      |                 |        |
| 3.G7.2.1.18 | G    | 39.002    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Lot            | 1        |                 |        |
| 3.G7.2.1.19 | G    | 39.002    |           | Danger tape installation  | m              | 200      |                 |        |
| 3.G7.2.1.20 | G    | 39.002    |           | Cable markers   | No             | 4        |                 |        |
| 3.G7.2.1.21 | G    | 39.002    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No             | 1        |                 |        |
|             | G    |           |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |                |          |                 |        |
| 3.G7.2.1.22 | G    | 39.002    |           | Drawing 2A-E2,3-001: 2A-SD-02   | No             | 2        |                 |        |
| 3.G7.2.1.23 | G    | 39.002    |           | Drawing 2G-E2,3-003: 2A-SD-04   | No             | 3        |                 |        |
| 3.G7.2.1.24 | G    | 39.002    |           | Drawing 2G-E2,3-004: 2A-SD-05   | No             | 3        |                 |        |
|             | G    |           |           | <b>Small power and lighting</b>   |                |          |                 |        |
|             | G    |           |           | <b>Wiring, conduits and accessories</b>   |                |          |                 |        |
|             | G    |           |           | <b>Conduits - PVC</b>   |                |          |                 |        |
| 3.G7.2.1.25 | G    | 39.002    |           | 20 mm diameter  | m              | 30       |                 |        |
| 3.G7.2.1.26 | G    | 39.002    |           | 25 mm diameter  | m              | 10       |                 |        |
|             |      |           |           |   |                |          | Carried Forward |        |



| Item no.    | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|             |      | Reference |           |  |      |          |                 |        |
|             |      |           |           |  |      |          | Brought Forward |        |
|             | G    |           |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>   |      |          |                 |        |
| 3.G7.2.1.27 | G    | 39.002    |           | 4 mm <sup>2</sup>  | m    | 90       |                 |        |
| 3.G7.2.1.28 | G    | 39.002    |           | 2.5 mm <sup>2</sup>  | m    | 90       |                 |        |
|             | G    |           |           | <b>Socket outlets</b>  |      |          |                 |        |
| 3.G7.2.1.29 | G    | 39.002    |           | 16A Standard SSO (WT)  | No   | 4        |                 |        |
|             | G    |           |           | <b>Switches</b>  |      |          |                 |        |
| 3.G7.2.1.30 | G    | 39.002    |           | Single Lever 1-Way Light switch (WT)   | No   | 4        |                 |        |
| 3.G7.2.1.31 | G    | 39.002    |           | Photo cell   | No   | 1        |                 |        |
|             | G    |           |           | <b>Isolators</b>   |      |          |                 |        |
| 3.G7.2.1.32 | G    | 39.002    |           | 60A double pole isolator (WT)  | No   | 2        |                 |        |
|             | G    |           |           | <b>Powerskirting and trunking</b>  |      |          |                 |        |
| 3.G7.2.1.33 | G    | 39.002    |           | P2000  | m    | 10       |                 |        |
|             | G    |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>  |      |          |                 |        |
| 3.G7.2.1.34 | G    | 39.002    |           | Straight lengths   | m    | 18       |                 |        |
| 3.G7.2.1.35 | G    | 39.002    |           | 90 degree bends  | No   | 4        |                 |        |
|             | G    |           |           | <b>Cable ladder, trays and supports</b>  |      |          |                 |        |
|             | G    |           |           | <b>Heavy duty cable ladder</b>   |      |          |                 |        |
|             | G    |           |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
|             | G    |           |           | <b>Straight lengths</b>  |      |          |                 |        |
| 3.G7.2.1.36 | G    | 39.002    |           | 76 mm wide   | m    | 10       |                 |        |
|             | G    |           |           | <b>90 degree bends</b>   |      |          |                 |        |
| 3.G7.2.1.37 | G    | 39.002    |           | 76 mm wide   | No   | 4        |                 |        |
|             | G    |           |           | <b>Tees</b>  |      |          |                 |        |
| 3.G7.2.1.38 | G    | 39.002    |           | 76 mm wide   | No   | 2        |                 |        |
|             | G    |           |           | <b>Light fittings</b>  |      |          |                 |        |
| 3.G7.2.1.39 | G    | 39.002    |           | Type B   | No   | 12       |                 |        |
|             | G    |           |           | <b>Standby generator systems</b>   |      |          |                 |        |
|             | G    |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 3.G7.2.1.40 | G    | 39.002    |           | MWT - 1kVA   | No   | 1        |                 |        |
| 3.G7.2.1.41 | G    | 39.001    |           | Design and documentation   | Sum  | 1        |                 |        |
|             | G    |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|             | G    |           |           | <b>Earthing and bonding of equipment</b>   |      |          |                 |        |
| 3.G7.2.1.42 | G    | 39.002    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 3.G7.2.1.43 | G    | 39.001    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|             | G    |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 3.G7.2.1.44 | G    | 39.002    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 3.G7.2.1.45 | G    | 39.002    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|             | G    |           |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 3.G7.2.1.46 | G    | 39.002    |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 3.G7.2.1.47 | G    | 39.002    |           | Safety plant   | Sum  | 1        |                 |        |
|             | G    |           |           | <b>INSTRUMENTATION HUT - BREAK PRESSURE RESERVOIR (INLET SIDE)</b>   |      |          |                 |        |
|             | G    |           |           | <b>Miniature substation (MSS)</b>  |      |          |                 |        |
| 3.G7.2.2.1  | G    | 39.002    |           | 200 kVA 11/0,4 kV  | No   | 1        |                 |        |
| 3.G7.2.2.2  | G    | 39.002    |           | Pre-cast plinth for MSS  | No   | 1        |                 |        |
| 3.G7.2.2.3  | G    | 39.002    |           | Earthing for MSS   | No   | 1        |                 |        |
|             |      |           |           |  |      |          | Carried Forward |        |

| Item no.    | Part | Payment   | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|-------------|------|-----------|-----------|---|----------------|----------|-----------------|--------|
|             |      | Reference |           |   |                |          |                 |        |
|             |      |           |           |   |                |          | Brought Forward |        |
| 3.G7.2.2.4  | G    | 39.002    |           | <b>Cables, earth wires and ancillary</b><br><b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b><br>70 mm <sup>2</sup> Cu - from MSS1 to MSS2 to BMK | m              | 880      |                 |        |
| 3.G7.2.2.5  | G    | 39.002    |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b><br>6 mm <sup>2</sup> Cu x 4c ECC (instrumentation hut, valves, flow meter)                            | m              | 320      |                 |        |
| 3.G7.2.2.6  | G    | 39.002    |           | 4 mm <sup>2</sup> Cu x 4c ECC (microwave tower)   | m              | 80       |                 |        |
| 3.G7.2.2.7  | G    | 39.002    |           | <b>Joints</b><br><b>6.35/11 kV Type A XLPE joints</b><br>Three core XLPE 70mm <sup>2</sup> (Cu)   | No             | 3        |                 |        |
| 3.G7.2.2.8  | G    | 39.002    |           | <b>Terminations</b><br><b>6.35/11 kV Type A XLPE terminations</b><br>Three core XLPE 70mm <sup>2</sup> (Cu) - Indoor  | No             | 4        |                 |        |
| 3.G7.2.2.9  | G    | 39.002    |           | <b>600/1000 V PVC SWA multi core terminations</b><br>6 mm <sup>2</sup> Cu x 4c ECC (valves)   | No             | 8        |                 |        |
| 3.G7.2.2.10 | G    | 39.002    |           | 4 mm <sup>2</sup> Cu x 4c ECC (flow meter)  | No             | 2        |                 |        |
| 3.G7.2.2.11 | G    | 39.002    |           | <b>Trenching, excavations and backfilling</b><br>Excavation in soft material  | m <sup>3</sup> | 1110     |                 |        |
| 3.G7.2.2.12 | G    | 39.002    |           | Excavation in hard rock   | m <sup>3</sup> | 200      |                 |        |
| 3.G7.2.2.13 | G    | 39.002    |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 790      |                 |        |
| 3.G7.2.2.14 | G    | 39.002    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 520      |                 |        |
| 3.G7.2.2.15 | G    | 39.002    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)   | Lot            | 1        |                 |        |
| 3.G7.2.2.16 | G    | 39.002    |           | Danger tape installation  | m              | 400      |                 |        |
| 3.G7.2.2.17 | G    | 39.002    |           | Cable markers   | No             | 8        |                 |        |
| 3.G7.2.2.18 | G    | 39.002    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction   | No             | 1        |                 |        |
| 3.G7.2.2.19 | G    | 39.002    |           | <b>MCC's, distribution boards and switch board as per drawings</b><br>Drawing 2A-E2,3-006: 2A-SD-01   | No             | 1        |                 |        |
| 3.G7.2.2.20 | G    | 39.002    |           | Drawing 2A-E2,3-007: 2G-SD-05 & 2G-SD-06  | No             | 2        |                 |        |
| 3.G7.2.2.21 | G    | 39.002    |           | <b>Small power and lighting</b><br><b>Wiring, conduits and accessories</b><br><b>Conduits - PVC</b><br>20 mm diameter   | m              | 30       |                 |        |
| 3.G7.2.2.22 | G    | 39.002    |           | 25 mm diameter  | m              | 10       |                 |        |
| 3.G7.2.2.23 | G    | 39.002    |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b><br>4 mm <sup>2</sup>   | m              | 90       |                 |        |
| 3.G7.2.2.24 | G    | 39.002    |           | 2.5 mm <sup>2</sup>   | m              | 90       |                 |        |
| 3.G7.2.2.25 | G    | 39.002    |           | <b>Socket outlets</b><br>16A Standard SSO (WT)  | No             | 4        |                 |        |
| 3.G7.2.2.26 | G    | 39.002    |           | <b>Switches</b><br>Single Lever 1-Way Light switch (WT)   | No             | 2        |                 |        |
| 3.G7.2.2.27 | G    | 39.002    |           | Photo cell  | No             | 1        |                 |        |
| 3.G7.2.2.28 | G    | 39.002    |           | <b>Isolators</b><br>60A double pole isolator (WT)   | No             | 1        |                 |        |
| 3.G7.2.2.29 | G    | 39.002    |           | 60A tripple pole isolator (WT)  | No             | 2        |                 |        |
| 3.G7.2.2.30 | G    | 39.002    |           | <b>Powerskirting and trunking</b><br>P2000  | m              | 10       |                 |        |
| 3.G7.2.2.31 | G    | 39.002    |           | <b>Two compartment, two cover sheet metal powerskirting</b><br>Straight lengths   | m              | 18       |                 |        |
| 3.G7.2.2.32 | G    | 39.002    |           | 90 degree bends   | No             | 4        |                 |        |
|             |      |           |           |   |                |          | Carried Forward |        |

| Item no.    | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|             |      | Reference |           |  |      |          |                 |        |
|             |      |           |           |  |      |          | Brought Forward |        |
|             | G    | 39.002    |           | <b>Cable ladder, trays and supports</b>  |      |          |                 |        |
|             | G    |           |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
|             | G    |           |           | <b>Straight lengths</b>  |      |          |                 |        |
| 3.G7.2.2.33 | G    | 39.002    |           | 76 mm wide   | m    | 10       |                 |        |
|             | G    |           |           | <b>90 degree bends</b>   |      |          |                 |        |
| 3.G7.2.2.34 | G    | 39.002    |           | 76 mm wide   | No   | 4        |                 |        |
|             | G    |           |           | <b>Tees</b>  |      |          |                 |        |
| 3.G7.2.2.35 | G    | 39.002    |           | 76 mm wide   | No   | 2        |                 |        |
|             | G    |           |           | <b>Light fittings</b>  |      |          |                 |        |
| 3.G7.2.2.36 | G    | 39.002    |           | Type A2  | No   | 1        |                 |        |
| 3.G7.2.2.37 | G    | 39.002    |           | Type A3  | No   | 1        |                 |        |
| 3.G7.2.2.38 | G    | 39.002    |           | Type B   | No   | 5        |                 |        |
| 3.G7.2.2.39 | G    | 39.002    |           | Type F1  | No   | 1        |                 |        |
|             | G    |           |           | <b>Standby generator systems</b>   |      |          |                 |        |
|             | G    |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 3.G7.2.2.40 | G    | 39.002    |           | IH - 10kVA   | No   | 2        |                 |        |
| 3.G7.2.2.41 | G    | 39.001    |           | Design and documentation   | Sum  | 1        |                 |        |
|             | G    |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|             | G    |           |           | <b>Earthing and bonding of equipment</b>   |      |          |                 |        |
| 3.G7.2.2.42 | G    | 39.002    |           | Low voltage AC system and equipment  | Sum  | 1        |                 |        |
| 3.G7.2.2.43 | G    | 39.002    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 3.G7.2.2.44 | G    | 39.001    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|             | G    |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 3.G7.2.2.45 | G    | 39.002    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 3.G7.2.2.46 | G    | 39.002    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|             | G    |           |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 3.G7.2.2.47 | G    | 39.002    |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 3.G7.2.2.48 | G    | 39.002    |           | Safety plant   | Sum  | 1        |                 |        |
|             | G    |           |           | <b>PART G7.3: INSTALLATION</b>   |      |          |                 |        |
|             | G    |           |           | <b>BPR OUTLET SIDE</b>   |      |          |                 |        |
|             | G    |           |           | <b>Miniature substation (MSS)</b>  |      |          |                 |        |
| 3.G7.3.1.1  | G    | 39.003    |           | 200 kVA 11/0,4 kV  | No   | 1        |                 |        |
| 3.G7.3.1.2  | G    | 39.003    |           | Pre-cast plinth for MSS  | No   | 1        |                 |        |
| 3.G7.3.1.3  | G    | 39.003    |           | Earthing for MSS   | No   | 1        |                 |        |
|             | G    |           |           | <b>Bulk metering kiosk (BMK)</b>   |      |          |                 |        |
| 3.G7.3.1.4  | G    | 39.003    |           | 11kV Bulk Metering Kiosk (BMK) (2SD & CB)  | No   | 1        |                 |        |
| 3.G7.3.1.5  | G    | 39.003    |           | Pre-cast plinth for BMK  | No   | 1        |                 |        |
| 3.G7.3.1.6  | G    | 39.003    |           | Earthing for BMK   | No   | 1        |                 |        |
|             | G    |           |           | <b>Cables, earth wires and ancillary</b>   |      |          |                 |        |
|             | G    |           |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>  |      |          |                 |        |
| 3.G7.3.1.7  | G    | 39.003    |           | 70 mm <sup>2</sup> Cu - from BMK to MSS1   | m    | 500      |                 |        |
|             | G    |           |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>  |      |          |                 |        |
| 3.G7.3.1.8  | G    | 39.003    |           | 6 mm <sup>2</sup> Cu x 4c ECC (valves)   | m    | 300      |                 |        |
| 3.G7.3.1.9  | G    | 39.003    |           | 4 mm <sup>2</sup> Cu x 4c ECC (flow meter)   | m    | 160      |                 |        |
|             | G    |           |           | <b>Joints</b>  |      |          |                 |        |
|             | G    |           |           | <b>6.35/11 kV Type A XLPE joints</b>   |      |          |                 |        |
| 3.G7.3.1.10 | G    | 39.003    |           | Three core XLPE 70mm <sup>2</sup> (Cu)   | No   | 2        |                 |        |
|             |      |           |           |  |      |          | Carried Forward |        |

| Item no.    | Part | Payment   | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|-------------|------|-----------|-----------|---|----------------|----------|-----------------|--------|
|             |      | Reference |           |   |                |          |                 |        |
|             |      |           |           |   |                |          | Brought Forward |        |
|             | G    |           |           | <b>Terminations</b>   |                |          |                 |        |
|             | G    |           |           | <b>6.35/11 kV Type A XLPE terminations</b>  |                |          |                 |        |
| 3.G7.3.1.11 | G    | 39.003    |           | Three core XLPE 70mm <sup>2</sup> (Cu) - Indoor   | No             | 2        |                 |        |
|             | G    |           |           | <b>600/1000 V PVC SWA multi core terminations</b>   |                |          |                 |        |
| 3.G7.3.1.12 | G    | 39.003    |           | 6 mm <sup>2</sup> Cu x 4c ECC (valves)  | No             | 6        |                 |        |
| 3.G7.3.1.13 | G    | 39.003    |           | 4 mm <sup>2</sup> Cu x 4c ECC (flow meter)  | No             | 2        |                 |        |
|             | G    |           |           | <b>Trenching, excavations and backfilling</b>   |                |          |                 |        |
| 3.G7.3.1.14 | G    | 39.003    |           | Excavation in soft material   | m <sup>3</sup> | 840      |                 |        |
| 3.G7.3.1.15 | G    | 39.003    |           | Excavation in hard rock   | m <sup>3</sup> | 150      |                 |        |
| 3.G7.3.1.16 | G    | 39.003    |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 590      |                 |        |
| 3.G7.3.1.17 | G    | 39.003    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 400      |                 |        |
| 3.G7.3.1.18 | G    | 39.003    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Lot            | 1        |                 |        |
| 3.G7.3.1.19 | G    | 39.003    |           | Danger tape installation  | m              | 200      |                 |        |
| 3.G7.3.1.20 | G    | 39.003    |           | Cable markers   | No             | 4        |                 |        |
| 3.G7.3.1.21 | G    | 39.003    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No             | 1        |                 |        |
|             | G    |           |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |                |          |                 |        |
| 3.G7.3.1.22 | G    | 39.003    |           | Drawing 2A-E2,3-001: 2A-SD-02   | No             | 2        |                 |        |
| 3.G7.3.1.23 | G    | 39.003    |           | Drawing 2G-E2,3-003: 2A-SD-04   | No             | 3        |                 |        |
| 3.G7.3.1.24 | G    | 39.003    |           | Drawing 2G-E2,3-004: 2A-SD-05   | No             | 3        |                 |        |
|             | G    |           |           | <b>Small power and lighting</b>   |                |          |                 |        |
|             | G    |           |           | <b>Wiring, conduits and accessories</b>   |                |          |                 |        |
|             | G    |           |           | <b>Conduits - PVC</b>   |                |          |                 |        |
| 3.G7.3.1.25 | G    | 39.003    |           | 20 mm diameter  | m              | 30       |                 |        |
| 3.G7.3.1.26 | G    | 39.003    |           | 25 mm diameter  | m              | 10       |                 |        |
|             | G    |           |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |                |          |                 |        |
| 3.G7.3.1.27 | G    | 39.003    |           | 4 mm <sup>2</sup>   | m              | 90       |                 |        |
| 3.G7.3.1.28 | G    | 39.003    |           | 2.5 mm <sup>2</sup>   | m              | 90       |                 |        |
|             | G    |           |           | <b>Socket outlets</b>   |                |          |                 |        |
| 3.G7.3.1.29 | G    | 39.003    |           | 16A Standard SSO (WT)   | No             | 4        |                 |        |
|             | G    |           |           | <b>Switches</b>   |                |          |                 |        |
| 3.G7.3.1.30 | G    | 39.003    |           | Single Lever 1-Way Light switch (WT)  | No             | 4        |                 |        |
| 3.G7.3.1.31 | G    | 39.003    |           | Photo cell  | No             | 1        |                 |        |
|             | G    |           |           | <b>Isolators</b>  |                |          |                 |        |
| 3.G7.3.1.32 | G    | 39.003    |           | 60A double pole isolator (WT)   | No             | 2        |                 |        |
|             | G    |           |           | <b>Powerskirting and trunking</b>   |                |          |                 |        |
| 3.G7.3.1.33 | G    | 39.003    |           | P2000   | m              | 10       |                 |        |
|             | G    |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>   |                |          |                 |        |
| 3.G7.3.1.34 | G    | 39.003    |           | Straight lengths  | m              | 18       |                 |        |
| 3.G7.3.1.35 | G    | 39.003    |           | 90 degree bends   | No             | 4        |                 |        |
|             | G    |           |           | <b>Cable ladder, trays and supports</b>   |                |          |                 |        |
|             | G    |           |           | <b>Medium duty perforated cable tray</b>  |                |          |                 |        |
|             | G    |           |           | <b>Straight lengths</b>   |                |          |                 |        |
| 3.G7.3.1.36 | G    | 39.003    |           | 76 mm wide  | m              | 10       |                 |        |
|             | G    |           |           | <b>90 degree bends</b>  |                |          |                 |        |
| 3.G7.3.1.37 | G    | 39.003    |           | 76 mm wide  | No             | 4        |                 |        |
|             | G    |           |           | <b>Tees</b>   |                |          |                 |        |
| 3.G7.3.1.38 | G    | 39.003    |           | 76 mm wide  | No             | 2        |                 |        |
|             | G    |           |           | <b>Light fittings</b>   |                |          |                 |        |
| 3.G7.3.1.39 | G    | 39.003    |           | Type B  | No             | 12       |                 |        |
|             |      |           |           |   |                |          | Carried Forward |        |

| Item no.    | Part | Payment   | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|-------------|------|-----------|-----------|--|----------------|----------|-----------------|--------|
|             |      | Reference |           |  |                |          |                 |        |
|             |      |           |           |  |                |          | Brought Forward |        |
| 3.G7.3.1.40 | G    | 39.003    |           | <b>Uninterruptible power supplies (UPS)</b>  | No             | 1        |                 |        |
| 3.G7.3.1.41 | G    | 39.001    |           | MWT - 1kVA   | Sum            | 1        |                 |        |
|             | G    |           |           | Design and documentation   |                |          |                 |        |
|             | G    |           |           | <b>Lightning protection, bonding and earthing</b>  |                |          |                 |        |
|             | G    |           |           | <b>Earthing and bonding of equipment</b>   |                |          |                 |        |
| 3.G7.3.1.42 | G    | 39.003    |           | Low voltage AC system and equipment  | Sum            | 1        |                 |        |
| 3.G7.3.1.43 | G    | 39.003    |           | Cable trays and supports   | Sum            | 1        |                 |        |
| 3.G7.3.1.44 | G    | 39.001    |           | Earthing and bonding design and documentation  | Sum            | 1        |                 |        |
|             | G    |           |           | <b>Earthing and lightning protection</b>   |                |          |                 |        |
| 3.G7.3.1.45 | G    | 39.003    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum            | 1        |                 |        |
| 3.G7.3.1.46 | G    | 39.003    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum            | 1        |                 |        |
|             | G    |           |           | <b>Miscellaneous and general</b>   |                |          |                 |        |
| 3.G7.3.1.47 | G    | 39.003    |           | Motor field isolators and e-stops  | Sum            | 1        |                 |        |
| 3.G7.3.1.48 | G    | 39.003    |           | Safety plant   | Sum            | 1        |                 |        |
|             | G    |           |           | <b>INSTRUMENTATION HUT - BREAK PRESSURE RESERVOIR (INLET SIDE)</b>   |                |          |                 |        |
|             | G    |           |           | <b>Miniature substation (MSS)</b>  |                |          |                 |        |
| 3.G7.3.2.1  | G    | 39.003    |           | 200 kVA 11/0,4 kV  | No             | 1        |                 |        |
| 3.G7.3.2.2  | G    | 39.003    |           | Pre-cast plinth for MSS  | No             | 1        |                 |        |
| 3.G7.3.2.3  | G    | 39.003    |           | Earthing for MSS   | No             | 1        |                 |        |
|             | G    |           |           | <b>Cables, earth wires and ancillary</b>   |                |          |                 |        |
|             | G    |           |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>  |                |          |                 |        |
| 3.G7.3.2.4  | G    | 39.003    |           | 70 mm <sup>2</sup> Cu - from MSS1 to MSS2 to BMK   | m              | 880      |                 |        |
|             | G    |           |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>  |                |          |                 |        |
| 3.G7.3.2.5  | G    | 39.003    |           | 6 mm <sup>2</sup> Cu x 4c ECC (instrumentation hut, valves, flow meter)  | m              | 320      |                 |        |
| 3.G7.3.2.6  | G    | 39.003    |           | 4 mm <sup>2</sup> Cu x 4c ECC (microwave tower)  | m              | 80       |                 |        |
|             | G    |           |           | <b>Joints</b>  |                |          |                 |        |
|             | G    |           |           | <b>6.35/11 kV Type A XLPE joints</b>   |                |          |                 |        |
| 3.G7.3.2.7  | G    | 39.003    |           | Three core XLPE 70mm <sup>2</sup> (Cu)   | No             | 3        |                 |        |
|             | G    |           |           | <b>Terminations</b>  |                |          |                 |        |
|             | G    |           |           | <b>6.35/11 kV Type A XLPE terminations</b>   |                |          |                 |        |
| 3.G7.3.2.8  | G    | 39.003    |           | Three core XLPE 70mm <sup>2</sup> (Cu) - Indoor  | No             | 4        |                 |        |
|             | G    |           |           | <b>600/1000 V PVC SWA multi core terminations</b>  |                |          |                 |        |
| 3.G7.3.2.9  | G    | 39.003    |           | 6 mm <sup>2</sup> Cu x 4c ECC (valves)   | No             | 8        |                 |        |
| 3.G7.3.2.10 | G    | 39.003    |           | 4 mm <sup>2</sup> Cu x 4c ECC (flow meter)   | No             | 2        |                 |        |
|             | G    |           |           | <b>Trenching, excavations and backfilling</b>  |                |          |                 |        |
| 3.G7.3.2.11 | G    | 39.003    |           | Excavation in soft material  | m <sup>3</sup> | 1110     |                 |        |
| 3.G7.3.2.12 | G    | 39.003    |           | Excavation in hard rock  | m <sup>3</sup> | 200      |                 |        |
| 3.G7.3.2.13 | G    | 39.003    |           | Soft soil backfilling and compaction   | m <sup>3</sup> | 790      |                 |        |
| 3.G7.3.2.14 | G    | 39.003    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity  | m <sup>3</sup> | 520      |                 |        |
| 3.G7.3.2.15 | G    | 39.003    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)  | Lot            | 1        |                 |        |
| 3.G7.3.2.16 | G    | 39.003    |           | Danger tape installation   | m              | 400      |                 |        |
| 3.G7.3.2.17 | G    | 39.003    |           | Cable markers  | No             | 8        |                 |        |
| 3.G7.3.2.18 | G    | 39.003    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction  | No             | 1        |                 |        |
|             | G    |           |           | <b>MCC's, distribution boards and switch board as per drawings</b>   |                |          |                 |        |
| 3.G7.3.2.19 | G    | 39.003    |           | Drawing 2A-E2,3-006: 2A-SD-01  | No             | 1        |                 |        |
| 3.G7.3.2.20 | G    | 39.003    |           | Drawing 2A-E2,3-007: 2G-SD-05 & 2G-SD-06   | No             | 2        |                 |        |
|             |      |           |           |  |                |          | Carried Forward |        |

| Item no.    | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|             |      | Reference |           |  |      |          |                 |        |
|             |      |           |           |  |      |          | Brought Forward |        |
|             | G    |           |           | <b>Small power and lighting</b>  |      |          |                 |        |
|             | G    |           |           | <b>Wiring, conduits and accessories</b>  |      |          |                 |        |
|             | G    |           |           | <b>Conduits - PVC</b>  |      |          |                 |        |
| 3.G7.3.2.21 | G    | 39.003    |           | 20 mm diameter   | m    | 30       |                 |        |
| 3.G7.3.2.22 | G    | 39.003    |           | 25 mm diameter   | m    | 10       |                 |        |
|             | G    |           |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>   |      |          |                 |        |
| 3.G7.3.2.23 | G    | 39.003    |           | 4 mm <sup>2</sup>  | m    | 90       |                 |        |
| 3.G7.3.2.24 | G    | 39.003    |           | 2.5 mm <sup>2</sup>  | m    | 90       |                 |        |
|             | G    |           |           | <b>Socket outlets</b>  |      |          |                 |        |
| 3.G7.3.2.25 | G    | 39.003    |           | 16A Standard SSO (WT)  | No   | 4        |                 |        |
|             | G    |           |           | <b>Switches</b>  |      |          |                 |        |
| 3.G7.3.2.26 | G    | 39.003    |           | Single Lever 1-Way Light switch (WT)   | No   | 2        |                 |        |
| 3.G7.3.2.27 | G    | 39.003    |           | Photo cell   | No   | 1        |                 |        |
|             | G    |           |           | <b>Isolators</b>   |      |          |                 |        |
| 3.G7.3.2.28 | G    | 39.003    |           | 60A double pole isolator (WT)  | No   | 1        |                 |        |
| 3.G7.3.2.29 | G    | 39.003    |           | 60A tripple pole isolator (WT)   | No   | 2        |                 |        |
|             | G    |           |           | <b>Powerskirting and trunking</b>  |      |          |                 |        |
| 3.G7.3.2.30 | G    | 39.003    |           | P2000  | m    | 10       |                 |        |
|             | G    |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>  |      |          |                 |        |
| 3.G7.3.2.31 | G    | 39.003    |           | Straight lengths   | m    | 18       |                 |        |
| 3.G7.3.2.32 | G    | 39.003    |           | 90 degree bends  | No   | 4        |                 |        |
|             | G    |           |           | <b>Cabble ladder, trays and supports</b>   |      |          |                 |        |
|             | G    |           |           | <b>Heavy duty cable ladder</b>   |      |          |                 |        |
|             | G    |           |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
|             | G    |           |           | <b>Straight lengths</b>  |      |          |                 |        |
| 3.G7.3.2.33 | G    | 39.003    |           | 76 mm wide   | m    | 10       |                 |        |
|             | G    |           |           | <b>90 degree bends</b>   |      |          |                 |        |
| 3.G7.3.2.34 | G    | 39.003    |           | 76 mm wide   | No   | 4        |                 |        |
|             | G    |           |           | <b>Tees</b>  |      |          |                 |        |
| 3.G7.3.2.35 | G    | 39.003    |           | 76 mm wide   | No   | 2        |                 |        |
|             | G    |           |           | <b>Light fittings</b>  |      |          |                 |        |
| 3.G7.3.2.36 | G    | 39.003    |           | Type A2  | No   | 1        |                 |        |
| 3.G7.3.2.37 | G    | 39.003    |           | Type A3  | No   | 1        |                 |        |
| 3.G7.3.2.38 | G    | 39.003    |           | Type B   | No   | 5        |                 |        |
| 3.G7.3.2.39 | G    | 39.003    |           | Type F1  | No   | 1        |                 |        |
|             | G    |           |           | <b>Standby generator systems</b>   |      |          |                 |        |
|             | G    |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 3.G7.3.2.40 | G    | 39.003    |           | IH - 10kVA   | No   | 2        |                 |        |
| 3.G7.3.2.41 | G    | 39.001    |           | Design and documentation   | Sum  | 1        |                 |        |
|             | G    |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|             | G    |           |           | <b>Earthing and bonding of equipment</b>   |      |          |                 |        |
| 3.G7.3.2.42 | G    | 39.003    |           | Low voltage AC system and equipment  | Sum  | 1        |                 |        |
| 3.G7.3.2.43 | G    | 39.003    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 3.G7.3.2.44 | G    | 39.001    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|             | G    |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 3.G7.3.2.45 | G    | 39.003    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 3.G7.3.2.46 | G    | 39.003    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|             |      |           |           |  |      |          | Carried Forward |        |

| Item no.                                       | Part | Payment   | Breakdown | Description                       | Unit | Quantity | Rate            | Amount |
|--|------|-----------|-----------|-----------------------------------|------|----------|-----------------|--------|
|  |      | Reference |           |                                   |      |          |                 |        |
|  |      |           |           |                                   |      |          | Brought Forward |        |
| 3.G7.3.2.47                                    | G    | 39.003    |           | <b>Miscellaneous and general</b>  | Sum  | 1        |                 |        |
|  | G    | 39.003    |           | Motor field isolators and e-stops |      |          |                 |        |
| 3.G7.3.2.48                                    | G    | 39.003    |           | Safety plant                      | Sum  | 1        |                 |        |
| <b>PART G7: BREAK PRESSURE RESERVOIR TOTAL</b> |      |           |           |                                   |      |          |                 |        |
| - Carried forward to Summary of Bills          |      |           |           |                                   |      |          |                 |        |

| Item no.       | Part | Payment Reference | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|----------------|------|-------------------|-----------|--|----------------|----------|-----------------|--------|
|                |      |                   |           |  |                |          |                 |        |
|                | H    |                   |           | <b>PART H: GRAVITY MAINS</b>   |                |          |                 |        |
|                | H1   |                   |           | <b>PART H1.12: GRAVITY MAINS<br/>BPR TO OFF TAKE C - CH0 TO CH82</b>   |                |          |                 |        |
|                |      |                   |           | <b>PART H1.12.1: DESIGN</b>  |                |          |                 |        |
| 3.H1.12.1.1    | H1   | 39.001            |           | Design and documentation<br>(as required, should it not already be included with an item below)                          | Sum            | 1        |                 |        |
|                | H1   |                   |           | <b>PART H1.12.2: SUPPLY AND DELIVER TO SITE</b>  |                |          |                 |        |
|                | H1   |                   |           | <b>INSTRUMENTATION HUT - REPEATER A</b>  |                |          |                 |        |
| 3.H1.12.2.1.1  | H1   | 39.002            |           | <b>Distribution transformers - Ground mounted</b><br>25 kVA 11/0,4 kV  | No             | 1        |                 |        |
| 3.H1.12.2.1.2  | H1   | 39.002            |           | Pre-cast plinth for distribution transformers  | No             | 1        |                 |        |
| 3.H1.12.2.1.3  | H1   | 39.002            |           | Earthing for distribution transformers   | No             | 1        |                 |        |
|                | H1   |                   |           | <b>Cables, earth wires and ancillary</b><br><b>6.35/11 kV Type A XLPE/LHPVC/SWALHPVC (blue stripe) three core cables</b> |                |          |                 |        |
| 3.H1.12.2.1.4  | H1   | 39.002            |           | 25 mm <sup>2</sup> Cu - distribution transformers  | m              | 300      |                 |        |
|                | H1   |                   |           | <b>600/1000 V LHPVC/LHPVC/SWALHPVC (blue stripe) multi core cables</b>   |                |          |                 |        |
| 3.H1.12.2.1.5  | H1   | 39.002            |           | 16 mm <sup>2</sup> Cu x 4c ECC   | m              | 100      |                 |        |
|                | H1   |                   |           | <b>Joints</b><br><b>6.35/11 kV Type A XLPE joints</b>  |                |          |                 |        |
| 3.H1.12.2.1.6  | H1   | 39.002            |           | Three core XLPE 25mm <sup>2</sup> (Cu)   | No             | 1        |                 |        |
|                | H1   |                   |           | <b>Terminations</b><br><b>6.35/11 kV Type A XLPE terminations</b>  |                |          |                 |        |
| 3.H1.12.2.1.7  | H1   | 39.002            |           | Three core XLPE 25mm <sup>2</sup> (Cu)   | No             | 1        |                 |        |
|                | H1   |                   |           | <b>600/1000 V PVC SWA multi core terminations</b>  |                |          |                 |        |
| 3.H1.12.2.1.8  | H1   | 39.002            |           | 16 mm <sup>2</sup> Cu x 4c ECC   | No             | 2        |                 |        |
|                | H1   |                   |           | <b>Trenching, excavations and backfilling</b>  |                |          |                 |        |
| 3.H1.12.2.1.9  | H1   | 39.002            |           | Excavation in soft material  | m <sup>3</sup> | 240      |                 |        |
| 3.H1.12.2.1.10 | H1   | 39.002            |           | Excavation in hard rock  | m <sup>3</sup> | 30       |                 |        |
| 3.H1.12.2.1.11 | H1   | 39.002            |           | Soft soil backfilling and compaction   | m <sup>3</sup> | 160      |                 |        |
| 3.H1.12.2.1.12 | H1   | 39.002            |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity  | m <sup>3</sup> | 110      |                 |        |
| 3.H1.12.2.1.13 | H1   | 39.002            |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                                    | Lot            | 1        |                 |        |
| 3.H1.12.2.1.14 | H1   | 39.002            |           | Danger tape installation   | m              | 400      |                 |        |
| 3.H1.12.2.1.15 | H1   | 39.002            |           | Cable markers  | No             | 8        |                 |        |
| 3.H1.12.2.1.16 | H1   | 39.002            |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction        | No             | 1        |                 |        |
|                | H1   |                   |           | <b>MCC's, distribution boards and switch board as per drawings</b>   |                |          |                 |        |
| 3.H1.12.2.1.17 | H1   | 39.002            |           | Drawing 2A-E2,3-006: 2A-SD-01  | No             | 1        |                 |        |
| 3.H1.12.2.1.18 | H1   | 39.002            |           | Drawing 2A-E2,3-007:   | No             | 2        |                 |        |
|                | H1   |                   |           | <b>Small power and lighting</b>  |                |          |                 |        |
|                | H1   |                   |           | <b>Wiring, conduits and accessories</b>  |                |          |                 |        |
|                | H1   |                   |           | <b>Conduits - PVC</b>  |                |          |                 |        |
| 3.H1.12.2.1.19 | H1   | 39.002            |           | 20 mm diameter   | m              | 30       |                 |        |
| 3.H1.12.2.1.20 | H1   | 39.002            |           | 25 mm diameter   | m              | 10       |                 |        |
|                | H1   |                   |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>   |                |          |                 |        |
| 3.H1.12.2.1.21 | H1   | 39.002            |           | 4 mm <sup>2</sup>  | m              | 90       |                 |        |
| 3.H1.12.2.1.22 | H1   | 39.002            |           | 2.5 mm <sup>2</sup>  | m              | 90       |                 |        |
|                | H1   |                   |           | <b>Socket outlets</b>  |                |          |                 |        |
| 3.H1.12.2.1.23 | H1   | 39.002            |           | 16A Standard SSO (WT)  | No             | 4        |                 |        |
|                |      |                   |           |  |                |          | Carried Forward |        |



| Item no.       | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|                |      | Reference |           |  |      |          |                 |        |
|                |      |           |           |  |      |          | Brought Forward |        |
|                |      |           |           | <b>Switches</b>  |      |          |                 |        |
| 3.H1.12.2.1.24 | H1   | 39.002    |           | Single Lever 1-Way Light switch (WT)   | No   | 2        |                 |        |
| 3.H1.12.2.1.25 | H1   | 39.002    |           | Photo cell   | No   | 1        |                 |        |
|                |      |           |           | <b>Isolators</b>   |      |          |                 |        |
| 3.H1.12.2.1.26 | H1   | 39.002    |           | 60A double pole isolator (WT)  | No   | 1        |                 |        |
| 3.H1.12.2.1.27 | H1   | 39.002    |           | 60A tripple pole isolator (WT)   | No   | 2        |                 |        |
|                |      |           |           | <b>Powerskirting and trunking</b>  |      |          |                 |        |
| 3.H1.12.2.1.28 | H1   | 39.002    |           | P2000  | m    | 10       |                 |        |
|                |      |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>  |      |          |                 |        |
| 3.H1.12.2.1.29 | H1   | 39.002    |           | Straight lengths   | m    | 18       |                 |        |
| 3.H1.12.2.1.30 | H1   | 39.002    |           | 90 degree bends  | No   | 4        |                 |        |
|                |      |           |           | <b>Cable ladder, trays and supports</b>  |      |          |                 |        |
|                |      |           |           | <b>Heavy duty cable ladder</b>   |      |          |                 |        |
|                |      |           |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
|                |      |           |           | <b>Straight lengths</b>  |      |          |                 |        |
| 3.H1.12.2.1.31 | H1   | 39.002    |           | 76 mm wide   | m    | 10       |                 |        |
|                |      |           |           | <b>90 degree bends</b>   |      |          |                 |        |
| 3.H1.12.2.1.32 | H1   | 39.002    |           | 76 mm wide   | No   | 4        |                 |        |
|                |      |           |           | <b>Tees</b>  |      |          |                 |        |
| 3.H1.12.2.1.33 | H1   | 39.002    |           | 76 mm wide   | No   | 2        |                 |        |
|                |      |           |           | <b>Light fittings</b>  |      |          |                 |        |
| 3.H1.12.2.1.34 | H1   | 39.002    |           | Type A2  | No   | 1        |                 |        |
| 3.H1.12.2.1.35 | H1   | 39.002    |           | Type A3  | No   | 1        |                 |        |
| 3.H1.12.2.1.36 | H1   | 39.002    |           | Type B   | No   | 5        |                 |        |
| 3.H1.12.2.1.37 | H1   | 39.002    |           | Type F1  | No   | 1        |                 |        |
|                |      |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 3.H1.12.2.1.38 | H1   | 39.002    |           | IH - 10kVA   | No   | 2        |                 |        |
| 3.H1.12.2.1.39 | H1   | 39.002    |           | MWT - 1kVA   | No   | 1        |                 |        |
| 3.H1.12.2.1.40 | H1   | 39.001    |           | Design and documentation   | Sum  | 1        |                 |        |
|                |      |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|                |      |           |           | <b>Earthing and bonding of equipment</b>   |      |          |                 |        |
| 3.H1.12.2.1.41 | H1   | 39.002    |           | Low voltage AC system and equipment  | Sum  | 1        |                 |        |
| 3.H1.12.2.1.42 | H1   | 39.002    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 3.H1.12.2.1.43 | H1   | 39.001    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|                |      |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 3.H1.12.2.1.44 | H1   | 39.002    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 3.H1.12.2.1.45 | H1   | 39.002    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|                |      |           |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 3.H1.12.2.1.46 | H1   | 39.002    |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 3.H1.12.2.1.47 | H1   | 39.002    |           | Safety plant   | Sum  | 1        |                 |        |
|                |      |           |           | <b>INSTRUMENTATION HUT - REPEATER B</b>  |      |          |                 |        |
|                |      |           |           | <b>Distribution transformers - Ground mounted</b>  |      |          |                 |        |
| 3.H1.12.2.2.1  | H1   | 39.002    |           | 25 kVA 11/0,4 kV   | No   | 1        |                 |        |
| 3.H1.12.2.2.2  | H1   | 39.002    |           | Pre-cast plinth for distribution transformers  | No   | 1        |                 |        |
| 3.H1.12.2.2.3  | H1   | 39.002    |           | Earthing for distribution transformers   | No   | 1        |                 |        |
|                |      |           |           | <b>Cables, earth wires and ancillary</b>   |      |          |                 |        |
|                |      |           |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>  |      |          |                 |        |
| 3.H1.12.2.2.4  | H1   | 39.002    |           | 25 mm² Cu - distribution transformers  | m    | 300      |                 |        |
|                |      |           |           |  |      |          | Carried Forward |        |

| Item no.       | Part | Payment   | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|---|----------------|----------|-----------------|--------|
|                |      | Reference |           |   |                |          |                 |        |
|                |      |           |           |   |                |          | Brought Forward |        |
| 3.H1.12.2.2.5  | H1   | 39.002    |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>   |                |          |                 |        |
|                | H1   | 39.002    |           | 16 mm <sup>2</sup> Cu x 4c ECC  | m              | 100      |                 |        |
|                |      |           |           | <b>Joints</b>   |                |          |                 |        |
| 3.H1.12.2.2.6  | H1   | 39.002    |           | <b>6.35/11 kV Type A XLPE joints</b>  |                |          |                 |        |
|                | H1   | 39.002    |           | Three core XLPE 25mm <sup>2</sup> (Cu)  | No             | 1        |                 |        |
|                |      |           |           | <b>Terminations</b>   |                |          |                 |        |
| 3.H1.12.2.2.7  | H1   | 39.002    |           | <b>6.35/11 kV Type A XLPE terminations</b>  |                |          |                 |        |
|                | H1   | 39.002    |           | Three core XLPE 25mm <sup>2</sup> (Cu)  | No             | 1        |                 |        |
| 3.H1.12.2.2.8  | H1   | 39.002    |           | <b>600/1000 V PVC SWA multi core terminations</b>   |                |          |                 |        |
|                | H1   | 39.002    |           | 16 mm <sup>2</sup> Cu x 4c ECC  | No             | 2        |                 |        |
|                |      |           |           | <b>Trenching, excavations and backfilling</b>   |                |          |                 |        |
| 3.H1.12.2.2.9  | H1   | 39.002    |           | Excavation in soft material   | m <sup>3</sup> | 240      |                 |        |
| 3.H1.12.2.2.10 | H1   | 39.002    |           | Excavation in hard rock   | m <sup>3</sup> | 30       |                 |        |
| 3.H1.12.2.2.11 | H1   | 39.002    |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 160      |                 |        |
| 3.H1.12.2.2.12 | H1   | 39.002    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 110      |                 |        |
| 3.H1.12.2.2.13 | H1   | 39.002    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Lot            | 1        |                 |        |
| 3.H1.12.2.2.14 | H1   | 39.002    |           | Danger tape installation  | m              | 400      |                 |        |
| 3.H1.12.2.2.15 | H1   | 39.002    |           | Cable markers   | No             | 8        |                 |        |
| 3.H1.12.2.2.16 | H1   | 39.002    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No             | 1        |                 |        |
|                |      |           |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |                |          |                 |        |
| 3.H1.12.2.2.17 | H1   | 39.002    |           | Drawing 2A-E2,3-006: 2A-SD-01   | No             | 1        |                 |        |
| 3.H1.12.2.2.18 | H1   | 39.002    |           | Drawing 2A-E2,3-007:  | No             | 2        |                 |        |
|                |      |           |           | <b>Small power and lighting</b>   |                |          |                 |        |
|                |      |           |           | <b>Wiring, conduits and accessories</b>   |                |          |                 |        |
|                |      |           |           | <b>Conduits - PVC</b>   |                |          |                 |        |
| 3.H1.12.2.2.19 | H1   | 39.002    |           | 20 mm diameter  | m              | 30       |                 |        |
| 3.H1.12.2.2.20 | H1   | 39.002    |           | 25 mm diameter  | m              | 10       |                 |        |
|                |      |           |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |                |          |                 |        |
| 3.H1.12.2.2.21 | H1   | 39.002    |           | 4 mm <sup>2</sup>   | m              | 90       |                 |        |
| 3.H1.12.2.2.22 | H1   | 39.002    |           | 2.5 mm <sup>2</sup>   | m              | 90       |                 |        |
|                |      |           |           | <b>Socket outlets</b>   |                |          |                 |        |
| 3.H1.12.2.2.23 | H1   | 39.002    |           | 16A Standard SSO (WT)   | No             | 4        |                 |        |
|                |      |           |           | <b>Switches</b>   |                |          |                 |        |
| 3.H1.12.2.2.24 | H1   | 39.002    |           | Single Lever 1-Way Light switch (WT)  | No             | 2        |                 |        |
| 3.H1.12.2.2.25 | H1   | 39.002    |           | Photo cell  | No             | 1        |                 |        |
|                |      |           |           | <b>Isolators</b>  |                |          |                 |        |
| 3.H1.12.2.2.26 | H1   | 39.002    |           | 60A double pole isolator (WT)   | No             | 1        |                 |        |
| 3.H1.12.2.2.27 | H1   | 39.002    |           | 60A tripple pole isolator (WT)  | No             | 2        |                 |        |
|                |      |           |           | <b>Powerskirting and trunking</b>   |                |          |                 |        |
| 3.H1.12.2.2.28 | H1   | 39.002    |           | P2000   | m              | 10       |                 |        |
|                |      |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>   |                |          |                 |        |
| 3.H1.12.2.2.29 | H1   | 39.002    |           | Straight lengths  | m              | 18       |                 |        |
| 3.H1.12.2.2.30 | H1   | 39.002    |           | 90 degree bends   | No             | 4        |                 |        |
|                |      |           |           | <b>Cable ladder, trays and supports</b>   |                |          |                 |        |
|                |      |           |           | <b>Heavy duty cable ladder</b>  |                |          |                 |        |
|                |      |           |           | <b>Medium duty perforated cable tray</b>  |                |          |                 |        |
| 3.H1.12.2.2.31 | H1   | 39.002    |           | Straight lengths  |                |          |                 |        |
|                | H1   |           |           | 76 mm wide  | m              | 10       |                 |        |
|                |      |           |           |   |                |          | Carried Forward |        |

| Item no.       | Part | Payment   | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|--|----------------|----------|-----------------|--------|
|                |      | Reference |           |  |                |          |                 |        |
|                |      |           |           |  |                |          | Brought Forward |        |
| 3.H1.12.2.2.32 | H1   | 39.002    |           | <b>90 degree bends</b><br>76 mm wide   | No             | 4        |                 |        |
| 3.H1.12.2.2.33 | H1   | 39.002    |           | <b>Tees</b><br>76 mm wide  | No             | 2        |                 |        |
| 3.H1.12.2.2.34 | H1   | 39.002    |           | <b>Light fittings</b><br>Type A2   | No             | 1        |                 |        |
| 3.H1.12.2.2.35 | H1   | 39.002    |           | Type A3  | No             | 1        |                 |        |
| 3.H1.12.2.2.36 | H1   | 39.002    |           | Type B   | No             | 5        |                 |        |
| 3.H1.12.2.2.37 | H1   | 39.002    |           | Type F1  | No             | 1        |                 |        |
|                | H1   |           |           | <b>Standby generator systems</b>   |                |          |                 |        |
|                | H1   |           |           | <b>Uninterruptible power supplies (UPS)</b>  |                |          |                 |        |
| 3.H1.12.2.2.38 | H1   | 39.002    |           | IH - 15kVA   | No             |          |                 |        |
| 3.H1.12.2.2.39 | H1   | 39.002    |           | IH - 10kVA   | No             | 2        |                 |        |
| 3.H1.12.2.2.40 | H1   | 39.002    |           | MWT - 1kVA   | No             | 1        |                 |        |
| 3.H1.12.2.2.41 | H1   | 39.002    |           | Design and documentation   | Sum            | 1        |                 |        |
|                | H1   |           |           | <b>Lightning protection, bonding and earthing</b>  |                |          |                 |        |
|                | H1   |           |           | <b>Earthing and bonding of equipment</b>   |                |          |                 |        |
| 3.H1.12.2.2.42 | H1   | 39.002    |           | Low voltage AC system and equipment  | Sum            | 1        |                 |        |
| 3.H1.12.2.2.43 | H1   | 39.002    |           | Cable trays and supports   | Sum            | 1        |                 |        |
| 3.H1.12.2.2.44 | H1   | 39.001    |           | Earthing and bonding design and documentation  | Sum            | 1        |                 |        |
|                | H1   |           |           | <b>Earthing and lightning protection</b>   |                |          |                 |        |
| 3.H1.12.2.2.45 | H1   | 39.002    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum            | 1        |                 |        |
| 3.H1.12.2.2.46 | H1   | 39.002    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum            | 1        |                 |        |
|                | H1   |           |           | <b>Miscellaneous and general</b>   |                |          |                 |        |
| 3.H1.12.2.2.47 | H1   | 39.002    |           | Motor field isolators and e-stops  | Sum            | 1        |                 |        |
| 3.H1.12.2.2.48 | H1   | 39.002    |           | Safety plant   | Sum            | 1        |                 |        |
|                | H1   |           |           | <b>INSTRUMENTATION HUT - REPEATER C</b>  |                |          |                 |        |
|                | H1   |           |           | <b>Distribution transformers - Ground mounted</b>  |                |          |                 |        |
| 3.H1.12.2.3.1  | H1   | 39.002    |           | 25 kVA 11/0,4 kV   | No             | 1        |                 |        |
| 3.H1.12.2.3.2  | H1   | 39.002    |           | Pre-cast plinth for distribution transformers  | No             | 1        |                 |        |
| 3.H1.12.2.3.3  | H1   | 39.002    |           | Earthing for distribution transformers   | No             | 1        |                 |        |
|                | H1   |           |           | <b>Cables, earth wires and ancillary</b>   |                |          |                 |        |
|                | H1   | 39.002    |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>  |                |          |                 |        |
| 3.H1.12.2.3.4  | H1   | 39.002    |           | 25 mm <sup>2</sup> Cu - distribution transformers  | m              | 300      |                 |        |
|                | H1   |           |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>  |                |          |                 |        |
| 3.H1.12.2.3.5  | H1   | 39.002    |           | 16 mm <sup>2</sup> Cu x 4c ECC   | m              | 100      |                 |        |
|                | H1   |           |           | <b>Joints</b>  |                |          |                 |        |
|                | H1   |           |           | <b>6.35/11 kV Type A XLPE joints</b>   |                |          |                 |        |
| 3.H1.12.2.3.6  | H1   | 39.002    |           | Three core XLPE 25mm <sup>2</sup> (Cu)   | No             | 1        |                 |        |
|                | H1   |           |           | <b>Terminations</b>  |                |          |                 |        |
|                | H1   |           |           | <b>6.35/11 kV Type A XLPE terminations</b>   |                |          |                 |        |
| 3.H1.12.2.3.7  | H1   | 39.002    |           | Three core XLPE 25mm <sup>2</sup> (Cu)   | No             | 1        |                 |        |
|                | H1   |           |           | <b>600/1000 V PVC SWA multi core terminations</b>  |                |          |                 |        |
| 3.H1.12.2.3.8  | H1   | 39.002    |           | 16 mm <sup>2</sup> Cu x 4c ECC   | No             | 2        |                 |        |
|                | H1   |           |           | <b>Trenching, excavations and backfilling</b>  |                |          |                 |        |
| 3.H1.12.2.3.9  | H1   | 39.002    |           | Excavation in soft material  | m <sup>3</sup> | 240      |                 |        |
| 3.H1.12.2.3.10 | H1   | 39.002    |           | Excavation in hard rock  | m <sup>3</sup> | 30       |                 |        |
| 3.H1.12.2.3.11 | H1   | 39.002    |           | Soft soil backfilling and compaction   | m <sup>3</sup> | 160      |                 |        |
| 3.H1.12.2.3.12 | H1   | 39.002    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity  | m <sup>3</sup> | 110      |                 |        |
|                |      |           |           |  |                |          | Carried Forward |        |

| Item no.       | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|                |      | Reference |           |   |      |          |                 |        |
|                |      |           |           |   |      |          | Brought Forward |        |
| 3.H1.12.2.3.13 | H1   | 39.002    |           | Barricading of trenches (install and remove only - Contractor to use own barricading                              | Lot  | 1        |                 |        |
| 3.H1.12.2.3.14 | H1   | 39.002    |           | Danger tape installation  | m    | 400      |                 |        |
| 3.H1.12.2.3.15 | H1   | 39.002    |           | Cable markers   | No   | 8        |                 |        |
| 3.H1.12.2.3.16 | H1   | 39.002    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No   | 1        |                 |        |
|                | H1   |           |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |      |          |                 |        |
| 3.H1.12.2.3.17 | H1   | 39.002    |           | Drawing 2A-E2,3-006: 2A-SD-01   | No   | 1        |                 |        |
| 3.H1.12.2.3.18 | H1   | 39.002    |           | Drawing 2A-E2,3-007:  | No   | 2        |                 |        |
|                | H1   |           |           | <b>Small power and lighting</b>   |      |          |                 |        |
|                | H1   |           |           | <b>Wiring, conduits and accessories</b>   |      |          |                 |        |
|                | H1   |           |           | <b>Conduits - PVC</b>   |      |          |                 |        |
| 3.H1.12.2.3.19 | H1   | 39.002    |           | 20 mm diameter  | m    | 30       |                 |        |
| 3.H1.12.2.3.20 | H1   | 39.002    |           | 25 mm diameter  | m    | 10       |                 |        |
|                | H1   |           |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |      |          |                 |        |
| 3.H1.12.2.3.21 | H1   | 39.002    |           | 4 mm <sup>2</sup>   | m    | 90       |                 |        |
| 3.H1.12.2.3.22 | H1   | 39.002    |           | 2.5 mm <sup>2</sup>   | m    | 90       |                 |        |
|                | H1   |           |           | <b>Socket outlets</b>   |      |          |                 |        |
| 3.H1.12.2.3.23 | H1   | 39.002    |           | 16A Standard SSO (WT)   | No   | 4        |                 |        |
|                | H1   |           |           | <b>Switches</b>   |      |          |                 |        |
| 3.H1.12.2.3.24 | H1   | 39.002    |           | Single Lever 1-Way Light switch (WT)  | No   | 2        |                 |        |
| 3.H1.12.2.3.25 | H1   | 39.002    |           | Photo cell  | No   | 1        |                 |        |
|                | H1   |           |           | <b>Isolators</b>  |      |          |                 |        |
| 3.H1.12.2.3.26 | H1   | 39.002    |           | 60A double pole isolator (WT)   | No   | 1        |                 |        |
| 3.H1.12.2.3.27 | H1   | 39.002    |           | 60A tripple pole isolator (WT)  | No   | 2        |                 |        |
|                | H1   |           |           | <b>Powerskirting and trunking</b>   |      |          |                 |        |
| 3.H1.12.2.3.28 | H1   | 39.002    |           | P2000   | m    | 10       |                 |        |
|                | H1   |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>   |      |          |                 |        |
| 3.H1.12.2.3.29 | H1   | 39.002    |           | Straight lengths  | m    | 18       |                 |        |
| 3.H1.12.2.3.30 | H1   | 39.002    |           | 90 degree bends   | No   | 4        |                 |        |
|                | H1   |           |           | <b>Cable ladder, trays and supports</b>   |      |          |                 |        |
|                | H1   |           |           | <b>Heavy duty cable ladder</b>  |      |          |                 |        |
|                | H1   |           |           | <b>Medium duty perforated cable tray</b>  |      |          |                 |        |
| 3.H1.12.2.3.31 | H1   | 39.002    |           | Straight lengths<br>76 mm wide  | m    | 10       |                 |        |
|                | H1   |           |           | <b>90 degree bends</b>  |      |          |                 |        |
| 3.H1.12.2.3.32 | H1   | 39.002    |           | 76 mm wide  | No   | 4        |                 |        |
|                | H1   |           |           | <b>Tees</b>   |      |          |                 |        |
| 3.H1.12.2.3.33 | H1   | 39.002    |           | 76 mm wide  | No   | 2        |                 |        |
|                | H1   |           |           | <b>Light fittings</b>   |      |          |                 |        |
| 3.H1.12.2.3.34 | H1   | 39.002    |           | Type A2   | No   | 1        |                 |        |
| 3.H1.12.2.3.35 | H1   | 39.002    |           | Type A3   | No   | 1        |                 |        |
| 3.H1.12.2.3.36 | H1   | 39.002    |           | Type B  | No   | 5        |                 |        |
| 3.H1.12.2.3.37 | H1   | 39.002    |           | Type F1   | No   | 1        |                 |        |
|                | H1   |           |           | <b>Standby generator systems</b>  |      |          |                 |        |
|                | H1   |           |           | <b>Uninterruptible power supplies (UPS)</b>   |      |          |                 |        |
| 3.H1.12.2.3.38 | H1   | 39.002    |           | IH - 10kVA  | No   | 2        |                 |        |
| 3.H1.12.2.3.39 | H1   | 39.002    |           | MWT - 1kVA  | No   | 1        |                 |        |
| 3.H1.12.2.3.40 | H1   | 39.002    |           | Design and documentation  | Sum  | 1        |                 |        |
|                |      |           |           |   |      |          | Carried Forward |        |

| Item no.       | Part | Payment   | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|--|----------------|----------|-----------------|--------|
|                |      | Reference |           |  |                |          |                 |        |
|                |      |           |           |  |                |          | Brought Forward |        |
|                | H1   |           |           | <b>Lightning protection, bonding and earthing</b>  |                |          |                 |        |
|                | H1   |           |           | <b>Earthing and bonding of equipment</b>   |                |          |                 |        |
| 3.H1.12.2.3.41 | H1   | 39.002    |           | Low voltage AC system and equipment  | Sum            | 1        |                 |        |
| 3.H1.12.2.3.42 | H1   | 39.002    |           | Cable trays and supports   | Sum            | 1        |                 |        |
| 3.H1.12.2.3.43 | H1   | 39.001    |           | Earthing and bonding design and documentation  | Sum            | 1        |                 |        |
|                | H1   |           |           | <b>Earthing and lightning protection</b>   |                |          |                 |        |
| 3.H1.12.2.3.44 | H1   | 39.002    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum            | 1        |                 |        |
| 3.H1.12.2.3.45 | H1   | 39.002    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum            | 1        |                 |        |
|                | H1   |           |           | <b>Miscellaneous and general</b>   |                |          |                 |        |
| 3.H1.12.2.3.46 | H1   | 39.002    |           | Motor field isolators and e-stops  | Sum            | 1        |                 |        |
| 3.H1.12.2.3.47 | H1   | 39.002    |           | Safety plant   | Sum            | 1        |                 |        |
|                | H1   |           |           | <b>PART H1.12.3: INSTALLATION</b>  |                |          |                 |        |
|                | H1   |           |           | <b>INSTRUMENTATION HUT - REPEATER A</b>  |                |          |                 |        |
|                | H1   |           |           | <b>Distribution transformers - Ground mounted</b>  |                |          |                 |        |
| 3.H1.12.3.1.1  | H1   | 39.003    |           | 25 kVA 11/0,4 kV   | No             | 1        |                 |        |
| 3.H1.12.3.1.2  | H1   | 39.003    |           | Pre-cast plinth for distribution transformers  | No             | 1        |                 |        |
| 3.H1.12.3.1.3  | H1   | 39.003    |           | Earthing for distribution transformers   | No             | 1        |                 |        |
|                | H1   |           |           | <b>Cables, earth wires and ancillary</b>   |                |          |                 |        |
|                | H1   |           |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>  |                |          |                 |        |
| 3.H1.12.3.1.4  | H1   | 39.003    |           | 25 mm <sup>2</sup> Cu - distribution transformers  | m              | 300      |                 |        |
|                | H1   |           |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>  |                |          |                 |        |
| 3.H1.12.3.1.5  | H1   | 39.003    |           | 16 mm <sup>2</sup> Cu x 4c ECC   | m              | 100      |                 |        |
|                | H1   |           |           | <b>Joints</b>  |                |          |                 |        |
|                | H1   |           |           | <b>6.35/11 kV Type A XLPE joints</b>   |                |          |                 |        |
| 3.H1.12.3.1.6  | H1   | 39.003    |           | Three core XLPE 25mm <sup>2</sup> (Cu)   | No             | 1        |                 |        |
|                | H1   |           |           | <b>Terminations</b>  |                |          |                 |        |
|                | H1   |           |           | <b>6.35/11 kV Type A XLPE terminations</b>   |                |          |                 |        |
| 3.H1.12.3.1.7  | H1   | 39.003    |           | Three core XLPE 25mm <sup>2</sup> (Cu)   | No             | 1        |                 |        |
|                | H1   |           |           | <b>600/1000 V PVC SWA multi core terminations</b>  |                |          |                 |        |
| 3.H1.12.3.1.8  | H1   | 39.003    |           | 16 mm <sup>2</sup> Cu x 4c ECC   | No             | 2        |                 |        |
|                | H1   |           |           | <b>Trenching, excavations and backfilling</b>  |                |          |                 |        |
| 3.H1.12.3.1.9  | H1   | 39.003    |           | Excavation in soft material  | m <sup>3</sup> | 240      |                 |        |
| 3.H1.12.3.1.10 | H1   | 39.003    |           | Excavation in hard rock  | m <sup>3</sup> | 30       |                 |        |
| 3.H1.12.3.1.11 | H1   | 39.003    |           | Soft soil backfilling and compaction   | m <sup>3</sup> | 160      |                 |        |
| 3.H1.12.3.1.12 | H1   | 39.003    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity  | m <sup>3</sup> | 110      |                 |        |
| 3.H1.12.3.1.13 | H1   | 39.003    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)  | Lot            | 1        |                 |        |
| 3.H1.12.3.1.14 | H1   | 39.003    |           | Danger tape installation   | m              | 400      |                 |        |
| 3.H1.12.3.1.15 | H1   | 39.003    |           | Cable markers  | No             | 8        |                 |        |
| 3.H1.12.3.1.16 | H1   | 39.003    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction  | No             | 1        |                 |        |
|                | H1   |           |           | <b>MCC's, distribution boards and switch board as per drawings</b>   |                |          |                 |        |
| 3.H1.12.3.1.17 | H1   | 39.003    |           | Drawing 2A-E2,3-006: 2A-SD-01  | No             | 1        |                 |        |
| 3.H1.12.3.1.18 | H1   | 39.003    |           | Drawing 2A-E2,3-007:   | No             | 2        |                 |        |
|                |      |           |           |  |                |          | Carried Forward |        |

| Item no.       | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|                |      | Reference |           |  |      |          |                 |        |
|                |      |           |           |  |      |          | Brought Forward |        |
|                | H1   |           |           | <b>Small power and lighting</b>  |      |          |                 |        |
|                | H1   |           |           | <b>Wiring, conduits and accessories</b>  |      |          |                 |        |
|                | H1   |           |           | <b>Conduits - PVC</b>  |      |          |                 |        |
| 3.H1.12.3.1.19 | H1   | 39.003    |           | 20 mm diameter   | m    | 30       |                 |        |
| 3.H1.12.3.1.20 | H1   | 39.003    |           | 25 mm diameter   | m    | 10       |                 |        |
|                | H1   |           |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>   |      |          |                 |        |
| 3.H1.12.3.1.21 | H1   | 39.003    |           | 4 mm <sup>2</sup>  | m    | 90       |                 |        |
| 3.H1.12.3.1.22 | H1   | 39.003    |           | 2.5 mm <sup>2</sup>  | m    | 90       |                 |        |
|                | H1   |           |           | <b>Socket outlets</b>  |      |          |                 |        |
| 3.H1.12.3.1.23 | H1   | 39.003    |           | 16A Standard SSO (WT)  | No   | 4        |                 |        |
| 3.H1.12.3.1.24 | H1   | 39.003    |           | 13A Dedicated SSO  | No   |          |                 |        |
|                | H1   |           |           | <b>Switches</b>  |      |          |                 |        |
| 3.H1.12.3.1.25 | H1   | 39.003    |           | Single Lever 1-Way Light switch (WT)   | No   | 2        |                 |        |
| 3.H1.12.3.1.26 | H1   | 39.003    |           | Photo cell   | No   | 1        |                 |        |
|                | H1   |           |           | <b>Isolators</b>   |      |          |                 |        |
| 3.H1.12.3.1.27 | H1   | 39.003    |           | 60A double pole isolator (WT)  | No   | 1        |                 |        |
| 3.H1.12.3.1.28 | H1   | 39.003    |           | 60A tripple pole isolator (WT)   | No   | 2        |                 |        |
|                | H1   |           |           | <b>Powerskirting and trunking</b>  |      |          |                 |        |
| 3.H1.12.3.1.29 | H1   | 39.003    |           | P2000  | m    | 10       |                 |        |
|                | H1   |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>  |      |          |                 |        |
| 3.H1.12.3.1.30 | H1   | 39.003    |           | Straight lengths   | m    | 18       |                 |        |
| 3.H1.12.3.1.31 | H1   | 39.003    |           | 90 degree bends  | No   | 4        |                 |        |
|                | H1   |           |           | <b>Cable ladder, trays and supports</b>  |      |          |                 |        |
|                | H1   |           |           | <b>Heavy duty cable ladder</b>   |      |          |                 |        |
|                | H1   |           |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
|                | H1   |           |           | <b>Straight lengths</b>  |      |          |                 |        |
| 3.H1.12.3.1.32 | H1   | 39.003    |           | 76 mm wide   | m    | 10       |                 |        |
|                | H1   |           |           | <b>90 degree bends</b>   |      |          |                 |        |
| 3.H1.12.3.1.33 | H1   | 39.003    |           | 76 mm wide   | No   | 4        |                 |        |
|                | H1   |           |           | <b>Tees</b>  |      |          |                 |        |
| 3.H1.12.3.1.34 | H1   | 39.003    |           | 76 mm wide   | No   | 2        |                 |        |
|                | H1   |           |           | <b>Light fittings</b>  |      |          |                 |        |
| 3.H1.12.3.1.35 | H1   | 39.003    |           | Type A2  | No   | 1        |                 |        |
| 3.H1.12.3.1.36 | H1   | 39.003    |           | Type A3  | No   | 1        |                 |        |
| 3.H1.12.3.1.37 | H1   | 39.003    |           | Type B   | No   | 5        |                 |        |
| 3.H1.12.3.1.38 | H1   | 39.003    |           | Type F1  | No   | 1        |                 |        |
|                | H1   |           |           | <b>Standby generator systems</b>   |      |          |                 |        |
|                | H1   |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 3.H1.12.3.1.39 | H1   | 39.003    |           | IH - 15kVA   | No   |          |                 |        |
| 3.H1.12.3.1.40 | H1   | 39.003    |           | IH - 10kVA   | No   | 2        |                 |        |
| 3.H1.12.3.1.41 | H1   | 39.003    |           | MWT - 1kVA   | No   | 1        |                 |        |
| 3.H1.12.3.1.42 | H1   | 39.001    |           | Design and documentation   | Sum  | 1        |                 |        |
|                | H1   |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|                | H1   |           |           | <b>Earthing and bonding of equipment</b>   |      |          |                 |        |
| 3.H1.12.3.1.43 | H1   | 39.003    |           | Low voltage AC system and equipment  | Sum  | 1        |                 |        |
| 3.H1.12.3.1.44 | H1   | 39.003    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 3.H1.12.3.1.45 | H1   | 39.001    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|                | H1   |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 3.H1.12.3.1.46 | H1   | 39.003    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 3.H1.12.3.1.47 | H1   | 39.003    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|                |      |           |           |  |      |          | Carried Forward |        |

| Item no.       | Part | Payment   | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|---|----------------|----------|-----------------|--------|
|                |      | Reference |           |   |                |          |                 |        |
|                |      |           |           |   |                |          | Brought Forward |        |
|                | H1   |           |           | <b>Miscellaneous and general</b>  |                |          |                 |        |
| 3.H1.12.3.1.48 | H1   | 39.003    |           | Motor field isolators and e-stops   | Sum            | 1        |                 |        |
| 3.H1.12.3.1.49 | H1   | 39.003    |           | Safety plant  | Sum            | 1        |                 |        |
|                | H1   |           |           | <b>INSTRUMENTATION HUT - REPEATER B</b>   |                |          |                 |        |
|                | H1   |           |           | <b>Miniature substation (MSS)</b>   |                |          |                 |        |
|                | H1   |           |           | <b>Distribution transformers - Ground mounted</b>   |                |          |                 |        |
| 3.H1.12.3.2.1  | H1   | 39.003    |           | 25 kVA 11/0,4 kV  | No             | 1        |                 |        |
| 3.H1.12.3.2.2  | H1   | 39.003    |           | Pre-cast plinth for distribution transformers   | No             | 1        |                 |        |
| 3.H1.12.3.2.3  | H1   | 39.003    |           | Earthing for distribution transformers  | No             | 1        |                 |        |
|                | H1   |           |           | <b>Cables, earth wires and ancillary</b>  |                |          |                 |        |
|                | H1   |           |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWALHPVC (blue stripe) three core cables</b>                                      |                |          |                 |        |
| 3.H1.12.3.2.4  | H1   | 39.003    |           | 25 mm <sup>2</sup> Cu - distribution transformers   | m              | 300      |                 |        |
|                | H1   |           |           | <b>600/1000 V LHPVC/LHPVC/SWALHPVC (blue stripe) multi core cables</b>  |                |          |                 |        |
| 3.H1.12.3.2.5  | H1   | 39.003    |           | 16 mm <sup>2</sup> Cu x 4c ECC  | m              | 100      |                 |        |
|                | H1   |           |           | <b>Joints</b>   |                |          |                 |        |
|                | H1   |           |           | <b>6.35/11 kV Type A XLPE joints</b>  |                |          |                 |        |
| 3.H1.12.3.2.6  | H1   | 39.003    |           | Three core XLPE 25mm <sup>2</sup> (Cu)  | No             | 1        |                 |        |
|                | H1   |           |           | <b>Terminations</b>   |                |          |                 |        |
|                | H1   |           |           | <b>6.35/11 kV Type A XLPE terminations</b>  |                |          |                 |        |
| 3.H1.12.3.2.7  | H1   | 39.003    |           | Three core XLPE 25mm <sup>2</sup> (Cu)  | No             | 1        |                 |        |
|                | H1   |           |           | <b>600/1000 V PVC SWA multi core terminations</b>   |                |          |                 |        |
| 3.H1.12.3.2.8  | H1   | 39.003    |           | 16 mm <sup>2</sup> Cu x 4c ECC  | No             | 2        |                 |        |
|                | H1   |           |           | <b>Trenching, excavations and backfilling</b>   |                |          |                 |        |
| 3.H1.12.3.2.9  | H1   | 39.003    |           | Excavation in soft material   | m <sup>3</sup> | 240      |                 |        |
| 3.H1.12.3.2.10 | H1   | 39.003    |           | Excavation in hard rock   | m <sup>3</sup> | 30       |                 |        |
| 3.H1.12.3.2.11 | H1   | 39.003    |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 160      |                 |        |
| 3.H1.12.3.2.12 | H1   | 39.003    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 110      |                 |        |
| 3.H1.12.3.2.13 | H1   | 39.003    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Lot            | 1        |                 |        |
| 3.H1.12.3.2.14 | H1   | 39.003    |           | Danger tape installation  | m              | 400      |                 |        |
| 3.H1.12.3.2.15 | H1   | 39.003    |           | Cable markers   | No             | 8        |                 |        |
| 3.H1.12.3.2.16 | H1   | 39.003    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No             | 1        |                 |        |
|                | H1   |           |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |                |          |                 |        |
| 3.H1.12.3.2.17 | H1   | 39.003    |           | Drawing 2A-E2,3-006: 2A-SD-01   | No             | 1        |                 |        |
| 3.H1.12.3.2.18 | H1   | 39.003    |           | Drawing 2A-E2,3-007:  | No             | 2        |                 |        |
|                | H1   |           |           | <b>Small power and lighting</b>   |                |          |                 |        |
|                | H1   |           |           | <b>Wiring, conduits and accessories</b>   |                |          |                 |        |
|                | H1   |           |           | <b>Conduits - PVC</b>   |                |          |                 |        |
| 3.H1.12.3.2.19 | H1   | 39.003    |           | 20 mm diameter  | m              | 30       |                 |        |
| 3.H1.12.3.2.20 | H1   | 39.003    |           | 25 mm diameter  | m              | 10       |                 |        |
| 3.H1.12.3.2.21 | H1   | 39.003    |           | 50 mm diameter  | m              |          |                 |        |
|                | H1   |           |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |                |          |                 |        |
| 3.H1.12.3.2.22 | H1   | 39.003    |           | 4 mm <sup>2</sup>   | m              | 90       |                 |        |
| 3.H1.12.3.2.23 | H1   | 39.003    |           | 2.5 mm <sup>2</sup>   | m              | 90       |                 |        |
|                | H1   |           |           | <b>Socket outlets</b>   |                |          |                 |        |
| 3.H1.12.3.2.24 | H1   | 39.003    |           | 16A Standard SSO (WT)   | No             | 4        |                 |        |
|                | H1   |           |           | <b>Switches</b>   |                |          |                 |        |
| 3.H1.12.3.2.25 | H1   | 39.003    |           | Single Lever 1-Way Light switch (WT)  | No             | 2        |                 |        |
| 3.H1.12.3.2.26 | H1   | 39.003    |           | Photo cell  | No             | 1        |                 |        |
|                |      |           |           |   |                |          | Carried Forward |        |

| Item no.       | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|                |      | Reference |           |  |      |          |                 |        |
|                |      |           |           |  |      |          | Brought Forward |        |
|                | H1   |           |           | <b>Isolators</b>   |      |          |                 |        |
| 3.H1.12.3.2.27 | H1   | 39.003    |           | 60A double pole isolator (WT)  | No   | 1        |                 |        |
| 3.H1.12.3.2.28 | H1   | 39.003    |           | 60A tripple pole isolator (WT)   | No   | 2        |                 |        |
|                | H1   |           |           | <b>Powerskirting and trunking</b>  |      |          |                 |        |
| 3.H1.12.3.2.29 | H1   | 39.003    |           | P2000  | m    | 10       |                 |        |
|                | H1   |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>  |      |          |                 |        |
| 3.H1.12.3.2.30 | H1   | 39.003    |           | Straight lengths   | m    | 18       |                 |        |
| 3.H1.12.3.2.31 | H1   | 39.003    |           | 90 degree bends  | No   | 4        |                 |        |
|                | H1   |           |           | <b>Cabble ladder, trays and supports</b>   |      |          |                 |        |
|                | H1   |           |           | <b>Heavy duty cable ladder</b>   |      |          |                 |        |
|                | H1   |           |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
|                | H1   |           |           | <b>Straight lengths</b>  |      |          |                 |        |
| 3.H1.12.3.2.32 | H1   | 39.003    |           | 76 mm wide   | m    | 10       |                 |        |
|                | H1   |           |           | <b>90 degree bends</b>   |      |          |                 |        |
| 3.H1.12.3.2.33 | H1   | 39.003    |           | 76 mm wide   | No   | 4        |                 |        |
|                | H1   |           |           | <b>Tees</b>  |      |          |                 |        |
| 3.H1.12.3.2.34 | H1   | 39.003    |           | 76 mm wide   | No   | 2        |                 |        |
|                | H1   |           |           | <b>Light fittings</b>  |      |          |                 |        |
| 3.H1.12.3.2.35 | H1   | 39.003    |           | Type A2  | No   | 1        |                 |        |
| 3.H1.12.3.2.36 | H1   | 39.003    |           | Type A3  | No   | 1        |                 |        |
| 3.H1.12.3.2.37 | H1   | 39.003    |           | Type B   | No   | 5        |                 |        |
| 3.H1.12.3.2.38 | H1   | 39.003    |           | Type F1  | No   | 1        |                 |        |
|                | H1   |           |           | <b>Standby generator systems</b>   |      |          |                 |        |
|                | H1   |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 3.H1.12.3.2.39 | H1   | 39.003    |           | IH - 10kVA   | No   | 2        |                 |        |
| 3.H1.12.3.2.40 | H1   | 39.003    |           | MWT - 1kVA   | No   | 1        |                 |        |
| 3.H1.12.3.2.41 | H1   | 39.003    |           | Design and documentation   | Sum  | 1        |                 |        |
|                | H1   |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|                | H1   |           |           | <b>Earthing and bonding of equipment</b>   |      |          |                 |        |
| 3.H1.12.3.2.42 | H1   | 39.003    |           | Low voltage AC system and equipment  | Sum  | 1        |                 |        |
| 3.H1.12.3.2.43 | H1   | 39.003    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 3.H1.12.3.2.44 | H1   | 39.001    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|                | H1   |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 3.H1.12.3.2.45 | H1   | 39.003    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 3.H1.12.3.2.46 | H1   | 39.003    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|                | H1   |           |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 3.H1.12.3.2.47 | H1   | 39.003    |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 3.H1.12.3.2.48 | H1   | 39.003    |           | Safety plant   | Sum  | 1        |                 |        |
|                | H1   |           |           | <b>INSTRUMENTATION HUT - REPEATER C</b>  |      |          |                 |        |
|                | H1   |           |           | <b>Miniature substation (MSS)</b>  |      |          |                 |        |
|                | H1   |           |           | <b>Distribution transformers - Ground mounted</b>  |      |          |                 |        |
| 3.H1.12.3.3.1  | H1   | 39.003    |           | 25 kVA 11/0,4 kV   | No   | 1        |                 |        |
| 3.H1.12.3.3.2  | H1   | 39.003    |           | Pre-cast plinth for distribution transformers  | No   | 1        |                 |        |
| 3.H1.12.3.3.3  | H1   | 39.003    |           | Earthing for distribution transformers   | No   | 1        |                 |        |
|                | H1   |           |           | <b>Cables, earth wires and ancillary</b>   |      |          |                 |        |
|                | H1   |           |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>  |      |          |                 |        |
| 3.H1.12.3.3.4  | H1   | 39.003    |           | 25 mm <sup>2</sup> Cu - distribution transformers  | m    | 300      |                 |        |
|                |      |           |           |  |      |          | Carried Forward |        |



| Item no.       | Part | Payment   | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|---|----------------|----------|-----------------|--------|
|                |      | Reference |           |   |                |          |                 |        |
|                |      |           |           |   |                |          | Brought Forward |        |
| 3.H1.12.3.3.5  | H1   |           |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b><br>16 mm <sup>2</sup> Cu x 4c ECC                                     | m              | 100      |                 |        |
| 3.H1.12.3.3.6  | H1   | 39.003    |           | <b>Joints</b><br><b>6.35/11 kV Type A XLPE joints</b><br>Three core XLPE 25mm <sup>2</sup> (Cu)   | No             | 1        |                 |        |
| 3.H1.12.3.3.7  | H1   | 39.003    |           | <b>Terminations</b><br><b>6.35/11 kV Type A XLPE terminations</b><br>Three core XLPE 25mm <sup>2</sup> (Cu)                                   | No             | 1        |                 |        |
| 3.H1.12.3.3.8  | H1   | 39.003    |           | <b>600/1000 V PVC SWA multi core terminations</b><br>16 mm <sup>2</sup> Cu x 4c ECC   | No             | 2        |                 |        |
| 3.H1.12.3.3.9  | H1   | 39.003    |           | <b>Trenching, excavations and backfilling</b><br>Excavation in soft material  | m <sup>3</sup> | 240      |                 |        |
| 3.H1.12.3.3.10 | H1   | 39.003    |           | Excavation in hard rock   | m <sup>3</sup> | 30       |                 |        |
| 3.H1.12.3.3.11 | H1   | 39.003    |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 160      |                 |        |
| 3.H1.12.3.3.12 | H1   | 39.003    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 110      |                 |        |
| 3.H1.12.3.3.13 | H1   | 39.003    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)   | Lot            | 1        |                 |        |
| 3.H1.12.3.3.14 | H1   | 39.003    |           | Danger tape installation  | m              | 400      |                 |        |
| 3.H1.12.3.3.15 | H1   | 39.003    |           | Cable markers   | No             | 8        |                 |        |
| 3.H1.12.3.3.16 | H1   | 39.003    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction                             | No             | 1        |                 |        |
| 3.H1.12.3.3.17 | H1   | 39.003    |           | <b>MCC's, distribution boards and switch board as per drawings</b><br>Drawing 2A-E2,3-006: 2A-SD-01   | No             | 1        |                 |        |
| 3.H1.12.3.3.18 | H1   | 39.003    |           | Drawing 2A-E2,3-007:  | No             | 2        |                 |        |
| 3.H1.12.3.3.19 | H1   | 39.003    |           | <b>Small power and lighting</b><br><b>Wiring, conduits and accessories</b><br><b>Conduits - PVC</b><br>20 mm diameter                         | m              | 30       |                 |        |
| 3.H1.12.3.3.20 | H1   | 39.003    |           | 25 mm diameter  | m              | 10       |                 |        |
| 3.H1.12.3.3.21 | H1   | 39.003    |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b><br>4 mm <sup>2</sup>   | m              | 90       |                 |        |
| 3.H1.12.3.3.22 | H1   | 39.003    |           | 2.5 mm <sup>2</sup>   | m              | 90       |                 |        |
| 3.H1.12.3.3.23 | H1   | 39.003    |           | <b>Socket outlets</b><br>16A Standard SSO (WT)  | No             | 4        |                 |        |
| 3.H1.12.3.3.24 | H1   | 39.003    |           | <b>Switches</b><br>Single Lever 1-Way Light switch (WT)   | No             | 2        |                 |        |
| 3.H1.12.3.3.25 | H1   | 39.003    |           | Photo cell  | No             | 1        |                 |        |
| 3.H1.12.3.3.26 | H1   | 39.003    |           | <b>Isolators</b><br>60A double pole isolator (WT)   | No             | 1        |                 |        |
| 3.H1.12.3.3.27 | H1   | 39.003    |           | 60A tripple pole isolator (WT)  | No             | 2        |                 |        |
| 3.H1.12.3.3.28 | H1   | 39.003    |           | <b>Powerskirting and trunking</b><br>P2000  | m              | 10       |                 |        |
| 3.H1.12.3.3.29 | H1   | 39.003    |           | <b>Two compartment, two cover sheet metal powerskirting</b><br>Straight lengths   | m              | 18       |                 |        |
| 3.H1.12.3.3.30 | H1   | 39.003    |           | 90 degree bends   | No             | 4        |                 |        |
| 3.H1.12.3.3.31 | H1   | 39.003    |           | <b>Cable ladder, trays and supports</b><br><b>Heavy duty cable ladder</b><br><br><b>Medium duty perforated cable tray</b><br>Straight lengths | m              | 10       |                 |        |
| 3.H1.12.3.3.32 | H1   | 39.003    |           | 76 mm wide  |                |          |                 |        |
| 3.H1.12.3.3.32 | H1   | 39.003    |           | <b>90 degree bends</b><br>76 mm wide  | No             | 4        |                 |        |
|                |      |           |           |   |                |          | Carried Forward |        |

| Item no.       | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|                |      | Reference |           |  |      |          |                 |        |
|                |      |           |           |  |      |          | Brought Forward |        |
| 3.H1.12.3.3.33 | H1   | 39.003    |           | <b>Tees</b><br>76 mm wide  | No   | 2        |                 |        |
| 3.H1.12.3.3.34 | H1   | 39.003    |           | <b>Light fittings</b><br>Type A2   | No   | 1        |                 |        |
| 3.H1.12.3.3.35 | H1   | 39.003    |           | Type A3  | No   | 1        |                 |        |
| 3.H1.12.3.3.36 | H1   | 39.003    |           | Type B   | No   | 5        |                 |        |
| 3.H1.12.3.3.37 | H1   | 39.003    |           | Type F1  | No   | 1        |                 |        |
|                | H1   |           |           | <b>Standby generator systems</b>   |      |          |                 |        |
|                | H1   |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 3.H1.12.3.3.38 | H1   | 39.003    |           | IH - 10kVA   | No   | 2        |                 |        |
| 3.H1.12.3.3.39 | H1   | 39.003    |           | MWT - 1kVA   | No   | 1        |                 |        |
| 3.H1.12.3.3.40 | H1   | 39.003    |           | Design and documentation   | Sum  | 1        |                 |        |
|                | H1   |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|                | H1   |           |           | <b>Earthing and bonding of equipment</b>   |      |          |                 |        |
| 3.H1.12.3.3.41 | H1   | 39.003    |           | Low voltage AC system and equipment  | Sum  | 1        |                 |        |
| 3.H1.12.3.3.42 | H1   | 39.003    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 3.H1.12.3.3.43 | H1   | 39.001    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|                | H1   |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 3.H1.12.3.3.44 | H1   | 39.003    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 3.H1.12.3.3.45 | H1   | 39.003    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|                | H1   |           |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 3.H1.12.3.3.46 | H1   | 39.003    |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 3.H1.12.3.3.47 | H1   | 39.003    |           | Safety plant   | Sum  | 1        |                 |        |
|                | H1   |           |           | <b>PART H1.12: GRAVITY MAINS</b><br><b>BPR TO OFF TAKE C</b><br><b>(33KM + 30.5KM + 18.5KM) - CH0 TO CH82</b><br><b>- Carried forward to Summary of Bills</b>  |      |          |                 |        |

| Item no.     | Part | Payment Reference | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|--------------|------|-------------------|-----------|---|----------------|----------|-----------------|--------|
|              |      |                   |           |   |                |          |                 |        |
|              | H2   |                   |           | <b>PART H2.12: GRAVITY MAINS OFF TAKE C TO OFF TAKE B (13KM) - CH82 TO CH95</b>                                   |                |          |                 |        |
|              |      |                   |           | <b>PART H2.12.1: DESIGN</b>   |                |          |                 |        |
| 3.H2.12.1    | H2   | 39.001            |           | Design and documentation (as required, should it not already be included with an item below)                      | Sum            | 1        |                 |        |
|              | H2   |                   |           | <b>PART H2.12.2: SUPPLY AND DELIVER TO SITE</b>   |                |          |                 |        |
|              | H2   |                   |           | <b>INSTRUMENTATION HUT - OFF-TAKE B</b>   |                |          |                 |        |
|              | H2   |                   |           | <b>Miniature substation (MSS)</b>   |                |          |                 |        |
|              | H2   |                   |           | <b>Distribution transformers - Ground mounted</b>   |                |          |                 |        |
| 3.H2.12.2.1  | H2   | 39.002            |           | 25 kVA 11/0,4 kV  | No             | 1        |                 |        |
| 3.H2.12.2.2  | H2   | 39.002            |           | Pre-cast plinth for distribution transformers   | No             | 1        |                 |        |
| 3.H2.12.2.3  | H2   | 39.002            |           | Earthing for distribution transformers  | No             | 1        |                 |        |
|              | H2   |                   |           | <b>Cables, earth wires and ancillary</b>  |                |          |                 |        |
|              | H2   |                   |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>                                     |                |          |                 |        |
| 3.H2.12.2.4  | H2   | 39.002            |           | 25 mm <sup>2</sup> Cu - distribution transformers   | m              | 300      |                 |        |
|              | H2   |                   |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>   |                |          |                 |        |
| 3.H2.12.2.5  | H2   | 39.002            |           | 16 mm <sup>2</sup> Cu x 4c ECC  | m              | 100      |                 |        |
|              | H2   |                   |           | <b>Joints</b>   |                |          |                 |        |
|              | H2   |                   |           | <b>6.35/11 kV Type A XLPE joints</b>  |                |          |                 |        |
| 3.H2.12.2.6  | H2   | 39.002            |           | Three core XLPE 25mm <sup>2</sup> (Cu)  | No             | 1        |                 |        |
|              | H2   |                   |           | <b>Terminations</b>   |                |          |                 |        |
|              | H2   |                   |           | <b>6.35/11 kV Type A XLPE terminations</b>  |                |          |                 |        |
| 3.H2.12.2.7  | H2   | 39.002            |           | Three core XLPE 25mm <sup>2</sup> (Cu)  | No             | 1        |                 |        |
|              | H2   |                   |           | <b>600/1000 V PVC SWA multi core terminations</b>   |                |          |                 |        |
| 3.H2.12.2.8  | H2   | 39.002            |           | 16 mm <sup>2</sup> Cu x 4c ECC  | No             | 2        |                 |        |
|              | H2   |                   |           | <b>Trenching, excavations and backfilling</b>   |                |          |                 |        |
| 3.H2.12.2.9  | H2   | 39.002            |           | Excavation in soft material   | m <sup>3</sup> | 260      |                 |        |
| 3.H2.12.2.10 | H2   | 39.002            |           | Excavation in hard rock   | m <sup>3</sup> | 10       |                 |        |
| 3.H2.12.2.11 | H2   | 39.002            |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 160      |                 |        |
| 3.H2.12.2.12 | H2   | 39.002            |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 110      |                 |        |
| 3.H2.12.2.13 | H2   | 39.002            |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Lot            | 1        |                 |        |
| 3.H2.12.2.14 | H2   | 39.002            |           | Danger tape installation  | m              | 400      |                 |        |
| 3.H2.12.2.15 | H2   | 39.002            |           | Cable markers   | No             | 8        |                 |        |
| 3.H2.12.2.16 | H2   | 39.002            |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No             | 1        |                 |        |
|              | H2   |                   |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |                |          |                 |        |
| 3.H2.12.2.17 | H2   | 39.002            |           | Drawing 2A-E2,3-006: 2A-SD-01   | No             | 1        |                 |        |
| 3.H2.12.2.18 | H2   | 39.002            |           | Drawing 2A-E2,3-007:  | No             | 2        |                 |        |
| 3.H2.12.2.19 | H2   | 39.002            |           | Drawing 2H-E2,3-001: 2H-SD-01   | No             | 1        |                 |        |
| 3.H2.12.2.20 | H2   | 39.002            |           | Drawing 2H-E2,3-002: 2H-SD-02   | No             | 1        |                 |        |
|              | H2   |                   |           | <b>Small power and lighting</b>   |                |          |                 |        |
|              | H2   |                   |           | <b>Wiring, conduits and accessories</b>   |                |          |                 |        |
|              | H2   |                   |           | <b>Conduits - PVC</b>   |                |          |                 |        |
| 3.H2.12.2.21 | H2   | 39.002            |           | 20 mm diameter  | m              | 60       |                 |        |
| 3.H2.12.2.22 | H2   | 39.002            |           | 25 mm diameter  | m              | 10       |                 |        |
|              | H2   |                   |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |                |          |                 |        |
| 3.H2.12.2.23 | H2   | 39.002            |           | 4 mm <sup>2</sup>   | m              | 90       |                 |        |
| 3.H2.12.2.24 | H2   | 39.002            |           | 2.5 mm <sup>2</sup>   | m              | 90       |                 |        |
|              | H2   |                   |           | <b>Socket outlets</b>   |                |          |                 |        |
| 3.H2.12.2.25 | H2   | 39.002            |           | 16A Standard SSO (WT)   | No             | 4        |                 |        |
|              |      |                   |           |   |                |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              |      |           |           |  |      |          | Brought Forward |        |
|              | H2   |           |           | <b>Switches</b>  |      |          |                 |        |
| 3.H2.12.2.26 | H2   | 39.002    |           | Single Lever 1-Way Light switch (WT)   | No   | 2        |                 |        |
| 3.H2.12.2.27 | H2   | 39.002    |           | Photo cell   | No   | 1        |                 |        |
|              | H2   |           |           | <b>Isolators</b>   |      |          |                 |        |
| 3.H2.12.2.28 | H2   | 39.002    |           | 60A double pole isolator (WT)  | No   | 1        |                 |        |
| 3.H2.12.2.29 | H2   | 39.002    |           | 60A tripple pole isolator (WT)   | No   | 2        |                 |        |
|              | H2   |           |           | <b>Powerskirting and trunking</b>  |      |          |                 |        |
| 3.H2.12.2.30 | H2   | 39.002    |           | P2000  | m    | 10       |                 |        |
|              | H2   |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>  |      |          |                 |        |
| 3.H2.12.2.31 | H2   | 39.002    |           | Straight lengths   | m    | 18       |                 |        |
| 3.H2.12.2.32 | H2   | 39.002    |           | 90 degree bends  | No   | 4        |                 |        |
|              | H2   |           |           | <b>Cable ladder, trays and supports</b>  |      |          |                 |        |
|              | H2   |           |           | <b>Heavy duty cable ladder</b>   |      |          |                 |        |
|              | H2   |           |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
|              | H2   |           |           | <b>Straight lengths</b>  |      |          |                 |        |
| 3.H2.12.2.33 | H2   | 39.002    |           | 76 mm wide   | m    | 10       |                 |        |
|              | H2   |           |           | <b>90 degree bends</b>   |      |          |                 |        |
| 3.H2.12.2.34 | H2   | 39.002    |           | 76 mm wide   | No   | 4        |                 |        |
|              | H2   |           |           | <b>Tees</b>  |      |          |                 |        |
| 3.H2.12.2.35 | H2   | 39.002    |           | 76 mm wide   | No   | 2        |                 |        |
|              | H2   |           |           | <b>Light fittings</b>  |      |          |                 |        |
| 3.H2.12.2.36 | H2   | 39.002    |           | Type A2  | No   | 1        |                 |        |
| 3.H2.12.2.37 | H2   | 39.002    |           | Type A3  | No   | 1        |                 |        |
| 3.H2.12.2.38 | H2   | 39.002    |           | Type B   | No   | 5        |                 |        |
| 3.H2.12.2.39 | H2   | 39.002    |           | Type F1  | No   | 1        |                 |        |
|              | H2   |           |           | <b>Standby generator systems</b>   |      |          |                 |        |
|              | H2   |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 3.H2.12.2.40 | H2   | 39.002    |           | IH - 10kVA   | No   | 2        |                 |        |
| 3.H2.12.2.41 | H2   | 39.002    |           | MWT - 1kVA   | No   | 1        |                 |        |
| 3.H2.12.2.42 | H2   | 39.002    |           | Design and documentation   | Sum  | 1        |                 |        |
|              | H2   |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|              | H2   |           |           | <b>Earthing and bonding of equipment</b>   |      |          |                 |        |
| 3.H2.12.2.43 | H2   | 39.002    |           | Low voltage AC system and equipment  | Sum  | 1        |                 |        |
| 3.H2.12.2.44 | H2   | 39.002    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 3.H2.12.2.45 | H2   | 39.001    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|              | H2   |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 3.H2.12.2.46 | H2   | 39.002    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 3.H2.12.2.47 | H2   | 39.002    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|              | H2   |           |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 3.H2.12.2.48 | H2   | 39.002    |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 3.H2.12.2.49 | H2   | 39.002    |           | Safety plant   | Sum  | 1        |                 |        |
|              | H2   |           |           | <b>PART H2.12.3: INSTALLATION</b>  |      |          |                 |        |
|              | H2   |           |           | <b>INSTRUMENTATION HUT - OFF-TAKE B</b>  |      |          |                 |        |
|              | H2   |           |           | <b>Miniature substation (MSS)</b>  |      |          |                 |        |
|              | H2   |           |           | <b>Distribution transformers - Ground mounted</b>  |      |          |                 |        |
| 3.H2.12.3.1  | H2   | 39.003    |           | 25 kVA 11/0,4 kV   | No   | 1        |                 |        |
| 3.H2.12.3.2  | H2   | 39.003    |           | Pre-cast plinth for distribution transformers  | No   | 1        |                 |        |
|              |      |           |           |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description   | Unit           | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|---|----------------|----------|-----------------|--------|
|              |      | Reference |           |   |                |          |                 |        |
|              |      |           |           |   |                |          | Brought Forward |        |
| 3.H2.12.3.3  | H2   | 39.003    |           | Earthing for distribution transformers  | No             | 1        |                 |        |
|              | H2   |           |           | <b>Cables, earth wires and ancillary</b>  |                |          |                 |        |
|              | H2   |           |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>                                     |                |          |                 |        |
| 3.H2.12.3.4  | H2   | 39.003    |           | 25 mm <sup>2</sup> Cu - distribution transformers   | m              | 300      |                 |        |
|              | H2   |           |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>   |                |          |                 |        |
| 3.H2.12.3.5  | H2   | 39.003    |           | 16 mm <sup>2</sup> Cu x 4c ECC  | m              | 100      |                 |        |
|              | H2   |           |           | <b>Joints</b>   |                |          |                 |        |
|              | H2   |           |           | <b>6.35/11 kV Type A XLPE joints</b>  |                |          |                 |        |
| 3.H2.12.3.6  | H2   | 39.003    |           | Three core XLPE 25mm <sup>2</sup> (Cu)  | No             | 1        |                 |        |
|              | H2   |           |           | <b>Terminations</b>   |                |          |                 |        |
|              | H2   |           |           | <b>6.35/11 kV Type A XLPE terminations</b>  |                |          |                 |        |
| 3.H2.12.3.7  | H2   | 39.003    |           | Three core XLPE 25mm <sup>2</sup> (Cu)  | No             | 1        |                 |        |
|              | H2   |           |           | <b>600/1000 V PVC SWA multi core terminations</b>   |                |          |                 |        |
| 3.H2.12.3.8  | H2   | 39.003    |           | 16 mm <sup>2</sup> Cu x 4c ECC  | No             | 2        |                 |        |
|              | H2   |           |           | <b>Trenching, excavations and backfilling</b>   |                |          |                 |        |
| 3.H2.12.3.9  | H2   | 39.003    |           | Excavation in soft material   | m <sup>3</sup> | 260      |                 |        |
| 3.H2.12.3.10 | H2   | 39.003    |           | Excavation in hard rock   | m <sup>3</sup> | 10       |                 |        |
| 3.H2.12.3.11 | H2   | 39.003    |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 160      |                 |        |
| 3.H2.12.3.12 | H2   | 39.003    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 110      |                 |        |
| 3.H2.12.3.13 | H2   | 39.003    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Lot            | 1        |                 |        |
| 3.H2.12.3.14 | H2   | 39.003    |           | Danger tape installation  | m              | 400      |                 |        |
| 3.H2.12.3.15 | H2   | 39.003    |           | Cable markers   | No             | 8        |                 |        |
| 3.H2.12.3.16 | H2   | 39.003    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No             | 1        |                 |        |
|              | H2   |           |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |                |          |                 |        |
| 3.H2.12.3.17 | H2   | 39.003    |           | Drawing 2A-E2,3-006: 2A-SD-01   | No             | 1        |                 |        |
| 3.H2.12.3.18 | H2   | 39.003    |           | Drawing 2A-E2,3-007:  | No             | 2        |                 |        |
| 3.H2.12.3.19 | H2   | 39.003    |           | Drawing 2H-E2,3-001: 2H-SD-01   | No             | 1        |                 |        |
| 3.H2.12.3.20 | H2   | 39.003    |           | Drawing 2H-E2,3-002: 2H-SD-02   | No             | 1        |                 |        |
|              | H2   |           |           | <b>Small power and lighting</b>   |                |          |                 |        |
|              | H2   |           |           | <b>Wiring, conduits and accessories</b>   |                |          |                 |        |
|              | H2   |           |           | <b>Conduits - PVC</b>   |                |          |                 |        |
| 3.H2.12.3.21 | H2   | 39.003    |           | 20 mm diameter  | m              | 60       |                 |        |
| 3.H2.12.3.22 | H2   | 39.003    |           | 25 mm diameter  | m              | 10       |                 |        |
|              | H2   |           |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |                |          |                 |        |
| 3.H2.12.3.23 | H2   | 39.003    |           | 4 mm <sup>2</sup>   | m              | 90       |                 |        |
| 3.H2.12.3.24 | H2   | 39.003    |           | 2.5 mm <sup>2</sup>   | m              | 90       |                 |        |
|              | H2   |           |           | <b>Socket outlets</b>   |                |          |                 |        |
| 3.H2.12.3.25 | H2   | 39.003    |           | 16A Standard SSO (WT)   | No             | 4        |                 |        |
|              | H2   |           |           | <b>Switches</b>   |                |          |                 |        |
| 3.H2.12.3.26 | H2   | 39.003    |           | Single Lever 1-Way Light switch (WT)  | No             | 2        |                 |        |
| 3.H2.12.3.27 | H2   | 39.003    |           | Photo cell  | No             | 1        |                 |        |
|              | H2   |           |           | <b>Isolators</b>  |                |          |                 |        |
| 3.H2.12.3.28 | H2   | 39.003    |           | 60A double pole isolator (WT)   | No             | 1        |                 |        |
| 3.H2.12.3.29 | H2   | 39.003    |           | 60A tripple pole isolator (WT)  | No             | 2        |                 |        |
|              | H2   |           |           | <b>Powerskirting and trunking</b>   |                |          |                 |        |
| 3.H2.12.3.30 | H2   | 39.003    |           | P2000   | m              | 10       |                 |        |
|              | H2   |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>   |                |          |                 |        |
| 3.H2.12.3.31 | H2   | 39.003    |           | Straight lengths  | m              | 18       |                 |        |
| 3.H2.12.3.32 | H2   | 39.003    |           | 90 degree bends   | No             | 4        |                 |        |
|              |      |           |           |   |                |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              |      |           |           |  |      |          | Brought Forward |        |
|              | H2   |           |           | <b>Cable ladder, trays and supports</b>  |      |          |                 |        |
|              | H2   |           |           | <b>Heavy duty cable ladder</b>   |      |          |                 |        |
|              | H2   |           |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
| 3.H2.12.3.33 | H2   | 39.003    |           | <b>Straight lengths</b><br>76 mm wide  | m    | 10       |                 |        |
| 3.H2.12.3.34 | H2   | 39.003    |           | <b>90 degree bends</b><br>76 mm wide   | No   | 4        |                 |        |
| 3.H2.12.3.35 | H2   | 39.003    |           | <b>Tees</b><br>76 mm wide  | No   | 2        |                 |        |
| 3.H2.12.3.36 | H2   | 39.003    |           | <b>Light fittings</b><br>Type A2   | No   | 1        |                 |        |
| 3.H2.12.3.37 | H2   | 39.003    |           | Type A3  | No   | 1        |                 |        |
| 3.H2.12.3.38 | H2   | 39.003    |           | Type B   | No   | 5        |                 |        |
| 3.H2.12.3.39 | H2   | 39.003    |           | Type F1  | No   | 1        |                 |        |
|              | H2   |           |           | <b>Standby generator systems</b>   |      |          |                 |        |
|              | H2   |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 3.H2.12.3.40 | H2   | 39.003    |           | IH - 10kVA   | No   | 2        |                 |        |
| 3.H2.12.3.41 | H2   | 39.003    |           | MWT - 1kVA   | No   | 1        |                 |        |
| 3.H2.12.3.42 | H2   | 39.003    |           | Design and documentation   | Sum  | 1        |                 |        |
|              | H2   |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|              | H2   |           |           | <b>Earthing and bonding of equipment</b>   |      |          |                 |        |
| 3.H2.12.3.43 | H2   | 39.003    |           | Low voltage AC system and equipment  | Sum  | 1        |                 |        |
| 3.H2.12.3.44 | H2   | 39.003    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 3.H2.12.3.45 | H2   | 39.001    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|              | H2   |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 3.H2.12.3.46 | H2   | 39.003    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 3.H2.12.3.47 | H2   | 39.003    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|              | H2   |           |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 3.H2.12.3.48 | H2   | 39.003    |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 3.H2.12.3.49 | H2   | 39.003    |           | Safety plant   | Sum  | 1        |                 |        |
|              | H2   |           |           | <b>PART H2.12: GRAVITY MAINS</b>   |      |          |                 |        |
|              |      |           |           | <b>OFF TAKE C TO OFF TAKE B</b>  |      |          |                 |        |
|              |      |           |           | <b>(13KM) - CH82 TO CH95</b>   |      |          |                 |        |
|              |      |           |           | <b>- Carried forward to Summary of Bills</b>   |      |          |                 |        |

| Item no.       | Part | Payment   | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|--|----------------|----------|-----------------|--------|
|                |      | Reference |           |  |                |          |                 |        |
|                | H3   |           |           | <b>PART H3.12: GRAVITY MAINS OFF TAKE B TO OFF TAKE A (6.3KM) - CH95 TO CH101.30</b>   |                |          |                 |        |
|                |      |           |           | <b>PART H3.12.1: DESIGN</b>  |                |          |                 |        |
| 3.H3.12.1      | H3   | 39.001    |           | Design and documentation (as required, should it not already be included with an item below)   | Sum            | 1        |                 |        |
|                | H3   |           |           | <b>PART H3.12.2: SUPPLY AND DELIVER TO SITE</b>  |                |          |                 |        |
|                | H3   |           |           | <b>INSTRUMENTATION HUT - OFF-TAKE A</b>  |                |          |                 |        |
| 3.H3.12.2.1.1  | H3   | 39.002    |           | <b>Distribution transformers - Ground mounted</b><br>25 kVA 11/0,4 kV  | No             | 1        |                 |        |
| 3.H3.12.2.1.2  | H3   | 39.002    |           | Pre-cast plinth for distribution transformers  | No             | 1        |                 |        |
| 3.H3.12.2.1.3  | H3   | 39.002    |           | Earthing for distribution transformers   | No             | 1        |                 |        |
| 3.H3.12.2.1.4  | H3   | 39.002    |           | <b>Cables, earth wires and ancillary</b><br><b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b><br>25 mm <sup>2</sup> Cu - distribution transformers | m              | 300      |                 |        |
| 3.H3.12.2.1.5  | H3   | 39.002    |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b><br>16 mm <sup>2</sup> Cu x 4c ECC  | m              | 100      |                 |        |
| 3.H3.12.2.1.6  | H3   | 39.002    |           | <b>Joints</b><br><b>6.35/11 kV Type A XLPE joints</b><br>Three core XLPE 25mm <sup>2</sup> (Cu)  | No             | 1        |                 |        |
| 3.H3.12.2.1.7  | H3   | 39.002    |           | <b>Terminations</b><br><b>6.35/11 kV Type A XLPE terminations</b><br>Three core XLPE 25mm <sup>2</sup> (Cu)  | No             | 1        |                 |        |
| 3.H3.12.2.1.8  | H3   | 39.002    |           | <b>600/1000 V PVC SWA multi core terminations</b><br>16 mm <sup>2</sup> Cu x 4c ECC  | No             | 2        |                 |        |
| 3.H3.12.2.1.9  | H3   | 39.002    |           | <b>Trenching, excavations and backfilling</b><br>Excavation in soft material   | m <sup>3</sup> | 240      |                 |        |
| 3.H3.12.2.1.10 | H3   | 39.002    |           | Excavation in hard rock  | m <sup>3</sup> | 30       |                 |        |
| 3.H3.12.2.1.11 | H3   | 39.002    |           | Soft soil backfilling and compaction   | m <sup>3</sup> | 160      |                 |        |
| 3.H3.12.2.1.12 | H3   | 39.002    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity  | m <sup>3</sup> | 110      |                 |        |
| 3.H3.12.2.1.13 | H3   | 39.002    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)  | Lot            | 1        |                 |        |
| 3.H3.12.2.1.14 | H3   | 39.002    |           | Danger tape installation   | m              | 400      |                 |        |
| 3.H3.12.2.1.15 | H3   | 39.002    |           | Cable markers  | No             | 8        |                 |        |
| 3.H3.12.2.1.16 | H3   | 39.002    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction  | No             | 1        |                 |        |
| 3.H3.12.2.1.17 | H3   | 39.002    |           | <b>MCC's, distribution boards and switch board as per drawings</b><br>Drawing 2A-E2,3-006: 2A-SD-01  | No             | 1        |                 |        |
| 3.H3.12.2.1.18 | H3   | 39.002    |           | Drawing 2A-E2,3-007:   | No             | 2        |                 |        |
| 3.H3.12.2.1.19 | H3   | 39.002    |           | Drawing 2H-E2,3-001: 2H-SD-01  | No             | 1        |                 |        |
| 3.H3.12.2.1.20 | H3   | 39.002    |           | Drawing 2H-E2,3-002: 2H-SD-02  | No             | 1        |                 |        |
| 3.H3.12.2.1.21 | H3   | 39.002    |           | <b>Small power and lighting</b><br><b>Wiring, conduits and accessories</b><br><b>Conduits - PVC</b><br>20 mm diameter  | m              | 60       |                 |        |
| 3.H3.12.2.1.22 | H3   | 39.002    |           | 25 mm diameter   | m              | 10       |                 |        |
| 3.H3.12.2.1.23 | H3   | 39.002    |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b><br>4 mm <sup>2</sup>  | m              | 90       |                 |        |
| 3.H3.12.2.1.24 | H3   | 39.002    |           | 2.5 mm <sup>2</sup>  | m              | 90       |                 |        |
| 3.H3.12.2.1.25 | H3   | 39.002    |           | <b>Socket outlets</b><br>16A Standard SSO (WT)   | No             | 4        |                 |        |
|                |      |           |           |  |                |          | Carried Forward |        |

| Item no.       | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|                |      | Reference |           |  |      |          |                 |        |
|                |      |           |           |  |      |          | Brought Forward |        |
|                | H3   |           |           | <b>Switches</b>  |      |          |                 |        |
| 3.H3.12.2.1.26 | H3   | 39.002    |           | Single Lever 1-Way Light switch (WT)   | No   | 2        |                 |        |
| 3.H3.12.2.1.27 | H3   | 39.002    |           | Photo cell   | No   | 1        |                 |        |
|                | H3   |           |           | <b>Isolators</b>   |      |          |                 |        |
| 3.H3.12.2.1.28 | H3   | 39.002    |           | 60A double pole isolator (WT)  | No   | 1        |                 |        |
| 3.H3.12.2.1.29 | H3   | 39.002    |           | 60A tripple pole isolator (WT)   | No   | 2        |                 |        |
|                | H3   |           |           | <b>Powerskirting and trunking</b>  |      |          |                 |        |
| 3.H3.12.2.1.30 | H3   | 39.002    |           | P2000  | m    | 10       |                 |        |
|                | H3   |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>  |      |          |                 |        |
| 3.H3.12.2.1.31 | H3   | 39.002    |           | Straight lengths   | m    | 18       |                 |        |
| 3.H3.12.2.1.32 | H3   | 39.002    |           | 90 degree bends  | No   | 4        |                 |        |
|                | H3   |           |           | <b>Cable ladder, trays and supports</b>  |      |          |                 |        |
|                | H3   |           |           | <b>Heavy duty cable ladder</b>   |      |          |                 |        |
|                | H3   |           |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
|                | H3   |           |           | <b>Straight lengths</b>  |      |          |                 |        |
| 3.H3.12.2.1.33 | H3   | 39.002    |           | 76 mm wide   | m    | 10       |                 |        |
|                | H3   |           |           | <b>90 degree bends</b>   |      |          |                 |        |
| 3.H3.12.2.1.34 | H3   | 39.002    |           | 76 mm wide   | No   | 4        |                 |        |
|                | H3   |           |           | <b>Tees</b>  |      |          |                 |        |
| 3.H3.12.2.1.35 | H3   | 39.002    |           | 76 mm wide   | No   | 2        |                 |        |
|                | H3   |           |           | <b>Light fittings</b>  |      |          |                 |        |
| 3.H3.12.2.1.36 | H3   | 39.002    |           | Type A2  | No   | 1        |                 |        |
| 3.H3.12.2.1.37 | H3   | 39.002    |           | Type A3  | No   | 1        |                 |        |
| 3.H3.12.2.1.38 | H3   | 39.002    |           | Type B   | No   | 5        |                 |        |
| 3.H3.12.2.1.39 | H3   | 39.002    |           | Type F1  | No   | 1        |                 |        |
|                | H3   |           |           | <b>Standby generator systems</b>   |      |          |                 |        |
|                | H3   |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 3.H3.12.2.1.40 | H3   | 39.002    |           | IH - 10kVA   | No   | 2        |                 |        |
| 3.H3.12.2.1.41 | H3   | 39.002    |           | MWT - 1kVA   | No   | 1        |                 |        |
| 3.H3.12.2.1.42 | H3   | 39.002    |           | Design and documentation   | Sum  | 1        |                 |        |
|                | H3   |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|                | H3   |           |           | <b>Earthing and bonding of equipment</b>   |      |          |                 |        |
| 3.H3.12.2.1.43 | H3   | 39.002    |           | Low voltage AC system and equipment  | Sum  | 1        |                 |        |
| 3.H3.12.2.1.44 | H3   | 39.002    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 3.H3.12.2.1.45 | H3   | 39.001    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|                | H3   |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 3.H3.12.2.1.46 | H3   | 39.002    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 3.H3.12.2.1.47 | H3   | 39.002    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|                | H3   | 39.002    |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 3.H3.12.2.1.48 | H3   | 39.002    |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 3.H3.12.2.1.49 | H3   | 39.002    |           | Safety plant   | Sum  | 1        |                 |        |
|                | H3   |           |           | <b>INSTRUMENTATION HUT - ZEELAND WTW</b>   |      |          |                 |        |
|                | H3   |           |           | <b>Miniature substation (MSS)</b>  |      |          |                 |        |
|                | H3   |           |           | <b>Distribution transformers - Ground mounted</b>  |      |          |                 |        |
| 3.H3.12.2.2.1  | H3   | 39.002    |           | 25 kVA 11/0,4 kV   | No   | 1        |                 |        |
| 3.H3.12.2.2.2  | H3   | 39.002    |           | Pre-cast plinth for distribution transformers  | No   | 1        |                 |        |
| 3.H3.12.2.2.3  | H3   | 39.002    |           | Earthing for distribution transformers   | No   | 1        |                 |        |
|                |      |           |           |  |      |          | Carried Forward |        |



| Item no.       | Part | Payment   | Breakdown | Description   | Unit           | Quantity | Rate | Amount          |
|----------------|------|-----------|-----------|---|----------------|----------|------|-----------------|
|                |      | Reference |           |   |                |          |      |                 |
|                |      |           |           |   |                |          |      | Brought Forward |
|                | H3   |           |           | <b>Cables, earth wires and ancillary</b>  |                |          |      |                 |
|                | H3   |           |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>                                     |                |          |      |                 |
| 3.H3.12.2.2.4  | H3   | 39.002    |           | 25 mm <sup>2</sup> Cu - distribution transformers   | m              | 300      |      |                 |
|                | H3   |           |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>   |                |          |      |                 |
| 3.H3.12.2.2.5  | H3   | 39.002    |           | 16 mm <sup>2</sup> Cu x 4c ECC  | m              | 100      |      |                 |
|                | H3   |           |           | <b>Joints</b>   |                |          |      |                 |
|                | H3   |           |           | <b>6.35/11 kV Type A XLPE joints</b>  |                |          |      |                 |
| 3.H3.12.2.2.6  | H3   | 39.002    |           | Three core XLPE 25mm <sup>2</sup> (Cu)  | No             | 1        |      |                 |
|                | H3   |           |           | <b>Terminations</b>   |                |          |      |                 |
|                | H3   |           |           | <b>6.35/11 kV Type A XLPE terminations</b>  |                |          |      |                 |
| 3.H3.12.2.2.7  | H3   | 39.002    |           | Three core XLPE 25mm <sup>2</sup> (Cu)  | No             | 1        |      |                 |
|                | H3   |           |           | <b>600/1000 V PVC SWA multi core terminations</b>   |                |          |      |                 |
| 3.H3.12.2.2.8  | H3   | 39.002    |           | 16 mm <sup>2</sup> Cu x 4c ECC  | No             | 2        |      |                 |
|                | H3   |           |           | <b>Trenching, excavations and backfilling</b>   |                |          |      |                 |
| 3.H3.12.2.2.9  | H3   | 39.002    |           | Excavation in soft material   | m <sup>3</sup> | 240      |      |                 |
| 3.H3.12.2.2.10 | H3   | 39.002    |           | Excavation in hard rock   | m <sup>3</sup> | 30       |      |                 |
| 3.H3.12.2.2.11 | H3   | 39.002    |           | Soft soil backfilling and compaction  | m <sup>3</sup> | 160      |      |                 |
| 3.H3.12.2.2.12 | H3   | 39.002    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m <sup>3</sup> | 110      |      |                 |
| 3.H3.12.2.2.13 | H3   | 39.002    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Lot            | 1        |      |                 |
| 3.H3.12.2.2.14 | H3   | 39.002    |           | Danger tape installation  | m              | 400      |      |                 |
| 3.H3.12.2.2.15 | H3   | 39.002    |           | Cable markers   | No             | 8        |      |                 |
| 3.H3.12.2.2.16 | H3   | 39.002    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No             | 1        |      |                 |
|                | H3   |           |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |                |          |      |                 |
| 3.H3.12.2.2.17 | H3   | 39.002    |           | Drawing 2A-E2,3-006: 2A-SD-01   | No             | 1        |      |                 |
| 3.H3.12.2.2.18 | H3   | 39.002    |           | Drawing 2A-E2,3-007:  | No             | 2        |      |                 |
|                | H3   |           |           | <b>Small power and lighting</b>   |                |          |      |                 |
|                | H3   |           |           | <b>Wiring, conduits and accessories</b>   |                |          |      |                 |
|                | H3   |           |           | <b>Conduits - PVC</b>   |                |          |      |                 |
| 3.H3.12.2.2.19 | H3   | 39.002    |           | 20 mm diameter  | m              | 60       |      |                 |
| 3.H3.12.2.2.20 | H3   | 39.002    |           | 25 mm diameter  | m              | 10       |      |                 |
| 3.H3.12.2.2.21 | H3   | 39.002    |           | 50 mm diameter  | m              |          |      |                 |
|                | H3   |           |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |                |          |      |                 |
| 3.H3.12.2.2.22 | H3   | 39.002    |           | 4 mm <sup>2</sup>   | m              | 90       |      |                 |
| 3.H3.12.2.2.23 | H3   | 39.002    |           | 2.5 mm <sup>2</sup>   | m              | 90       |      |                 |
|                | H3   |           |           | <b>Socket outlets</b>   |                |          |      |                 |
| 3.H3.12.2.2.24 | H3   | 39.002    |           | 16A Standard SSO (WT)   | No             | 4        |      |                 |
|                | H3   |           |           | <b>Switches</b>   |                |          |      |                 |
| 3.H3.12.2.2.25 | H3   | 39.002    |           | Single Lever 1-Way Light switch (WT)  | No             | 2        |      |                 |
| 3.H3.12.2.2.26 | H3   | 39.002    |           | Photo cell  | No             | 1        |      |                 |
|                | H3   |           |           | <b>Isolators</b>  |                |          |      |                 |
| 3.H3.12.2.2.27 | H3   | 39.002    |           | 60A double pole isolator (WT)   | No             | 1        |      |                 |
| 3.H3.12.2.2.28 | H3   | 39.002    |           | 60A tripple pole isolator (WT)  | No             | 2        |      |                 |
|                | H3   |           |           | <b>Powerskirting and trunking</b>   |                |          |      |                 |
| 3.H3.12.2.2.29 | H3   | 39.002    |           | P2000   | m              | 10       |      |                 |
|                | H3   |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>   |                |          |      |                 |
| 3.H3.12.2.2.30 | H3   | 39.002    |           | Straight lengths  | m              | 18       |      |                 |
| 3.H3.12.2.2.31 | H3   | 39.002    |           | 90 degree bends   | No             | 4        |      |                 |
|                | H3   |           |           | <b>Cable ladder, trays and supports</b>   |                |          |      |                 |
|                | H3   |           |           | <b>Heavy duty cable ladder</b>  |                |          |      |                 |
|                |      |           |           |   |                |          |      | Carried Forward |

| Item no.       | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|                |      | Reference |           |  |      |          |                 |        |
|                |      |           |           |  |      |          | Brought Forward |        |
| 3.H3.12.2.2.32 | H3   |           |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
|                | H3   |           |           | <b>Straight lengths</b>  |      |          |                 |        |
|                | H3   | 39.002    |           | 76 mm wide   | m    | 10       |                 |        |
| 3.H3.12.2.2.33 | H3   |           |           | <b>90 degree bends</b>   |      |          |                 |        |
|                | H3   | 39.002    |           | 76 mm wide   | No   | 4        |                 |        |
| 3.H3.12.2.2.34 | H3   |           |           | <b>Tees</b>  |      |          |                 |        |
|                | H3   | 39.002    |           | 76 mm wide   | No   | 2        |                 |        |
| 3.H3.12.2.2.35 | H3   |           |           | <b>Light fittings</b>  |      |          |                 |        |
|                | H3   | 39.002    |           | Type A2  | No   | 1        |                 |        |
| 3.H3.12.2.2.36 | H3   |           |           | Type A3  | No   | 1        |                 |        |
| 3.H3.12.2.2.37 | H3   |           |           | Type B   | No   | 5        |                 |        |
| 3.H3.12.2.2.38 | H3   |           |           | Type F1  | No   | 1        |                 |        |
|                | H3   |           |           | <b>Standby generator systems</b>   |      |          |                 |        |
| 3.H3.12.2.2.39 | H3   |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
|                | H3   | 39.002    |           | IH - 10kVA   | No   | 2        |                 |        |
| 3.H3.12.2.2.40 | H3   |           |           | MWT - 1kVA   | No   | 1        |                 |        |
| 3.H3.12.2.2.41 | H3   |           |           | Design and documentation   | Sum  | 1        |                 |        |
|                | H3   |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|                | H3   |           |           | <b>Earthing and bonding of equipment</b>   |      |          |                 |        |
| 3.H3.12.2.2.42 | H3   |           |           | Low voltage AC system and equipment  | Sum  | 1        |                 |        |
| 3.H3.12.2.2.43 | H3   |           |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 3.H3.12.2.2.44 | H3   |           |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|                | H3   |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 3.H3.12.2.2.45 | H3   |           |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 3.H3.12.2.2.46 | H3   |           |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|                | H3   |           |           | <b>Miscellaneous and general</b>   |      |          |                 |        |
| 3.H3.12.2.2.47 | H3   |           |           | Motor field isolators and e-stops  | Sum  | 1        |                 |        |
| 3.H3.12.2.2.48 | H3   |           |           | Safety plant   | Sum  | 1        |                 |        |
|                | H3   |           |           | <b>PART H3.12.3: INSTALLATION</b>  |      |          |                 |        |
|                | H3   |           |           | <b>INSTRUMENTATION HUT - OFF-TAKE A</b>  |      |          |                 |        |
|                | H3   |           |           | <b>Distribution transformers - Ground mounted</b>  |      |          |                 |        |
| 3.H3.12.3.1.1  | H3   |           |           | 25 kVA 11/0,4 kV   | No   | 1        |                 |        |
| 3.H3.12.3.1.2  | H3   |           |           | Pre-cast plinth for distribution transformers  | No   | 1        |                 |        |
| 3.H3.12.3.1.3  | H3   |           |           | Earthing for distribution transformers   | No   | 1        |                 |        |
|                | H3   |           |           | <b>Cables, earth wires and ancillary</b>   |      |          |                 |        |
|                | H3   |           |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) three core cables</b>  |      |          |                 |        |
| 3.H3.12.3.1.4  | H3   |           |           | 25 mm <sup>2</sup> Cu - distribution transformers  | m    | 300      |                 |        |
|                | H3   |           |           | <b>600/1000 V LHPVC/LHPVC/SWA/LHPVC (blue stripe) multi core cables</b>  |      |          |                 |        |
| 3.H3.12.3.1.5  | H3   |           |           | 16 mm <sup>2</sup> Cu x 4c ECC   | m    | 100      |                 |        |
|                | H3   |           |           | <b>Joints</b>  |      |          |                 |        |
|                | H3   |           |           | <b>6.35/11 kV Type A XLPE joints</b>   |      |          |                 |        |
| 3.H3.12.3.1.6  | H3   |           |           | Three core XLPE 25mm <sup>2</sup> (Cu)   | No   | 1        |                 |        |
|                | H3   |           |           | <b>Terminations</b>  |      |          |                 |        |
|                | H3   |           |           | <b>6.35/11 kV Type A XLPE terminations</b>   |      |          |                 |        |
| 3.H3.12.3.1.7  | H3   |           |           | Three core XLPE 25mm <sup>2</sup> (Cu)   | No   | 1        |                 |        |
|                | H3   |           |           | <b>600/1000 V PVC SWA multi core terminations</b>  |      |          |                 |        |
| 3.H3.12.3.1.8  | H3   |           |           | 16 mm <sup>2</sup> Cu x 4c ECC   | No   | 2        |                 |        |
|                |      |           |           |  |      |          | Carried Forward |        |

| Item no.       | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate | Amount          |
|----------------|------|-----------|-----------|---|------|----------|------|-----------------|
|                |      | Reference |           |   |      |          |      |                 |
|                |      |           |           |   |      |          |      | Brought Forward |
|                | H3   |           |           | <b>Trenching, excavations and backfilling</b>   |      |          |      |                 |
| 3.H3.12.3.1.9  | H3   | 39.003    |           | Excavation in soft material   | m³   | 240      |      |                 |
| 3.H3.12.3.1.10 | H3   | 39.003    |           | Excavation in hard rock   | m³   | 30       |      |                 |
| 3.H3.12.3.1.11 | H3   | 39.003    |           | Soft soil backfilling and compaction  | m³   | 160      |      |                 |
| 3.H3.12.3.1.12 | H3   | 39.003    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity   | m³   | 110      |      |                 |
| 3.H3.12.3.1.13 | H3   | 39.003    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)                             | Lot  | 1        |      |                 |
| 3.H3.12.3.1.14 | H3   | 39.003    |           | Danger tape installation  | m    | 400      |      |                 |
| 3.H3.12.3.1.15 | H3   | 39.003    |           | Cable markers   | No   | 8        |      |                 |
| 3.H3.12.3.1.16 | H3   | 39.003    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction | No   | 1        |      |                 |
|                | H3   |           |           | <b>MCC's, distribution boards and switch board as per drawings</b>  |      |          |      |                 |
| 3.H3.12.3.1.17 | H3   | 39.003    |           | Drawing 2A-E2,3-006: 2A-SD-01   | No   | 1        |      |                 |
| 3.H3.12.3.1.18 | H3   | 39.003    |           | Drawing 2A-E2,3-007:  | No   | 2        |      |                 |
| 3.H3.12.3.1.19 | H3   | 39.003    |           | Drawing 2H-E2,3-001: 2H-SD-01   | No   | 1        |      |                 |
| 3.H3.12.3.1.20 | H3   | 39.003    |           | Drawing 2H-E2,3-002: 2H-SD-02   | No   | 1        |      |                 |
|                | H3   |           |           | <b>Small power and lighting</b>   |      |          |      |                 |
|                | H3   |           |           | <b>Wiring, conduits and accessories</b>   |      |          |      |                 |
|                | H3   |           |           | <b>Conduits - PVC</b>   |      |          |      |                 |
| 3.H3.12.3.1.21 | H3   | 39.003    |           | 20 mm diameter  | m    | 60       |      |                 |
| 3.H3.12.3.1.22 | H3   | 39.003    |           | 25 mm diameter  | m    | 10       |      |                 |
|                | H3   |           |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>  |      |          |      |                 |
| 3.H3.12.3.1.23 | H3   | 39.003    |           | 4 mm²   | m    | 90       |      |                 |
| 3.H3.12.3.1.24 | H3   | 39.003    |           | 2.5 mm²   | m    | 90       |      |                 |
|                | H3   |           |           | <b>Socket outlets</b>   |      |          |      |                 |
| 3.H3.12.3.1.25 | H3   | 39.003    |           | 16A Standard SSO (WT)   | No   | 4        |      |                 |
|                | H3   |           |           | <b>Switches</b>   |      |          |      |                 |
| 3.H3.12.3.1.26 | H3   | 39.003    |           | Single Lever 1-Way Light switch (WT)  | No   | 2        |      |                 |
| 3.H3.12.3.1.27 | H3   | 39.003    |           | Single Lever 2-Way Light switch   | No   |          |      |                 |
| 3.H3.12.3.1.28 | H3   | 39.003    |           | Photo cell  | No   | 1        |      |                 |
|                | H3   |           |           | <b>Isolators</b>  |      |          |      |                 |
| 3.H3.12.3.1.29 | H3   | 39.003    |           | 60A double pole isolator (WT)   | No   | 1        |      |                 |
| 3.H3.12.3.1.30 | H3   | 39.003    |           | 60A tripple pole isolator (WT)  | No   | 2        |      |                 |
|                | H3   |           |           | <b>Powerskirting and trunking</b>   |      |          |      |                 |
| 3.H3.12.3.1.31 | H3   | 39.003    |           | P2000   | m    | 10       |      |                 |
|                | H3   |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>   |      |          |      |                 |
| 3.H3.12.3.1.32 | H3   | 39.003    |           | Straight lengths  | m    | 18       |      |                 |
| 3.H3.12.3.1.33 | H3   | 39.003    |           | 90 degree bends   | No   | 4        |      |                 |
|                | H3   |           |           | <b>Cable ladder, trays and supports</b>   |      |          |      |                 |
|                | H3   |           |           | <b>Heavy duty cable ladder</b>  |      |          |      |                 |
|                | H3   |           |           | <b>Medium duty perforated cable tray</b>  |      |          |      |                 |
|                | H3   |           |           | <b>Straight lengths</b>   |      |          |      |                 |
| 3.H3.12.3.1.34 | H3   | 39.003    |           | 76 mm wide  | m    | 10       |      |                 |
|                | H3   |           |           | <b>90 degree bends</b>  |      |          |      |                 |
| 3.H3.12.3.1.35 | H3   | 39.003    |           | 76 mm wide  | No   | 4        |      |                 |
|                | H3   |           |           | <b>Tees</b>   |      |          |      |                 |
| 3.H3.12.3.1.36 | H3   | 39.003    |           | 200 mm wide   | No   |          |      |                 |
| 3.H3.12.3.1.37 | H3   | 39.003    |           | 100 mm wide   | No   |          |      |                 |
| 3.H3.12.3.1.38 | H3   | 39.003    |           | 76 mm wide  | No   | 2        |      |                 |
|                | H3   |           |           | <b>Light fittings</b>   |      |          |      |                 |
| 3.H3.12.3.1.39 | H3   | 39.003    |           | Type A2   | No   | 1        |      |                 |
| 3.H3.12.3.1.40 | H3   | 39.003    |           | Type A3   | No   | 1        |      |                 |
| 3.H3.12.3.1.41 | H3   | 39.003    |           | Type B  | No   | 5        |      |                 |
| 3.H3.12.3.1.42 | H3   | 39.003    |           | Type F1   | No   | 1        |      |                 |
|                |      |           |           |   |      |          |      | Carried Forward |

| Item no.       | Part | Payment   | Breakdown | Description  | Unit           | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|--|----------------|----------|-----------------|--------|
|                |      | Reference |           |  |                |          |                 |        |
|                |      |           |           |  |                |          | Brought Forward |        |
|                | H3   |           |           | <b>Standby generator systems</b>   |                |          |                 |        |
|                | H3   |           |           | <b>Uninterruptible power supplies (UPS)</b>  |                |          |                 |        |
| 3.H3.12.3.1.43 | H3   | 39.003    |           | IH - 10kVA   | No             | 2        |                 |        |
| 3.H3.12.3.1.44 | H3   | 39.003    |           | MWT - 1kVA   | No             | 1        |                 |        |
| 3.H3.12.3.1.45 | H3   | 39.003    |           | Design and documentation   | Sum            | 1        |                 |        |
|                | H3   |           |           | <b>Lightning protection, bonding and earthing</b>  |                |          |                 |        |
|                | H3   |           |           | <b>Earthing and bonding of equipment</b>   |                |          |                 |        |
| 3.H3.12.3.1.46 | H3   | 39.003    |           | Low voltage AC system and equipment  | Sum            | 1        |                 |        |
| 3.H3.12.3.1.47 | H3   | 39.003    |           | Cable trays and supports   | Sum            | 1        |                 |        |
| 3.H3.12.3.1.48 | H3   | 39.001    |           | Earthing and bonding design and documentation  | Sum            | 1        |                 |        |
|                | H3   |           |           | <b>Earthing and lightning protection</b>   |                |          |                 |        |
| 3.H3.12.3.1.49 | H3   | 39.003    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum            | 1        |                 |        |
| 3.H3.12.3.1.50 | H3   | 39.003    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum            | 1        |                 |        |
|                | H3   |           |           | <b>Miscellaneous and general</b>   |                |          |                 |        |
| 3.H3.12.3.1.51 | H3   | 39.003    |           | Motor field isolators and e-stops  | Sum            | 1        |                 |        |
| 3.H3.12.3.1.52 | H3   | 39.003    |           | Safety plant   | Sum            | 1        |                 |        |
|                | H3   |           |           | <b>INSTRUMENTATION HUT - ZEELAND WTW</b>   |                |          |                 |        |
|                | H3   |           |           | <b>Distribution transformers - Ground mounted</b>  |                |          |                 |        |
| 3.H3.12.3.2.1  | H3   | 39.003    |           | 25 kVA 11/0,4 kV   | No             | 1        |                 |        |
| 3.H3.12.3.2.2  | H3   | 39.003    |           | Pre-cast plinth for distribution transformers  | No             | 1        |                 |        |
| 3.H3.12.3.2.3  | H3   | 39.003    |           | Earthing for distribution transformers   | No             | 1        |                 |        |
|                | H3   |           |           | <b>Cables, earth wires and ancillary</b>   |                |          |                 |        |
|                | H3   |           |           | <b>6.35/11 kV Type A XLPE/LHPVC/SWALHPVC (blue stripe) three core cables</b>   |                |          |                 |        |
| 3.H3.12.3.2.4  | H3   | 39.003    |           | 25 mm <sup>2</sup> Cu - distribution transformers  | m              | 300      |                 |        |
|                | H3   |           |           | <b>600/1000 V LHPVC/LHPVC/SWALHPVC (blue stripe) multi core cables</b>   |                |          |                 |        |
| 3.H3.12.3.2.5  | H3   | 39.003    |           | 16 mm <sup>2</sup> Cu x 4c ECC   | m              | 100      |                 |        |
|                | H3   |           |           | <b>Joints</b>  |                |          |                 |        |
|                | H3   |           |           | <b>6.35/11 kV Type A XLPE joints</b>   |                |          |                 |        |
| 3.H3.12.3.2.6  | H3   | 39.003    |           | Three core XLPE 25mm <sup>2</sup> (Cu)   | No             | 1        |                 |        |
|                | H3   |           |           | <b>Terminations</b>  |                |          |                 |        |
|                | H3   |           |           | <b>6.35/11 kV Type A XLPE terminations</b>   |                |          |                 |        |
| 3.H3.12.3.2.7  | H3   | 39.003    |           | Three core XLPE 25mm <sup>2</sup> (Cu)   | No             | 1        |                 |        |
|                | H3   |           |           | <b>600/1000 V PVC SWA multi core terminations</b>  |                |          |                 |        |
| 3.H3.12.3.2.8  | H3   | 39.003    |           | 16 mm <sup>2</sup> Cu x 4c ECC   | No             | 2        |                 |        |
|                | H3   |           |           | <b>Trenching, excavations and backfilling</b>  |                |          |                 |        |
| 3.H3.12.3.2.9  | H3   | 39.003    |           | Excavation in soft material  | m <sup>3</sup> | 240      |                 |        |
| 3.H3.12.3.2.10 | H3   | 39.003    |           | Excavation in hard rock  | m <sup>3</sup> | 30       |                 |        |
| 3.H3.12.3.2.11 | H3   | 39.003    |           | Soft soil backfilling and compaction   | m <sup>3</sup> | 160      |                 |        |
| 3.H3.12.3.2.12 | H3   | 39.003    |           | Supply and backfill of bedding with 1.2 K.m/W thermal resistivity  | m <sup>3</sup> | 110      |                 |        |
| 3.H3.12.3.2.13 | H3   | 39.003    |           | Barricading of trenches (install and remove only - Contractor to use own barricading)  | Lot            | 1        |                 |        |
| 3.H3.12.3.2.14 | H3   | 39.003    |           | Danger tape installation   | m              | 400      |                 |        |
| 3.H3.12.3.2.15 | H3   | 39.003    |           | Cable markers  | No             | 8        |                 |        |
| 3.H3.12.3.2.16 | H3   | 39.003    |           | Draw box (manhole) as per detail C10 drawing 2A-C6-003 complete, including excavation, backfill, and construction  | No             | 1        |                 |        |
|                | H3   |           |           | <b>MCC's, distribution boards and switch board as per drawings</b>   |                |          |                 |        |
| 3.H3.12.3.2.17 | H3   | 39.003    |           | Drawing 2A-E2,3-006: 2A-SD-01  | No             | 1        |                 |        |
| 3.H3.12.3.2.18 | H3   | 39.003    |           | Drawing 2A-E2,3-007:   | No             | 2        |                 |        |
|                |      |           |           |  |                |          | Carried Forward |        |

| Item no.       | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|                |      | Reference |           |  |      |          |                 |        |
|                |      |           |           |  |      |          | Brought Forward |        |
|                | H3   |           |           | <b>Small power and lighting</b>  |      |          |                 |        |
|                | H3   |           |           | <b>Wiring, conduits and accessories</b>  |      |          |                 |        |
|                | H3   |           |           | <b>Conduits - PVC</b>  |      |          |                 |        |
| 3.H3.12.3.2.19 | H3   | 39.003    |           | 20 mm diameter   | m    | 60       |                 |        |
| 3.H3.12.3.2.20 | H3   | 39.003    |           | 25 mm diameter   | m    | 10       |                 |        |
|                | H3   |           |           | <b>600/1000 V Cu PVC insulated stranded conductor wire</b>   |      |          |                 |        |
| 3.H3.12.3.2.21 | H3   | 39.003    |           | 4 mm <sup>2</sup>  | m    | 90       |                 |        |
| 3.H3.12.3.2.22 | H3   | 39.003    |           | 2.5 mm <sup>2</sup>  | m    | 90       |                 |        |
|                | H3   |           |           | <b>Socket outlets</b>  |      |          |                 |        |
| 3.H3.12.3.2.23 | H3   | 39.003    |           | 16A Standard SSO (WT)  | No   | 4        |                 |        |
|                | H3   |           |           | <b>Switches</b>  |      |          |                 |        |
| 3.H3.12.3.2.24 | H3   | 39.003    |           | Single Lever 1-Way Light switch (WT)   | No   | 2        |                 |        |
| 3.H3.12.3.2.25 | H3   | 39.003    |           | Photo cell   | No   | 1        |                 |        |
|                | H3   |           |           | <b>Isolators</b>   |      |          |                 |        |
| 3.H3.12.3.2.26 | H3   | 39.003    |           | 60A double pole isolator (WT)  | No   | 1        |                 |        |
| 3.H3.12.3.2.27 | H3   | 39.003    |           | 60A tripple pole isolator (WT)   | No   | 2        |                 |        |
|                | H3   |           |           | <b>Powerskirting and trunking</b>  |      |          |                 |        |
| 3.H3.12.3.2.28 | H3   | 39.003    |           | P2000  | m    | 10       |                 |        |
|                | H3   |           |           | <b>Two compartment, two cover sheet metal powerskirting</b>  |      |          |                 |        |
| 3.H3.12.3.2.29 | H3   | 39.003    |           | Straight lengths   | m    | 18       |                 |        |
| 3.H3.12.3.2.30 | H3   | 39.003    |           | 90 degree bends  | No   | 4        |                 |        |
|                | H3   |           |           | <b>Cabble ladder, trays and supports</b>   |      |          |                 |        |
|                | H3   |           |           | <b>Heavy duty cable ladder</b>   |      |          |                 |        |
|                | H3   |           |           | <b>Medium duty perforated cable tray</b>   |      |          |                 |        |
|                | H3   |           |           | <b>Straight lengths</b>  |      |          |                 |        |
| 3.H3.12.3.2.31 | H3   | 39.003    |           | 76 mm wide   | m    | 10       |                 |        |
|                | H3   |           |           | <b>90 degree bends</b>   |      |          |                 |        |
| 3.H3.12.3.2.32 | H3   | 39.003    |           | 76 mm wide   | No   | 4        |                 |        |
|                | H3   |           |           | <b>Tees</b>  |      |          |                 |        |
| 3.H3.12.3.2.33 | H3   | 39.003    |           | 76 mm wide   | No   | 2        |                 |        |
|                | H3   |           |           | <b>Light fittings</b>  |      |          |                 |        |
| 3.H3.12.3.2.34 | H3   | 39.003    |           | Type A2  | No   | 1        |                 |        |
| 3.H3.12.3.2.35 | H3   | 39.003    |           | Type A3  | No   | 1        |                 |        |
| 3.H3.12.3.2.36 | H3   | 39.003    |           | Type B   | No   | 5        |                 |        |
| 3.H3.12.3.2.37 | H3   | 39.003    |           | Type F1  | No   | 1        |                 |        |
|                | H3   |           |           | <b>Standby generator systems</b>   |      |          |                 |        |
|                | H3   |           |           | <b>Uninterruptible power supplies (UPS)</b>  |      |          |                 |        |
| 3.H3.12.3.2.38 | H3   | 39.003    |           | IH - 15kVA   | No   |          |                 |        |
| 3.H3.12.3.2.39 | H3   | 39.003    |           | IH - 10kVA   | No   | 2        |                 |        |
| 3.H3.12.3.2.40 | H3   | 39.003    |           | MWT - 1kVA   | No   | 1        |                 |        |
| 3.H3.12.3.2.41 | H3   | 39.003    |           | Design and documentation   | Sum  | 1        |                 |        |
|                | H3   |           |           | <b>Lightning protection, bonding and earthing</b>  |      |          |                 |        |
|                | H3   |           |           | <b>Earthing and bonding of equipment</b>   |      |          |                 |        |
| 3.H3.12.3.2.42 | H3   | 39.003    |           | Low voltage AC system and equipment  | Sum  | 1        |                 |        |
| 3.H3.12.3.2.43 | H3   | 39.003    |           | Cable trays and supports   | Sum  | 1        |                 |        |
| 3.H3.12.3.2.44 | H3   | 39.001    |           | Earthing and bonding design and documentation  | Sum  | 1        |                 |        |
|                | H3   |           |           | <b>Earthing and lightning protection</b>   |      |          |                 |        |
| 3.H3.12.3.2.45 | H3   | 39.003    |           | Conduct, record, tabulate, certify soil resistivity tests  | Sum  | 1        |                 |        |
| 3.H3.12.3.2.46 | H3   | 39.003    |           | Complete earthing installation conforming to the relevant SANS, with a maximum earth resistance of 1 ohm, including all required earth conductors/mats/grids, earth pits, heavy duty manholes and earth test points, for testing purposes. | Sum  | 1        |                 |        |
|                |      |           |           |  |      |          | Carried Forward |        |

| Item no.       | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|                |      | Reference |           |  |      |          |                 |        |
|                |      |           |           |  |      |          | Brought Forward |        |
| 3.H3.12.3.2.47 | H3   |           |           | <b>Miscellaneous and general</b><br>Motor field isolators and e-stops<br>Safety plant  | Sum  | 1        |                 |        |
| 3.H3.12.3.2.48 | H3   | 39.003    |           |  | Sum  | 1        |                 |        |
|                | H3   | 39.003    |           |  |      |          |                 |        |
|                | H3   |           |           | <b>PART H3.12: GRAVITY MAINS<br/>OFF TAKE B TO OFF TAKE A<br/>(6.3KM) - CH95 TO CH101.30<br/>- Carried forward to Summary of Bills</b> |      |          |                 |        |
|                | H    |           |           | <b>PART H: GRAVITY MAINS TOTAL<br/>- Carried forward to Summary of Bills</b>   |      |          |                 |        |
|                |      |           |           | <b>BILL 4: ELECTRICAL TOTAL</b>  |      |          |                 |        |

| Item no. | Part | Payment       | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|---------------|-----------|--|------|----------|-----------------|--------|
|          |      | Reference     |           |  |      |          |                 |        |
| 5        |      |               |           | <b>BILL 5: CONTROL AND INSTRUMENTATION, COMMUNICATION AND SECURITY</b>   |      |          |                 |        |
|          | A5   |               |           | <b>PART A5: PRELIMINARY AND GENERAL (SECONDARY)</b>  |      |          |                 |        |
|          | A5   | 1.002         |           | <b>FIXED CHARGES - GENERAL OBLIGATIONS</b>   |      |          |                 |        |
| 5.A5.1   | A5   |               | X         | Head Office Contract Management and Overheads  | Sum  | 1        |                 |        |
| 5.A5.2   | A5   |               | X         | General Site Supervision and Overheads   | Sum  | 1        |                 |        |
| 5.A5.3   | A5   |               | X         | Method statements (1.10.1)   | Sum  | 1        |                 |        |
| 5.A5.4   | A5   |               | X         | Competency training (1.10.2.4)   | Sum  | 1        |                 |        |
| 5.A5.5   | A5   |               | X         | Returns and reporting (1.10.3)   | Sum  | 1        |                 |        |
| 5.A5.6   | A5   |               | X         | Management meetings (1.10.4)   | Sum  | 1        |                 |        |
| 5.A5.7   | A5   |               | X         | Integration management (1.10.5)  | Sum  | 1        |                 |        |
| 5.A5.8   | A5   |               | X         | Programming Requirements (1.9)   | Sum  | 1        |                 |        |
| 5.A5.9   | A5   |               | X         | Quality Management (1.10.2)  | Sum  | 1        |                 |        |
| 5.A5.10  | A5   |               | X         | Socio Economic Requirements (1.11)   | Sum  | 1        |                 |        |
| 5.A5.11  | A5   |               | X         | Occupational Health and Safety Requirements (1.12)   | Sum  | 1        |                 |        |
| 5.A5.12  | A5   |               | X         | Environmental Requirements (1.13)  | Sum  | 1        |                 |        |
|          | A5   |               |           | <b>Any other charges not included elsewhere. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 5.A5.13  | A5   |               | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.14  | A5   |               | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.15  | A5   |               | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.16  | A5   |               | X         | .....  | Sum  | 1        |                 |        |
|          | A5   | 1.003 & 1.004 |           | <b>FIXED CHARGES - FACILITIES FOR THE CONTRACTOR (1.8)</b>   |      |          |                 |        |
| 5.A5.17  | A5   |               | X         | Transport of Staff and Labour (1.8.1.4)  | Sum  | 1        |                 |        |
| 5.A5.18  | A5   |               | X         | Construction Establishment Fencing (1.8.3.1)   | Sum  | 1        |                 |        |
| 5.A5.19  | A5   |               | X         | Lighting of Construction Establishment Areas (1.8.3.2)   | Sum  | 1        |                 |        |
| 5.A5.20  | A5   |               | X         | Electrical power and distribution (1.8.3.4)  | Sum  | 1        |                 |        |
| 5.A5.21  | A5   |               | X         | Standby power (1.8.3.4)  | Sum  | 1        |                 |        |
| 5.A5.22  | A5   |               | X         | Communications (1.8.3.7)   | Sum  | 1        |                 |        |
|          | A5   |               |           | <b>Office, Accommodation and Other Site facilities</b>   |      |          |                 |        |
| 5.A5.23  | A5   |               | X         | Accommodation for staff and workforce (1.8.3.8b)   | Sum  | 1        |                 |        |
| 5.A5.24  | A5   |               | X         | Offices (1.8.3.8c)   | Sum  | 1        |                 |        |
| 5.A5.25  | A5   |               | X         | Other establishment facilities (1.8.3.8d)  | Sum  | 1        |                 |        |
| 5.A5.26  | A5   |               | X         | Storage (1.8.3.8e)   | Sum  | 1        |                 |        |
|          |      |               |           |  |      |          | Carried Forward |        |

| Item no. | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|          |      |                   |           |  |      |          |                 |        |
|          |      |                   |           |  |      |          | Brought Forward |        |
|          | A5   |                   |           | <b>Other services</b>  |      |          |                 |        |
| 5.A5.27  | A5   |                   | X         | Medical (1.8.3.12)   | Sum  | 1        |                 |        |
| 5.A5.28  | A5   |                   | X         | Sanitation and Cleaning (1.8.3.13)   | Sum  | 1        |                 |        |
| 5.A5.29  | A5   |                   | X         | Access control and security (1.8.3.14)   | Sum  | 1        |                 |        |
|          | A5   |                   |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 5.A5.30  | A5   |                   | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.31  | A5   |                   | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.32  | A5   |                   | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.33  | A5   |                   | X         | .....  | Sum  | 1        |                 |        |
|          | A5   | 1.004             |           | <b>FIXED CHARGES - SPECIFIC EQUIPMENT</b>  |      |          |                 |        |
| 5.A5.34  | A5   |                   | X         | Equipment for construction and maintenance of the Contractor's work areas  | Sum  | 1        |                 |        |
| 5.A5.35  | A5   |                   | X         | Minor equipment and small tools  | Sum  | 1        |                 |        |
| 5.A5.36  | A5   |                   | X         | Equipment for compliance with Environmental and OH&S requirement   | Sum  | 1        |                 |        |
| 5.A5.37  | A5   |                   | X         | Construction services including electrical power, compressed air, water, communications, etc.  | Sum  | 1        |                 |        |
| 5.A5.38  | A5   |                   | X         | Equipment for processing and transport of materials  | Sum  | 1        |                 |        |
| 5.A5.39  | A5   |                   | X         | Specialised equipment for Loop, Network, Signal and other testing<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 5.A5.40  | A5   |                   | X         | Equipment for crange, winches and lifting  | Sum  | 1        |                 |        |
|          | A5   |                   |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 5.A5.41  | A5   |                   | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.42  | A5   |                   | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.43  | A5   |                   | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.44  | A5   |                   | X         | .....  | Sum  | 1        |                 |        |
|          | A5   | 1.006             |           | <b>TIME RELATED CHARGES - GENERAL OBLIGATIONS</b>  |      |          |                 |        |
| 5.A5.45  | A5   |                   | X         | Head Office Contract Management and Overheads<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 5.A5.46  | A5   |                   | X         | General Site Supervision and Overheads<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 5.A5.47  | A5   |                   | X         | Method Statements (1.10.1)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 5.A5.48  | A5   |                   | X         | Competency training (1.10.2.4)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 5.A5.49  | A5   |                   | X         | Returns and reporting (1.10.3)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 5.A5.50  | A5   |                   | X         | Management meetings (1.10.4)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
|          |      |                   |           |  |      |          | Carried Forward |        |



| Item no. | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|          |      |                   |           |  |      |          |                 |        |
|          |      |                   |           |  |      |          | Brought Forward |        |
| 5.A5.51  | A5   |                   | X         | Integration management (1.10.5)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 5.A5.52  | A5   |                   | X         | Programming Requirements (1.9)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 5.A5.53  | A5   |                   | X         | Quality Management (1.10.2)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 5.A5.54  | A5   |                   | X         | Socio Economic Requirements (1.11)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 5.A5.55  | A5   |                   | X         | Occupational Health and Safety (1.12)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 5.A5.56  | A5   |                   | X         | Environmental Requirements (1.13)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
|          | A5   |                   |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 5.A5.57  | A5   |                   | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.58  | A5   |                   | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.59  | A5   |                   | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.60  | A5   |                   | X         | .....  | Sum  | 1        |                 |        |
|          | A5   | 1.007 & 1.008     |           | <b>TIME RELATED CHARGES - FACILITIES FOR THE CONTRACTOR (1.8)</b>  |      |          |                 |        |
| 5.A5.61  | A5   |                   | X         | Transport of Staff and Labour (1.8.1.4)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 5.A5.62  | A5   |                   | X         | Construction Establishment Fencing (1.8.3.1)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 5.A5.63  | A5   |                   | X         | Lighting of Construction Establishment Areas (1.8.3.2)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 5.A5.64  | A5   |                   | X         | Electrical power and distribution (1.8.3.4)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 5.A5.65  | A5   |                   | X         | Standby power (1.8.3.4)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 5.A5.66  | A5   |                   | X         | Communications (1.8.3.7)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
|          | A5   |                   |           | <b>Office, Accommodation and Other Site facilities</b>   |      |          |                 |        |
| 5.A5.67  | A5   |                   | X         | Accommodation for staff and workforce (1.8.3.8b)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 5.A5.68  | A5   |                   | X         | Offices (1.8.3.8c)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 5.A5.69  | A5   |                   | X         | Other establishment facilities (1.8.3.8d)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 5.A5.70  | A5   |                   | X         | Storage (1.8.3.8e)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
|          | A5   |                   |           | <b>Other services</b>  |      |          |                 |        |
| 5.A5.71  | A5   |                   | X         | Medical (1.8.3.12)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 5.A5.72  | A5   |                   | X         | Sanitation and Cleaning (1.8.3.13)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 5.A5.73  | A5   |                   | X         | Access control and security (1.8.3.14)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
|          |      |                   |           |  |      |          | Carried Forward |        |

| Item no. | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|          |      | Reference |           |  |      |          |                 |        |
|          |      |           |           |  |      |          | Brought Forward |        |
|          | A5   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 5.A5.74  | A5   |           | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.75  | A5   |           | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.76  | A5   |           | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.77  | A5   |           | X         | .....  | Sum  | 1        |                 |        |
|          | A5   | 1.008     |           | <b>TIME RELATED CHARGES - SPECIFIC EQUIPMENT</b>   |      |          |                 |        |
| 5.A5.78  | A5   |           | X         | Equipment for construction and maintenance of the Contractor's work areas<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 5.A5.79  | A5   |           | X         | Minor equipment and small tools<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 5.A5.80  | A5   |           | X         | Equipment for compliance with Environmental and OH&S requirement<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 5.A5.81  | A5   |           | X         | Construction services including electrical power, compressed air, water, communications, etc.<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 5.A5.82  | A5   |           | X         | Equipment for processing and transport of materials<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 5.A5.83  | A5   |           | X         | Specialised equipment for Loop, Network, Signal and other testing<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 5.A5.84  | A5   |           | X         | Equipment for crange, winches and lifting<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
|          | A5   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 5.A5.85  | A5   |           | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.86  | A5   |           | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.87  | A5   |           | X         | .....  | Sum  | 1        |                 |        |
| 5.A5.88  | A5   |           | X         | .....  | Sum  | 1        |                 |        |
|          | A5   |           |           | <b>A5: Preliminary and General (Carried forward to Summary of Bills)</b>   |      |          |                 |        |

| Item no.         | Part | Payment                   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------------|------|---------------------------|-----------|--|------|----------|-----------------|--------|
|                  |      | Reference                 |           |  |      |          |                 |        |
|                  | B    |                           |           | <b>PART B: ABSTRACTION WORKS</b>   |      |          |                 |        |
|                  | B2   |                           |           | <b>PART B2.2: DIVERSION WORKS AND LOW-LIFT PUMPING STATION</b>   |      |          |                 |        |
|                  | B2   |                           |           | <b>PART B2.2.5.1: VLIEEPOORT DIVERSION WEIR</b>  |      |          |                 |        |
|                  | B2   |                           |           | <b>Employer's Requirements :</b><br>(Plant designed, tested, supplied and delivered by Contractor)                         |      |          |                 |        |
|                  | B2   |                           |           | <b>PART B2.2.5.1.1: Control and communication Systems</b>  |      |          |                 |        |
|                  | B2   |                           |           | <b>PART B2.2.5.1.1.1: DESIGN</b>   |      |          |                 |        |
| 5.B2.2.5.1.1.1   | B2   | 41.001                    |           | Design and documentation<br>(as required, should it not already be included with an item below)                            | Sum  | 1        |                 |        |
|                  | B2   |                           |           | <b>PART B2.2.5.1.1.2: PROCUREMENT AND DELIVERY</b>   |      |          |                 |        |
|                  | B2   |                           |           | <b>Cabling</b>   |      |          |                 |        |
| 5.B2.2.5.1.1.2.1 | B2   | 41.002 (k)                |           | 2 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 2000     |                 |        |
| 5.B2.2.5.1.1.2.2 | B2   | 41.002 (n)                |           | 12 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 200      |                 |        |
|                  | B2   |                           |           | <b>Control Plant and PLC's</b>   |      |          |                 |        |
|                  | B2   |                           |           | <b>Remote I/O</b>  |      |          |                 |        |
| 5.B2.2.5.1.1.2.3 | B2   | 41.002 (dd)               |           | Power Supply Unit  | No.  | 1        |                 |        |
| 5.B2.2.5.1.1.2.4 | B2   | 41.002 (z)                |           | AI Units - Individually isolated channels  | No.  | 4        |                 |        |
| 5.B2.2.5.1.1.2.5 | B2   | 41.002 (bbb)              |           | Ethernet/IP Communication Module   | No.  | 1        |                 |        |
| 5.B2.2.5.1.1.2.6 | B2   | 41.002 (ww) / 41.002 (tt) |           | Remote I/O Cabinet IP65/66 rated for installed Remote I/O Plant, cabling, marshalling, racking, earthing, surge protection | No.  | 1        |                 |        |
|                  | B2   |                           |           | <b>Instrumentation</b>   |      |          |                 |        |
| 5.B2.2.5.1.1.2.7 | B2   | 41.002 (c)                |           | Level Transmitter  | No.  | 12       |                 |        |
|                  | B2   |                           |           | <b>PART B2.2.5.1.1.3: INSTALLATION</b>   |      |          |                 |        |
|                  | B2   |                           |           | <b>Cabling</b>   |      |          |                 |        |
| 5.B2.2.5.1.1.3.1 | B2   | 41.003 (k)                |           | 2 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 2000     |                 |        |
| 5.B2.2.5.1.1.3.2 | B2   | 41.003 (n)                |           | 12 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 200      |                 |        |
|                  | B2   |                           |           | <b>Control Plant and PLC's</b>   |      |          |                 |        |
|                  | B2   |                           |           | <b>Remote I/O</b>  |      |          |                 |        |
| 5.B2.2.5.1.1.3.3 | B2   | 41.003 (ii)               |           | Power Supply Unit  | No.  | 1        |                 |        |
| 5.B2.2.5.1.1.3.4 | B2   | 41.003 (ii)               |           | AI Units - Individually isolated channels  | No.  | 4        |                 |        |
| 5.B2.2.5.1.1.3.5 | B2   | 41.003 (ii)               |           | Ethernet/IP Communication Module   | No.  | 1        |                 |        |
| 5.B2.2.5.1.1.3.6 | B2   | 41.003 (ii) / 41.003 (nn) |           | Remote I/O Cabinet IP65/66 rated for installed Remote I/O Plant, cabling, marshalling, racking, earthing, surge protection | No.  | 1        |                 |        |
|                  |      |                           |           |  |      |          | Carried Forward |        |

| Item no.          | Part | Payment      | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-------------------|------|--------------|-----------|---|------|----------|-----------------|--------|
|                   |      | Reference    |           |   |      |          |                 |        |
|                   |      |              |           |   |      |          | Brought Forward |        |
| 5.B2.2.5.1.1.3.7  | B2   |              |           | <b>Instrumentation</b>  |      |          |                 |        |
|                   | B2   | 41.003 (c)   |           | Level Transmitter   | No.  | 12       |                 |        |
|                   | B2   |              |           | <b>PART B2.2.5.2: DIVERSION WORKS AND LOW-LIFT PUMPING STATION</b>  |      |          |                 |        |
|                   | B2   |              |           | <b>Employer's Requirements :<br/>(Plant designed, tested, supplied and delivered by Contractor)</b>       |      |          |                 |        |
|                   | B2   |              |           | <b>PART B2.2.5.2.1: Control and communication Systems</b>   |      |          |                 |        |
| 5.B2.2.5.2.1.1.1  | B2   | 41.001       |           | Design and documentation<br>(as required, should it not already be included with an item below)           | Sum  | 1        |                 |        |
|                   | B2   |              |           | <b>PART B2.2.5.2.1.1: DESIGN</b>  |      |          |                 |        |
|                   | B2   |              |           | <b>PART B2.2.5.2.1.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|                   | B2   |              |           | <b>Cabling</b>  |      |          |                 |        |
| 5.B2.2.5.2.1.2.1  | B2   | 41.002 (k)   |           | 2 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 6000     |                 |        |
| 5.B2.2.5.2.1.2.2  | B2   | 41.002 (l)   |           | 4 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 4000     |                 |        |
| 5.B2.2.5.2.1.2.3  | B2   | 41.002 (m)   |           | 8 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 2000     |                 |        |
| 5.B2.2.5.2.1.2.4  | B2   | 41.002 (n)   |           | 12 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 1000     |                 |        |
| 5.B2.2.5.2.1.2.5  | B2   | 41.002 (o)   |           | 16 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 600      |                 |        |
| 5.B2.2.5.2.1.2.6  | B2   | 41.002 (q)   |           | 24 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 400      |                 |        |
| 5.B2.2.5.2.1.2.7  | B2   | 41.002 (j)   |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 500      |                 |        |
| 5.B2.2.5.2.1.2.8  | B2   | 41.002 (j)   |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 500      |                 |        |
| 5.B2.2.5.2.1.2.9  | B2   | 41.002 (j)   |           | "Fibre Optic Cable Below" Warning Tape  | m    | 2500     |                 |        |
| 5.B2.2.5.2.1.2.10 | B2   | 41.002 (j)   |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | No.  | 8        |                 |        |
| 5.B2.2.5.2.1.2.11 | B2   | 44.002 (l)   |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 2000     |                 |        |
| 5.B2.2.5.2.1.2.12 | B2   | 44.002 (l)   |           | Pre-cast MM Fibre Optic Cable Manholes/Handholes  | No.  | 10       |                 |        |
| 5.B2.2.5.2.1.2.13 | B2   | 44.002 (iii) |           | IEC61850 - Industrial Ethernet Cat 5e/Cat 6, PO Insulation, Overall Copper Braid Shield, PVC Outer Jacket | m    | 500      |                 |        |
| 5.B2.2.5.2.1.2.14 | B2   | 44.002 (iii) |           | Ethernet Cat 5e/Cat 6 cable with PVC Outer Jacket   | m    | 500      |                 |        |
|                   | B2   |              |           | <b>Control Plant and PLC's</b>  |      |          |                 |        |
| 5.B2.2.5.2.1.2.15 | B2   | 41.002 (x)   |           | CPU Units   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.2.16 | B2   | 41.002 (dd)  |           | Power Supply Unit   | No.  | 8        |                 |        |
| 5.B2.2.5.2.1.2.17 | B2   | 41.002 (bb)  |           | DI Units - Channels sink/source   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.2.18 | B2   | 41.002 (cc)  |           | DO Units - Channels sink/source   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.2.19 | B2   | 41.002 (z)   |           | AI Units - Individually isolated channels   | No.  | 20       |                 |        |
|                   |      |              |           |   |      |          | Carried Forward |        |

| Item no.          | Part | Payment                   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-------------------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|                   |      | Reference                 |           |   |      |          |                 |        |
|                   |      |                           |           |   |      |          | Brought Forward |        |
| 5.B2.2.5.2.1.2.20 | B2   | 41.002 (bbb)              |           | Ethernet/IP Communication Module  | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.2.21 | B2   | 41.002 (eee)              |           | IEC61850 Communication Module   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.2.22 | B2   | 41.002 (ww) / 41.002 (tt) |           | PLC Cabinet IP65/66 rated for installed PLC Plant, cabling, marshalling, racking, earthing, surge protection, HMI Panel                         | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.2.23 | B2   | 41.002 (ff)               |           | PLC Software  | Sum  | 1        |                 |        |
| 5.B2.2.5.2.1.2.24 | B2   | 41.002 (ff)               |           | PLC Licences  | Sum  | 1        |                 |        |
|                   | B2   |                           |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.B2.2.5.2.1.2.25 | B2   | 41.002 (yy)               |           | Electromagnetic Flow Meters   | No.  | 1        |                 |        |
| 5.B2.2.5.2.1.2.26 | B2   | 41.002 (a)                |           | Temperature Transmitter   | No.  | 24       |                 |        |
| 5.B2.2.5.2.1.2.27 | B2   | 41.002 (b)                |           | Pressure Transmitter  | No.  | 9        |                 |        |
| 5.B2.2.5.2.1.2.28 | B2   | 41.002 (fff)              |           | Vibration Transmitter   | No.  | 12       |                 |        |
| 5.B2.2.5.2.1.2.29 | B2   | 41.002 (d)                |           | Flow Switch Sensor  | No.  | 3        |                 |        |
| 5.B2.2.5.2.1.2.30 | B2   | 41.002 (uu)               |           | Limit Switches  | No.  | 16       |                 |        |
|                   | B2   |                           |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.B2.2.5.2.1.2.31 | B2   | 41.002 (nn) /40.002 (b)   |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.B2.2.5.2.1.2.32 | B2   | 41.002 (xx) / 40.002 (c)  |           | Managed Ethernet Layer 3 Network Router - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.B2.2.5.2.1.2.33 | B2   | 41.002 (00)               |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 1        |                 |        |
| 5.B2.2.5.2.1.2.34 | B2   | 41.002 (pp)               |           | Fibre Optic Patch Panels - 24 Way   | No.  | 2        |                 |        |
|                   | B2   |                           |           | <b>Microwave Radio Systems</b>  |      |          |                 |        |
| 5.B2.2.5.2.1.2.35 | B2   | 40.002 (d)                |           | Upper 6 GHz ODU (Outdoor Unit)  | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.2.36 | B2   | 40.002 (d)                |           | RFU 6GHz OMT Interface Andrew   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.2.37 | B2   | 40.002 (d)                |           | OMT Kit 6GHz  | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.2.38 | B2   | 40.002 (d)                |           | (-48VDC) Power Supply   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.2.39 | B2   | 40.002 (d)                |           | Grounding Kit   | No.  | 8        |                 |        |
| 5.B2.2.5.2.1.2.40 | B2   | 40.002 (d)                |           | Capacity Key (activation key code)  | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.2.41 | B2   | 40.002 (d)                |           | GBE Connector Kit   | No.  | 2        |                 |        |
| 5.B2.2.5.2.1.2.42 | B2   | 40.002 (d)                |           | Earth/Ground cable for ODU  | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.2.43 | B2   | 40.002 (d)                |           | Outdoor DC Cabling  | No.  | 1        |                 |        |
| 5.B2.2.5.2.1.2.44 | B2   | 40.002 (d)                |           | Cat5e 100m Drum   | No.  | 2        |                 |        |
|                   |      |                           |           |   |      |          | Carried Forward |        |

| Item no.          | Part | Payment                      | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-------------------|------|------------------------------|-----------|---|------|----------|-----------------|--------|
|                   |      | Reference                    |           |   |      |          |                 |        |
|                   |      |                              |           |   |      |          | Brought Forward |        |
| 5.B2.2.5.2.1.2.45 | B2   | 40.002 (d)                   |           | Gland Kit   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.2.46 | B2   | 40.002 (g)                   |           | 3-Foot 6GHz Andrew Type Microwave Parabolic High-Gain Reflector Antennae Dish   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.2.47 | B2   | 40.002 (e)/<br>40.001/41.001 |           | 33m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 1        |                 |        |
| 5.B2.2.5.2.1.2.48 | B2   | 40.002 (e)/<br>40.001/41.001 |           | 54m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 1        |                 |        |
|                   | B2   |                              |           | <b>PART B2.2.5.2.1.3: INSTALLATION</b>  |      |          |                 |        |
|                   | B2   |                              |           | <b>Cabling</b>  |      |          |                 |        |
| 5.B2.2.5.2.1.3.1  | B2   | 41.003 (k)                   |           | 2 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 6000     |                 |        |
| 5.B2.2.5.2.1.3.2  | B2   | 41.003 (l)                   |           | 4 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 4000     |                 |        |
| 5.B2.2.5.2.1.3.3  | B2   | 41.003 (m)                   |           | 8 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 2000     |                 |        |
| 5.B2.2.5.2.1.3.4  | B2   | 41.003 (n)                   |           | 12 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 1000     |                 |        |
| 5.B2.2.5.2.1.3.5  | B2   | 41.003 (o)                   |           | 16 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 600      |                 |        |
| 5.B2.2.5.2.1.3.6  | B2   | 41.003 (q)                   |           | 24 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 400      |                 |        |
| 5.B2.2.5.2.1.3.7  | B2   | 41.003 (j)                   |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 500      |                 |        |
| 5.B2.2.5.2.1.3.8  | B2   | 41.003 (j)                   |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 500      |                 |        |
| 5.B2.2.5.2.1.3.9  | B2   | 41.003 (j)                   |           | "Fibre Optic Cable Below" Warning Tape  | m    | 2500     |                 |        |
| 5.B2.2.5.2.1.3.10 | B2   | 41.003 (j)                   |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | No.  | 8        |                 |        |
| 5.B2.2.5.2.1.3.11 | B2   | 44.003 (l)                   |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 2000     |                 |        |
| 5.B2.2.5.2.1.3.12 | B2   | 44.003 (l)                   |           | Pre-cast MM Fibre Optic Cable Manholes/Handholes  | No.  | 10       |                 |        |
| 5.B2.2.5.2.1.3.13 | B2   | 41.003 (zz)                  |           | IEC61850 - Industrial Ethernet Cat 5e/Cat 6, PO Insulation, Overall Copper Braid Shield, PVC Outer Jacket   | m    | 500      |                 |        |
| 5.B2.2.5.2.1.3.14 | B2   | 41.003 (zz)                  |           | Ethernet Cat 5e/Cat 6 cable with PVC Outer Jacket   | m    | 500      |                 |        |
|                   | B2   |                              |           | <b>Control Plant and PLC's</b>  |      |          |                 |        |
| 5.B2.2.5.2.1.3.15 | B2   | 41.003 (ii)                  |           | CPU Units   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.3.16 | B2   | 41.003 (ii)                  |           | Power Supply Unit   | No.  | 8        |                 |        |
| 5.B2.2.5.2.1.3.17 | B2   | 41.003 (ii)                  |           | DI Units - Channels sink/source   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.3.18 | B2   | 41.003 (ii)                  |           | DO Units - Channels sink/source   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.3.19 | B2   | 41.003 (ii)                  |           | AI Units - Individually isolated channels   | No.  | 20       |                 |        |
| 5.B2.2.5.2.1.3.20 | B2   | 41.003 (ii)                  |           | Ethernet/IP Communication Module  | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.3.21 | B2   | 41.003 (ii)                  |           | IEC61850 Communication Module   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.3.22 | B2   | 41.003 (ii) / 41.003 (nn)    |           | PLC Cabinet IP65/66 rated for installed PLC Plant, cabling, marshalling, racking, earthing, surge protection, HMI Panel                                   | No.  | 4        |                 |        |
|                   |      |                              |           |   |      |          | Carried Forward |        |

| Item no.          | Part | Payment           | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-------------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|                   |      | Reference         |           |   |      |          |                 |        |
|                   |      |                   |           |   |      |          | Brought Forward |        |
| 5.B2.2.5.2.1.3.23 | B2   | 41.003 (ii)       |           | PLC Software  | Sum  | 1        |                 |        |
| 5.B2.2.5.2.1.3.24 | B2   | 41.003 (ii)       |           | PLC Licences  | Sum  | 1        |                 |        |
|                   | B2   |                   |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.B2.2.5.2.1.3.25 | B2   | 41.003 (pp)       |           | Electromagnetic Flow Meters   | No.  | 1        |                 |        |
| 5.B2.2.5.2.1.3.26 | B2   | 41.003 (a)        |           | Temperature Transmitter   | No.  | 24       |                 |        |
| 5.B2.2.5.2.1.3.27 | B2   | 41.003 (b)        |           | Pressure Transmitter  | No.  | 9        |                 |        |
| 5.B2.2.5.2.1.3.28 | B2   | 41.003 (ww)       |           | Vibration Transmitter   | No.  | 12       |                 |        |
| 5.B2.2.5.2.1.3.29 | B2   | 41.003(d)         |           | Flow Switch Sensor  | No.  | 3        |                 |        |
| 5.B2.2.5.2.1.3.30 | B2   | 41.003 (ll)       |           | Limit Switches  | No.  | 16       |                 |        |
|                   | B2   |                   |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.B2.2.5.2.1.3.31 | B2   | 41.003 (bbb)      |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports           | No.  | 1        |                 |        |
| 5.B2.2.5.2.1.3.32 | B2   | 41.003 (00)       |           | Managed Ethernet Layer 3 Network Router - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports           | No.  | 1        |                 |        |
| 5.B2.2.5.2.1.3.33 | B2   | 41.003 (occ)      |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans                  | No.  | 1        |                 |        |
| 5.B2.2.5.2.1.3.34 | B2   | 41.003 (ddd)      |           | Fibre Optic Patch Panels - 24 Way   | No.  | 2        |                 |        |
|                   | B2   |                   |           | <b>Microwave Radio Systems</b>  |      |          |                 |        |
| 5.B2.2.5.2.1.3.35 | B2   | 40.003 (d)        |           | Upper 6 GHz ODU (Outdoor Unit)  | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.3.36 | B2   | 40.003 (d)        |           | RFU 6GHz OMT Interface Andrew   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.3.37 | B2   | 40.003 (d)        |           | OMT Kit 6GHz  | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.3.38 | B2   | 40.003 (d)        |           | (-48VDC) Power Supply   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.3.39 | B2   | 40.003 (d)        |           | Grounding Kit   | No.  | 8        |                 |        |
| 5.B2.2.5.2.1.3.40 | B2   | 40.003 (d)        |           | Capacity Key (activation key code)  | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.3.41 | B2   | 40.003 (d)        |           | GBE Connector Kit   | No.  | 2        |                 |        |
| 5.B2.2.5.2.1.3.42 | B2   | 40.003 (d)        |           | Earth/Ground cable for ODU  | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.3.43 | B2   | 40.003 (d)        |           | Outdoor DC Cabling  | No.  | 1        |                 |        |
| 5.B2.2.5.2.1.3.44 | B2   | 40.003 (d)        |           | Cat5e 100m Drum   | No.  | 2        |                 |        |
| 5.B2.2.5.2.1.3.45 | B2   | 40.003 (d)        |           | Gland Kit   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.3.46 | B2   | 40.003 (g)        |           | 3-Foot 6GHz Andrew Type Microwave Parabolic High-Gain Reflector Antennae Dish   | No.  | 4        |                 |        |
| 5.B2.2.5.2.1.3.47 | B2   | 40.003/40.003 (e) |           | 33m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 1        |                 |        |
| 5.B2.2.5.2.1.3.48 | B2   | 40.003/40.003 (e) |           | 54m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 1        |                 |        |
|                   |      |                   |           |   |      |          | Carried Forward |        |

| Item no.          | Part | Payment                 | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-------------------|------|-------------------------|-----------|---|------|----------|-----------------|--------|
|                   |      | Reference               |           |   |      |          |                 |        |
|                   |      |                         |           |   |      |          | Brought Forward |        |
|                   | B2   |                         |           | <b>PART B2.2.5.2.2: SECURITY</b>  |      |          |                 |        |
|                   | B2   |                         |           | <b>Employer's Requirements :</b><br><b>(Plant designed, tested, supplied and delivered by Contractor)</b>                                       |      |          |                 |        |
|                   | B2   |                         |           | <b>PART B2.2.5.2.2.1: DESIGN</b>  |      |          |                 |        |
| 5.B2.2.5.2.2.1.1  | B2   | 41.001                  |           | Design and documentation<br>(as required, should it not already be included with an item below)   | Sum  | 1        |                 |        |
|                   | B2   |                         |           | <b>PART B2.2.5.2.2.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|                   | B2   |                         |           | <b>CCTV Plant</b>   |      |          |                 |        |
| 5.B2.2.5.2.2.2.1  | B2   | 44.002 (a)              |           | Digital Camera Outdoor - All Round Dual Type  | No.  | 2        |                 |        |
| 5.B2.2.5.2.2.2.2  | B2   | 44.002 (b)              |           | Digital Camera Outdoor - Dual Dome Type   | No.  | 2        |                 |        |
| 5.B2.2.5.2.2.2.3  | B2   | 44.002 (d)              |           | Digital Camera Outdoor - Vandal Proof Type  | No.  | 2        |                 |        |
| 5.B2.2.5.2.2.2.4  | B2   | 44.002 (f)              |           | Digital Camera Outdoor - Hemispheric Lens Type  | No.  | 2        |                 |        |
| 5.B2.2.5.2.2.2.5  | B2   | 44.002 (w)              |           | Digital Camera Indoor - Dome Type   | No.  | 2        |                 |        |
| 5.B2.2.5.2.2.2.6  | B2   | 44.002 (x)              |           | Digital Camera Indoor - 360° Type   | No.  | 2        |                 |        |
| 5.B2.2.5.2.2.2.7  | B2   | 44.002 (y)              |           | Digital Camera Indoor - 180° Type   | No.  | 2        |                 |        |
| 5.B2.2.5.2.2.2.8  | B2   | 44.002 (z)              |           | Digital Camera Indoor - Indoor Dome Type  | No.  | 2        |                 |        |
| 5.B2.2.5.2.2.2.9  | B2   | 44.002 (g)              |           | Video Management Software   | No.  | 1        |                 |        |
| 5.B2.2.5.2.2.2.10 | B2   | 44.002 (h)              |           | 8/16/32 Channels Type   | No.  | 1        |                 |        |
| 5.B2.2.5.2.2.2.11 | B2   | 44.002 (k)              |           | CCTV Data Server (Front End)  | No.  | 1        |                 |        |
| 5.B2.2.5.2.2.2.12 | B2   | 44.002 (t)              |           | CCTV Client Station   | No.  | 1        |                 |        |
| 5.B2.2.5.2.2.2.13 | B2   | 44.002 (v)              |           | CCTV Mimic Screens  | No.  | 4        |                 |        |
| 5.B2.2.5.2.2.2.14 | B2   | 44.002 (i)              |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.B2.2.5.2.2.2.15 | B2   | 44.002 (j)              |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 1        |                 |        |
| 5.B2.2.5.2.2.2.16 | B2   | 44.002 (cc)             |           | Fibre Optic Patch Panels - 12/24 Way  | No.  | 2        |                 |        |
|                   | B2   |                         |           | <b>Access Control Plant</b>   |      |          |                 |        |
| 5.B2.2.5.2.2.2.17 | B2   | 44.002 (m) / 44.002 (n) |           | Biometric Reader  | No.  | 2        |                 |        |
| 5.B2.2.5.2.2.2.18 | B2   | 44.002 (p)              |           | Biometric Access Controller   | No.  | 1        |                 |        |
| 5.B2.2.5.2.2.2.19 | B2   | 44.002 (q)              |           | Biometric Access Controller Viewer  | No.  | 1        |                 |        |
|                   | B2   |                         |           | <b>PART B2.2.5.2.2.3: INSTALLATION</b>  |      |          |                 |        |
|                   | B2   |                         |           | <b>CCTV Plant</b>   |      |          |                 |        |
| 5.B2.2.5.2.2.3.1  | B2   | 44.003 (b)              |           | Digital Camera Outdoor - Dual Dome Type   | No.  | 2        |                 |        |
| 5.B2.2.5.2.2.3.2  | B2   | 44.003 (d)              |           | Digital Camera Outdoor - Vandal Proof Type  | No.  | 2        |                 |        |
| 5.B2.2.5.2.2.3.3  | B2   | 44.003 (e)              |           | Digital Camera Outdoor - Dome Type  | No.  | 2        |                 |        |
|                   |      |                         |           |   |      |          | Carried Forward |        |



| Item no.          | Part | Payment                   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-------------------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|                   |      | Reference                 |           |   |      |          |                 |        |
|                   |      |                           |           |   |      |          | Brought Forward |        |
| 5.B2.2.5.2.2.3.4  | B2   | 44.003 (f)                |           | Digital Camera Outdoor - Hemispheric Lens Type  | No.  | 2        |                 |        |
| 5.B2.2.5.2.2.3.5  | B2   | 44.003 (y)                |           | Digital Camera Indoor - Dome Type   | No.  | 2        |                 |        |
| 5.B2.2.5.2.2.3.6  | B2   | 44.003 (z)                |           | Digital Camera Indoor - 360° Type   | No.  | 2        |                 |        |
| 5.B2.2.5.2.2.3.7  | B2   | 44.003 (aa)               |           | Digital Camera Indoor - Thermal Radiometry Type   | No.  | 1        |                 |        |
| 5.B2.2.5.2.2.3.8  | B2   | 44.003 (bb)               |           | Digital Camera Outdoor - Thermal Radiometry Type  | No.  | 1        |                 |        |
| 5.B2.2.5.2.2.3.9  | B2   | 44.003 (h)                |           | Network Attached Storage Device - Rack Mount 8/16/32 Channels Type  | No.  | 1        |                 |        |
| 5.B2.2.5.2.2.3.10 | B2   | 44.003 (k)                |           | CCTV Data Server (Backend)  | No.  | 1        |                 |        |
| 5.B2.2.5.2.2.3.11 | B2   | 44.003 (v)                |           | CCTV Client Station   | No.  | 4        |                 |        |
| 5.B2.2.5.2.2.3.12 | B2   | 44.003 (w)                |           | CCTV Firewall Server (Hardware)   | No.  | 1        |                 |        |
| 5.B2.2.5.2.2.3.13 | B2   | 44.003 (x)                |           | CCTV Viewing Screens  | No.  | 1        |                 |        |
| 5.B2.2.5.2.2.3.14 | B2   | 44.003 (i)                |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.B2.2.5.2.2.3.15 | B2   | 44.003 (u)                |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 1        |                 |        |
| 5.B2.2.5.2.2.3.16 | B2   | 44.003 (ee)               |           | Fibre Optic Patch Panels - 12/24 Way  | No.  | 2        |                 |        |
|                   | B2   |                           |           | <b>Access Control Plant</b>   |      |          |                 |        |
| 5.B2.2.5.2.2.3.17 | B2   | 44.003 (m)/<br>44.003 (n) |           | Biometric Reader  | No.  | 1        |                 |        |
|                   | B2   |                           |           | <b>PART B2: DIVERSION WORKS AND LOW-LIFT PUMPING STATION TOTAL</b><br><i>(Carried forward to Summary of Bills)</i>                              |      |          |                 |        |

| Item no. | Part | Payment    | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|----------|------|------------|-----------|---|------|----------|------|--------|
|          |      | Reference  |           |   |      |          |      |        |
|          | C    |            |           | <b>PART C: LOW LIFT RISING MAIN</b>   |      |          |      |        |
|          | C    |            |           | Employer's Requirements :<br>(Plant designed, tested, supplied and delivered by Contractor)     |      |          |      |        |
|          | C    |            |           | <b>PART C9: Control and communication Systems</b>   |      |          |      |        |
|          | C    |            |           | <b>PART C9.1: DESIGN</b>  |      |          |      |        |
| 5.C9.1.1 | C    | 41.001     |           | Design and documentation<br>(as required, should it not already be included with an item below) | Sum  | 1        |      |        |
|          | C    |            |           | <b>PART C9.2: PROCUREMENT AND DELIVERY</b>  |      |          |      |        |
|          | C    |            |           | <b>Cabling</b>  |      |          |      |        |
| 5.C9.2.1 | C    | 41.002 (j) |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 6500     |      |        |
| 5.C9.2.2 | C    | 41.002 (j) |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 6500     |      |        |
| 5.C9.2.3 | C    | 41.002 (j) |           | "Fibre Optic Cable Below" Warning Tape  | m    | 6700     |      |        |
| 5.C9.2.4 | C    | 41.002 (j) |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | No.  | 20       |      |        |
| 5.C9.2.5 | C    | 44.002 (l) |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 200      |      |        |
| 5.C9.2.6 | C    | 44.002 (l) |           | Pre-cast MM Fibre Optic Cable Manholes/Handholes  | No.  | 5        |      |        |
|          | C    |            |           | <b>PART C9.3: INSTALLATION</b>  |      |          |      |        |
|          | C    |            |           | <b>Cabling</b>  |      |          |      |        |
| 5.C9.3.1 | C    | 41.003 (j) |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 6500     |      |        |
| 5.C9.3.2 | C    | 41.003 (j) |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 6500     |      |        |
| 5.C9.3.3 | C    | 41.003 (j) |           | "Fibre Optic Cable Below" Warning Tape  | m    | 6700     |      |        |
| 5.C9.3.4 | C    | 41.003 (j) |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | No.  | 20       |      |        |
| 5.C9.3.5 | C    | 44.003 (l) |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 200      |      |        |
| 5.C9.3.6 | C    | 44.003 (l) |           | Pre-cast MM Fibre Optic Cable Manholes/Handholes  | No.  | 5        |      |        |
|          | C    |            |           | <b>PART C: LOW LIFT RISING MAIN (Carried forward to Summary of Bills)</b>                       |      |          |      |        |

| Item no.      | Part | Payment                   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|---------------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|               |      | Reference                 |           |   |      |          |                 |        |
|               | D    |                           |           | <b>BALANCING RESERVOIR &amp; SEDIMENTATION WORKS</b>  |      |          |                 |        |
|               | D1   |                           |           | <b>PART D1.9: SEDIMENTATION WORKS TOTAL</b>   |      |          |                 |        |
|               | D1   |                           |           | <b>Employer's Requirements :</b><br><b>(Plant designed, tested, supplied and delivered by Contractor)</b>                                       |      |          |                 |        |
|               | D1   |                           |           | <b>PART D1.9.1: Control and communication Systems</b>   |      |          |                 |        |
|               | D1   |                           |           | <b>PART D1.9.1.1: DESIGN</b>  |      |          |                 |        |
| 5.D1.9.1.1.1  | D1   | 41.001                    |           | Design and documentation<br>(as required, should it not already be included with an item below)   | Sum  | 1        |                 |        |
|               | D1   |                           |           | <b>PART D1.9.1.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|               | D1   |                           |           | <b>Cabling</b>  |      |          |                 |        |
| 5.D1.9.1.2.1  | D1   | 41.002 (k)                |           | 2 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 6000     |                 |        |
| 5.D1.9.1.2.2  | D1   | 41.002 (q)                |           | 24 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 1000     |                 |        |
| 5.D1.9.1.2.3  | D1   | 41.002 (j)                |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 500      |                 |        |
| 5.D1.9.1.2.4  | D1   | 41.002 (j)                |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 500      |                 |        |
| 5.D1.9.1.2.5  | D1   | 41.002 (j)                |           | "Fibre Optic Cable Below" Warning Tape  | m    | 2500     |                 |        |
| 5.D1.9.1.2.6  | D1   | 41.002 (j)                |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | No.  | 5        |                 |        |
| 5.D1.9.1.2.7  | D1   | 44.002 (l)                |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 2000     |                 |        |
| 5.D1.9.1.2.8  | D1   | 44.002 (l)                |           | Pre-cast MM Fibre Optic Cable Manholes/Handholes  | No.  | 10       |                 |        |
|               | D1   |                           |           | <b>Control Plant and PLC's</b>  |      |          |                 |        |
|               | D1   |                           |           | <b>Remote I/O</b>   |      |          |                 |        |
| 5.D1.9.1.2.9  | D1   | 41.002 (dd)               |           | Power Supply Unit   | No.  | 1        |                 |        |
| 5.D1.9.1.2.10 | D1   | 41.002 (bb)               |           | DI Units - Channels sink/source   | No.  | 2        |                 |        |
| 5.D1.9.1.2.11 | D1   | 41.002 (bbb)              |           | Ethernet/IP Communication Module  | No.  | 1        |                 |        |
| 5.D1.9.1.2.12 | D1   | 41.002 (ww) / 41.002 (tt) |           | Remote I/O Cabinet IP65/66 rated for installed Remote I/O Plant, cabling, marshalling, racking, earthing, surge protection                      | No.  | 1        |                 |        |
|               | D1   |                           |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.D1.9.1.2.13 | D1   | 41.002 (uu)               |           | Limit Switches  | No.  | 40       |                 |        |
|               | D1   |                           |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.D1.9.1.2.14 | D1   | 41.002 (nn) /40.002 (b)   |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.D1.9.1.2.15 | D1   | 41.002 (00)               |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 1        |                 |        |
|               |      |                           |           |   |      |          | Carried Forward |        |

| Item no.      | Part | Payment                   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|---------------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|               |      | Reference                 |           |   |      |          |                 |        |
|               |      |                           |           |   |      |          | Brought Forward |        |
| 5.D1.9.1.2.16 | D1   | 41.002 (pp)               |           | Fibre Optic Patch Panels - 24 Way   | No.  | 2        |                 |        |
|               | D1   |                           |           | <b>PART D1.9.1.3: INSTALLATION</b>  |      |          |                 |        |
|               | D1   |                           |           | <b>Cabling</b>  |      |          |                 |        |
| 5.D1.9.1.3.1  | D1   | 41.003 (k)                |           | 2 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 6000     |                 |        |
| 5.D1.9.1.3.2  | D1   | 41.003 (q)                |           | 24 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 1000     |                 |        |
| 5.D1.9.1.3.3  | D1   | 41.003 (j)                |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 500      |                 |        |
| 5.D1.9.1.3.4  | D1   | 41.003 (j)                |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 500      |                 |        |
| 5.D1.9.1.3.5  | D1   | 41.003 (j)                |           | "Fibre Optic Cable Below" Warning Tape  | m    | 2500     |                 |        |
| 5.D1.9.1.3.6  | D1   | 41.003 (j)                |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | No.  | 5        |                 |        |
| 5.D1.9.1.3.7  | D1   | 44.003 (l)                |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 2000     |                 |        |
| 5.D1.9.1.3.8  | D1   | 44.003 (l)                |           | Pre-cast MM Fibre Optic Cable Manholes/Handholes  | No.  | 10       |                 |        |
|               | D1   |                           |           | <b>Control Plant and PLC's</b>  |      |          |                 |        |
|               | D1   |                           |           | <b>Remote I/O</b>   |      |          |                 |        |
| 5.D1.9.1.3.9  | D1   | 41.003 (ii)               |           | Power Supply Unit   | No.  | 1        |                 |        |
| 5.D1.9.1.3.10 | D1   | 41.003 (ii)               |           | DI Units - Channels sink/source   | No.  | 2        |                 |        |
| 5.D1.9.1.3.11 | D1   | 41.003 (ii)               |           | Ethernet/IP Communication Module  | No.  | 1        |                 |        |
| 5.D1.9.1.3.12 | D1   | 41.003 (ii) / 41.003 (nn) |           | Remote I/O Cabinet IP65/66 rated for installed Remote I/O Plant, cabling, marshalling, racking, earthing, surge protection                      | No.  | 1        |                 |        |
|               | D1   |                           |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.D1.9.1.3.13 | D1   | 41.003 (ll)               |           | Limit Switches  | No.  | 40       |                 |        |
|               | D1   |                           |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.D1.9.1.3.14 | D1   | 41.003 (bbb)              |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.D1.9.1.3.15 | D1   | 41.003 (ccc)              |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 1        |                 |        |
| 5.D1.9.1.3.16 | D1   | 41.003 (ddd)              |           | Fibre Optic Patch Panels - 24 Way   | No.  | 2        |                 |        |
|               | D1   |                           |           | <b>PART D1: SEDIMENTATION WORKS TOTAL (Carried forward to Summary of Bills)</b>   |      |          |                 |        |

| Item no.       | Part | Payment                   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|                |      | Reference                 |           |   |      |          |                 |        |
|                | D2   |                           |           | <b>PART D2.11: BALANCING RESERVOIR</b>  |      |          |                 |        |
|                | D2   |                           |           | <b>Employer's Requirements :</b><br><b>(Plant designed, tested, supplied and delivered by Contractor)</b>                                       |      |          |                 |        |
|                | D2   |                           |           | <b>PART D2.11.1: Control and communication Systems</b>  |      |          |                 |        |
|                | D2   |                           |           | <b>PART D2.11.1.1: DESIGN</b>   |      |          |                 |        |
| 5.D2.11.1.1.1  | D2   | 41.001                    |           | Design and documentation (as required, should it not already be included with an item below)  | Sum  | 1        |                 |        |
|                | D2   |                           |           | <b>PART D2.11.1.2: PROCUREMENT AND DELIVERY</b>   |      |          |                 |        |
|                | D2   |                           |           | <b>Cabling</b>  |      |          |                 |        |
| 5.D2.11.1.2.1  | D2   | 41.002 (k)                |           | 2 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 6000     |                 |        |
| 5.D2.11.1.2.2  | D2   | 41.002 (q)                |           | 24 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 1000     |                 |        |
| 5.D2.11.1.2.3  | D2   | 41.002 (j)                |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 500      |                 |        |
| 5.D2.11.1.2.4  | D2   | 41.002 (j)                |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 500      |                 |        |
| 5.D2.11.1.2.5  | D2   | 41.002 (j)                |           | "Fibre Optic Cable Below" Warning Tape  | m    | 2500     |                 |        |
| 5.D2.11.1.2.6  | D2   | 41.002 (j)                |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | No.  | 5        |                 |        |
| 5.D2.11.1.2.7  | D2   | 44.002 (l)                |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 2000     |                 |        |
| 5.D2.11.1.2.8  | D2   | 44.002 (l)                |           | Pre-cast MM Fibre Optic Cable Manholes/Handholes  | No.  | 10       |                 |        |
|                | D2   |                           |           | <b>Control Plant and PLC's</b>  |      |          |                 |        |
|                | D2   |                           |           | <b>Remote I/O</b>   |      |          |                 |        |
| 5.D2.11.1.2.9  | D2   | 41.002 (dd)               |           | Power Supply Unit   | No.  | 1        |                 |        |
| 5.D2.11.1.2.10 | D2   | 41.002 (bb)               |           | DI Units - Channels sink/source   | No.  | 1        |                 |        |
| 5.D2.11.1.2.11 | D2   | 41.002 (z)                |           | AI Units - Individually isolated channels   | No.  | 4        |                 |        |
| 5.D2.11.1.2.12 | D2   | 41.002 (bbb)              |           | Ethernet/IP Communication Module  | No.  | 1        |                 |        |
| 5.D2.11.1.2.13 | D2   | 41.002 (ww) / 41.002 (tt) |           | Remote I/O Cabinet IP65/66 rated for installed Remote I/O Plant, cabling, marshalling, racking, earthing, surge protection                      | No.  | 1        |                 |        |
|                | D2   |                           |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.D2.11.1.2.14 | D2   | 41.002 (c )               |           | Level Transmitter   | No.  | 6        |                 |        |
| 5.D2.11.1.2.15 | D2   | 41.002 (uu)               |           | Limit Switches  | No.  | 12       |                 |        |
|                | D2   |                           |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.D2.11.1.2.16 | D2   | 41.002 (nn) /40.002 (b)   |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
|                |      |                           |           |   |      |          | Carried Forward |        |

| Item no.       | Part | Payment Reference         | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|                |      |                           |           |   |      |          |                 |        |
|                |      |                           |           |   |      |          | Brought Forward |        |
| 5.D2.11.1.2.17 | D2   | 41.002 (00)               |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 1        |                 |        |
| 5.D2.11.1.2.18 | D2   | 41.002 (pp)               |           | Fibre Optic Patch Panels - 24 Way   | No.  | 2        |                 |        |
|                | D2   |                           |           | <b>PART D2.11.1.3: INSTALLATION</b>   |      |          |                 |        |
|                | D2   |                           |           | <b>Cabling</b>  |      |          |                 |        |
| 5.D2.11.1.3.1  | D2   | 41.003 (k)                |           | 2 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 6000     |                 |        |
| 5.D2.11.1.3.2  | D2   | 41.003 (q)                |           | 24 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 1000     |                 |        |
| 5.D2.11.1.3.3  | D2   | 41.003 (j)                |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 500      |                 |        |
| 5.D2.11.1.3.4  | D2   | 41.003 (j)                |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 500      |                 |        |
| 5.D2.11.1.3.5  | D2   | 41.003 (j)                |           | "Fibre Optic Cable Below" Warning Tape  | m    | 2500     |                 |        |
| 5.D2.11.1.3.6  | D2   | 41.003 (j)                |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | No.  | 5        |                 |        |
| 5.D2.11.1.3.7  | D2   | 44.003 (l)                |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 2000     |                 |        |
| 5.D2.11.1.3.8  | D2   | 44.003 (l)                |           | Pre-cast MM Fibre Optic Cable Manholes/Handholes  | No.  | 10       |                 |        |
|                | D2   |                           |           | <b>Control Plant and PLC's</b>  |      |          |                 |        |
|                | D2   |                           |           | <b>Remote I/O</b>   |      |          |                 |        |
| 5.D2.11.1.3.9  | D2   | 41.003 (ii)               |           | Power Supply Unit   | No.  | 1        |                 |        |
| 5.D2.11.1.3.10 | D2   | 41.003 (ii)               |           | DI Units - Channels sink/source   | No.  | 1        |                 |        |
| 5.D2.11.1.3.11 | D2   | 41.003 (ii)               |           | AI Units - Individually isolated channels   | No.  | 4        |                 |        |
| 5.D2.11.1.3.12 | D2   | 41.003 (ii)               |           | Ethernet/IP Communication Module  | No.  | 1        |                 |        |
| 5.D2.11.1.3.13 | D2   | 41.003 (ii) / 41.003 (nn) |           | Remote I/O Cabinet IP65/66 rated for installed Remote I/O Plant, cabling, marshalling, racking, earthing, surge protection                      | No.  | 1        |                 |        |
|                | D2   |                           |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.D2.11.1.3.14 | D2   | 41.003 (c)                |           | Level Transmitter   | No.  | 6        |                 |        |
| 5.D2.11.1.3.15 | D2   | 41.003 (ll)               |           | Limit Switches  | No.  | 12       |                 |        |
|                | D2   |                           |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.D2.11.1.3.16 | D2   | 41.003 (bbb)              |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.D2.11.1.3.17 | D2   | 41.003 (ccc)              |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 1        |                 |        |
| 5.D2.11.1.3.18 | D2   | 41.003 (ddd)              |           | Fibre Optic Patch Panels - 24 Way   | No.  | 2        |                 |        |
|                | D2   |                           |           | <b>PART D2: BALANCING RESERVOIR (Carried forward to Summary of Bills)</b>   |      |          |                 |        |

| Item no.        | Part | Payment      | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|--------------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference    |           |   |      |          |                 |        |
|                 | E2   |              |           | <b>PART E: HIGH-LIFT PUMPING STATION</b>  |      |          |                 |        |
|                 | E2   |              |           | <b>Employer's Requirements :</b><br><b>(Plant designed, tested, supplied and delivered by Contractor)</b> |      |          |                 |        |
|                 | E2   |              |           | <b>PART E2.5.1: HIGH LIFT PUMPING STATION</b>   |      |          |                 |        |
|                 | E2   |              |           | <b>PART E2.5.1.1: Control and Communication Systems</b>   |      |          |                 |        |
|                 | E2   |              |           | <b>PART E2.5.1.1.1: DESIGN</b>  |      |          |                 |        |
| 5.E2.5.1.1.1.1  | E2   | 41.001       |           | Design and documentation<br>(as required, should it not already be included with an item below)           | Sum  | 1        |                 |        |
|                 | E2   |              |           | <b>PART E2.5.1.1.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|                 | E2   |              |           | <b>Cabling</b>  |      |          |                 |        |
| 5.E2.5.1.1.2.1  | E2   | 41.002 (k)   |           | 2 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 7000     |                 |        |
| 5.E2.5.1.1.2.2  | E2   | 41.002 (l)   |           | 4 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 5000     |                 |        |
| 5.E2.5.1.1.2.3  | E2   | 41.002 (m)   |           | 8 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 3000     |                 |        |
| 5.E2.5.1.1.2.4  | E2   | 41.002 (n)   |           | 12 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 1500     |                 |        |
| 5.E2.5.1.1.2.5  | E2   | 41.002 (o)   |           | 16 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 700      |                 |        |
| 5.E2.5.1.1.2.6  | E2   | 41.002 (q)   |           | 24 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 500      |                 |        |
| 5.E2.5.1.1.2.7  | E2   | 41.002 (j)   |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 0        |                 |        |
| 5.E2.5.1.1.2.8  | E2   | 41.002 (j)   |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 500      |                 |        |
| 5.E2.5.1.1.2.9  | E2   | 41.002 (j)   |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 500      |                 |        |
| 5.E2.5.1.1.2.10 | E2   | 41.002 (j)   |           | "Fibre Optic Cable Below" Warning Tape  | m    | 2500     |                 |        |
| 5.E2.5.1.1.2.11 | E2   | 41.002 (j)   |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | No.  | 5        |                 |        |
| 5.E2.5.1.1.2.12 | E2   | 44.002 (l)   |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 2000     |                 |        |
| 5.E2.5.1.1.2.13 | E2   | 44.002 (l)   |           | Pre-cast MM Fibre Optic Cable Manholes/Handholes  | No.  | 10       |                 |        |
| 5.E2.5.1.1.2.14 | E2   | 44.002 (iii) |           | IEC61850 - Industrial Ethernet Cat 5e/Cat 6, PO Insulation, Overall Copper Braid Shield, PVC Outer Jacket | m    | 1000     |                 |        |
| 5.E2.5.1.1.2.15 | E2   | 44.002 (iii) |           | Ethernet Cat 5e/Cat 6 cable with PVC Outer Jacket   | m    | 600      |                 |        |
|                 | E2   |              |           | <b>Control Plant and PLC's</b>  |      |          |                 |        |
| 5.E2.5.1.1.2.16 | E2   | 41.002 (x)   |           | CPU Units   | No.  | 5        |                 |        |
| 5.E2.5.1.1.2.17 | E2   | 41.002 (dd)  |           | Power Supply Unit   | No.  | 10       |                 |        |
| 5.E2.5.1.1.2.18 | E2   | 41.002 (bb)  |           | DI Units - Channels sink/source   | No.  | 5        |                 |        |
| 5.E2.5.1.1.2.19 | E2   | 41.002 (cc)  |           | DO Units - Channels sink/source   | No.  | 5        |                 |        |
| 5.E2.5.1.1.2.20 | E2   | 41.002 (z)   |           | AI Units - Individually isolated channels   | No.  | 25       |                 |        |
|                 |      |              |           |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment                   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference                 |           |   |      |          |                 |        |
|                 |      |                           |           |   |      |          | Brought Forward |        |
| 5.E2.5.1.1.2.21 | E2   | 41.002 (bbb)              |           | Ethernet/IP Communication Module  | No.  | 5        |                 |        |
| 5.E2.5.1.1.2.22 | E2   | 41.002 (eee)              |           | IEC61850 Communication Module   | No.  | 5        |                 |        |
| 5.E2.5.1.1.2.23 | E2   | 41.002 (ww) / 41.002 (tt) |           | PLC Cabinet IP65/66 rated for installed PLC Plant, cabling, marshalling, racking, earthing, surge protection, HMI Panel                         | No.  | 5        |                 |        |
| 5.E2.5.1.1.2.24 | E2   | 41.002 (ff)               |           | PLC Software  | Sum  | 1        |                 |        |
| 5.E2.5.1.1.2.25 | E2   | 41.002 (ff)               |           | PLC Licences  | Sum  | 1        |                 |        |
|                 | E2   |                           |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.E2.5.1.1.2.26 | E2   | 41.002 (yy)               |           | Electromagnetic Flow Meters   | No.  | 1        |                 |        |
| 5.E2.5.1.1.2.27 | E2   | 41.002 (a)                |           | Temperature Transmitter   | No.  | 30       |                 |        |
| 5.E2.5.1.1.2.28 | E2   | 41.002 (b)                |           | Pressure Transmitter  | No.  | 10       |                 |        |
| 5.E2.5.1.1.2.29 | E2   | 41.002 (fff)              |           | Vibration Transmitter   | No.  | 16       |                 |        |
| 5.E2.5.1.1.2.30 | E2   | 41.002 (d)                |           | Flow Switch Sensor  | No.  | 4        |                 |        |
| 5.E2.5.1.1.2.31 | E2   | 41.002 (uu)               |           | Limit Switches  | No.  | 18       |                 |        |
|                 | E2   |                           |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.E2.5.1.1.2.32 | E2   | 41.002 (nn) /40.002 (b)   |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.E2.5.1.1.2.33 | E2   | 41.002 (xx) / 40.002 (c)  |           | Managed Ethernet Layer 3 Network Router - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.E2.5.1.1.2.34 | E2   | 41.002 (00)               |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 1        |                 |        |
| 5.E2.5.1.1.2.35 | E2   | 41.002 (pp)               |           | Fibre Optic Patch Panels - 24 Way   | No.  | 2        |                 |        |
|                 | E2   |                           |           | <b>Microwave Radio Systems</b>  |      |          |                 |        |
| 5.E2.5.1.1.2.36 | E2   | 40.002 (d)                |           | Upper 6 GHz ODU (Outdoor Unit)  | No.  | 6        |                 |        |
| 5.E2.5.1.1.2.37 | E2   | 40.002 (d)                |           | RFU 6GHz OMT Interface Andrew   | No.  | 6        |                 |        |
| 5.E2.5.1.1.2.38 | E2   | 40.002 (d)                |           | OMT Kit 6GHz  | No.  | 6        |                 |        |
| 5.E2.5.1.1.2.39 | E2   | 40.002 (d)                |           | (-48VDC) Power Supply   | No.  | 6        |                 |        |
| 5.E2.5.1.1.2.40 | E2   | 40.002 (d)                |           | Grounding Kit   | No.  | 12       |                 |        |
| 5.E2.5.1.1.2.41 | E2   | 40.002 (d)                |           | Capacity Key (activation key code)  | No.  | 6        |                 |        |
| 5.E2.5.1.1.2.42 | E2   | 40.002 (d)                |           | GBE Connector Kit   | No.  | 3        |                 |        |
|                 |      |                           |           |   |      |          | Carried Forward |        |



| Item no.        | Part | Payment                      | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|------------------------------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference                    |           |   |      |          |                 |        |
|                 |      |                              |           |   |      |          | Brought Forward |        |
| 5.E2.5.1.1.2.43 | E2   | 40.002 (d)                   |           | Earth/Ground cable for ODU  | No.  | 6        |                 |        |
| 5.E2.5.1.1.2.44 | E2   | 40.002 (d)                   |           | Outdoor DC Cabling  | No.  | 1        |                 |        |
| 5.E2.5.1.1.2.45 | E2   | 40.002 (d)                   |           | Cat5e 100m Drum   | No.  | 3        |                 |        |
| 5.E2.5.1.1.2.46 | E2   | 40.002 (d)                   |           | Gland Kit   | No.  | 6        |                 |        |
| 5.E2.5.1.1.2.47 | E2   | 40.002 (g)                   |           | 3-Foot 6GHz Andrew Type Microwave Parabolic High-Gain Reflector Antennae Dish   | No.  | 6        |                 |        |
| 5.E2.5.1.1.2.48 | E2   | 40.002 (e)/<br>40.001/41.001 |           | 33m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 1        |                 |        |
| 5.E2.5.1.1.2.49 | E2   | 40.002 (e)/<br>40.001/41.001 |           | 42m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 1        |                 |        |
| 5.E2.5.1.1.2.50 | E2   | 40.002 (e)/<br>40.001/41.001 |           | 54m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 2        |                 |        |
|                 | E2   |                              |           | <b>PART E2.5.1.1.3: INSTALLATION</b>  |      |          |                 |        |
|                 | E2   |                              |           | <b>Cabling</b>  |      |          |                 |        |
| 5.E2.5.1.1.3.1  | E2   | 41.003 (k)                   |           | 2 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 7000     |                 |        |
| 5.E2.5.1.1.3.2  | E2   | 41.003 (l)                   |           | 4 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 5000     |                 |        |
| 5.E2.5.1.1.3.3  | E2   | 41.003 (m)                   |           | 8 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 3000     |                 |        |
| 5.E2.5.1.1.3.4  | E2   | 41.003 (n)                   |           | 12 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 1500     |                 |        |
| 5.E2.5.1.1.3.5  | E2   | 41.003 (o)                   |           | 16 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 700      |                 |        |
| 5.E2.5.1.1.3.6  | E2   | 41.003 (q)                   |           | 24 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 500      |                 |        |
| 5.E2.5.1.1.3.7  | E2   | 41.003 (j)                   |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 500      |                 |        |
| 5.E2.5.1.1.3.8  | E2   | 41.003 (j)                   |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 500      |                 |        |
| 5.E2.5.1.1.3.9  | E2   | 41.003 (j)                   |           | "Fibre Optic Cable Below" Warning Tape  | m    | 2500     |                 |        |
| 5.E2.5.1.1.3.10 | E2   | 41.003 (j)                   |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | No.  | 5        |                 |        |
| 5.E2.5.1.1.3.11 | E2   | 44.003 (l)                   |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 2000     |                 |        |
| 5.E2.5.1.1.3.12 | E2   | 44.003 (l)                   |           | Pre-cast MM Fibre Optic Cable Manholes/Handholes  | No.  | 10       |                 |        |
| 5.E2.5.1.1.3.13 | E2   | 41.003 (zz)                  |           | IEC61850 - Industrial Ethernet Cat 5e/Cat 6, PO Insulation, Overall Copper Braid Shield, PVC Outer Jacket   | m    | 1000     |                 |        |
| 5.E2.5.1.1.3.14 | E2   | 41.003 (zz)                  |           | Ethernet Cat 5e/Cat 6 cable with PVC Outer Jacket   | m    | 600      |                 |        |
|                 | E2   |                              |           | <b>Control Plant and PLC's</b>  |      |          |                 |        |
| 5.E2.5.1.1.3.15 | E2   | 41.003 (ii)                  |           | CPU Units   | No.  | 5        |                 |        |
|                 |      |                              |           |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment                   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference                 |           |   |      |          |                 |        |
|                 |      |                           |           |   |      |          | Brought Forward |        |
| 5.E2.5.1.1.3.16 | E2   | 41.003 (ii)               |           | Power Supply Unit   | No.  | 10       |                 |        |
| 5.E2.5.1.1.3.17 | E2   | 41.003 (ii)               |           | DI Units - Channels sink/source   | No.  | 5        |                 |        |
| 5.E2.5.1.1.3.18 | E2   | 41.003 (ii)               |           | DO Units - Channels sink/source   | No.  | 5        |                 |        |
| 5.E2.5.1.1.3.19 | E2   | 41.003 (ii)               |           | AI Units - Individually isolated channels   | No.  | 25       |                 |        |
| 5.E2.5.1.1.3.20 | E2   | 41.003 (ii)               |           | Ethernet/IP Communication Module  | No.  | 5        |                 |        |
| 5.E2.5.1.1.3.21 | E2   | 41.003 (ii)               |           | IEC61850 Communication Module   | No.  | 5        |                 |        |
| 5.E2.5.1.1.3.22 | E2   | 41.003 (ii) / 41.003 (nn) |           | PLC Cabinet IP65/66 rated for installed PLC Plant, cabling, marshalling, racking, earthing, surge protection, HMI Panel                         | No.  | 5        |                 |        |
| 5.E2.5.1.1.3.23 | E2   | 41.003 (ii)               |           | PLC Software  | Sum  | 1        |                 |        |
| 5.E2.5.1.1.3.24 | E2   | 41.003 (ii)               |           | PLC Licences  | Sum  | 1        |                 |        |
|                 | E2   |                           |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.E2.5.1.1.3.25 | E2   | 41.003 (pp)               |           | Electromagnetic Flow Meters   | No.  | 1        |                 |        |
| 5.E2.5.1.1.3.26 | E2   | 41.003 (a)                |           | Temperature Transmitter   | No.  | 30       |                 |        |
| 5.E2.5.1.1.3.27 | E2   | 41.003 (b)                |           | Pressure Transmitter  | No.  | 10       |                 |        |
| 5.E2.5.1.1.3.28 | E2   | 41.003 (ww)               |           | Vibration Transmitter   | No.  | 16       |                 |        |
| 5.E2.5.1.1.3.29 | E2   | 41.003(d)                 |           | Flow Switch Sensor  | No.  | 4        |                 |        |
| 5.E2.5.1.1.3.30 | E2   | 41.003 (ll)               |           | Limit Switches  | No.  | 18       |                 |        |
|                 | E2   |                           |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.E2.5.1.1.3.31 | E2   | 41.003 (bbb)              |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.E2.5.1.1.3.32 | E2   | 41.003 (00)               |           | Managed Ethernet Layer 3 Network Router - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.E2.5.1.1.3.33 | E2   | 41.003 (occ)              |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 1        |                 |        |
| 5.E2.5.1.1.3.34 | E2   | 41.003 (ddd)              |           | Fibre Optic Patch Panels - 24 Way   | No.  | 2        |                 |        |
|                 | E2   |                           |           | <b>Microwave Radio Systems</b>  |      |          |                 |        |
| 5.E2.5.1.1.3.35 | E2   | 40.003 (d)                |           | Upper 6 GHz ODU (Outdoor Unit)  | No.  | 6        |                 |        |
| 5.E2.5.1.1.3.36 | E2   | 40.003 (d)                |           | RFU 6GHz OMT Interface Andrew   | No.  | 6        |                 |        |
| 5.E2.5.1.1.3.37 | E2   | 40.003 (d)                |           | OMT Kit 6GHz  | No.  | 6        |                 |        |
| 5.E2.5.1.1.3.38 | E2   | 40.003 (d)                |           | (-48VDC) Power Supply   | No.  | 6        |                 |        |
|                 |      |                           |           |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment           | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference         |           |   |      |          |                 |        |
|                 |      |                   |           |   |      |          | Brought Forward |        |
| 5.E2.5.1.1.3.39 | E2   | 40.003 (d)        |           | Grounding Kit   | No.  | 12       |                 |        |
| 5.E2.5.1.1.3.40 | E2   | 40.003 (d)        |           | Capacity Key (activation key code)  | No.  | 6        |                 |        |
| 5.E2.5.1.1.3.41 | E2   | 40.003 (d)        |           | GBE Connector Kit   | No.  | 3        |                 |        |
| 5.E2.5.1.1.3.42 | E2   | 40.003 (d)        |           | Earth/Ground cable for ODU  | No.  | 6        |                 |        |
| 5.E2.5.1.1.3.43 | E2   | 40.003 (d)        |           | Outdoor DC Cabling  | No.  | 1        |                 |        |
| 5.E2.5.1.1.3.44 | E2   | 40.003 (d)        |           | Cat5e 100m Drum   | No.  | 3        |                 |        |
| 5.E2.5.1.1.3.45 | E2   | 40.003 (d)        |           | Gland Kit   | No.  | 6        |                 |        |
| 5.E2.5.1.1.3.46 | E2   | 40.003 (g)        |           | 3-Foot 6GHz Andrew Type Microwave Parabolic High-Gain Reflector Antennae Dish   | No.  | 6        |                 |        |
| 5.E2.5.1.1.3.47 | E2   | 40.003/40.003 (e) |           | 33m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 1        |                 |        |
| 5.E2.5.1.1.3.48 | E2   | 40.003/40.003 (e) |           | 42m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 1        |                 |        |
| 5.E2.5.1.1.3.49 | E2   | 40.003/40.003 (e) |           | 54m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 2        |                 |        |
|                 | E2   |                   |           | <b>PART E2.5.1.2: SECURITY</b>  |      |          |                 |        |
|                 | E2   |                   |           | <b>Employer's Requirements :<br/>(Plant designed, tested, supplied and delivered by Contractor)</b>   |      |          |                 |        |
|                 | E2   |                   |           | <b>PART E2.5.1.2.1: DESIGN</b>  |      |          |                 |        |
| 5.E2.5.1.2.1.1  | E2   | 41.001            |           | Design and documentation (as required, should it not already be included with an item below)  | Sum  | 1        |                 |        |
|                 | E2   |                   |           | <b>PART E2.5.1.2.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|                 | E2   |                   |           | <b>CCTV Plant</b>   |      |          |                 |        |
| 5.E2.5.1.2.2.1  | E2   | 44.002 (a)        |           | Digital Camera Outdoor - All Round Dual Type  | No.  | 2        |                 |        |
| 5.E2.5.1.2.2.2  | E2   | 44.002 (b)        |           | Digital Camera Outdoor - Dual Dome Type   | No.  | 2        |                 |        |
| 5.E2.5.1.2.2.3  | E2   | 44.002 (c)        |           | Digital Camera Outdoor - Dual Flex Type   | No.  | 2        |                 |        |
| 5.E2.5.1.2.2.4  | E2   | 44.002 (d)        |           | Digital Camera Outdoor - Vandal Proof Type  | No.  | 2        |                 |        |
| 5.E2.5.1.2.2.5  | E2   | 44.002 (e)        |           | Digital Camera Outdoor - Dome Type  | No.  | 2        |                 |        |
| 5.E2.5.1.2.2.6  | E2   | 44.002 (f)        |           | Digital Camera Outdoor - Hemispheric Lens Type  | No.  | 2        |                 |        |
| 5.E2.5.1.2.2.7  | E2   | 44.002 (w)        |           | Digital Camera Indoor - Dome Type   | No.  | 2        |                 |        |
| 5.E2.5.1.2.2.8  | E2   | 44.002 (x)        |           | Digital Camera Indoor - 360° Type   | No.  | 2        |                 |        |
|                 |      |                   |           |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment                 | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference               |           |   |      |          |                 |        |
|                 |      |                         |           |   |      |          | Brought Forward |        |
| 5.E2.5.1.2.2.9  | E2   | 44.002 (y)              |           | Digital Camera Indoor - 180° Type   | No.  | 2        |                 |        |
| 5.E2.5.1.2.2.10 | E2   | 44.002 (z)              |           | Digital Camera Indoor - Indoor Dome Type  | No.  | 2        |                 |        |
| 5.E2.5.1.2.2.11 | E2   | 44.002 (aa)             |           | Digital Camera Indoor - Thermal Radiometry Type   | No.  | 1        |                 |        |
| 5.E2.5.1.2.2.12 | E2   | 44.002 (g)              |           | Video Management Software   | No.  | 1        |                 |        |
| 5.E2.5.1.2.2.13 | E2   | 44.002 (h)              |           | Network Attached Storage Device - Rack Mount 8/16/32 Channels Type  | No.  | 1        |                 |        |
| 5.E2.5.1.2.2.14 | E2   | 44.002 (k)              |           | CCTV Data Server (Front End)  | No.  | 1        |                 |        |
| 5.E2.5.1.2.2.15 | E2   | 44.002 (t)              |           | CCTV Client Station   | No.  | 2        |                 |        |
| 5.E2.5.1.2.2.16 | E2   | 44.002 (v)              |           | CCTV Mimic Screens  | No.  | 4        |                 |        |
| 5.E2.5.1.2.2.17 | E2   | 44.002 (i)              |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.E2.5.1.2.2.18 | E2   | 44.002 (j)              |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 1        |                 |        |
| 5.E2.5.1.2.2.19 | E2   | 44.002 (cc)             |           | Fibre Optic Patch Panels - 12/24 Way  | No.  | 1        |                 |        |
|                 | E2   |                         |           | <b>Access Control Plant</b>   |      |          |                 |        |
| 5.E2.5.1.2.2.20 | E2   | 44.002 (m) / 44.002 (n) |           | Biometric Reader  | No.  | 4        |                 |        |
| 5.E2.5.1.2.2.21 | E2   | 44.002 (p)              |           | Biometric Access Controller   | No.  | 2        |                 |        |
| 5.E2.5.1.2.2.22 | E2   | 44.002 (q)              |           | Biometric Access Controller Viewer  | No.  | 4        |                 |        |
|                 | E2   |                         |           | <b>PART E2.5.1.2.3: INSTALLATION</b>  |      |          |                 |        |
|                 | E2   |                         |           | <b>CCTV Plant</b>   |      |          |                 |        |
| 5.E2.5.1.2.3.1  | E2   | 44.003 (a)              |           | Digital Camera Outdoor - All Round Dual Type  | No.  | 2        |                 |        |
| 5.E2.5.1.2.3.2  | E2   | 44.003 (b)              |           | Digital Camera Outdoor - Dual Dome Type   | No.  | 2        |                 |        |
| 5.E2.5.1.2.3.3  | E2   | 44.003 (c)              |           | Digital Camera Outdoor - Dual Flex Type   | No.  | 2        |                 |        |
| 5.E2.5.1.2.3.4  | E2   | 44.003 (d)              |           | Digital Camera Outdoor - Vandal Proof Type  | No.  | 2        |                 |        |
| 5.E2.5.1.2.3.5  | E2   | 44.003 (e)              |           | Digital Camera Outdoor - Dome Type  | No.  | 2        |                 |        |
| 5.E2.5.1.2.3.6  | E2   | 44.003 (f)              |           | Digital Camera Outdoor - Hemispheric Lens Type  | No.  | 2        |                 |        |
| 5.E2.5.1.2.3.7  | E2   | 44.003 (y)              |           | Digital Camera Indoor - Dome Type   | No.  | 2        |                 |        |
| 5.E2.5.1.2.3.8  | E2   | 44.003 (z)              |           | Digital Camera Indoor - 360° Type   | No.  | 2        |                 |        |
| 5.E2.5.1.2.3.9  | E2   | 44.003 (aa)             |           | Digital Camera Indoor - 180° Type   | No.  | 2        |                 |        |
|                 |      |                         |           |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment                   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference                 |           |   |      |          |                 |        |
|                 |      |                           |           |   |      |          | Brought Forward |        |
| 5.E2.5.1.2.3.10 | E2   | 44.003 (bb)               |           | Digital Camera Indoor - Indoor Dome Type  | No.  | 2        |                 |        |
| 5.E2.5.1.2.3.11 | E2   | 44.003 (aa)               |           | Digital Camera Indoor - Thermal Radiometry Type   | No.  | 1        |                 |        |
| 5.E2.5.1.2.3.12 | E2   | 44.003 (g)                |           | Video Management Software   | No.  | 1        |                 |        |
| 5.E2.5.1.2.3.13 | E2   | 44.003 (h)                |           | Network Attached Storage Device - Rack Mount 8/16/32 Channels Type  | No.  | 1        |                 |        |
| 5.E2.5.1.2.3.14 | E2   | 44.003 (k)                |           | CCTV Data Server (Front End)  | No.  | 1        |                 |        |
| 5.E2.5.1.2.3.15 | E2   | 44.003 (v)                |           | CCTV Client Station   | No.  | 2        |                 |        |
| 5.E2.5.1.2.3.16 | E2   | 44.003 (x)                |           | CCTV Viewing Screens  | No.  | 4        |                 |        |
| 5.E2.5.1.2.3.17 | E2   | 44.003 (i)                |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.E2.5.1.2.3.18 | E2   | 44.003 (u)                |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 1        |                 |        |
| 5.E2.5.1.2.3.19 | E2   | 44.003 (ee)               |           | Fibre Optic Patch Panels - 12/24 Way  | No.  | 2        |                 |        |
|                 | E2   |                           |           | <b>Access Control Plant</b>   |      |          |                 |        |
| 5.E2.5.1.2.3.20 | E2   | 44.003 (m)/<br>44.003 (n) |           | Biometric Reader  | No.  | 4        |                 |        |
| 5.E2.5.1.2.3.21 | E2   | 44.003 (p)                |           | Biometric Access Controller   | No.  | 2        |                 |        |
| 5.E2.5.1.2.3.22 | E2   | 44.003 (q)                |           | Biometric Access Controller Viewer  | No.  | 4        |                 |        |
|                 | E2   |                           |           | <b>PART E2.5.2: OPERATIONS AND CONTROL CENTRE (O&amp;CC)</b>  |      |          |                 |        |
|                 | E2   |                           |           | <b>Employer's Requirements : (Plant designed, tested, supplied and delivered by Contractor)</b>   |      |          |                 |        |
|                 | E2   |                           |           | <b>PART E2.5.2.1: Control and Communication Systems</b>   |      |          |                 |        |
|                 | E2   |                           |           | <b>PART E2.5.2.1.1: DESIGN</b>  |      |          |                 |        |
| 5.E2.5.2.1.1.1  | E2   | 41.001                    |           | Design and documentation (as required, should it not already be included with an item below)  | Sum  | 1        |                 |        |
|                 | E2   |                           |           | <b>PART E2.5.2.1.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|                 | E2   |                           |           | <b>Cabling</b>  |      |          |                 |        |
| 5.E2.5.2.1.2.1  | E2   | 41.002 (j)                |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 500      |                 |        |
| 5.E2.5.2.1.2.2  | E2   | 41.002 (j)                |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 500      |                 |        |
| 5.E2.5.2.1.2.3  | E2   | 41.002 (j)                |           | "Fibre Optic Cable Below" Warning Tape  | m    | 1000     |                 |        |
| 5.E2.5.2.1.2.4  | E2   | 41.002 (j)                |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | No.  | 5        |                 |        |
| 5.E2.5.2.1.2.5  | E2   | 44.002 (l)                |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 500      |                 |        |
|                 |      |                           |           |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment                  | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|--------------------------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference                |           |   |      |          |                 |        |
|                 |      |                          |           |   |      |          | Brought Forward |        |
| 5.E2.5.2.1.2.6  | E2   | 44.002 (l)               |           | Pre-cast MM Fibre Optic Cable Manholes/Handholes  | No.  | 5        |                 |        |
| 5.E2.5.2.1.2.7  | E2   | 44.002 (iii)             |           | Ethernet Cat 5e/Cat 6 cable with PVC Outer Jacket   | m    | 2000     |                 |        |
|                 | E2   |                          |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.E2.5.2.1.2.8  | E2   | 41.002 (ii)              |           | Configuration Server  | No.  | 2        |                 |        |
| 5.E2.5.2.1.2.9  | E2   | 41.002 (jj)              |           | Communication Server  | No.  | 2        |                 |        |
| 5.E2.5.2.1.2.10 | E2   | 41.002 (ll)              |           | Data Server (Backend)   | No.  | 2        |                 |        |
| 5.E2.5.2.1.2.11 | E2   | 41.002 (ll)              |           | Data Server (Front End)   | No.  | 2        |                 |        |
| 5.E2.5.2.1.2.12 | E2   | 41.002 (hh)              |           | Client Station  | No.  | 8        |                 |        |
| 5.E2.5.2.1.2.13 | E2   | 41.002 (mm)              |           | Firewall Server (Hardware)  | No.  | 2        |                 |        |
| 5.E2.5.2.1.2.14 | E2   | 41.002 (qq)              |           | Mimic Screen  | No.  | 8        |                 |        |
| 5.E2.5.2.1.2.15 | E2   | 41.002 (gg)              |           | Engineering Station   | No.  | 2        |                 |        |
| 5.E2.5.2.1.2.16 | E2   |                          |           | Additional Hardware required  | No.  | 1        |                 |        |
| 5.E2.5.2.1.2.17 | E2   | 41.002 (nn) /40.002 (b)  |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 2        |                 |        |
| 5.E2.5.2.1.2.18 | E2   | 41.002 (xx) / 40.002 (c) |           | Managed Ethernet Layer 3 Network Router - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 2        |                 |        |
| 5.E2.5.2.1.2.19 | E2   | 41.002 (00)              |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 4        |                 |        |
| 5.E2.5.2.1.2.20 | E2   | 41.002 (pp)              |           | Fibre Optic Patch Panels - 24 Way   | No.  | 2        |                 |        |
|                 | E2   |                          |           | <b>SCADA Software</b>   |      |          |                 |        |
| 5.E2.5.2.1.2.21 | E2   | 41.002 (ff)              |           | SCADA Software Package  | No.  | 2        |                 |        |
| 5.E2.5.2.1.2.22 | E2   | 41.002 (ff)              |           | Licences for unlimited Tag allocation   | No.  | 2        |                 |        |
| 5.E2.5.2.1.2.23 | E2   | 41.002 (ff)              |           | Virus Packages  | No.  | 4        |                 |        |
| 5.E2.5.2.1.2.24 | E2   | 41.002 (ff)              |           | Firewall Server Software  | No.  | 2        |                 |        |
| 5.E2.5.2.1.2.25 | E2   | 41.002 (ff)              |           | Additional Software Packages  | No.  | 1        |                 |        |
|                 | E2   |                          |           | <b>PART E2.5.2.1.3: INSTALLATION</b>  |      |          |                 |        |
|                 | E2   |                          |           | <b>Cabling</b>  |      |          |                 |        |
| 5.E2.5.2.1.3.1  | E2   | 41.003 (j)               |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 500      |                 |        |
| 5.E2.5.2.1.3.2  | E2   | 41.003 (j)               |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 500      |                 |        |
| 5.E2.5.2.1.3.3  | E2   | 41.003 (j)               |           | "Fibre Optic Cable Below" Warning Tape  | m    | 1000     |                 |        |
|                 |      |                          |           |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|                 |      |                   |           |   |      |          |                 |        |
|                 |      |                   |           |   |      |          | Brought Forward |        |
| 5.E2.5.2.1.3.4  | E2   | 41.003 (j)        |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | No.  | 5        |                 |        |
| 5.E2.5.2.1.3.5  | E2   | 44.003 (l)        |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 500      |                 |        |
| 5.E2.5.2.1.3.6  | E2   | 44.003 (l)        |           | Pre-cast MM Fibre Optic Cable Manholes/Handholes  | No.  | 5        |                 |        |
| 5.E2.5.2.1.3.7  | E2   | 41.003 (zz)       |           | Ethernet Cat 5e/Cat 6 cable with PVC Outer Jacket   | m    | 2000     |                 |        |
|                 |      |                   |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.E2.5.2.1.3.8  | E2   | 41.003 (ii)       |           | Configuration Server  | No.  | 2        |                 |        |
| 5.E2.5.2.1.3.9  | E2   | 41.003 (ii)       |           | Communication Server  | No.  | 2        |                 |        |
| 5.E2.5.2.1.3.10 | E2   | 41.003 (ii)       |           | Data Server (Backend)   | No.  | 2        |                 |        |
| 5.E2.5.2.1.3.11 | E2   | 41.003 (ii)       |           | Data Server (Front End)   | No.  | 2        |                 |        |
| 5.E2.5.2.1.3.12 | E2   | 41.003 (ii)       |           | Client Station  | No.  | 8        |                 |        |
| 5.E2.5.2.1.3.13 | E2   | 41.003 (ii)       |           | Firewall Server (Hardware)  | No.  | 2        |                 |        |
| 5.E2.5.2.1.3.14 | E2   | 41.003 (ii)       |           | Mimic Screen  | No.  | 8        |                 |        |
| 5.E2.5.2.1.3.15 | E2   | 41.003 (ii)       |           | Engineering Station   | No.  | 2        |                 |        |
| 5.E2.5.2.1.3.16 | E2   | 41.003 (ii)       |           | Additional Hardware required  | No.  | 1        |                 |        |
| 5.E2.5.2.1.3.17 | E2   | 41.003 (bbb)      |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 2        |                 |        |
| 5.E2.5.2.1.3.18 | E2   | 41.003 (00)       |           | Managed Ethernet Layer 3 Network Router - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 2        |                 |        |
| 5.E2.5.2.1.3.19 | E2   | 41.003 (ccc)      |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 4        |                 |        |
| 5.E2.5.2.1.3.20 | E2   | 41.003 (ddd)      |           | Fibre Optic Patch Panels - 24 Way   | No.  | 2        |                 |        |
| 5.E2.5.2.1.3.21 | E2   | 41.003 (ii)       |           | Design, Engineering, Installation, Testing and Pre-commissioning of all MCWAP-2 PLC & SCADA systems   | Sum  | 1        |                 |        |
| 5.E2.5.2.1.3.22 | E2   | 41.003 (eee)      |           | Design, Engineering, Installation, Testing and Pre-commissioning of MCWAP-2 Primary and Secondary Communication Network Systems                 | Sum  | 1        |                 |        |
|                 |      |                   |           | <b>SCADA Software</b>   |      |          |                 |        |
| 5.E2.5.2.1.3.23 | E2   | 41.002 (ff)       |           | SCADA Software Package  | No.  | 2        |                 |        |
| 5.E2.5.2.1.3.24 | E2   | 41.002 (ff)       |           | Licences for unlimited Tag allocation   | No.  | 2        |                 |        |
| 5.E2.5.2.1.3.25 | E2   | 41.002 (ff)       |           | Virus Packages  | No.  | 4        |                 |        |
| 5.E2.5.2.1.3.26 | E2   | 41.002 (ff)       |           | Firewall Server Software  | No.  | 2        |                 |        |
|                 |      |                   |           |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment Reference          | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|----------------------------|-----------|---|------|----------|-----------------|--------|
|                 |      |                            |           |   |      |          | Brought Forward |        |
| 5.E2.5.2.1.3.27 | E2   | 41.002 (ff)                |           | Additional Software Packages  | No.  | 1        |                 |        |
|                 | E2   |                            |           | <b>PART E2.5.2.2: SECURITY</b>  |      |          |                 |        |
|                 | E2   |                            |           | <b>Employer's Requirements :<br/>(Plant designed, tested, supplied and delivered by Contractor)</b>   |      |          |                 |        |
|                 | E2   |                            |           | <b>PART E2.5.2.2.1: DESIGN</b>  |      |          |                 |        |
| 5.E2.5.2.2.1.1  | E2   | 41.001                     |           | Design and documentation<br>(as required, should it not already be included with an item below)   | Sum  | 1        |                 |        |
|                 | E2   |                            |           | <b>PART E2.5.2.2.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|                 | E2   |                            |           | <b>CCTV Plant</b>   |      |          |                 |        |
| 5.E2.5.2.2.2.1  | E2   | 44.002 (a)                 |           | Digital Camera Outdoor - All Round Dual Type  | No.  | 2        |                 |        |
| 5.E2.5.2.2.2.2  | E2   | 44.002 (b)                 |           | Digital Camera Outdoor - Dual Dome Type   | No.  | 2        |                 |        |
| 5.E2.5.2.2.2.3  | E2   | 44.002 (d)                 |           | Digital Camera Outdoor - Vandal Proof Type  | No.  | 2        |                 |        |
| 5.E2.5.2.2.2.4  | E2   | 44.002 (f)                 |           | Digital Camera Outdoor - Hemispheric Lens Type  | No.  | 2        |                 |        |
| 5.E2.5.2.2.2.5  | E2   | 44.002 (w)                 |           | Digital Camera Indoor - Dome Type   | No.  | 2        |                 |        |
| 5.E2.5.2.2.2.6  | E2   | 44.002 (x)                 |           | Digital Camera Indoor - 360° Type   | No.  | 2        |                 |        |
| 5.E2.5.2.2.2.7  | E2   | 44.002 (y)                 |           | Digital Camera Indoor - 180° Type   | No.  | 2        |                 |        |
| 5.E2.5.2.2.2.8  | E2   | 44.002 (z)                 |           | Digital Camera Indoor - Indoor Dome Type  | No.  | 2        |                 |        |
| 5.E2.5.2.2.2.9  | E2   | 44.002 (g)                 |           | Video Management Software   | No.  | 1        |                 |        |
| 5.E2.5.2.2.2.10 | E2   | 44.002 (h)                 |           | Network Attached Storage Device - Rack Mount<br>8/16/32 Channels Type   | No.  | 1        |                 |        |
| 5.E2.5.2.2.2.11 | E2   | 44.002 (k)                 |           | CCTV Data Server (Backend)  | No.  | 1        |                 |        |
| 5.E2.5.2.2.2.12 | E2   | 44.002 (k)                 |           | CCTV Data Server (Front End)  | No.  | 1        |                 |        |
| 5.E2.5.2.2.2.13 | E2   | 44.002 (t)                 |           | CCTV Client Station   | No.  | 2        |                 |        |
| 5.E2.5.2.2.2.14 | E2   | 44.002 (u)                 |           | CCTV Firewall Server (Hardware)   | No.  | 1        |                 |        |
| 5.E2.5.2.2.2.15 | E2   | 44.002 (v)                 |           | CCTV Mimic Screens  | No.  | 4        |                 |        |
| 5.E2.5.2.2.2.16 | E2   | 44.002 (i)                 |           | Managed Ethernet Layer 2 Network Switch - 10/100<br>Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical<br>Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 2        |                 |        |
| 5.E2.5.2.2.2.17 | E2   | 44.002 (j)                 |           | 42U Industrial Type Network Rack Enclosure with<br>removeable side panels, cable entry from top and<br>below, dust proof pressurised with fans        | No.  | 2        |                 |        |
| 5.E2.5.2.2.2.18 | E2   | 44.002 (cc)                |           | Fibre Optic Patch Panels - 12/24 Way  | No.  | 4        |                 |        |
|                 | E2   |                            |           | <b>Access Control Plant</b>   |      |          |                 |        |
| 5.E2.5.2.2.2.19 | E2   | 44.002 (m) /<br>44.002 (n) |           | Biometric Reader  | No.  | 2        |                 |        |
|                 |      |                            |           |   |      |          | Carried Forward |        |



| Item no.        | Part | Payment                   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference                 |           |   |      |          |                 |        |
|                 |      |                           |           |   |      |          | Brought Forward |        |
| 5.E2.5.2.2.20   | E2   | 44.002 (p)                |           | Biometric Access Controller   | No.  | 1        |                 |        |
| 5.E2.5.2.2.21   | E2   | 44.002 (q)                |           | Biometric Access Controller Viewer  | No.  | 1        |                 |        |
|                 | E2   |                           |           | <b>PART E2.5.2.2.3: INSTALLATION</b>  |      |          |                 |        |
|                 | E2   |                           |           | <b>CCTV Plant</b>   |      |          |                 |        |
| 5.E2.5.2.2.3.1  | E2   | 44.003 (a)                |           | Digital Camera Outdoor - All Round Dual Type  | No.  | 2        |                 |        |
| 5.E2.5.2.2.3.2  | E2   | 44.003 (b)                |           | Digital Camera Outdoor - Dual Dome Type   | No.  | 2        |                 |        |
| 5.E2.5.2.2.3.3  | E2   | 44.003 (d)                |           | Digital Camera Outdoor - Vandal Proof Type  | No.  | 2        |                 |        |
| 5.E2.5.2.2.3.4  | E2   | 44.003 (f)                |           | Digital Camera Outdoor - Hemispheric Lens Type  | No.  | 2        |                 |        |
| 5.E2.5.2.2.3.5  | E2   | 44.003 (y)                |           | Digital Camera Indoor - Dome Type   | No.  | 2        |                 |        |
| 5.E2.5.2.2.3.6  | E2   | 44.003 (z)                |           | Digital Camera Indoor - 360° Type   | No.  | 2        |                 |        |
| 5.E2.5.2.2.3.7  | E2   | 44.003 (aa)               |           | Digital Camera Indoor - 180° Type   | No.  | 2        |                 |        |
| 5.E2.5.2.2.3.8  | E2   | 44.003 (bb)               |           | Digital Camera Indoor - Indoor Dome Type  | No.  | 2        |                 |        |
| 5.E2.5.2.2.3.9  | E2   | 44.003 (g)                |           | Video Management Software   | No.  | 1        |                 |        |
| 5.E2.5.2.2.3.10 | E2   | 44.003 (h)                |           | Network Attached Storage Device - Rack Mount 8/16/32 Channels Type  | No.  | 1        |                 |        |
| 5.E2.5.2.2.3.11 | E2   | 44.003 (k)                |           | CCTV Data Server (Backend)  | No.  | 1        |                 |        |
| 5.E2.5.2.2.3.12 | E2   | 44.003 (k)                |           | CCTV Data Server (Front End)  | No.  | 1        |                 |        |
| 5.E2.5.2.2.3.13 | E2   | 44.003 (v)                |           | CCTV Client Station   | No.  | 2        |                 |        |
| 5.E2.5.2.2.3.14 | E2   | 44.003 (w)                |           | CCTV Firewall Server (Hardware)   | No.  | 1        |                 |        |
| 5.E2.5.2.2.3.15 | E2   | 44.003 (x)                |           | CCTV Viewing Screens  | No.  | 4        |                 |        |
| 5.E2.5.2.2.3.16 | E2   | 44.003 (i)                |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 2        |                 |        |
| 5.E2.5.2.2.3.17 | E2   | 44.003 (u)                |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 2        |                 |        |
| 5.E2.5.2.2.3.18 | E2   | 44.003 (ee)               |           | Fibre Optic Patch Panels - 12/24 Way  | No.  | 4        |                 |        |
|                 | E2   |                           |           | <b>Access Control Plant</b>   |      |          |                 |        |
| 5.E2.5.2.2.3.19 | E2   | 44.003 (m)/<br>44.003 (n) |           | Biometric Reader  | No.  | 2        |                 |        |
| 5.E2.5.2.2.3.20 | E2   | 44.003 (p)                |           | Biometric Access Controller   | No.  | 1        |                 |        |
| 5.E2.5.2.2.3.21 | E2   | 44.003 (q)                |           | Biometric Access Controller Viewer  | No.  | 1        |                 |        |
|                 |      |                           |           |   |      |          | Carried Forward |        |

| Item no.       | Part | Payment     | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------------|------|-------------|-----------|---|------|----------|-----------------|--------|
|                |      | Reference   |           |   |      |          |                 |        |
|                |      |             |           |   |      |          | Brought Forward |        |
|                | E2   |             |           | <b>PART E2.5.3: GUARDHOUSE 1 &amp; 2</b>  |      |          |                 |        |
|                | E2   |             |           | <b>Employer's Requirements :</b><br><b>(Plant designed, tested, supplied and delivered by Contractor)</b> |      |          |                 |        |
|                | E2   |             |           | <b>PART E2.5.3.1: Control and communication Systems</b>   |      |          |                 |        |
|                | E2   |             |           | <b>PART E2.5.3.1.1: DESIGN</b>  |      |          |                 |        |
| 5.E2.5.3.1.1.1 | E2   | 41.001      |           | Design and documentation<br>(as required, should it not already be included with an item below)           | Sum  | 1        |                 |        |
|                | E2   |             |           | <b>PART E2.5.3.1.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|                | E2   |             |           | <b>Cabling</b>  |      |          |                 |        |
| 5.E2.5.3.1.2.1 | E2   | 44.002 (l)  |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 2000     |                 |        |
| 5.E2.5.3.1.2.2 | E2   | 44.002 (l)  |           | Pre-cast MM Fibre Optic Cable Manholes/Handholes  | No.  | 10       |                 |        |
|                | E2   |             |           | <b>SCADA Plant</b>  |      |          |                 |        |
|                | E2   |             |           | <b>SCADA Software</b>   |      |          |                 |        |
| 5.E2.5.3.1.2.3 | E2   | 41.002 (ff) |           | SCADA Software Package  | No.  | 2        |                 |        |
| 5.E2.5.3.1.2.4 | E2   | 41.002 (ff) |           | Licences for unlimited Tag allocation   | No.  | 2        |                 |        |
| 5.E2.5.3.1.2.5 | E2   | 41.002 (ff) |           | Virus Packages  | No.  | 4        |                 |        |
| 5.E2.5.3.1.2.6 | E2   | 41.002 (ff) |           | Firewall Server Software  | No.  | 2        |                 |        |
| 5.E2.5.3.1.2.7 | E2   | 41.002 (ff) |           | Additional Software Packages  | No.  | 1        |                 |        |
|                | E2   |             |           | <b>PART E2.5.3.1.3: INSTALLATION</b>  |      |          |                 |        |
|                | E2   |             |           | <b>Cabling</b>  |      |          |                 |        |
| 5.E2.5.3.1.3.1 | E2   | 44.003 (l)  |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 2000     |                 |        |
| 5.E2.5.3.1.3.2 | E2   | 44.003 (l)  |           | Pre-cast MM Fibre Optic Cable Manholes/Handholes  | No.  | 10       |                 |        |
|                | E2   |             |           | <b>SCADA Plant</b>  |      |          |                 |        |
|                | E2   |             |           | <b>SCADA Software</b>   |      |          |                 |        |
| 5.E2.5.3.1.3.3 | E2   | 41.002 (ff) |           | SCADA Software Package  | No.  | 2        |                 |        |
| 5.E2.5.3.1.3.4 | E2   | 41.002 (ff) |           | Licences for unlimited Tag allocation   | No.  | 2        |                 |        |
| 5.E2.5.3.1.3.5 | E2   | 41.002 (ff) |           | Virus Packages  | No.  | 4        |                 |        |
| 5.E2.5.3.1.3.6 | E2   | 41.002 (ff) |           | Firewall Server Software  | No.  | 2        |                 |        |
| 5.E2.5.3.1.3.7 | E2   | 41.002 (ff) |           | Additional Software Packages  | No.  | 1        |                 |        |
|                |      |             |           |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment                 | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|-------------------------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference               |           |   |      |          |                 |        |
|                 |      |                         |           |   |      |          | Brought Forward |        |
|                 | E2   |                         |           | <b>PART E2.5.3.2: SECURITY</b>  |      |          |                 |        |
|                 | E2   |                         |           | <b>Employer's Requirements :</b><br><b>(Plant designed, tested, supplied and delivered by Contractor)</b>                                       |      |          |                 |        |
|                 | E2   |                         |           | <b>PART E2.5.3.2.1: DESIGN</b>  |      |          |                 |        |
| 5.E2.5.3.2.1.1  | E2   | 41.001                  |           | Design and documentation<br>(as required, should it not already be included with an item below)   | Sum  | 1        |                 |        |
|                 | E2   |                         |           | <b>PART E2.5.3.2.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|                 | E2   |                         |           | <b>CCTV Plant</b>   |      |          |                 |        |
| 5.E2.5.3.2.2.1  | E2   | 44.002 (a)              |           | Digital Camera Outdoor - All Round Dual Type  | No.  | 2        |                 |        |
| 5.E2.5.3.2.2.2  | E2   | 44.002 (b)              |           | Digital Camera Outdoor - Dual Dome Type   | No.  | 2        |                 |        |
| 5.E2.5.3.2.2.3  | E2   | 44.002 (d)              |           | Digital Camera Outdoor - Vandal Proof Type  | No.  | 2        |                 |        |
| 5.E2.5.3.2.2.4  | E2   | 44.002 (w)              |           | Digital Camera Indoor - Dome Type   | No.  | 2        |                 |        |
| 5.E2.5.3.2.2.5  | E2   | 44.002 (x)              |           | Digital Camera Indoor - 360° Type   | No.  | 2        |                 |        |
| 5.E2.5.3.2.2.6  | E2   | 44.002 (y)              |           | Digital Camera Indoor - 180° Type   | No.  | 2        |                 |        |
| 5.E2.5.3.2.2.7  | E2   | 44.002 (k)              |           | CCTV Data Server (Front End)  | No.  | 2        |                 |        |
| 5.E2.5.3.2.2.8  | E2   | 44.002 (t)              |           | CCTV Client Station   | No.  | 2        |                 |        |
| 5.E2.5.3.2.2.9  | E2   | 44.002 (v)              |           | CCTV Mimic Screens  | No.  | 8        |                 |        |
| 5.E2.5.3.2.2.10 | E2   | 44.002 (i)              |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 2        |                 |        |
| 5.E2.5.3.2.2.11 | E2   | 44.002 (j)              |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 2        |                 |        |
| 5.E2.5.3.2.2.12 | E2   | 44.002 (cc)             |           | Fibre Optic Patch Panels - 12/24 Way  | No.  | 2        |                 |        |
|                 | E2   |                         |           | <b>Access Control Plant</b>   |      |          |                 |        |
| 5.E2.5.3.2.2.13 | E2   | 44.002 (m) / 44.002 (n) |           | Biometric Reader  | No.  | 2        |                 |        |
| 5.E2.5.3.2.2.14 | E2   | 44.002 (p)              |           | Biometric Access Controller   | No.  | 2        |                 |        |
| 5.E2.5.3.2.2.15 | E2   | 44.002 (q)              |           | Biometric Access Controller Viewer  | No.  | 2        |                 |        |
|                 | E2   |                         |           | <b>PART E2.5.3.2.3: INSTALLATION</b>  |      |          |                 |        |
|                 | E2   |                         |           | <b>CCTV Plant</b>   |      |          |                 |        |
| 5.E2.5.3.2.3.1  | E2   | 44.003 (a)              |           | Digital Camera Outdoor - All Round Dual Type  | No.  | 2        |                 |        |
| 5.E2.5.3.2.3.2  | E2   | 44.003 (b)              |           | Digital Camera Outdoor - Dual Dome Type   | No.  | 2        |                 |        |
| 5.E2.5.3.2.3.3  | E2   | 44.003 (d)              |           | Digital Camera Outdoor - Vandal Proof Type  | No.  | 2        |                 |        |
| 5.E2.5.3.2.3.4  | E2   | 44.003 (y)              |           | Digital Camera Indoor - Dome Type   | No.  | 2        |                 |        |
|                 |      |                         |           |   |      |          | Carried Forward |        |

| Item no.        | Part | Payment                    | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------------|------|----------------------------|-----------|---|------|----------|-----------------|--------|
|                 |      | Reference                  |           |   |      |          |                 |        |
|                 |      |                            |           |   |      |          | Brought Forward |        |
| 5.E2.5.3.2.3.5  | E2   | 44.003 (z)                 |           | Digital Camera Indoor - 360° Type   | No.  | 2        |                 |        |
| 5.E2.5.3.2.3.6  | E2   | 44.003 (aa)                |           | Digital Camera Indoor - 180° Type   | No.  | 2        |                 |        |
| 5.E2.5.3.2.3.7  | E2   | 44.003 (k)                 |           | CCTV Data Server (Front End)  | No.  | 2        |                 |        |
| 5.E2.5.3.2.3.8  | E2   | 44.003 (v)                 |           | CCTV Client Station   | No.  | 2        |                 |        |
| 5.E2.5.3.2.3.9  | E2   | 44.003 (x)                 |           | CCTV Viewing Screens  | No.  | 8        |                 |        |
| 5.E2.5.3.2.3.10 | E2   | 44.003 (i)                 |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 2        |                 |        |
| 5.E2.5.3.2.3.11 | E2   | 44.003 (u)                 |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 2        |                 |        |
| 5.E2.5.3.2.3.12 | E2   | 44.003 (ee)                |           | Fibre Optic Patch Panels - 12/24 Way  | No.  | 2        |                 |        |
|                 | E2   |                            |           | <b>Access Control Plant</b>   |      |          |                 |        |
| 5.E2.5.3.2.3.13 | E2   | 44.003 (m)/<br>44.003 (n)  |           | Biometric Reader  | No.  | 2        |                 |        |
| 5.E2.5.3.2.3.14 | E2   | 44.003 (p)                 |           | Biometric Access Controller   | No.  | 2        |                 |        |
| 5.E2.5.3.2.3.15 | E2   | 44.003 (q)                 |           | Biometric Access Controller Viewer  | No.  | 2        |                 |        |
|                 | E2   |                            |           | <b>PART E2.5.4: INSTRUMENT HUT</b>  |      |          |                 |        |
|                 | E2   |                            |           | <b>Employer's Requirements :<br/>(Plant designed, tested, supplied and delivered by Contractor)</b>   |      |          |                 |        |
|                 | E2   |                            |           | <b>PART E2.5.4.1: Control and communication Systems</b>   |      |          |                 |        |
|                 | E2   |                            |           | <b>PART E2.5.4.1.1: DESIGN</b>  |      |          |                 |        |
| 5.E2.5.4.1.1.1  | E2   | 41.001                     |           | Design and documentation (as required, should it not already be included with an item below)  | Sum  | 1        |                 |        |
|                 | E2   |                            |           | <b>PART E2.5.4.1.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|                 | E2   |                            |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.E2.5.4.1.2.1  | E2   | 41.002 (nn)<br>/40.002 (b) |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 4        |                 |        |
| 5.E2.5.4.1.2.2  | E2   | 41.002 (00)                |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 4        |                 |        |
| 5.E2.5.4.1.2.3  | E2   | 41.002 (pp)                |           | Fibre Optic Patch Panels - 24 Way   | No.  | 8        |                 |        |
|                 | E2   |                            |           | <b>PART E2.5.4.1.3: INSTALLATION</b>  |      |          |                 |        |
|                 | E2   |                            |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.E2.5.4.1.3.1  | E2   | 41.003 (bbb)               |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 4        |                 |        |
|                 |      |                            |           |   |      |          | Carried Forward |        |

| Item no.       | Part | Payment      | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------------|------|--------------|-----------|--|------|----------|-----------------|--------|
|                |      | Reference    |           |  |      |          |                 |        |
|                |      |              |           |  |      |          | Brought Forward |        |
| 5.E2.5.4.1.3.2 | E2   | 41.003 (ccc) |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans | No.  | 4        |                 |        |
| 5.E2.5.4.1.3.3 | E2   | 41.003 (ddd) |           | Fibre Optic Patch Panels - 24 Way  | No.  | 8        |                 |        |
|                | E2   |              |           | <b>PART E2.5.4.2: SECURITY</b>   |      |          |                 |        |
|                | E2   |              |           | <b>Employer's Requirements :<br/>(Plant designed, tested, supplied and delivered by Contractor)</b>                                      |      |          |                 |        |
|                | E2   |              |           | <b>PART E2.5.4.2.1: DESIGN</b>   |      |          |                 |        |
| 5.E2.5.4.2.1.1 | E2   | 41.001       |           | Design and documentation (as required, should it not already be included with an item below)   | Sum  | 1        |                 |        |
|                | E2   |              |           | <b>PART E2.5.4.2.2: PROCUREMENT AND DELIVERY</b>   |      |          |                 |        |
|                | E2   |              |           | <b>CCTV Plant</b>  |      |          |                 |        |
| 5.E2.5.4.2.2.1 | E2   | 44.002 (d)   |           | Digital Camera Outdoor - Vandal Proof Type   | No.  | 4        |                 |        |
|                | E2   |              |           | <b>PART E2.5.4.2.3: INSTALLATION</b>   |      |          |                 |        |
|                | E2   |              |           | <b>CCTV Plant</b>  |      |          |                 |        |
| 5.E2.5.4.2.3.1 | E2   | 44.003 (d)   |           | Digital Camera Outdoor - Vandal Proof Type   | No.  | 4        |                 |        |
|                | E2   |              |           | <b>PART E: HIGH-LIFT PUMPING STATION (Carried forward to Summary of Bills)</b>   |      |          |                 |        |

| Item no.   | Part | Payment                    | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|----------------------------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference                  |           |   |      |          |                 |        |
|            | F    |                            |           | <b>PART F: HIGH LIFT RISING MAIN</b>  |      |          |                 |        |
|            | F    |                            |           | <b>Employer's Requirements :</b><br><b>(Plant designed, tested, supplied and delivered by Contractor)</b>                                       |      |          |                 |        |
|            | F    |                            |           | <b>PART F13: Control and Communication Systems</b>  |      |          |                 |        |
|            | F    |                            |           | <b>PART F13.1: DESIGN</b>   |      |          |                 |        |
| 5.F13.1.1  | F    | 41.001                     |           | Design and documentation<br>(as required, should it not already be included with an item below)   | Sum  | 1        |                 |        |
|            | F    |                            |           | <b>PART F13.2: PROCUREMENT AND DELIVERY</b>   |      |          |                 |        |
|            | F    |                            |           | <b>Cabling</b>  |      |          |                 |        |
| 5.F13.2.1  | F    | 41.002 (j)                 |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 28000    |                 |        |
| 5.F13.2.2  | F    | 41.002 (j)                 |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 28000    |                 |        |
| 5.F13.2.3  | F    | 41.002 (j)                 |           | "Fibre Optic Cable Below" Warning Tape  | m    | 28000    |                 |        |
| 5.F13.2.4  | F    | 41.002 (j)                 |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | each | 66       |                 |        |
|            | F    |                            |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.F13.2.5  | F    | 41.002 (c)                 |           | Level Transmitter   | No.  | 6        |                 |        |
|            | F    |                            |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.F13.2.6  | F    | 41.002 (nn)<br>/40.002 (b) |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.F13.2.7  | F    | 41.002 (00)                |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 1        |                 |        |
| 5.F13.2.8  | F    | 41.002 (pp)                |           | Fibre Optic Patch Panels - 24 Way   | No.  | 1        |                 |        |
|            | F    |                            |           | <b>Microwave Radio Systems</b>  |      |          |                 |        |
| 5.F13.2.9  | F    | 40.002 (d)                 |           | Upper 6 GHz ODU (Outdoor Unit)  | No.  | 6        |                 |        |
| 5.F13.2.10 | F    | 40.002 (d)                 |           | RFU 6GHz OMT Interface Andrew   | No.  | 6        |                 |        |
| 5.F13.2.11 | F    | 40.002 (d)                 |           | OMT Kit 6GHz  | No.  | 6        |                 |        |
| 5.F13.2.12 | F    | 40.002 (d)                 |           | (-48VDC) Power Supply   | No.  | 6        |                 |        |
| 5.F13.2.13 | F    | 40.002 (d)                 |           | Grounding Kit   | No.  | 12       |                 |        |
| 5.F13.2.14 | F    | 40.002 (d)                 |           | Capacity Key (activation key code)  | No.  | 6        |                 |        |
| 5.F13.2.15 | F    | 40.002 (d)                 |           | GBE Connector Kit   | No.  | 3        |                 |        |
| 5.F13.2.16 | F    | 40.002 (d)                 |           | Earth/Ground cable for ODU  | No.  | 6        |                 |        |
| 5.F13.2.17 | F    | 40.002 (d)                 |           | Outdoor DC Cabling  | No.  | 2        |                 |        |
| 5.F13.2.18 | F    | 40.002 (d)                 |           | Cat5e 100m Drum   | No.  | 3        |                 |        |
|            |      |                            |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|            |      |                   |           |   |      |          |                 |        |
|            |      |                   |           |   |      |          | Brought Forward |        |
| 5.F13.2.19 | F    | 40.002 (d)        |           | Gland Kit   | No.  | 6        |                 |        |
| 5.F13.2.20 | F    | 40.002 (g)        |           | 3-Foot 6GHz Andrew Type Microwave Parabolic High-Gain Reflector Antennae Dish   | No.  | 6        |                 |        |
|            | F    |                   |           | <b>PART F13.3: INSTALLATION</b>   |      |          |                 |        |
|            | F    |                   |           | <b>Cabling</b>  |      |          |                 |        |
| 5.F13.3.1  | F    | 41.003 (j)        |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 28000    |                 |        |
| 5.F13.3.2  | F    | 41.003 (j)        |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 28000    |                 |        |
| 5.F13.3.3  | F    | 41.003 (j)        |           | "Fibre Optic Cable Below" Warning Tape  | m    | 28000    |                 |        |
| 5.F13.3.4  | F    | 41.003 (j)        |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | each | 66       |                 |        |
|            | F    |                   |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.F13.3.5  | F    | 41.003(c)         |           | Level Transmitter   | No.  | 6        |                 |        |
|            | F    |                   |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.F13.3.6  | F    | 41.003 (bbb)      |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.F13.3.7  | F    | 41.003 (ccc)      |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 1        |                 |        |
| 5.F13.3.8  | F    | 41.003 (ddd)      |           | Fibre Optic Patch Panels - 24 Way   | No.  | 1        |                 |        |
|            | F    |                   |           | <b>Microwave Radio Systems</b>  |      |          |                 |        |
| 5.F13.3.9  | F    | 40.003 (d)        |           | Upper 6 GHz ODU (Outdoor Unit)  | No.  | 6        |                 |        |
| 5.F13.3.10 | F    | 40.003 (d)        |           | RFU 6GHz OMT Interface Andrew   | No.  | 6        |                 |        |
| 5.F13.3.11 | F    | 40.003 (d)        |           | OMT Kit 6GHz  | No.  | 6        |                 |        |
| 5.F13.3.12 | F    | 40.003 (d)        |           | (-48VDC) Power Supply   | No.  | 6        |                 |        |
| 5.F13.3.13 | F    | 40.003 (d)        |           | Grounding Kit   | No.  | 12       |                 |        |
| 5.F13.3.14 | F    | 40.003 (d)        |           | Capacity Key (activation key code)  | No.  | 6        |                 |        |
| 5.F13.3.15 | F    | 40.003 (d)        |           | GBE Connector Kit   | No.  | 3        |                 |        |
| 5.F13.3.16 | F    | 40.003 (d)        |           | Earth/Ground cable for ODU  | No.  | 6        |                 |        |
| 5.F13.3.17 | F    | 40.003 (d)        |           | Outdoor DC Cabling  | No.  | 2        |                 |        |
| 5.F13.3.18 | F    | 40.003 (d)        |           | Cat5e 100m Drum   | No.  | 3        |                 |        |
| 5.F13.3.19 | F    | 40.003 (d)        |           | Gland Kit   | No.  | 6        |                 |        |
| 5.F13.3.20 | F    | 40.003 (g)        |           | 3-Foot 6GHz Andrew Type Microwave Parabolic High-Gain Reflector Antennae Dish   | No.  | 6        |                 |        |
|            | F    |                   |           | <b>PART F: HIGH-LIFT RISING MAIN (Carried forward to Summary of Bills)</b>  |      |          |                 |        |

| Item no.  | Part | Payment                   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference                 |           |   |      |          |                 |        |
|           | G    |                           |           | <b>PART G: BREAK PRESSURE RESERVOIR</b>   |      |          |                 |        |
|           | G    |                           |           | <b>Employer's Requirements :</b><br><b>(Plant designed, tested, supplied and delivered by Contractor)</b>               |      |          |                 |        |
|           | G    |                           |           | <b>PART G8: Control and Communication Systems</b>   |      |          |                 |        |
|           | G    |                           |           | <b>PART G8.1: DESIGN</b>  |      |          |                 |        |
| 5.G8.1.1  | G    | 41.001                    |           | Design and documentation<br>(as required, should it not already be included with an item below)                         | Sum  | 1        |                 |        |
|           | G    |                           |           | <b>PART G8.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|           | G    |                           |           | <b>Cabling</b>  |      |          |                 |        |
| 5.G8.2.1  | G    | 41.002 (j)                |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 3000     |                 |        |
| 5.G8.2.2  | G    | 41.002 (j)                |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 3000     |                 |        |
| 5.G8.2.3  | G    | 41.002 (j)                |           | "Fibre Optic Cable Below" Warning Tape  | m    | 3000     |                 |        |
| 5.G8.2.4  | G    | 41.002 (j)                |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | each | 10       |                 |        |
| 5.G8.2.5  | G    | 41.002 (k)                |           | 2 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 4000     |                 |        |
| 5.G8.2.6  | G    | 41.002 (l)                |           | 4 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 2000     |                 |        |
| 5.G8.2.7  | G    | 41.002 (q)                |           | 24 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 1000     |                 |        |
| 5.G8.2.8  | G    | 41.002 (j)                |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    |          |                 |        |
| 5.G8.2.9  | G    | 44.002 (l)                |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 200      |                 |        |
| 5.G8.2.10 | G    | 44.002 (iii)              |           | Ethernet Cat 5e/Cat 6 cable with PVC Outer Jacket   | m    | 200      |                 |        |
|           | G    |                           |           | <b>Control Plant and PLC's</b>  |      |          |                 |        |
| 5.G8.2.11 | G    | 41.002 (x)                |           | CPU Units   | No.  | 1        |                 |        |
| 5.G8.2.12 | G    | 41.002 (dd)               |           | Power Supply Unit   | No.  | 2        |                 |        |
| 5.G8.2.13 | G    | 41.002 (bb)               |           | DI Units - Channels sink/source   | No.  | 2        |                 |        |
| 5.G8.2.14 | G    | 41.002 (cc)               |           | DO Units - Channels sink/source   | No.  | 1        |                 |        |
| 5.G8.2.15 | G    | 41.002 (z)                |           | AI Units - Individually isolated channels   | No.  | 3        |                 |        |
| 5.G8.2.16 | G    | 41.002 (bbb)              |           | Ethernet/IP Communication Module  | No.  | 1        |                 |        |
| 5.G8.2.17 | G    | 41.002 (ww) / 41.002 (tt) |           | PLC Cabinet IP65/66 rated for installed PLC Plant, cabling, marshalling, racking, earthing, surge protection, HMI Panel | No.  | 1        |                 |        |
| 5.G8.2.18 | G    | 41.002 (ff)               |           | PLC Software  | Sum  | 1        |                 |        |
| 5.G8.2.19 | G    | 41.002 (ff)               |           | PLC Licences  | Sum  | 1        |                 |        |
|           | G    |                           |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.G8.2.20 | G    | 41.002 (yy)               |           | Electromagnetic Flow Meters   | No.  | 2        |                 |        |
|           |      |                           |           |   |      |          | Carried Forward |        |



| Item no.  | Part | Payment                     | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------------------------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference                   |           |   |      |          |                 |        |
|           |      |                             |           |   |      |          | Brought Forward |        |
| 5.G8.2.21 | G    | 41.002 (c)                  |           | Level Transmitter   | No.  | 6        |                 |        |
| 5.G8.2.22 | G    | 41.002 (uu)                 |           | Limit Switches  | No.  | 12       |                 |        |
|           | G    |                             |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.G8.2.23 | G    | 41.002 (nn) /40.002 (b)     |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports           | No.  | 1        |                 |        |
| 5.G8.2.24 | G    | 41.002 (00)                 |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans                  | No.  | 1        |                 |        |
| 5.G8.2.25 | G    | 41.002 (pp)                 |           | Fibre Optic Patch Panels - 24 Way   | No.  | 2        |                 |        |
|           | G    |                             |           | <b>Microwave Radio Systems</b>  |      |          |                 |        |
| 5.G8.2.26 | G    | 40.002 (d)                  |           | Upper 6 GHz ODU (Outdoor Unit)  | No.  | 18       |                 |        |
| 5.G8.2.27 | G    | 40.002 (d)                  |           | RFU 6GHz OMT Interface Andrew   | No.  | 18       |                 |        |
| 5.G8.2.28 | G    | 40.002 (d)                  |           | OMT Kit 6GHz  | No.  | 18       |                 |        |
| 5.G8.2.29 | G    | 40.002 (d)                  |           | (-48VDC) Power Supply   | No.  | 18       |                 |        |
| 5.G8.2.30 | G    | 40.002 (d)                  |           | Grounding Kit   | No.  | 36       |                 |        |
| 5.G8.2.31 | G    | 40.002 (d)                  |           | Capacity Key (activation key code)  | No.  | 18       |                 |        |
| 5.G8.2.32 | G    | 40.002 (d)                  |           | GBE Connector Kit   | No.  | 9        |                 |        |
| 5.G8.2.33 | G    | 40.002 (d)                  |           | Earth/Ground cable for ODU  | No.  | 18       |                 |        |
| 5.G8.2.34 | G    | 40.002 (d)                  |           | Outdoor DC Cabling  | No.  | 9        |                 |        |
| 5.G8.2.35 | G    | 40.002 (d)                  |           | Cat5e 100m Drum   | No.  | 9        |                 |        |
| 5.G8.2.36 | G    | 40.002 (d)                  |           | Gland Kit   | No.  | 18       |                 |        |
| 5.G8.2.37 | G    | 40.002 (g)                  |           | 3-Foot 6GHz Andrew Type Microwave Parabolic High-Gain Reflector Antennae Dish   | No.  | 12       |                 |        |
| 5.G8.2.38 | G    | 40.002 (g)                  |           | 4-Foot 6GHz Andrew Type Microwave Parabolic High-Gain Reflector Antennae Dish   | No.  | 6        |                 |        |
| 5.G8.2.39 | G    | 40.002 (e) / 40.001/41 .001 |           | 54m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 4        |                 |        |
|           | G    |                             |           | <b>PART G8.3: INSTALLATION</b>  |      |          |                 |        |
|           | G    |                             |           | <b>Cabling</b>  |      |          |                 |        |
| 5.G8.3.1  | G    | 41.003 (j)                  |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 3000     |                 |        |
| 5.G8.3.2  | G    | 41.003 (j)                  |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 3000     |                 |        |
| 5.G8.3.3  | G    | 41.003 (j)                  |           | "Fibre Optic Cable Below" Warning Tape  | m    | 3000     |                 |        |
| 5.G8.3.4  | G    | 41.003 (j)                  |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | each | 10       |                 |        |
|           |      |                             |           |   |      |          | Carried Forward |        |

| Item no.  | Part | Payment                   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference                 |           |   |      |          |                 |        |
|           |      |                           |           |   |      |          | Brought Forward |        |
| 5.G8.3.5  | G    | 41.003 (k)                |           | 2 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 4000     |                 |        |
| 5.G8.3.6  | G    | 41.003 (l)                |           | 4 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 2000     |                 |        |
| 5.G8.3.7  | G    | 41.003 (q)                |           | 24 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 1000     |                 |        |
| 5.G8.3.8  | G    | 41.003 (j)                |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 0        |                 |        |
| 5.G8.3.9  | G    | 44.003 (l)                |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 200      |                 |        |
| 5.G8.3.10 | G    | 41.003 (zz)               |           | Ethernet Cat 5e/Cat 6 cable with PVC Outer Jacket   | m    | 200      |                 |        |
|           | G    |                           |           | <b>Control Plant and PLC's</b>  |      |          |                 |        |
| 5.G8.3.11 | G    | 41.003 (ii)               |           | CPU Units   | No.  | 1        |                 |        |
| 5.G8.3.12 | G    | 41.003 (ii)               |           | Power Supply Unit   | No.  | 2        |                 |        |
| 5.G8.3.13 | G    | 41.003 (ii)               |           | DI Units - Channels sink/source   | No.  | 2        |                 |        |
| 5.G8.3.14 | G    | 41.003 (ii)               |           | DO Units - Channels sink/source   | No.  | 1        |                 |        |
| 5.G8.3.15 | G    | 41.003 (ii)               |           | AI Units - Individually isolated channels   | No.  | 3        |                 |        |
| 5.G8.3.16 | G    | 41.003 (ii)               |           | Ethernet/IP Communication Module  | No.  | 1        |                 |        |
| 5.G8.3.17 | G    | 41.003 (ii) / 41.003 (nn) |           | PLC Cabinet IP65/66 rated for installed PLC Plant, cabling, marshalling, racking, earthing, surge protection, HMI Panel                         | No.  | 1        |                 |        |
| 5.G8.3.18 | G    | 41.003 (ii)               |           | PLC Software  | Sum  | 1        |                 |        |
| 5.G8.3.19 | G    | 41.003 (ii)               |           | PLC Licences  | Sum  | 1        |                 |        |
|           | G    |                           |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.G8.3.20 | G    | 41.003 (pp)               |           | Electromagnetic Flow Meters   | No.  | 2        |                 |        |
| 5.G8.3.21 | G    | 41.003 (c)                |           | Level Transmitter   | No.  | 6        |                 |        |
| 5.G8.3.22 | G    | 41.003 (ll)               |           | Limit Switches  | No.  | 12       |                 |        |
|           | G    |                           |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.G8.3.23 | G    | 41.003 (bbb)              |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 1        |                 |        |
| 5.G8.3.24 | G    | 41.003 (ccc)              |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 1        |                 |        |
| 5.G8.3.25 | G    | 41.003 (ddd)              |           | Fibre Optic Patch Panels - 24 Way   | No.  | 2        |                 |        |
|           | G    |                           |           | <b>Microwave Radio Systems</b>  |      |          |                 |        |
| 5.G8.3.26 | G    | 40.003 (d)                |           | Upper 6 GHz ODU (Outdoor Unit)  | No.  | 18       |                 |        |
| 5.G8.3.27 | G    | 40.003 (d)                |           | RFU 6GHz OMT Interface Andrew   | No.  | 18       |                 |        |
|           |      |                           |           |   |      |          | Carried Forward |        |

| Item no.  | Part | Payment           | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference         |           |   |      |          |                 |        |
|           |      |                   |           |   |      |          | Brought Forward |        |
| 5.G8.3.28 | G    | 40.003 (d)        |           | OMT Kit 6GHz  | No.  | 18       |                 |        |
| 5.G8.3.29 | G    | 40.003 (d)        |           | (-48VDC) Power Supply   | No.  | 18       |                 |        |
| 5.G8.3.30 | G    | 40.003 (d)        |           | Grounding Kit   | No.  | 36       |                 |        |
| 5.G8.3.31 | G    | 40.003 (d)        |           | Capacity Key (activation key code)  | No.  | 18       |                 |        |
| 5.G8.3.32 | G    | 40.003 (d)        |           | GBE Connector Kit   | No.  | 9        |                 |        |
| 5.G8.3.33 | G    | 40.003 (d)        |           | Earth/Ground cable for ODU  | No.  | 18       |                 |        |
| 5.G8.3.34 | G    | 40.003 (d)        |           | Outdoor DC Cabling  | No.  | 9        |                 |        |
| 5.G8.3.35 | G    | 40.003 (d)        |           | Cat5e 100m Drum   | No.  | 9        |                 |        |
| 5.G8.3.36 | G    | 40.003 (d)        |           | Gland Kit   | No.  | 18       |                 |        |
| 5.G8.3.37 | G    | 40.003 (g)        |           | 3-Foot 6GHz Andrew Type Microwave Parabolic High-Gain Reflector Antennae Dish   | No.  | 12       |                 |        |
| 5.G8.3.38 | G    | 40.003 (g)        |           | 4-Foot 6GHz Andrew Type Microwave Parabolic High-Gain Reflector Antennae Dish   | No.  | 6        |                 |        |
| 5.G8.3.39 | G    | 40.003/40.003 (e) |           | 54m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 4        |                 |        |
|           | G    |                   |           | <b>PART G: BREAK PRESSURE RESERVOIR (Carried forward to Summary of Bills)</b>   |      |          |                 |        |

| Item no.     | Part | Payment                   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|              |      | Reference                 |           |   |      |          |                 |        |
|              | H    |                           |           | <b>PART H: GRAVITY MAINS</b>  |      |          |                 |        |
|              | H1   |                           |           | <b>PART H1: BPR TO OFF TAKE C (33KM + 30.5KM + 18.5KM) - CH0 TO CH2</b>   |      |          |                 |        |
|              | H1   |                           |           | <b>Employer's Requirements : (Plant designed, tested, supplied and delivered by Contractor)</b>   |      |          |                 |        |
|              | H1   |                           |           | <b>PART H1.13: Control and Communication Systems</b>  |      |          |                 |        |
|              | H1   |                           |           | <b>PART H1.13.1: DESIGN</b>   |      |          |                 |        |
| 5.H1.13.1.1  | H1   | 41.001                    |           | Design and documentation (as required, should it not already be included with an item below)  | Sum  | 1        |                 |        |
|              | H1   |                           |           | <b>PART H1.13.2: PROCUREMENT AND DELIVERY</b>   |      |          |                 |        |
|              | H1   |                           |           | <b>Cabling</b>  |      |          |                 |        |
| 5.H1.13.2.1  | H1   | 41.002 (j)                |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 83000    |                 |        |
| 5.H1.13.2.2  | H1   | 41.002 (j)                |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 83000    |                 |        |
| 5.H1.13.2.3  | H1   | 41.002 (j)                |           | "Fibre Optic Cable Below" Warning Tape  | m    | 83000    |                 |        |
| 5.H1.13.2.4  | H1   | 41.002 (j)                |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | each | 180      |                 |        |
| 5.H1.13.2.5  | H1   | 41.002 (l)                |           | 4 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 400      |                 |        |
| 5.H1.13.2.6  | H1   | 44.002 (l)                |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 100      |                 |        |
|              | H1   |                           |           | <b>Remote I/O</b>   |      |          |                 |        |
| 5.H1.13.2.7  | H1   | 41.002 (dd)               |           | Power Supply Unit   | No.  | 1        |                 |        |
| 5.H1.13.2.8  | H1   | 41.002 (z)                |           | AI Units - Individually isolated channels   | No.  | 1        |                 |        |
| 5.H1.13.2.9  | H1   | 41.002 (bbb)              |           | Ethernet/IP Communication Module  | No.  | 1        |                 |        |
| 5.H1.13.2.10 | H1   | 41.002 (ww) / 41.002 (tt) |           | Remote I/O Cabinet IP65/66 rated for installed Remote I/O Plant, cabling, marshalling, racking, earthing, surge protection                      | No.  | 1        |                 |        |
|              | H1   |                           |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.H1.13.2.11 | H1   | 41.002 (yy)               |           | Electromagnetic Flow Meters   | No.  | 2        |                 |        |
| 5.H1.13.2.12 | H1   | 41.002 (v)                |           | Battery Operated Electromagnetic Flow Meters  | No.  | 60       |                 |        |
|              | H1   |                           |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.H1.13.2.13 | H1   | 41.002 (nn) /40.002 (b)   |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 2        |                 |        |
| 5.H1.13.2.14 | H1   | 41.002 (00)               |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 2        |                 |        |
| 5.H1.13.2.15 | H1   | 41.002 (pp)               |           | Fibre Optic Patch Panels - 24 Way   | No.  | 4        |                 |        |
|              | H1   |                           |           | <b>PART H1.13.3: INSTALLATION</b>   |      |          |                 |        |
|              | H1   |                           |           | <b>Cabling</b>  |      |          |                 |        |
| 5.H1.13.3.1  | H1   | 41.003 (j)                |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 83000    |                 |        |
|              |      |                           |           |   |      |          | Carried Forward |        |

| Item no.     | Part | Payment                   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|              |      | Reference                 |           |   |      |          |                 |        |
|              |      |                           |           |   |      |          | Brought Forward |        |
| 5.H1.13.3.2  | H1   | 41.003 (j)                |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 83000    |                 |        |
| 5.H1.13.3.3  | H1   | 41.003 (j)                |           | "Fibre Optic Cable Below" Warning Tape  | m    | 83000    |                 |        |
| 5.H1.13.3.4  | H1   | 41.003 (j)                |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | each | 180      |                 |        |
| 5.H1.13.3.5  | H1   | 41.003 (l)                |           | 4 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 400      |                 |        |
| 5.H1.13.3.6  | H1   | 44.003 (l)                |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 100      |                 |        |
|              | H1   |                           |           | <b>Remote I/O</b>   |      |          |                 |        |
| 5.H1.13.3.7  | H1   | 41.003 (ii)               |           | Power Supply Unit   | No.  | 1        |                 |        |
| 5.H1.13.3.8  | H1   | 41.003 (ii)               |           | AI Units - Individually isolated channels   | No.  | 1        |                 |        |
| 5.H1.13.3.9  | H1   | 41.003 (ii)               |           | Ethernet/IP Communication Module  | No.  | 1        |                 |        |
| 5.H1.13.3.10 | H1   | 41.003 (ii) / 41.003 (nn) |           | Remote I/O Cabinet IP65/66 rated for installed Remote I/O Plant, cabling, marshalling, racking, earthing, surge protection                      | No.  | 1        |                 |        |
|              | H1   |                           |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.H1.13.3.11 | H1   | 41.003 (pp)               |           | Electromagnetic Flow Meters   | No.  | 2        |                 |        |
| 5.H1.13.3.12 | H1   | 41.003 (gg)               |           | Battery Operated Electromagnetic Flow Meters  | No.  | 60       |                 |        |
|              | H1   |                           |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.H1.13.3.13 | H1   | 41.003 (bbb)              |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports | No.  | 2        |                 |        |
| 5.H1.13.3.14 | H1   | 41.003 (ccc)              |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans        | No.  | 2        |                 |        |
| 5.H1.13.3.15 | H1   | 41.003 (ddd)              |           | Fibre Optic Patch Panels - 24 Way   | No.  | 4        |                 |        |
|              | H1   |                           |           | <b>PART H1: BPR TO OFF TAKE C (33KM + 30.5KM + 18.5KM) - CH0 TO CH82</b><br><i>(Carried forward to Summary of Bills)</i>                        |      |          |                 |        |

| Item no.     | Part | Payment                          | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|----------------------------------|-----------|---|------|----------|-----------------|--------|
|              |      | Reference                        |           |   |      |          |                 |        |
|              | H2   |                                  |           | <b>PART H2: OFF TAKE C TO OFF TAKE B (13KM) - CH82 TO CH95</b>  |      |          |                 |        |
|              | H2   |                                  |           | <b>Employer's Requirements : (Plant designed, tested, supplied and delivered by Contractor)</b>   |      |          |                 |        |
|              | H2   |                                  |           | <b>PART H2.13: Control and Communication Systems</b>  |      |          |                 |        |
|              | H2   |                                  |           | <b>PART H2.13.1: DESIGN</b>   |      |          |                 |        |
| 5.H2.13.1.1  | H2   | 41.001                           |           | Design and documentation (as required, should it not already be included with an item below)  | Sum  | 1        |                 |        |
|              | H2   |                                  |           | <b>PART H2.13.2: PROCUREMENT AND DELIVERY</b>   |      |          |                 |        |
|              | H2   |                                  |           | <b>Cabling</b>  |      |          |                 |        |
| 5.H2.13.2.1  | H2   | 41.002 (j)                       |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 14000    |                 |        |
| 5.H2.13.2.2  | H2   | 41.002 (j)                       |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 14000    |                 |        |
| 5.H2.13.2.3  | H2   | 41.002 (j)                       |           | "Fibre Optic Cable Below" Warning Tape  | m    | 14000    |                 |        |
| 5.H2.13.2.4  | H2   | 41.002 (j)                       |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | each | 38       |                 |        |
|              | H2   |                                  |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.H2.13.2.5  | H2   | 41.002 (v)                       |           | Battery Operated Electromagnetic Flow Meters  | No.  | 10       |                 |        |
|              | H2   |                                  |           | <b>Microwave Radio Systems</b>  |      |          |                 |        |
| 5.H2.13.2.6  | H2   | 40.002 (d)                       |           | 23 GHz ODU (Outdoor Unit)   | No.  | 2        |                 |        |
| 5.H2.13.2.7  | H2   | 40.002 (d)                       |           | RFU 23GHz OMT Interface Andrew  | No.  | 2        |                 |        |
| 5.H2.13.2.8  | H2   | 40.002 (d)                       |           | OMT Kit 23GHz   | No.  | 2        |                 |        |
| 5.H2.13.2.9  | H2   | 40.002 (d)                       |           | (-48VDC) Power Supply   | No.  | 2        |                 |        |
| 5.H2.13.2.10 | H2   | 40.002 (d)                       |           | Grounding Kit   | No.  | 2        |                 |        |
| 5.H2.13.2.11 | H2   | 40.002 (d)                       |           | Capacity Key (activation key code)  | No.  | 2        |                 |        |
| 5.H2.13.2.12 | H2   | 40.002 (d)                       |           | GBE Connector Kit   | No.  | 1        |                 |        |
| 5.H2.13.2.13 | H2   | 40.002 (d)                       |           | Earth/Ground cable for ODU  | No.  | 2        |                 |        |
| 5.H2.13.2.14 | H2   | 40.002 (d)                       |           | Outdoor DC Cabling  | No.  | 1        |                 |        |
| 5.H2.13.2.15 | H2   | 40.002 (d)                       |           | Cat5e 100m Drum   | No.  | 1        |                 |        |
| 5.H2.13.2.16 | H2   | 40.002 (d)                       |           | Gland Kit   | No.  | 2        |                 |        |
| 5.H2.13.2.17 | H2   | 40.002 (g)                       |           | 1-Foot 23GHz Andrew Type Microwave Parabolic High-Gain Reflector Antennae Dish  | No.  | 1        |                 |        |
| 5.H2.13.2.18 | H2   | 40.002 (e)/<br>40.001/41<br>.001 |           | 15m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 1        |                 |        |
|              |      |                                  |           |   |      |          | Carried Forward |        |

| Item no.     | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|              |      |                   |           |   |      |          |                 |        |
|              |      |                   |           |   |      |          | Brought Forward |        |
|              | H2   |                   |           | <b>PART H2.13.3: INSTALLATION</b>   |      |          |                 |        |
|              | H2   |                   |           | <b>Cabling</b>  |      |          |                 |        |
| 5.H2.13.3.1  | H2   | 41.003 (j)        |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 14000    |                 |        |
| 5.H2.13.3.2  | H2   | 41.003 (j)        |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 14000    |                 |        |
| 5.H2.13.3.3  | H2   | 41.003 (j)        |           | "Fibre Optic Cable Below" Warning Tape  | m    | 14000    |                 |        |
| 5.H2.13.3.4  | H2   | 41.003 (j)        |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | each | 38       |                 |        |
|              | H2   |                   |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.H2.13.3.5  | H2   | 41.003 (gg)       |           | Battery Operated Electromagnetic Flow Meters  | No.  | 10       |                 |        |
|              | H2   |                   |           | <b>Microwave Radio Systems</b>  |      |          |                 |        |
| 5.H2.13.3.6  | H2   | 40.002 (d)        |           | 23 GHz ODU (Outdoor Unit)   | No.  | 2        |                 |        |
| 5.H2.13.3.7  | H2   | 40.002 (d)        |           | RFU 23GHz OMT Interface Andrew  | No.  | 2        |                 |        |
| 5.H2.13.3.8  | H2   | 40.002 (d)        |           | OMT Kit 23GHz   | No.  | 2        |                 |        |
| 5.H2.13.3.9  | H2   | 40.002 (d)        |           | (-48VDC) Power Supply   | No.  | 2        |                 |        |
| 5.H2.13.3.10 | H2   | 40.002 (d)        |           | Grounding Kit   | No.  | 2        |                 |        |
| 5.H2.13.3.11 | H2   | 40.002 (d)        |           | Capacity Key (activation key code)  | No.  | 2        |                 |        |
| 5.H2.13.3.12 | H2   | 40.002 (d)        |           | GBE Connector Kit   | No.  | 1        |                 |        |
| 5.H2.13.3.13 | H2   | 40.002 (d)        |           | Earth/Ground cable for ODU  | No.  | 2        |                 |        |
| 5.H2.13.3.14 | H2   | 40.002 (d)        |           | Outdoor DC Cabling  | No.  | 1        |                 |        |
| 5.H2.13.3.15 | H2   | 40.002 (d)        |           | Cat5e 100m Drum   | No.  | 1        |                 |        |
| 5.H2.13.3.16 | H2   | 40.002 (d)        |           | Gland Kit   | No.  | 2        |                 |        |
| 5.H2.13.3.17 | H2   | 40.002 (g)        |           | 1-Foot 23GHz Andrew Type Microwave Parabolic High-Gain Reflector Antennae Dish  | No.  | 1        |                 |        |
| 5.H2.13.3.18 | H2   | 40.003/40.003 (e) |           | 15m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 1        |                 |        |
|              | H2   |                   |           | <b>PART H2: OFF TAKE C TO OFF TAKE B (13KM) - CH82 TO CH95</b><br><i>(Carried forward to Summary of Bills)</i>  |      |          |                 |        |

| Item no.     | Part | Payment                   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|              |      | Reference                 |           |   |      |          |                 |        |
|              | H3   |                           |           | <b>PART H3: OFF TAKE B TO OFF TAKE A (6.3KM) - CH95 TO CH101.30</b>   |      |          |                 |        |
|              | H3   |                           |           | <b>Employer's Requirements :<br/>(Plant designed, tested, supplied and delivered by Contractor)</b>                     |      |          |                 |        |
|              | H3   |                           |           | <b>PART H3.13: Control and Communication Systems</b>  |      |          |                 |        |
|              | H3   |                           |           | <b>PART H3.13.1: DESIGN</b>   |      |          |                 |        |
| 5.H3.13.1.1  | H3   | 41.001                    |           | Design and documentation<br>(as required, should it not already be included with an item below)                         | Sum  | 1        |                 |        |
|              | H3   |                           |           | <b>PART H3.13.2: PROCUREMENT AND DELIVERY</b>   |      |          |                 |        |
|              | H3   |                           |           | <b>Cabling</b>  |      |          |                 |        |
| 5.H3.13.2.1  | H3   | 41.002 (j)                |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 7500     |                 |        |
| 5.H3.13.2.2  | H3   | 41.002 (j)                |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 7500     |                 |        |
| 5.H3.13.2.3  | H3   | 41.002 (j)                |           | "Fibre Optic Cable Below" Warning Tape  | m    | 7500     |                 |        |
| 5.H3.13.2.4  | H3   | 41.002 (j)                |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | each | 20       |                 |        |
| 5.H3.13.2.5  | H3   | 41.002 (k)                |           | 2 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 1000     |                 |        |
| 5.H3.13.2.6  | H3   | 41.002 (l)                |           | 4 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 1000     |                 |        |
| 5.H3.13.2.7  | H3   | 41.002(m)                 |           | 8 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 1000     |                 |        |
| 5.H3.13.2.8  | H3   | 41.002 (q)                |           | 24 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 500      |                 |        |
| 5.H3.13.2.9  | H3   | 44.002 (l)                |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 200      |                 |        |
| 5.H3.13.2.10 | H3   | 41.002 (iii)              |           | Ethernet Cat 5e/Cat 6 cable with PVC Outer Jacket   | m    | 200      |                 |        |
|              | H3   |                           |           | <b>Control Plant and PLC's</b>  |      |          |                 |        |
| 5.H3.13.2.11 | H3   | 41.002 (x)                |           | CPU Units   | No.  | 2        |                 |        |
| 5.H3.13.2.12 | H3   | 41.002 (dd)               |           | Power Supply Unit   | No.  | 4        |                 |        |
| 5.H3.13.2.13 | H3   | 41.002 (bb)               |           | DI Units - Channels sink/source   | No.  | 3        |                 |        |
| 5.H3.13.2.14 | H3   | 41.002 (cc)               |           | DO Units - Channels sink/source   | No.  | 2        |                 |        |
| 5.H3.13.2.15 | H3   | 41.002 (z)                |           | AI Units - Individually isolated channels   | No.  | 5        |                 |        |
| 5.H3.13.2.16 | H3   | 41.002 (bbb)              |           | Ethernet/IP Communication Module  | No.  | 2        |                 |        |
| 5.H3.13.2.17 | H3   | 41.002 (ww) / 41.002 (tt) |           | PLC Cabinet IP65/66 rated for installed PLC Plant, cabling, marshalling, racking, earthing, surge protection, HMI Panel | No.  | 2        |                 |        |
| 5.H3.13.2.18 | H3   | 41.002 (ff)               |           | PLC Software  | Sum  | 1        |                 |        |
| 5.H3.13.2.19 | H3   | 41.002 (ff)               |           | PLC Licences  | Sum  | 1        |                 |        |
|              |      |                           |           |   |      |          | Carried Forward |        |



| Item no.     | Part | Payment                  | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|--------------------------|-----------|---|------|----------|-----------------|--------|
|              |      | Reference                |           |   |      |          |                 |        |
|              |      |                          |           |   |      |          | Brought Forward |        |
|              | H3   |                          |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.H3.13.2.20 | H3   | 41.002 (yy)              |           | Electromagnetic Flow Meters   | No.  | 3        |                 |        |
| 5.H3.13.2.21 | H3   | 41.002 (v)               |           | Battery Operated Electromagnetic Flow Meters  | No.  | 10       |                 |        |
| 5.H3.13.2.22 | H3   | 41.002 (b)               |           | Pressure Transmitter  | No.  | 12       |                 |        |
| 5.H3.13.2.23 | H3   | 41.002 (c)               |           | Level Transmitter   | No.  | 6        |                 |        |
| 5.H3.13.2.24 | H3   | 41.002 (uu)              |           | Limit Switches  | No.  | 24       |                 |        |
|              | H3   |                          |           | <b>Microwave Radio Systems</b>  |      |          |                 |        |
| 5.H3.13.2.25 | H3   | 40.002 (d)               |           | 23 GHz ODU (Outdoor Unit)   | No.  | 2        |                 |        |
| 5.H3.13.2.26 | H3   | 40.002 (d)               |           | RFU 23GHz OMT Interface Andrew  | No.  | 2        |                 |        |
| 5.H3.13.2.27 | H3   | 40.002 (d)               |           | OMT Kit 23GHz   | No.  | 2        |                 |        |
| 5.H3.13.2.28 | H3   | 40.002 (d)               |           | (-48VDC) Power Supply   | No.  | 2        |                 |        |
| 5.H3.13.2.29 | H3   | 40.002 (d)               |           | Grounding Kit   | No.  | 2        |                 |        |
| 5.H3.13.2.30 | H3   | 40.002 (d)               |           | Capacity Key (activation key code)  | No.  | 2        |                 |        |
| 5.H3.13.2.31 | H3   | 40.002 (d)               |           | GBE Connector Kit   | No.  | 1        |                 |        |
| 5.H3.13.2.32 | H3   | 40.002 (d)               |           | Earth/Ground cable for ODU  | No.  | 2        |                 |        |
| 5.H3.13.2.33 | H3   | 40.002 (d)               |           | Outdoor DC Cabling  | No.  | 1        |                 |        |
| 5.H3.13.2.34 | H3   | 40.002 (d)               |           | Cat5e 100m Drum   | No.  | 1        |                 |        |
| 5.H3.13.2.35 | H3   | 40.002 (d)               |           | Gland Kit   | No.  | 2        |                 |        |
| 5.H3.13.2.36 | H3   | 40.002 (g)               |           | 1-Foot 23GHz Andrew Type Microwave Parabolic High-Gain Reflector Antennae Dish  | No.  | 2        |                 |        |
| 5.H3.13.2.37 | H3   | 40.002 (e)/40.001/41.001 |           | 15m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 1        |                 |        |
|              | H3   |                          |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.H3.13.2.38 | H3   | 41.002 (nn)/40.002 (b)   |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports           | No.  | 2        |                 |        |
| 5.H3.13.2.39 | H3   | 41.002 (00)              |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans                  | No.  | 2        |                 |        |
| 5.H3.13.2.40 | H3   | 41.002 (pp)              |           | Fibre Optic Patch Panels - 24 Way   | No.  | 3        |                 |        |
|              | H3   |                          |           | <b>PART H3.13.3: INSTALLATION</b>   |      |          |                 |        |
|              | H3   |                          |           | <b>Cabling</b>  |      |          |                 |        |
| 5.H3.13.3.1  | H3   | 41.003 (j)               |           | 24-core Optic Fibre Single Mode 9/125 µm cable  | m    | 7500     |                 |        |
|              |      |                          |           |   |      |          | Carried Forward |        |

| Item no.     | Part | Payment                   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|---------------------------|-----------|---|------|----------|-----------------|--------|
|              |      | Reference                 |           |   |      |          |                 |        |
|              |      |                           |           |   |      |          | Brought Forward |        |
| 5.H3.13.3.2  | H3   | 41.003 (j)                |           | 110mm PVC/HDPE Sleeve (inclusive of couplings)  | m    | 7500     |                 |        |
| 5.H3.13.3.3  | H3   | 41.003 (j)                |           | "Fibre Optic Cable Below" Warning Tape  | m    | 7500     |                 |        |
| 5.H3.13.3.4  | H3   | 41.003 (j)                |           | Pre-cast SM Fibre Optic Cable Manholes/Handholes  | each | 20       |                 |        |
| 5.H3.13.3.5  | H3   | 41.003 (k)                |           | 2 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 1000     |                 |        |
| 5.H3.13.3.6  | H3   | 41.003 (l)                |           | 4 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 1000     |                 |        |
| 5.H3.13.3.7  | H3   | 41.003(m)                 |           | 8 pair, 1.5mm <sup>2</sup> Instrumentation Cable  | m    | 1000     |                 |        |
| 5.H3.13.3.8  | H3   | 41.003 (q)                |           | 24 pair, 1.5mm <sup>2</sup> Instrumentation Cable   | m    | 500      |                 |        |
| 5.H3.13.3.9  | H3   | 44.003 (l)                |           | 12-core Multimode Fibre Optic Cable 50/125 µm cable   | m    | 200      |                 |        |
| 5.H3.13.3.10 | H3   | 41.003 (zz)               |           | Ethernet Cat 5e/Cat 6 cable with PVC Outer Jacket   | m    | 200      |                 |        |
|              |      |                           |           | <b>Control Plant and PLC's</b>  |      |          |                 |        |
| 5.H3.13.3.11 | H3   | 41.003 (ii)               |           | CPU Units   | No.  | 2        |                 |        |
| 5.H3.13.3.12 | H3   | 41.003 (ii)               |           | Power Supply Unit   | No.  | 4        |                 |        |
| 5.H3.13.3.13 | H3   | 41.003 (ii)               |           | DI Units - Channels sink/source   | No.  | 3        |                 |        |
| 5.H3.13.3.14 | H3   | 41.003 (ii)               |           | DO Units - Channels sink/source   | No.  | 2        |                 |        |
| 5.H3.13.3.15 | H3   | 41.003 (ii)               |           | AI Units - Individually isolated channels   | No.  | 5        |                 |        |
| 5.H3.13.3.16 | H3   | 41.003 (ii)               |           | Ethernet/IP Communication Module  | No.  | 2        |                 |        |
| 5.H3.13.3.17 | H3   | 41.003 (ii) / 41.003 (nn) |           | PLC Cabinet IP65/66 rated for installed PLC Plant, cabling, marshalling, racking, earthing, surge protection, HMI Panel | No.  | 2        |                 |        |
| 5.H3.13.3.18 | H3   | 41.003 (ii)               |           | PLC Software  | Sum  | 1        |                 |        |
| 5.H3.13.3.19 | H3   | 41.003 (ii)               |           | PLC Licences  | Sum  | 1        |                 |        |
|              |      |                           |           | <b>Instrumentation</b>  |      |          |                 |        |
| 5.H3.13.3.20 | H3   | 41.003 (pp)               |           | Electromagnetic Flow Meters   | No.  | 3        |                 |        |
| 5.H3.13.3.21 | H3   | 41.003 (gg)               |           | Battery Operated Electromagnetic Flow Meters  | No.  | 10       |                 |        |
| 5.H3.13.3.22 | H3   | 41.003 (b)                |           | Pressure Transmitter  | No.  | 12       |                 |        |
| 5.H3.13.3.23 | H3   | 41.003 (c)                |           | Level Transmitter   | No.  | 6        |                 |        |
| 5.H3.13.3.24 | H3   | 41.003 (ll)               |           | Limit Switches  | No.  | 24       |                 |        |
|              |      |                           |           | <b>Microwave Radio Systems</b>  |      |          |                 |        |
| 5.H3.13.3.25 | H3   | 40.002 (d)                |           | 23 GHz ODU (Outdoor Unit)   | No.  | 2        |                 |        |
|              |      |                           |           |   |      |          | Carried Forward |        |

| Item no.     | Part | Payment           | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|              |      | Reference         |           |   |      |          |                 |        |
|              |      |                   |           |   |      |          | Brought Forward |        |
| 5.H3.13.3.26 | H3   | 40.002 (d)        |           | RFU 23GHz OMT Interface Andrew  | No.  | 2        |                 |        |
| 5.H3.13.3.27 | H3   | 40.002 (d)        |           | OMT Kit 23GHz   | No.  | 2        |                 |        |
| 5.H3.13.3.28 | H3   | 40.002 (d)        |           | (-48VDC) Power Supply   | No.  | 2        |                 |        |
| 5.H3.13.3.29 | H3   | 40.002 (d)        |           | Grounding Kit   | No.  | 2        |                 |        |
| 5.H3.13.3.30 | H3   | 40.002 (d)        |           | Capacity Key (activation key code)  | No.  | 2        |                 |        |
| 5.H3.13.3.31 | H3   | 40.002 (d)        |           | GBE Connector Kit   | No.  | 1        |                 |        |
| 5.H3.13.3.32 | H3   | 40.002 (d)        |           | Earth/Ground cable for ODU  | No.  | 2        |                 |        |
| 5.H3.13.3.33 | H3   | 40.002 (d)        |           | Outdoor DC Cabling  | No.  | 1        |                 |        |
| 5.H3.13.3.34 | H3   | 40.002 (d)        |           | Cat5e 100m Drum   | No.  | 1        |                 |        |
| 5.H3.13.3.35 | H3   | 40.002 (d)        |           | Gland Kit   | No.  | 2        |                 |        |
| 5.H3.13.3.36 | H3   | 40.002 (g)        |           | 1-Foot 23GHz Andrew Type Microwave Parabolic High-Gain Reflector Antennae Dish  | No.  | 2        |                 |        |
| 5.H3.13.3.37 | H3   | 40.003/40.003 (e) |           | 15m Lattice Steel Tower Mast designed with the required concrete volume, concrete strength, reinforcement strength, excavation volume and backfill volume | No.  | 1        |                 |        |
|              | H3   |                   |           | <b>SCADA Plant</b>  |      |          |                 |        |
| 5.H3.13.3.38 | H3   | 41.003 (bbb)      |           | Managed Ethernet Layer 2 Network Switch - 10/100 Base-TX Fast Ethernet Ports, 100/1000 BaseX Optical Fiber (SFP) Megabit/Gigabit Ethernet Ports           | No.  | 2        |                 |        |
| 5.H3.13.3.39 | H3   | 41.003 (ccc)      |           | 42U Industrial Type Network Rack Enclosure with removeable side panels, cable entry from top and below, dust proof pressurised with fans                  | No.  | 2        |                 |        |
| 5.H3.13.3.40 | H3   | 41.003 (ddd)      |           | Fibre Optic Patch Panels - 24 Way   | No.  | 3        |                 |        |
|              | H3   |                   |           | <b>PART H3: OFF TAKE B TO OFF TAKE A (6.3KM) - CH95 TO CH101.30</b><br><i>(Carried forward to Summary of Bills)</i>                                       |      |          |                 |        |
|              |      |                   |           | <b>BILL 5: CONTROL AND INSTRUMENTATION, COMMUNICATION AND SECURITY</b><br><i>(Carried forward to Summary of Bills)</i>                                    |      |          |                 |        |

| Item no. | Part | Payment       | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|---------------|-----------|--|------|----------|-----------------|--------|
|          |      | Reference     |           |  |      |          |                 |        |
| 6        |      |               |           | <b>BILL 6: CATHODIC PROTECTION AND AC MITIGATION</b>   |      |          |                 |        |
|          | A6   |               |           | <b>PART A6: PRELIMINARY AND GENERAL (SECONDARY)</b>  |      |          |                 |        |
|          | A6   | 1.002         |           | <b>FIXED CHARGES - GENERAL OBLIGATIONS</b>   |      |          |                 |        |
| 6.A6.1   | A6   |               | X         | Head Office Contract Management and Overheads  | Sum  | 1        |                 |        |
| 6.A6.2   | A6   |               | X         | General Site Supervision and Overheads   | Sum  | 1        |                 |        |
| 6.A6.3   | A6   |               | X         | Method statements (1.10.1)   | Sum  | 1        |                 |        |
| 6.A6.4   | A6   |               | X         | Competency training (1.10.2.4)   | Sum  | 1        |                 |        |
| 6.A6.5   | A6   |               | X         | Returns and reporting (1.10.3)   | Sum  | 1        |                 |        |
| 6.A6.6   | A6   |               | X         | Management meetings (1.10.4)   | Sum  | 1        |                 |        |
| 6.A6.7   | A6   |               | X         | Integration management (1.10.5)  | Sum  | 1        |                 |        |
| 6.A6.8   | A6   |               | X         | Programming Requirements (1.9)   | Sum  | 1        |                 |        |
| 6.A6.9   | A6   |               | X         | Quality Management (1.10.2)  | Sum  | 1        |                 |        |
| 6.A6.10  | A6   |               | X         | Socio Economic Requirements (1.11)   | Sum  | 1        |                 |        |
| 6.A6.11  | A6   |               | X         | Occupational Health and Safety Requirements (1.12)   | Sum  | 1        |                 |        |
| 6.A6.12  | A6   |               | X         | Environmental Requirements (1.13)  | Sum  | 1        |                 |        |
|          | A6   |               |           | <b>Any other charges not included elsewhere. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 6.A6.13  | A6   |               | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.14  | A6   |               | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.15  | A6   |               | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.16  | A6   |               | X         | .....  | Sum  | 1        |                 |        |
|          | A6   | 1.003 & 1.004 |           | <b>FIXED CHARGES - FACILITIES FOR THE CONTRACTOR (1.8)</b>   |      |          |                 |        |
| 6.A6.17  | A6   |               | X         | Transport of Staff and Labour (1.8.1.4)  | Sum  | 1        |                 |        |
| 6.A6.18  | A6   |               | X         | Construction Establishment Fencing (1.8.3.1)   | Sum  | 1        |                 |        |
| 6.A6.19  | A6   |               | X         | Lighting of Construction Establishment Areas (1.8.3.2)   | Sum  | 1        |                 |        |
| 6.A6.20  | A6   |               | X         | Electrical power and distribution (1.8.3.4)  | Sum  | 1        |                 |        |
| 6.A6.21  | A6   |               | X         | Standby power (1.8.3.4)  | Sum  | 1        |                 |        |
| 6.A6.22  | A6   |               | X         | Communications (1.8.3.7)   | Sum  | 1        |                 |        |
|          | A6   |               |           | <b>Office, Accommodation and Other Site facilities</b>   |      |          |                 |        |
| 6.A6.23  | A6   |               | X         | Accommodation for staff and workforce (1.8.3.8b)   | Sum  | 1        |                 |        |
| 6.A6.24  | A6   |               | X         | Offices (1.8.3.8c)   | Sum  | 1        |                 |        |
| 6.A6.25  | A6   |               | X         | Other establishment facilities (1.8.3.8d)  | Sum  | 1        |                 |        |
| 6.A6.26  | A6   |               | X         | Storage (1.8.3.8e)   | Sum  | 1        |                 |        |
|          |      |               |           |  |      |          | Carried Forward |        |

| Item no. | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|          |      |                   |           |  |      |          |                 |        |
|          |      |                   |           |  |      |          | Brought Forward |        |
|          | A6   |                   |           | <b>Other services</b>  |      |          |                 |        |
| 6.A6.27  | A6   |                   | X         | Medical (1.8.3.12)   | Sum  | 1        |                 |        |
| 6.A6.28  | A6   |                   | X         | Sanitation and Cleaning (1.8.3.13)   | Sum  | 1        |                 |        |
| 6.A6.29  | A6   |                   | X         | Access control and security (1.8.3.14)   | Sum  | 1        |                 |        |
|          | A6   |                   |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 6.A6.30  | A6   |                   | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.31  | A6   |                   | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.32  | A6   |                   | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.33  | A6   |                   | X         | .....  | Sum  | 1        |                 |        |
|          | A6   | 1.004             |           | <b>FIXED CHARGES - SPECIFIC EQUIPMENT</b>  |      |          |                 |        |
| 6.A6.34  | A6   |                   | X         | Equipment for construction and maintenance of the Contractor's work areas  | Sum  | 1        |                 |        |
| 6.A6.35  | A6   |                   | X         | Minor equipment and small tools  | Sum  | 1        |                 |        |
| 6.A6.36  | A6   |                   | X         | Equipment for compliance with Environmental and OH&S requirement   | Sum  | 1        |                 |        |
| 6.A6.37  | A6   |                   | X         | Construction services including electrical power, compressed air, water, communications, etc.  | Sum  | 1        |                 |        |
| 6.A6.38  | A6   |                   | X         | Equipment for processing and transport of materials  | Sum  | 1        |                 |        |
| 6.A6.39  | A6   |                   | X         | Specialised equipment for DCVG Survey and other testing  | Sum  | 1        |                 |        |
| 6.A6.40  | A6   |                   | X         | Equipment for crange, winches and lifting  | Sum  | 1        |                 |        |
| 6.A6.41  | A6   |                   | X         | Equipment for earthworks, trenching and backfilling  | Sum  | 1        |                 |        |
| 6.A6.42  | A6   |                   | X         | Equipment for site transporting, placing, fixing and finishing of concrete work, formwork and reinforcement  | Sum  | 1        |                 |        |
| 6.A6.43  | A6   |                   | X         | Equipment for drilling   | Sum  | 1        |                 |        |
|          | A6   |                   |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 6.A6.44  | A6   |                   | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.45  | A6   |                   | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.46  | A6   |                   | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.47  | A6   |                   | X         | .....  | Sum  | 1        |                 |        |
|          | A6   | 1.006             |           | <b>TIME RELATED CHARGES - GENERAL OBLIGATIONS</b>  |      |          |                 |        |
| 6.A6.48  | A6   |                   | X         | Head Office Contract Management and Overheads (Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 6.A6.49  | A6   |                   | X         | General Site Supervision and Overheads (Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 6.A6.50  | A6   |                   | X         | Method Statements (1.10.1) (Duration ..... Weeks)  | Sum  | 1        |                 |        |
|          |      |                   |           |  |      |          | Carried Forward |        |

| Item no. | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|          |      |                   |           |  |      |          |                 |        |
|          |      |                   |           |  |      |          | Brought Forward |        |
| 6.A6.51  | A6   |                   | X         | Competency training (1.10.2.4)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 6.A6.52  | A6   |                   | X         | Returns and reporting (1.10.3)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 6.A6.53  | A6   |                   | X         | Management meetings (1.10.4)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 6.A6.54  | A6   |                   | X         | Integration management (1.10.5)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 6.A6.55  | A6   |                   | X         | Programming Requirements (1.9)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 6.A6.56  | A6   |                   | X         | Quality Management (1.10.2)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 6.A6.57  | A6   |                   | X         | Socio Economic Requirements (1.11)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 6.A6.58  | A6   |                   | X         | Occupational Health and Safety (1.12)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 6.A6.59  | A6   |                   | X         | Environmental Requirements (1.13)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
|          | A6   |                   |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 6.A6.60  | A6   |                   | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.61  | A6   |                   | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.62  | A6   |                   | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.63  | A6   |                   | X         | .....  | Sum  | 1        |                 |        |
|          | A6   | 1.007 & 1.008     |           | <b>TIME RELATED CHARGES - FACILITIES FOR THE CONTRACTOR (1.8)</b>  |      |          |                 |        |
| 6.A6.64  | A6   |                   | X         | Transport of Staff and Labour (1.8.1.4)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 6.A6.65  | A6   |                   | X         | Construction Establishment Fencing (1.8.3.1)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 6.A6.66  | A6   |                   | X         | Lighting of Construction Establishment Areas (1.8.3.2)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 6.A6.67  | A6   |                   | X         | Electrical power and distribution (1.8.3.4)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 6.A6.68  | A6   |                   | X         | Standby power (1.8.3.4)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 6.A6.69  | A6   |                   | X         | Communications (1.8.3.7)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
|          | A6   |                   |           | <b>Office, Accommodation and Other Site facilities</b>   |      |          |                 |        |
| 6.A6.70  | A6   |                   | X         | Accommodation for staff and workforce (1.8.3.8b)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 6.A6.71  | A6   |                   | X         | Offices (1.8.3.8c)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 6.A6.72  | A6   |                   | X         | Other establishment facilities (1.8.3.8d)<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 6.A6.73  | A6   |                   | X         | Storage (1.8.3.8e)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
|          |      |                   |           |  |      |          | Carried Forward |        |

| Item no. | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|          |      | Reference |           |  |      |          |                 |        |
|          |      |           |           |  |      |          | Brought Forward |        |
|          | A6   |           |           | <b>Other services</b>  |      |          |                 |        |
| 6.A6.74  | A6   |           | X         | Medical (1.8.3.12)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 6.A6.75  | A6   |           | X         | Sanitation and Cleaning (1.8.3.13)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 6.A6.76  | A6   |           | X         | Access control and security (1.8.3.14)<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
|          | A6   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 6.A6.77  | A6   |           | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.78  | A6   |           | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.79  | A6   |           | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.80  | A6   |           | X         | .....  | Sum  | 1        |                 |        |
|          | A6   | 1.008     |           | <b>TIME RELATED CHARGES - SPECIFIC EQUIPMENT</b>   |      |          |                 |        |
| 6.A6.81  | A6   |           | X         | Equipment for construction and maintenance of the Contractor's work areas<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 6.A6.82  | A6   |           | X         | Minor equipment and small tools<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 6.A6.83  | A6   |           | X         | Equipment for compliance with Environmental and OH&S requirement<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
| 6.A6.84  | A6   |           | X         | Construction services including electrical power, compressed air, water, communications, etc.<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 6.A6.85  | A6   |           | X         | Equipment for processing and transport of materials<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 6.A6.86  | A6   |           | X         | Specialised equipment for DCVG Survey and other testing<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 6.A6.87  | A6   |           | X         | Equipment for crange, winches and lifting<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 6.A6.88  | A6   |           | X         | Equipment for earthworks, trenching and backfilling<br>(Duration ..... Weeks)  | Sum  | 1        |                 |        |
| 6.A6.89  | A6   |           | X         | Equipment for site transporting, placing, fixing and finishing of concrete work, formwork and reinforcement<br>(Duration ..... Weeks)                                    | Sum  | 1        |                 |        |
| 6.A6.90  | A6   |           | X         | Equipment for drilling<br>(Duration ..... Weeks)   | Sum  | 1        |                 |        |
|          | A6   |           |           | <b>Any other charges not included elsewhere.<br/>Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)</b> |      |          |                 |        |
| 6.A6.91  | A6   |           | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.92  | A6   |           | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.93  | A6   |           | X         | .....  | Sum  | 1        |                 |        |
| 6.A6.94  | A6   |           | X         | .....  | Sum  | 1        |                 |        |
|          | A6   |           |           | <b>A6: Preliminary and General (Carried forward to Summary of Bills)</b>   |      |          |                 |        |

| Item no.     | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|--------------|------|-------------------|-----------|---|------|----------|------|--------|
|              |      |                   |           |   |      |          |      |        |
|              | B    |                   |           | <b>PART B: ABSTRACTION WORKS</b>  |      |          |      |        |
|              | B2   |                   |           | <b>PART B2.1.7: DIVERSION WORKS AND LOW-LIFT PUMPING STATION (EMPLOYER DESIGN)</b>                                      |      |          |      |        |
|              | B2   |                   |           | <b>PART B2.1.7.1: PROCUREMENT AND DELIVERY</b>  |      |          |      |        |
|              | B2   |                   |           | <b>Continuity bonding around inside of pump station</b>   |      |          |      |        |
| 6.B2.1.7.1.1 | B2   | 34.006(a)         |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)          | m    | 130      |      |        |
| 6.B2.1.7.1.2 | B2   | 34.007(a)         |           | Continuity Link panel (complete with labelling)   | No.  | 1        |      |        |
| 6.B2.1.7.1.3 | B2   | 34.007(a)         |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good) | No.  | 5        |      |        |
|              | B2   |                   |           | <b>Insulation joints and surge arrestors</b>  |      |          |      |        |
| 6.B2.1.7.1.4 | B2   | 34.007(a)         |           | DN1200 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap                       | No.  | 3        |      |        |
| 6.B2.1.7.1.5 | B2   | 34.007(a)         |           | DN1000 PN16 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap                       | No.  | 3        |      |        |
|              | B2   |                   |           | <b>PART B2.1.7.2: INSTALLATION</b>  |      |          |      |        |
|              | B2   |                   |           | <b>Continuity bonding around inside of pump station</b>   |      |          |      |        |
| 6.B2.1.7.2.1 | B2   | 34.006(b)         |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)          | m    | 130      |      |        |
| 6.B2.1.7.2.2 | B2   | 34.007(b)         |           | Continuity Link panel (complete with labelling)   | No.  | 1        |      |        |
| 6.B2.1.7.2.3 | B2   | 34.007(b)         |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good) | No.  | 5        |      |        |
|              | B2   |                   |           | <b>Insulation joints and surge arrestors</b>  |      |          |      |        |
| 6.B2.1.7.2.4 | B2   | 34.007(b)         |           | DN1200 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap                       | No.  | 3        |      |        |
| 6.B2.1.7.2.5 | B2   | 34.007(b)         |           | DN1000 PN16 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap                       | No.  | 3        |      |        |
|              | B2   |                   |           | <b>PART B2: DIVERSION WORKS AND LOW-LIFT PUMPING STATION TOTAL</b>  |      |          |      |        |
|              |      |                   |           | <i>Bills)</i>   |      |          |      |        |



| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            | C    |           |           | <b>PART C: LOW LIFT RISING MAIN</b>  |      |          |                 |        |
|            | C    |           |           | <b>PART C10.1: COATING SURVEYS</b>   |      |          |                 |        |
| 6.C10.1.1  | C    | 34.001    |           | DCVG Survey  | km   | 12       |                 |        |
| 6.C10.1.2  | C    | 34.002    |           | Coating conductance test at 5km intervals  | No.  | 4        |                 |        |
|            | C    |           |           | <b>PART C10.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|            | C    |           |           | <b>Continuity bonding inside valve chambers</b>  |      |          |                 |        |
| 6.C10.2.1  | C    | 34.006(a) |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)   | m    | 96       |                 |        |
| 6.C10.2.2  | C    | 34.007(a) |           | Continuity Link panel (complete with labelling)  | No.  | 2        |                 |        |
| 6.C10.2.3  | C    | 34.007(a) |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good)  | No.  | 4        |                 |        |
| 6.C10.2.4  | C    | 34.007(a) |           | Stud weld and terminate cable on inline pipe and scour pipe (including, lugs, labelling & coating make good)   | No.  | 4        |                 |        |
|            | C    |           |           | <b>Other continuity bonding</b>  |      |          |                 |        |
| 6.C10.2.5  | C    | 34.007(a) |           | 2 off 25mm x 5mm steel flatbar welded across the flanges (including coating make good)   | No.  | 20       |                 |        |
|            | C    |           |           | <b>Insulation joints and surge arrestors</b>   |      |          |                 |        |
| 6.C10.2.6  | C    | 34.007(a) |           | DN1400 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 2        |                 |        |
| 6.C10.2.7  | C    | 34.007(a) |           | DN1000 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 4        |                 |        |
| 6.C10.2.8  | C    | 34.007a   |           | DN200 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 2        |                 |        |
|            | C    |           |           | <b>SACP station (shallow vertical well system)</b>   |      |          |                 |        |
| 6.C10.2.9  | C    | 34.007(a) |           | Supply secure concrete bunker, 1,2m surround and foundation (incl sleeves and gradient control mat)  | No.  | 18       |                 |        |
|            | C    |           |           | <b>Supply bunker connection panel (including labels, cable labels, cable ties):</b>  |      |          |                 |        |
| 6.C10.2.10 | C    | 34.007(a) |           | Type B: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon & SRE connections  | No.  | 5        |                 |        |
| 6.C10.2.11 | C    | 34.007(a) |           | Type C - crossbond to foreign service: pipe power, pipe monitor, foreign pipe power, foreign pipe monitor, VLD, AC coupon, DC coupon & SRE connections                             | No.  | 3        |                 |        |
| 6.C10.2.12 | C    | 34.007(a) |           | Type FB: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon, SRE & SSDC decoupler connections   | No.  | 1        |                 |        |
| 6.C10.2.13 | C    | 34.007(a) |           | Type FC: crossbond to parallel pipe: pipe power, pipe monitor, parallel pipe power, parallel pipe monitor, VLD, AC coupon, DC coupon, SRE connections & SSDC decoupler connections | No.  | 9        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | C    |           |           | <b>Vertical groundbed (2 wells, 5m apart at chambers):</b>   |      |          |                 |        |
| 6.C10.2.14 | C    | 34.008(a) |           | Supply 200mm borehole active length, 3.57kg/m zinc ribbon consisting of 1m lengths with flexible 10mm <sup>2</sup> interconnections complete with spacers to centralize in hole ( including, 50/50 gypsum/bentonite backfill, 10mm <sup>2</sup> anode tails from both ends and terminations into link panel) | m    | 400      |                 |        |
| 6.C10.2.15 | C    | 34.008(a) |           | Supply 200mm borehole inactive length, PVC casing, sand backfill (including 5m of 1m deep cable trench excavation and backfill)  | m    | 200      |                 |        |
|            | C    |           |           | <b>CP &amp; AC equipment and cabling:</b>  |      |          |                 |        |
| 6.C10.2.16 | C    | 34.007(a) |           | Supply 35mm <sup>2</sup> , black, single core, double insulated, Pipe Power cable (incl. stud weld to flange, coating make good and termination into link panel inside bunker - length 5m)   | No.  | 18       |                 |        |
| 6.C10.2.17 | C    | 34.007(a) |           | Supply 16mm <sup>2</sup> , black, single core, double insulated, Pipe Monitor cable (incl stud weld to flange, coating make good and termination into link panel inside bunker - length 5m)  | No.  | 18       |                 |        |
| 6.C10.2.18 | C    | 34.007(a) |           | Supply suitably rated VLD for gradient control mat (including 25mm <sup>2</sup> cabling and terminations to panel and gradient control mat).   | No.  | 18       |                 |        |
| 6.C10.2.19 | C    | 34.007(a) |           | Supply 1cm <sup>2</sup> AC coupon with 10 ohm 50W resistor (incl. cabling and terminations)  | No.  | 18       |                 |        |
| 6.C10.2.20 | C    | 34.007(a) |           | Supply 10cm <sup>2</sup> DC monitor coupon with cables   | No.  | 18       |                 |        |
| 6.C10.2.21 | C    | 34.007(a) |           | Supply Stationary Reference Electrode (including yellow 6mm <sup>2</sup> cable and termination)  | No.  | 18       |                 |        |
| 6.C10.2.22 | C    | 34.007(a) |           | Supply LV SSDC decoupler for gradient control wires  | No.  | 10       |                 |        |
|            | C    |           |           | <b>Supply gradient control wires parallel to pipeline : Zinc ribbon:</b>   |      |          |                 |        |
| 6.C10.2.23 | C    | 34.009(a) |           | Zinc ribbon 0.983 kg/m for installation in pipe trench   | km   | 4.8      |                 |        |
| 6.C10.2.24 | C    | 34.007(a) |           | Supply 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into SS-DCD inside chamber/bunker - length 5m)   | No.  | 20       |                 |        |
|            | C    |           |           | <b>Supply gradient control : Zinc mat adjacent to pipe (size as indicated):</b>  |      |          |                 |        |
| 6.C10.2.25 | C    | 34.007(a) |           | Zinc mat 6m x 6m made from zinc wire 0.983 kg/m for nodal installation   | No.  | 1        |                 |        |
| 6.C10.2.26 | C    | 34.007(a) |           | Supply 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into link panel inside chamber/bunker - length 12m)  | No.  | 1        |                 |        |
|            | C    |           |           | <b>Supply equipotential plane at reinforced concrete chambers</b>  |      |          |                 |        |
| 6.C10.2.27 | C    | 34.007(a) |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 7        |                 |        |
| 6.C10.2.28 | C    | 34.007(a) |           | Steel cable lug welded to reinforcing mesh in apron to protrude into chamber (2x per chamber)  | No.  | 14       |                 |        |
| 6.C10.2.29 | C    | 34.007(a) |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 14       |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 6.C10.2.30 | C    | 34.007(a) |           | Supply suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).  | No.  | 8        |                 |        |
|            | C    |           |           | <b>Supply equipotential plane at precast ring chambers</b>   |      |          |                 |        |
| 6.C10.2.31 | C    | 34.007(a) |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 36       |                 |        |
| 6.C10.2.32 | C    | 34.007(a) |           | Steel cable lug welded to rebar mesh in pre-cast concrete for each section(incl roof) for chamber with a 20mm x 5mm thick connecting steel bar welded across all these lugs and coated with bitumen after cable connection | No.  | 36       |                 |        |
| 6.C10.2.33 | C    | 34.007(a) |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 72       |                 |        |
| 6.C10.2.34 | C    | 34.007(a) |           | Supply suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).  | No.  | 36       |                 |        |
|            | C    |           |           | <b>PART C10.3: INSTALLATION</b>  |      |          |                 |        |
|            | C    |           |           | <b>Continuity bonding inside valve chambers</b>  |      |          |                 |        |
| 6.C10.3.1  | C    | 34.006(b) |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)   | m    | 96       |                 |        |
| 6.C10.3.2  | C    | 34.007(b) |           | Continuity Link panel (complete with labelling)  | No.  | 2        |                 |        |
| 6.C10.3.3  | C    | 34.007(b) |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good)  | No.  | 4        |                 |        |
| 6.C10.3.4  | C    | 34.007(b) |           | Stud weld and terminate cable on inline pipe and scour pipe (including, lugs, labelling & coating make good)   | No.  | 4        |                 |        |
|            | C    |           |           | <b>Other continuity bonding</b>  |      |          |                 |        |
| 6.C10.3.5  | C    | 34.007(b) |           | 2 off 25mm x 5mm steel flatbar welded across the flanges (including coating make good)   | No.  | 20       |                 |        |
|            | C    |           |           | <b>Insulation joints and surge arrestors</b>   |      |          |                 |        |
| 6.C10.3.6  | C    | 34.007(b) |           | DN1400 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 2        |                 |        |
| 6.C10.3.7  | C    | 34.007(b) |           | DN1000 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 4        |                 |        |
| 6.C10.3.8  | C    | 34.007(b) |           | DN200 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 2        |                 |        |
|            | C    |           |           | <b>SACP station (shallow vertical well system)</b>   |      |          |                 |        |
| 6.C10.3.9  | C    | 34.007(b) |           | Install secure concrete bunker, 1,2m surround and foundation (incl sleeves and gradient control mat)   | No.  | 18       |                 |        |
|            | C    |           |           | <b>Install bunker connection panel (including labels, cable labels, cable ties):</b>   |      |          |                 |        |
| 6.C10.3.10 | C    | 34.007(b) |           | Type B: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon & SRE connections  | No.  | 5        |                 |        |
| 6.C10.3.11 | C    | 34.007(b) |           | Type C - crossbond to foreign service: pipe power, pipe monitor, foreign pipe power, foreign pipe monitor, VLD, AC coupon, DC coupon & SRE connections   | No.  | 3        |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|            |      |                   |           |  |      |          | Brought Forward |        |
| 6.C10.3.12 | C    | 34.007(b)         |           | Type FB: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon, SRE & SSSDC decoupler connections  | No.  | 1        |                 |        |
| 6.C10.3.13 | C    | 34.007(b)         |           | Type FC: crossbond to parallel pipe: pipe power, pipe monitor, parallel pipe power, parallel pipe monitor, VLD, AC coupon, DC coupon, SRE connections & SSSDC decoupler connections  | No.  | 9        |                 |        |
|            | C    |                   |           | <b>Vertical groundbed(2 wells, 5m apart at chambers):</b>  |      |          |                 |        |
| 6.C10.3.14 | C    | 34.008(b)         |           | Install 200mm borehole active length, 3.57kg/m zinc ribbon consisting of 1m lengths with flexible 10mm <sup>2</sup> interconnections complete with spacers to centralize in hole( including, 50/50 gypsum/bentonite backfill, 10mm <sup>2</sup> anode tails from both ends and terminations into link panel) | m    | 400      |                 |        |
| 6.C10.3.15 | C    | 34.008(b)         |           | Install 200mm borehole inactive length, PVC casing, sand backfill (including 5m of 1m deep cable trench excavation and backfill)   | m    | 200      |                 |        |
| 6.C10.3.16 | C    | 34.007(b)         |           | Install 35mm <sup>2</sup> , black, single core, double insulated, Pipe Power cable (incl. thermit welds, coating make good and termination into link panel inside bunker - length 5m)  | No.  | 18       |                 |        |
| 6.C10.3.17 | C    | 34.007(b)         |           | Install 16mm <sup>2</sup> , black, single core, double insulated, Pipe Monitor cable (incl thermit welds, coating make good and termination into link panel inside bunker - length 5m)   | No.  | 18       |                 |        |
| 6.C10.3.18 | C    | 34.007(b)         |           | Install suitably rated VLD for gradient control mat (including 25mm <sup>2</sup> cabling and terminations to panel and gradient control mat).  | No.  | 18       |                 |        |
| 6.C10.3.19 | C    | 34.007(b)         |           | Install 1cm <sup>2</sup> AC coupon with 10 ohm 50W resistor (incl. cabling and terminations)   | No.  | 18       |                 |        |
| 6.C10.3.20 | C    | 34.007(b)         |           | Install 10cm <sup>2</sup> DC monitor coupon with cables  | No.  | 18       |                 |        |
| 6.C10.3.21 | C    | 34.007(b)         |           | Install Stationary Reference Electrode (including yellow 6mm <sup>2</sup> cable and termination)   | No.  | 18       |                 |        |
| 6.C10.3.22 | C    | 34.007(b)         |           | Install LV SSSDC decoupler for gradient control wires  | No.  | 10       |                 |        |
|            | C    |                   |           | <b>Install gradient control wires parallel to pipeline : Zinc ribbon:</b>  |      |          |                 |        |
| 6.C10.3.23 | C    | 34.009(b)         |           | Zinc ribbon 0.983 kg/m for installation in pipe trench   | km   | 4.8      |                 |        |
| 6.C10.3.24 | C    | 34.007(b)         |           | Install 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into SS-DCD inside chamber/bunker - length 5m)  | No.  | 20       |                 |        |
|            | C    |                   |           | <b>Install gradient control : Zinc mat adjacent to pipe (size as indicated):</b>   |      |          |                 |        |
| 6.C10.3.25 | C    | 34.007(b)         |           | Zinc mat 6m x 6m made from zinc wire 0.983 kg/m for nodal installation   | No.  | 1        |                 |        |
| 6.C10.3.26 | C    | 34.007(b)         |           | Install 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into link panel inside chamber/bunker with sleeve through wall sealed water tight - length for 2x cables 6m)  | No.  | 1        |                 |        |
|            | C    |                   |           | <b>Install equipotential plane at reinforced concrete chambers</b>   |      |          |                 |        |
| 6.C10.3.27 | C    | 34.007(b)         |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 7        |                 |        |
|            |      |                   |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 6.C10.3.28 | C    | 34.007(b) |           | Steel cable lug welded to reinforcing mesh in apron to protrude into chamber (2x per chamber)  | No.  | 14       |                 |        |
| 6.C10.3.29 | C    | 34.007(b) |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 14       |                 |        |
| 6.C10.3.30 | C    | 34.007(b) |           | Install suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).   | No.  | 8        |                 |        |
|            | C    |           |           | <b>Install equipotential plane at precast ring chambers</b>  |      |          |                 |        |
| 6.C10.3.31 | C    | 34.007(b) |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 36       |                 |        |
| 6.C10.3.32 | C    | 34.007(b) |           | Steel cable lug welded to rebar mesh in pre-cast concrete for each section(incl roof) for chamber with a 20mm x 5mm thick connecting steel bar welded across all these lugs and coated with bitumen after cable connection | No.  | 36       |                 |        |
| 6.C10.3.33 | C    | 34.007(b) |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 72       |                 |        |
| 6.C10.3.34 | C    | 34.007(b) |           | Install suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).   | No.  | 36       |                 |        |
|            | C    |           |           | <b>PART C: LOW LIFT RISING MAIN (Carried forward to Summary of Bills)</b>  |      |          |                 |        |

| Item no.     | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|              |      |                   |           |  |      |          |                 |        |
|              | D    |                   |           | <b>BALANCING RESERVOIR &amp; SEDIMENTATION WORKS</b>   |      |          |                 |        |
|              | D2   |                   |           | <b>PART D2.12: BALANCING RESERVOIR</b>   |      |          |                 |        |
|              | D2   |                   |           | <b>PART D2.12.1: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|              | D2   |                   |           | <b>Continuity bonding inside valve chambers</b>  |      |          |                 |        |
| 6.D2.12.1.1  | D2   | 34.006(a)         |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)   | m    | 136      |                 |        |
| 6.D2.12.1.2  | D2   | 34.007(a)         |           | Continuity Link panel (complete with labelling)  | No.  | 4        |                 |        |
| 6.D2.12.1.3  | D2   | 34.007(a)         |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good)  | No.  | 8        |                 |        |
| 6.D2.12.1.4  | D2   | 34.007(a)         |           | Stud weld and terminate cable on inline pipe and scour pipe (including, lugs, labelling & coating make good)   | No.  | 4        |                 |        |
|              | D2   |                   |           | <b>Other continuity bonding</b>  |      |          |                 |        |
| 6.D2.12.1.5  | D2   | 34.007(a)         |           | 2 off 25mm x 5mm steel flatbar welded across the flanges (including coating make good)   | No.  | 4        |                 |        |
|              | D2   |                   |           | <b>Insulation joints and surge arrestors</b>   |      |          |                 |        |
| 6.D2.12.1.6  | D2   | 34.007(b)         |           | DN500 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 24       |                 |        |
| 6.D2.12.1.7  | D2   | 34.007(a)         |           | DN1200 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 8        |                 |        |
| 6.D2.12.1.8  | D2   | 34.007(a)         |           | DN900 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 2        |                 |        |
| 6.D2.12.1.9  | D2   | 34.007(a)         |           | DN800 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 2        |                 |        |
|              | D2   |                   |           | <b>SACP station (shallow vertical well system)</b>   |      |          |                 |        |
| 6.D2.12.1.10 | D2   | 34.007(a)         |           | Supply secure concrete bunker, 1,2m surround and foundation (incl sleeves and gradient control mat)  | No.  | 5        |                 |        |
|              | D2   |                   |           | <b>Supply bunker connection panel (including labels, cable labels, cable ties):</b>  |      |          |                 |        |
| 6.D2.12.1.11 | D2   | 34.007(a)         |           | Type B: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon & SRE connections  | No.  | 5        |                 |        |
|              | D2   |                   |           | <b>Vertical groundbed(2 wells, 5m apart at chambers):</b>  |      |          |                 |        |
| 6.D2.12.1.12 | D2   | 34.008(a)         |           | Supply 200mm borehole active length, 3.57kg/m zinc ribbon consisting of 1m lengths with flexible 10mm <sup>2</sup> interconnections complete with spacers to centralize in hole ( including, 50/50 gypsum/bentonite backfill, 10mm <sup>2</sup> anode tails from both ends and terminations into link panel) | m    | 100      |                 |        |
| 6.D2.12.1.13 | D2   | 34.008(a)         |           | Supply 200mm borehole inactive length, PVC casing, sand backfill (including 5m of 1m deep cable trench excavation and backfill)  | m    | 50       |                 |        |
|              | D2   |                   |           | <b>CP &amp; AC equipment and cabling:</b>  |      |          |                 |        |
| 6.D2.12.1.14 | D2   | 34.007(a)         |           | Supply 35mm <sup>2</sup> , black, single core, double insulated, Pipe Power cable (incl. stud weld to flange, coating make good and termination into link panel inside bunker - length 5m)   | No.  | 5        |                 |        |
|              |      |                   |           |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|              |      | Reference |           |   |      |          |                 |        |
|              |      |           |           |   |      |          | Brought Forward |        |
| 6.D2.12.1.15 | D2   | 34.007(a) |           | Supply 16mm <sup>2</sup> , black, single core, double insulated, Pipe Monitor cable (incl stud weld to flange, coating make good and termination into link panel inside bunker - length 5m) | No.  | 5        |                 |        |
| 6.D2.12.1.16 | D2   | 34.007(a) |           | Supply suitably rated VLD for gradient control mat (including 25mm <sup>2</sup> cabling and terminations to panel and gradient control mat).  | No.  | 5        |                 |        |
| 6.D2.12.1.17 | D2   | 34.007(a) |           | Supply 1cm <sup>2</sup> AC coupon with 10 ohm 50W resistor (incl. cabling and terminations)   | No.  | 5        |                 |        |
| 6.D2.12.1.18 | D2   | 34.007(a) |           | Supply 10cm <sup>2</sup> DC monitor coupon with cables  | No.  | 5        |                 |        |
| 6.D2.12.1.19 | D2   | 34.007(a) |           | Supply Stationary Reference Electrode (including yellow 6mm <sup>2</sup> cable and termination)   | No.  | 5        |                 |        |
|              | D2   |           |           | <b>Supply equipotential plane at reinforced concrete chambers</b>   |      |          |                 |        |
| 6.D2.12.1.20 | D2   | 34.007(a) |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat  | No.  | 6        |                 |        |
| 6.D2.12.1.21 | D2   | 34.007(a) |           | Steel cable lug welded to reinforcing mesh in apron to protrude into chamber (2x per chamber)   | No.  | 12       |                 |        |
| 6.D2.12.1.22 | D2   | 34.007(a) |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)  | No.  | 12       |                 |        |
| 6.D2.12.1.23 | D2   | 34.007(a) |           | Supply suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).                                 | No.  | 6        |                 |        |
|              | D2   |           |           | <b>PART D2.12.2: INSTALLATION</b>   |      |          |                 |        |
|              | D2   |           |           | <b>Continuity bonding inside valve chambers</b>   |      |          |                 |        |
| 6.D2.12.2.1  | D2   | 34.006(b) |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)  | m    | 136      |                 |        |
| 6.D2.12.2.2  | D2   | 34.007(b) |           | Continuity Link panel (complete with labelling)   | No.  | 4        |                 |        |
| 6.D2.12.2.3  | D2   | 34.007(b) |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good)   | No.  | 8        |                 |        |
| 6.D2.12.2.4  | D2   | 34.007(b) |           | Stud weld and terminate cable on inline pipe and scour pipe (including, lugs, labelling & coating make good)  | No.  | 4        |                 |        |
|              | D2   |           |           | <b>Other continuity bonding</b>   |      |          |                 |        |
| 6.D2.12.2.5  | D2   | 34.007(b) |           | 2 off 25mm x 5mm steel flatbar welded across the flanges (including coating make good)  | No.  | 4        |                 |        |
|              | D2   |           |           | <b>Insulation joints and surge arrestors</b>  |      |          |                 |        |
| 6.D2.12.2.6  | D2   | 34.007(b) |           | DN500 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 24       |                 |        |
| 6.D2.12.2.7  | D2   | 34.007(b) |           | DN1200 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 8        |                 |        |
| 6.D2.12.2.8  | D2   | 34.007(b) |           | DN900 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 2        |                 |        |
| 6.D2.12.2.9  | D2   | 34.007b   |           | DN800 PN10 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 2        |                 |        |
|              |      |           |           |   |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|              |      | Reference |           |   |      |          |                 |        |
|              |      |           |           |   |      |          | Brought Forward |        |
|              | D2   |           |           | <b>SACP station (shallow vertical well system)</b>  |      |          |                 |        |
| 6.D2.12.2.10 | D2   | 34.007(b) |           | Install secure concrete bunker, 1,2m surround and foundation (incl sleeves and gradient control mat)  | No.  | 5        |                 |        |
|              | D2   |           |           | <b>Install bunker connection panel (including labels, cable labels, cable ties):</b>  |      |          |                 |        |
| 6.D2.12.2.11 | D2   | 34.007(b) |           | Type B: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon & SRE connections   | No.  | 5        |                 |        |
|              | D2   |           |           | <b>Vertical groundbed(2 wells, 5m apart at chambers):</b>   |      |          |                 |        |
| 6.D2.12.2.12 | D2   | 34.008(b) |           | Install 200mm borehole active length, 3.57kg/m zinc ribbon consisting of 1m lengths with flexible 10mm <sup>2</sup> interconnections complete with spacers to centralize in hole ( including, 50/50 gypsum/bentonite backfill, 10mm <sup>2</sup> anode tails from both ends and terminations into link panel) | m    | 100      |                 |        |
| 6.D2.12.2.13 | D2   | 34.008(b) |           | Install 200mm borehole inactive length, PVC casing, sand backfill (including 5m of 1m deep cable trench excavation and backfill)  | m    | 50       |                 |        |
|              | D2   |           |           | <b>CP &amp; AC equipment and cabling:</b>   |      |          |                 |        |
| 6.D2.12.2.14 | D2   | 34.007(b) |           | Install 35mm <sup>2</sup> , black, single core, double insulated, Pipe Power cable (incl. thermit welds, coating make good and termination into link panel inside bunker - length 5m)   | No.  | 5        |                 |        |
| 6.D2.12.2.15 | D2   | 34.007(b) |           | Install 16mm <sup>2</sup> , black, single core, double insulated, Pipe Monitor cable (incl thermit welds, coating make good and termination into link panel inside bunker - length 5m)  | No.  | 5        |                 |        |
| 6.D2.12.2.16 | D2   | 34.007(b) |           | Install suitably rated VLD for gradient control mat (including 25mm <sup>2</sup> cabling and terminations to panel and gradient control mat).   | No.  | 5        |                 |        |
| 6.D2.12.2.17 | D2   | 34.007(b) |           | Install 1cm <sup>2</sup> AC coupon with 10 ohm 50W resistor (incl. cabling and terminations)  | No.  | 5        |                 |        |
| 6.D2.12.2.18 | D2   | 34.007(b) |           | Install 10cm <sup>2</sup> DC monitor coupon with cables   | No.  | 5        |                 |        |
| 6.D2.12.2.19 | D2   | 34.007(b) |           | Install Stationary Reference Electrode (including yellow 6mm <sup>2</sup> cable and termination)  | No.  | 5        |                 |        |
|              | D2   |           |           | <b>Install equipotential plane at reinforced concrete chambers</b>  |      |          |                 |        |
| 6.D2.12.2.20 | D2   | 34.007(b) |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat  | No.  | 6        |                 |        |
| 6.D2.12.2.21 | D2   | 34.007(b) |           | Steel cable lug welded to reinforcing mesh in apron to protrude into chamber (2x per chamber)   | No.  | 12       |                 |        |
| 6.D2.12.2.22 | D2   | 34.007(b) |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)  | No.  | 12       |                 |        |
| 6.D2.12.2.23 | D2   | 34.007(b) |           | Install suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).  | No.  | 6        |                 |        |
|              | D2   |           |           | <b>PART D2: BALANCING RESERVOIR (Carried forward to Summary of Bills)</b>   |      |          |                 |        |



| Item no.    | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-------------|------|-------------------|-----------|---|------|----------|------|--------|
|             |      |                   |           |   |      |          |      |        |
|             | E1   |                   |           | <b>PART E1.11: HIGH-LIFT PUMPING STATION</b>  |      |          |      |        |
|             | E1   |                   |           | <b>PART E1.11.1: PROCUREMENT AND DELIVERY</b>   |      |          |      |        |
|             | E1   |                   |           | <b>Continuity bonding around inside of pump station</b>   |      |          |      |        |
| 6.E1.11.1.1 | E1   | 34.006b           |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)          | m    | 100      |      |        |
| 6.E1.11.1.2 | E1   | 34.007b           |           | Continuity Link panel (complete with labelling)   | No.  | 1        |      |        |
| 6.E1.11.1.3 | E1   | 34.007b           |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good) | No.  | 2        |      |        |
|             | E1   |                   |           | <b>Insulation joints and surge arrestors</b>  |      |          |      |        |
| 6.E1.11.1.4 | E1   | 34.007b           |           | DN1200 PN16 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap                       | No.  | 4        |      |        |
| 6.E1.11.1.5 | E1   | 34.007b           |           | DN1400 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap                       | No.  | 1        |      |        |
|             | E1   |                   |           | <b>PART E1.11.2: INSTALLATION</b>   |      |          |      |        |
| 6.E1.11.2.1 | E1   | 34.006b           |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)          | m    | 100      |      |        |
| 6.E1.11.2.2 | E1   | 34.007b           |           | Continuity Link panel (complete with labelling)   | No.  | 1        |      |        |
| 6.E1.11.2.3 | E1   | 34.007b           |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good) | No.  | 2        |      |        |
|             | E1   |                   |           | <b>Insulation joints and surge arrestors</b>  |      |          |      |        |
| 6.E1.11.2.4 | E1   | 34.007b           |           | DN1200 PN16 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap                       | No.  | 4        |      |        |
| 6.E1.11.2.5 | E1   | 34.007b           |           | DN1400 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap                       | No.  | 1        |      |        |
|             | E1   |                   |           | <b>PART E: HIGH-LIFT PUMPING STATION (Carried forward to Summary of Bills)</b>  |      |          |      |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            | F    |           |           | <b>PART F: HIGH LIFT RISING MAIN</b>   |      |          |                 |        |
|            | F    |           |           | <b>PART F14.1: COATING SURVEYS</b>   |      |          |                 |        |
| 6.F14.1.1  | F    | 34.001    |           | DCVG Survey  | km   | 30       |                 |        |
| 6.F14.1.2  | F    | 34.002    |           | Coating Conductance Test   | No.  | 6        |                 |        |
|            | F    |           |           | <b>PART F14.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|            | F    |           |           | <b>Continuity bonding inside valve chambers</b>  |      |          |                 |        |
| 6.F14.2.1  | F    | 34.006a   |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)   | m    | 180      |                 |        |
| 6.F14.2.2  | F    | 34.007a   |           | Continuity Link panel (complete with labelling)  | No.  | 2        |                 |        |
| 6.F14.2.3  | F    | 34.007a   |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good)  | No.  | 4        |                 |        |
| 6.F14.2.4  | F    | 34.007a   |           | Stud weld and terminate cable on inline pipe and scour pipe (including, lugs, labelling & coating make good)   | No.  | 10       |                 |        |
|            | F    |           |           | <b>Other continuity bonding</b>  |      |          |                 |        |
| 6.F14.2.5  | F    | 34.007a   |           | 2 off 25mm x 5mm steel flatbar welded across the flanges (including coating make good)   | No.  | 10       |                 |        |
|            | F    |           |           | <b>Insulation joints and surge arrestors</b>   |      |          |                 |        |
| 6.F14.2.6  | F    | 34.007a   |           | DN1200 PN25 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 10       |                 |        |
| 6.F14.2.7  | F    | 34.007a   |           | DN1200 PN16 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 2        |                 |        |
| 6.F14.2.8  | F    | 34.007a   |           | DN400 PN25 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 1        |                 |        |
| 6.F14.2.9  | F    | 34.007a   |           | DN300 PN25 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 4        |                 |        |
|            | F    |           |           | <b>SACP station (shallow vertical well system)</b>   |      |          |                 |        |
| 6.F14.2.10 | F    | 34.007a   |           | Supply secure concrete bunker, 1,2m surround and foundation (incl sleeves and gradient control mat)  | No.  | 70       |                 |        |
|            | F    |           |           | <b>Supply bunker connection panel (including labels, cable labels, cable ties):</b>  |      |          |                 |        |
| 6.F14.2.11 | F    | 34.007a   |           | Type B: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon & SRE connections  | No.  | 16       |                 |        |
| 6.F14.2.12 | F    | 34.007a   |           | Type FB: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon, SRE & SS-DCD decoupler connections   | No.  | 54       |                 |        |
|            | F    |           |           | <b>Vertical groundbed(2 wells, 5m apart at chambers):</b>  |      |          |                 |        |
| 6.F14.2.13 | F    | 34.008a   |           | Supply 200mm borehole active length, 3.57kg/m zinc ribbon consisting of 1m lengths with flexible 10mm <sup>2</sup> interconnections complete with spacers to centralize in hole ( including, 50/50 gypsum/bentonite backfill, 10mm <sup>2</sup> anode tails from both ends and terminations into link panel) | m    | 1120     |                 |        |
| 6.F14.2.14 | F    | 34.008a   |           | Supply 200mm borehole inactive length, PVC casing, sand backfill (including 5m of 1m deep cable trench excavation and backfill)  | m    | 700      |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            |      |           |           |   |      |          | Brought Forward |        |
|            | F    | 34.007a   |           | <b>CP &amp; AC equipment and cabling:</b>   |      |          |                 |        |
| 6.F14.2.15 | F    | 34.007a   |           | Supply 35mm <sup>2</sup> , black, single core, double insulated, Pipe Power cable (incl. stud weld to flange, coating make good and termination into link panel inside bunker - length 5m)    | No.  | 70       |                 |        |
| 6.F14.2.16 | F    | 34.007a   |           | Supply 16mm <sup>2</sup> , black, single core, double insulated, Pipe Monitor cable (incl stud weld to flange, coating make good and termination into link panel inside bunker - length 5m)   | No.  | 70       |                 |        |
| 6.F14.2.17 | F    | 34.007a   |           | Supply suitably rated VLD for gradient control mat (including 25mm <sup>2</sup> cabling and terminations to panel and gradient control mat).  | No.  | 70       |                 |        |
| 6.F14.2.18 | F    | 34.007a   |           | Supply 1cm <sup>2</sup> AC coupon with 10 ohm 50W resistor (incl. cabling and terminations)   | No.  | 70       |                 |        |
| 6.F14.2.19 | F    | 34.007a   |           | Supply 10cm <sup>2</sup> DC monitor coupon with cables  | No.  | 70       |                 |        |
| 6.F14.2.20 | F    | 34.007a   |           | Supply Stationary Reference Electrode (including yellow 6mm <sup>2</sup> cable and termination)   | No.  | 70       |                 |        |
| 6.F14.2.21 | F    | 34.007a   |           | Supply LV SS-DCD decoupler for gradient control wires   | No.  | 54       |                 |        |
|            | F    |           |           | <b>Supply gradient control wires parallel to pipeline : Zinc ribbon:</b>  |      |          |                 |        |
| 6.F14.2.22 | F    | 34.009a   |           | Zinc ribbon 0.983 kg/m for installation in pipe trench  | km   | 21.2     |                 |        |
| 6.F14.2.23 | F    | 34.007a   |           | Supply 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into SS-DCD inside chamber/bunker - length 5m)      | No.  | 108      |                 |        |
|            | F    |           |           | <b>Supply gradient control : Zinc mat adjacent to pipe (size as indicated):</b>   |      |          |                 |        |
| 6.F14.2.24 | F    | 34.007a   |           | Zinc mat 6m x 6m made from zinc wire 0.983 kg/m for nodal installation  | No.  | 20       |                 |        |
| 6.F14.2.25 | F    | 34.007a   |           | Zinc mat 3m x 3m made from zinc wire 0.983 kg/m for nodal installation  | No.  | 5        |                 |        |
| 6.F14.2.26 | F    | 34.007a   |           | Supply 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into link panel inside chamber/bunker - length 12m) | No.  | 25       |                 |        |
|            | F    |           |           | <b>Supply equipotential plane at reinforced concrete chambers</b>   |      |          |                 |        |
| 6.F14.2.27 | F    | 34.007a   |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat  | No.  | 17       |                 |        |
| 6.F14.2.28 | F    | 34.007a   |           | Steel cable lug welded to reinforcing mesh in apron to protrude into chamber (2x per chamber)   | No.  | 34       |                 |        |
| 6.F14.2.29 | F    | 34.007a   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)  | No.  | 34       |                 |        |
| 6.F14.2.30 | F    | 34.007a   |           | Supply suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).                                   | No.  | 22       |                 |        |
|            | F    |           |           | <b>Supply equipotential plane at precast ring chambers</b>  |      |          |                 |        |
| 6.F14.2.31 | F    | 34.007a   |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat  | No.  | 60       |                 |        |
|            |      |           |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|            |      | Reference |           |   |      |          |                 |        |
|            |      |           |           |   |      |          | Brought Forward |        |
| 6.F14.2.32 | F    | 34.007a   |           | Steel cable lug welded to rebar mesh in pre-cast concrete for each section(incl roof) for chamber with a 20mm x 5mm thick connecting steel bar welded across all these lugs and coated with bitumen after cable connection  | No.  | 60       |                 |        |
| 6.F14.2.33 | F    | 34.007a   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)  | No.  | 120      |                 |        |
| 6.F14.2.34 | F    | 34.007a   |           | Supply suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).   | No.  | 60       |                 |        |
|            | F    |           |           | <b>PART F14.3: INSTALLATION</b>   |      |          |                 |        |
|            | F    |           |           | <b>Continuity bonding inside valve chambers</b>   |      |          |                 |        |
| 6.F14.3.1  | F    | 34.006b   |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)  | m    | 180      |                 |        |
| 6.F14.3.2  | F    | 34.007b   |           | Continuity Link panel (complete with labelling)   | No.  | 2        |                 |        |
| 6.F14.3.3  | F    | 34.007b   |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good)   | No.  | 4        |                 |        |
| 6.F14.3.4  | F    | 34.007b   |           | Stud weld and terminate cable on inline pipe and scour pipe (including, lugs, labelling & coating make good)  | No.  | 10       |                 |        |
|            | F    |           |           | <b>Other continuity bonding</b>   |      |          |                 |        |
| 6.F14.3.5  | F    | 34.007b   |           | 2 off 25mm x 5mm steel flatbar welded across the flanges (including coating make good)  | No.  | 10       |                 |        |
|            | F    |           |           | <b>Insulation joints and surge arrestors</b>  |      |          |                 |        |
| 6.F14.3.6  | F    | 34.007b   |           | DN1200 PN25 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 10       |                 |        |
| 6.F14.3.7  | F    | 34.007b   |           | DN1200 PN16 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 2        |                 |        |
| 6.F14.3.8  | F    | 34.007b   |           | DN400 PN25 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 1        |                 |        |
| 6.F14.3.9  | F    | 34.007b   |           | DN300 PN25 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 4        |                 |        |
|            | F    |           |           | <b>SACP station (shallow vertical well system)</b>  |      |          |                 |        |
| 6.F14.3.10 | F    | 34.007b   |           | Install secure concrete bunker, 1,2m surround and foundation (incl sleeves and gradient control mat)  | No.  | 70       |                 |        |
|            | F    |           |           | <b>Install bunker connection panel (including labels, cable labels, cable ties):</b>  |      |          |                 |        |
| 6.F14.3.11 | F    | 34.007b   |           | Type B: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon & SRE connections   | No.  | 16       |                 |        |
| 6.F14.3.12 | F    | 34.007b   |           | Type FB: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon, SRE & SS-DCD decoupler connections  | No.  | 54       |                 |        |
|            | F    |           |           | <b>Vertical groundbed (2 wells, 5m apart at chambers):</b>  |      |          |                 |        |
| 6.F14.3.13 | F    | 34.008b   |           | Install 200mm borehole active length, 3.57kg/m zinc ribbon consisting of 1m lengths with flexible 10mm <sup>2</sup> interconnections complete with spacers to centralize in hole ( including, 50/50 gypsum/bentonite backfill, 10mm <sup>2</sup> anode tails from both ends and terminations into link panel) | No.  | 1120     |                 |        |
| 6.F14.3.14 | F    | 34.008b   |           | Install 200mm borehole inactive length, PVC casing, sand backfill (including 5m of 1m deep cable trench excavation and backfill)  | No.  | 700      |                 |        |
|            |      |           |           |   |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
|            | F    |           |           | <b>CP &amp; AC equipment and cabling:</b>  |      |          |                 |        |
| 6.F14.3.15 | F    | 34.007b   |           | Install 35mm <sup>2</sup> , black, single core, double insulated, Pipe Power cable (incl. thermit welds, coating make good and termination into link panel inside bunker - length 5m)  | No.  | 70       |                 |        |
| 6.F14.3.16 | F    | 34.007b   |           | Install 16mm <sup>2</sup> , black, single core, double insulated, Pipe Monitor cable (incl thermit welds, coating make good and termination into link panel inside bunker - length 5m)   | No.  | 70       |                 |        |
| 6.F14.3.17 | F    | 34.007b   |           | Install suitably rated VLD for gradient control mat (including 25mm <sup>2</sup> cabling and terminations to panel and gradient control mat).  | No.  | 70       |                 |        |
| 6.F14.3.18 | F    | 34.007b   |           | Install 1cm <sup>2</sup> AC coupon with 10 ohm 50W resistor (incl. cabling and terminations)   | No.  | 70       |                 |        |
| 6.F14.3.19 | F    | 34.007b   |           | Install 10cm <sup>2</sup> DC monitor coupon with cables  | No.  | 70       |                 |        |
| 6.F14.3.20 | F    | 34.007b   |           | Install Stationary Reference Electrode (including yellow 6mm <sup>2</sup> cable and termination)   | No.  | 70       |                 |        |
| 6.F14.3.21 | F    | 34.007b   |           | Install LV SS-DCD decoupler for gradient control wires   | No.  | 54       |                 |        |
|            | F    |           |           | <b>Install gradient control wires parallel to pipeline : Zinc ribbon:</b>  |      |          |                 |        |
| 6.F14.3.22 | F    | 34.009b   |           | Zinc ribbon 0.983 kg/m for installation in pipe trench   | km   | 21.2     |                 |        |
| 6.F14.3.23 | F    | 34.007b   |           | Install 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into SS-DCD inside chamber/bunker - length 5m)  | No.  | 108      |                 |        |
|            | F    |           |           | <b>Install gradient control : Zinc mat adjacent to pipe (size as indicated):</b>   |      |          |                 |        |
| 6.F14.3.24 | F    | 34.007b   |           | Zinc mat 6m x 6m made from zinc wire 0.983 kg/m for nodal installation   | No.  | 20       |                 |        |
| 6.F14.3.25 | F    | 34.007b   |           | Zinc mat 3m x 3m made from zinc wire 0.983 kg/m for nodal installation   | No.  | 5        |                 |        |
| 6.F14.3.26 | F    | 34.007b   |           | Install 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into link panel inside chamber/bunker with sleeve through wall sealed water tight - length 12m) | No.  | 25       |                 |        |
|            | F    |           |           | <b>Install equipotential plane at reinforced concrete chambers</b>   |      |          |                 |        |
| 6.F14.3.27 | F    | 34.007b   |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 17       |                 |        |
| 6.F14.3.28 | F    | 34.007b   |           | Steel cable lug welded to reinforcing mesh in apron to protrude into chamber (2x per chamber)  | No.  | 34       |                 |        |
| 6.F14.3.29 | F    | 34.007b   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 34       |                 |        |
| 6.F14.3.30 | F    | 34.007b   |           | Install suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).   | No.  | 22       |                 |        |
|            | F    |           |           | <b>Install equipotential plane at precast ring chambers</b>  |      |          |                 |        |
| 6.F14.3.31 | F    | 34.007b   |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 60       |                 |        |
|            |      |           |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|            |      | Reference |           |  |      |          |                 |        |
|            |      |           |           |  |      |          | Brought Forward |        |
| 6.F14.3.32 | F    | 34.007b   |           | Steel cable lug welded to rebar mesh in pre-cast concrete for each section(incl roof) for chamber with a 20mm x 5mm thick connecting steel bar welded across all these lugs and coated with bitumen after cable connection | No.  | 120      |                 |        |
| 6.F14.3.33 | F    | 34.007b   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 120      |                 |        |
| 6.F14.3.34 | F    | 34.007b   |           | Install suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).   | No.  | 60       |                 |        |
|            | F    |           |           | <b>PART F: HIGH LIFT RISING MAIN TOTAL - Carried forward to Summary of Bills</b>   |      |          |                 |        |

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      | Reference |           |   |      |          |                 |        |
|           | G    |           |           | <b>PART G: BREAK PRESSURE RESERVOIR</b>   |      |          |                 |        |
|           | G    |           |           | <b>PART G9.1: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|           | G    |           |           | <b>Continuity bonding inside valve chambers</b>   |      |          |                 |        |
| 6.G9.1.1  | G    | 34.006a   |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)  | m    | 162      |                 |        |
| 6.G9.1.2  | G    | 34.007a   |           | Continuity Link panel (complete with labelling)   | No.  | 6        |                 |        |
| 6.G9.1.3  | G    | 34.007a   |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good)   | No.  | 12       |                 |        |
| 6.G9.1.4  | G    | 34.007a   |           | Stud weld and terminate cable on inline pipe and scour pipe (including, lugs, labelling & coating make good)  | No.  | 3        |                 |        |
|           | G    |           |           | <b>Other continuity bonding</b>   |      |          |                 |        |
| 6.G9.1.5  | G    | 34.007a   |           | 2 off 25mm x 5mm steel flatbar welded across the flanges (including coating make good)  | No.  | 3        |                 |        |
|           | G    |           |           | <b>Insulation joints and surge arrestors</b>  |      |          |                 |        |
| 6.G9.1.6  | G    | 34.007a   |           | DN1000 PN16 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 14       |                 |        |
|           | G    |           |           | <b>SACP station (shallow vertical well system)</b>  |      |          |                 |        |
| 6.G9.1.7  | G    | 34.007a   |           | Supply secure concrete bunker, 1,2m surround and foundation (incl sleeves and gradient control mat)   | No.  | 6        |                 |        |
|           | G    |           |           | <b>Supply bunker connection panel (including labels, cable labels, cable ties):</b>   |      |          |                 |        |
| 6.G9.1.8  | G    | 34.007a   |           | Type B: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon & SRE connections   | No.  | 6        |                 |        |
|           | G    |           |           | <b>Vertical groundbed(2 wells, 5m apart at chambers):</b>   |      |          |                 |        |
| 6.G9.1.9  | G    | 34.008a   |           | Supply 200mm borehole active length, 3.57kg/m zinc ribbon consisting of 1m lengths with flexible 10mm <sup>2</sup> interconnections complete with spacers to centralize in hole( including, 50/50 gypsum/bentonite backfill, 10mm <sup>2</sup> anode tails from both ends and terminations into link panel) | m    | 72       |                 |        |
| 6.G9.1.10 | G    | 34.008a   |           | Supply 200mm borehole inactive length, PVC casing, sand backfill (including 5m of 1m deep cable trench excavation and backfill)   | m    | 60       |                 |        |
|           | G    |           |           | <b>CP &amp; AC equipment and cabling:</b>   |      |          |                 |        |
| 6.G9.1.11 | G    | 34.007a   |           | Supply 35mm <sup>2</sup> , black, single core, double insulated, Pipe Power cable (incl. stud weld to flange, coating make good and termination into link panel inside bunker - length 5m)  | No.  | 6        |                 |        |
| 6.G9.1.12 | G    | 34.007a   |           | Supply 16mm <sup>2</sup> , black, single core, double insulated, Pipe Monitor cable (incl stud weld to flange, coating make good and termination into link panel inside bunker - length 5m)   | No.  | 6        |                 |        |
| 6.G9.1.13 | G    | 34.007a   |           | Supply suitably rated VLD for gradient control mat (including 25mm <sup>2</sup> cabling and terminations to panel and gradient control mat).  | No.  | 6        |                 |        |
| 6.G9.1.14 | G    | 34.007a   |           | Supply 1cm <sup>2</sup> AC coupon with 10 ohm 50W resistor (incl. cabling and terminations)   | No.  | 6        |                 |        |
| 6.G9.1.15 | G    | 34.007a   |           | Supply 10cm <sup>2</sup> DC monitor coupon with cables  | No.  | 6        |                 |        |
| 6.G9.1.16 | G    | 34.007a   |           | Supply Stationary Reference Electrode (including yellow 6mm <sup>2</sup> cable and termination)   | No.  | 6        |                 |        |
|           |      |           |           |   |      |          | Carried Forward |        |

| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           |      |           |           |  |      |          | Brought Forward |        |
|           | G    |           |           | <b>Supply equipotential plane at reinforced concrete chambers</b>  |      |          |                 |        |
| 6.G9.1.17 | G    | 34.007a   |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 6        |                 |        |
| 6.G9.1.18 | G    | 34.007a   |           | Steel cable lug welded to reinforcing mesh in apron to protrude into chamber (2x per chamber)  | No.  | 12       |                 |        |
| 6.G9.1.19 | G    | 34.007a   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 12       |                 |        |
| 6.G9.1.20 | G    | 34.007a   |           | Supply suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).  | No.  | 6        |                 |        |
|           | G    |           |           | <b>PART G9.2: INSTALLATION</b>   |      |          |                 |        |
|           | G    |           |           | <b>Continuity bonding inside valve chambers</b>  |      |          |                 |        |
| 6.G9.2.1  | G    | 34.006b   |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)   | m    | 162      |                 |        |
| 6.G9.2.2  | G    | 34.007b   |           | Continuity Link panel (complete with labelling)  | No.  | 6        |                 |        |
| 6.G9.2.3  | G    | 34.007b   |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good)  | No.  | 12       |                 |        |
| 6.G9.2.4  | G    | 34.007b   |           | Stud weld and terminate cable on inline pipe and scour pipe (including, lugs, labelling & coating make good)   | No.  | 3        |                 |        |
|           | G    |           |           | <b>Other continuity bonding</b>  |      |          |                 |        |
| 6.G9.2.5  | G    | 34.007b   |           | 2 off 25mm x 5mm steel flatbar welded across the flanges (including coating make good)   | No.  | 3        |                 |        |
|           | G    |           |           | <b>Insulation joints and surge arrestors</b>   |      |          |                 |        |
| 6.G9.2.6  | G    | 34.007b   |           | DN1000 PN16 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 14       |                 |        |
|           | G    |           |           | <b>SACP station (shallow vertical well system)</b>   |      |          |                 |        |
| 6.G9.2.7  | G    | 34.007b   |           | Install secure concrete bunker, 1.2m surround and foundation (incl sleeves and gradient control mat)   | No.  | 6        |                 |        |
|           | G    |           |           | <b>Install bunker connection panel (including labels, cable labels, cable ties):</b>   |      |          |                 |        |
| 6.G9.2.8  | G    | 34.007b   |           | Type B: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon & SRE connections  | No.  | 6        |                 |        |
|           | G    |           |           | <b>Vertical groundbed(2 wells, 5m apart at chambers):</b>  |      |          |                 |        |
| 6.G9.2.9  | G    | 34.008b   |           | Install 200mm borehole active length, 3.57kg/m zinc ribbon consisting of 1m lengths with flexible 10mm <sup>2</sup> interconnections complete with spacers to centralize in hole( including, 50/50 gypsum/bentonite backfill, 10mm <sup>2</sup> anode tails from both ends and terminations into link panel) | No.  | 72       |                 |        |
| 6.G9.2.10 | G    | 34.008b   |           | Install 200mm borehole inactive length, PVC casing, sand backfill (including 5m of 1m deep cable trench excavation and backfill)   | No.  | 60       |                 |        |
|           | G    |           |           | <b>CP &amp; AC equipment and cabling:</b>  |      |          |                 |        |
| 6.G9.2.11 | G    | 34.007b   |           | Install 35mm <sup>2</sup> , black, single core, double insulated, Pipe Power cable (incl. thermit welds, coating make good and termination into link panel inside bunker - length 5m)  | No.  | 6        |                 |        |
|           |      |           |           |  |      |          | Carried Forward |        |



| Item no.  | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|           |      | Reference |           |  |      |          |                 |        |
|           |      |           |           |  |      |          | Brought Forward |        |
| 6.G9.2.12 | G    | 34.007b   |           | Install 16mm <sup>2</sup> , black, single core, double insulated, Pipe Monitor cable (incl thermit welds, coating make good and termination into link panel inside bunker - length 5m) | No.  | 6        |                 |        |
| 6.G9.2.13 | G    | 34.007b   |           | Install suitably rated VLD for gradient control mat (including 25mm <sup>2</sup> cabling and terminations to panel and gradient control mat).  | No.  | 6        |                 |        |
| 6.G9.2.14 | G    | 34.007b   |           | Install 1cm <sup>2</sup> AC coupon with 10 ohm 50W resistor (incl. cabling and terminations)   | No.  | 6        |                 |        |
| 6.G9.2.15 | G    | 34.007b   |           | Install 10cm <sup>2</sup> DC monitor coupon with cables  | No.  | 6        |                 |        |
| 6.G9.2.16 | G    | 34.007b   |           | Install Stationary Reference Electrode (including yellow 6mm <sup>2</sup> cable and termination)   | No.  | 6        |                 |        |
|           | G    |           |           | <b>Install equipotential plane at reinforced concrete chambers</b>   |      |          |                 |        |
| 6.G9.2.17 | G    | 34.007b   |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 6        |                 |        |
| 6.G9.2.18 | G    | 34.007b   |           | Steel cable lug welded to reinforcing mesh in apron to protrude into chamber (2x per chamber)  | No.  | 12       |                 |        |
| 6.G9.2.19 | G    | 34.007b   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 12       |                 |        |
| 6.G9.2.20 | G    | 34.007b   |           | Install suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).                           | No.  | 6        |                 |        |
|           | G    |           |           | <b>PART G: BREAK PRESSURE RESERVOIR TOTAL - Carried forward to Summary of Bills</b>  |      |          |                 |        |

| Item no.     | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|              |      | Reference |           |   |      |          |                 |        |
|              | H    |           |           | <b>PART H: GRAVITY MAINS</b>  |      |          |                 |        |
|              | H1   |           |           | <b>PART H1: BPR TO OFF TAKE C CH0 TO CH82</b>   |      |          |                 |        |
|              | H1   |           |           | <b>PART H1.14.1: COATING SURVEYS</b>  |      |          |                 |        |
| 6.H1.14.1.1  | H1   | 34.001    |           | DCVG Survey   | km   | 82       |                 |        |
| 6.H1.14.1.2  | H1   | 34.002    |           | Coating Conductance Test  | No.  | 16       |                 |        |
|              | H1   |           |           | <b>PART H1.14.2: PROCUREMENT AND DELIVERY</b>   |      |          |                 |        |
|              | H1   |           |           | <b>Continuity bonding inside valve chambers</b>   |      |          |                 |        |
| 6.H1.14.2.1  | H1   | 34.006a   |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)          | m    | 334      |                 |        |
| 6.H1.14.2.2  | H1   | 34.007a   |           | Continuity Link panel (complete with labelling)   | No.  | 1        |                 |        |
| 6.H1.14.2.3  | H1   | 34.007a   |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good) | No.  | 2        |                 |        |
| 6.H1.14.2.4  | H1   | 34.007a   |           | Stud weld and terminate cable on inline pipe and scour pipe (including, lugs, labelling & coating make good)            | No.  | 21       |                 |        |
|              | H1   |           |           | <b>Other continuity bonding</b>   |      |          |                 |        |
| 6.H1.14.2.5  | H1   | 34.007a   |           | 2 off 25mm x 5mm steel flatbar welded across the flanges (including coating make good)                                  | No.  | 31       |                 |        |
|              | H1   |           |           | <b>Insulation joints and surge arrestors</b>  |      |          |                 |        |
| 6.H1.14.2.6  | H1   | 34.007a   |           | DN1200 PN25 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap                       | No.  | 20       |                 |        |
| 6.H1.14.2.7  | H1   | 34.007a   |           | DN1200 PN16 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap                       | No.  | 8        |                 |        |
| 6.H1.14.2.8  | H1   | 34.007a   |           | DN400 PN25 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap                        | No.  | 9        |                 |        |
| 6.H1.14.2.9  | H1   | 34.007a   |           | DN400 PN16 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap                        | No.  | 2        |                 |        |
| 6.H1.14.2.10 | H1   | 34.007a   |           | DN300 PN25 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap                        | No.  | 1        |                 |        |
| 6.H1.14.2.11 | H1   | 34.007a   |           | DN300 PN16 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap                        | No.  | 2        |                 |        |
|              | H1   |           |           | <b>SACP station (shallow vertical well system)</b>  |      |          |                 |        |
| 6.H1.14.2.12 | H1   | 34.007a   |           | Supply secure concrete bunker, 1,2m surround and foundation (incl sleeves and gradient control mat)                     | No.  | 188      |                 |        |
|              | H1   |           |           | <b>Supply bunker connection panel (including labels, cable labels, cable ties):</b>                                     |      |          |                 |        |
| 6.H1.14.2.13 | H1   | 34.007a   |           | Type B: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon & SRE connections                     | No.  | 36       |                 |        |
| 6.H1.14.2.14 | H1   | 34.007a   |           | Type FB: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon, SRE & SS-DCD decoupler connections  | No.  | 152      |                 |        |
|              | H1   |           |           | <b>Vertical groundbed (2 wells, 5m apart at chambers):</b>  |      |          |                 |        |
|              |      |           |           |   |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              |      |           |           |  |      |          | Brought Forward |        |
| 6.H1.14.2.15 | H1   | 34.008a   |           | Supply 200mm borehole active length, 3.57kg/m zinc ribbon consisting of 1m lengths with flexible 10mm <sup>2</sup> interconnections complete with spacers to centralize in hole ( including, 50/50 gypsum/bentonite backfill, 10mm <sup>2</sup> anode tails from both ends and terminations into link panel) | m    | 3008     |                 |        |
| 6.H1.14.2.16 | H1   | 34.008a   |           | Supply 200mm borehole inactive length, PVC casing, sand backfill (including 5m of 1m deep cable trench excavation and backfill)  | m    | 1880     |                 |        |
|              | H1   | 34.007a   |           | <b>CP &amp; AC equipment and cabling:</b>  |      |          |                 |        |
| 6.H1.14.2.17 | H1   | 34.007a   |           | Supply 35mm <sup>2</sup> , black, single core, double insulated, Pipe Power cable (incl. stud weld to flange, coating make good and termination into link panel inside bunker - length 5m)   | No.  | 188      |                 |        |
| 6.H1.14.2.18 | H1   | 34.007a   |           | Supply 16mm <sup>2</sup> , black, single core, double insulated, Pipe Monitor cable (incl stud weld to flange, coating make good and termination into link panel inside bunker - length 5m)  | No.  | 188      |                 |        |
| 6.H1.14.2.19 | H1   | 34.007a   |           | Supply suitably rated VLD for gradient control mat (including 25mm <sup>2</sup> cabling and terminations to panel and gradient control mat).   | No.  | 188      |                 |        |
| 6.H1.14.2.20 | H1   | 34.007a   |           | Supply 1cm <sup>2</sup> AC coupon with 10 ohm 50W resistor (incl. cabling and terminations)  | No.  | 188      |                 |        |
| 6.H1.14.2.21 | H1   | 34.007a   |           | Supply 10cm <sup>2</sup> DC monitor coupon with cables   | No.  | 188      |                 |        |
| 6.H1.14.2.22 | H1   | 34.007a   |           | Supply Stationary Reference Electrode (including yellow 6mm <sup>2</sup> cable and termination)  | No.  | 188      |                 |        |
| 6.H1.14.2.23 | H1   | 34.007a   |           | Supply LV SS-DCD decoupler for gradient control wires (including 35mm <sup>2</sup> cabling and terminations to link panel and zinc ribbon).  | No.  | 152      |                 |        |
|              | H1   |           |           | <b>Supply gradient control wires parallel to pipeline : Zinc ribbon:</b>   |      |          |                 |        |
| 6.H1.14.2.24 | H1   | 34.009a   |           | Zinc ribbon 0.983 kg/m for installation in pipe trench   | km   | 65       |                 |        |
| 6.H1.14.2.25 | H1   | 34.007a   |           | Supply 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into SS-DCD inside chamber/bunker - length 5m)   | No.  | 304      |                 |        |
|              | H1   |           |           | <b>Supply gradient control : Zinc mat adjacent to pipe (size as indicated):</b>  |      |          |                 |        |
| 6.H1.14.2.26 | H1   | 34.007a   |           | Zinc mat 6m x 6m made from zinc wire 0.983 kg/m for nodal installation   | No.  | 5        |                 |        |
| 6.H1.14.2.27 | H1   | 34.007a   |           | Zinc mat 3m x 3m made from zinc wire 0.983 kg/m for nodal installation   | No.  | 7        |                 |        |
| 6.H1.14.2.28 | H1   | 34.007a   |           | Supply 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into link panel inside chamber/bunker - length 12m)  | No.  | 12       |                 |        |
|              | H1   |           |           | <b>Supply equipotential plane at reinforced concrete chambers</b>  |      |          |                 |        |
| 6.H1.14.2.29 | H1   | 34.007a   |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 21       |                 |        |
| 6.H1.14.2.30 | H1   | 34.007a   |           | Steel cable lug welded to reinforcing mesh in apron to protrude into chamber (2x per chamber)  | No.  | 42       |                 |        |
| 6.H1.14.2.31 | H1   | 34.007a   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 42       |                 |        |
|              |      |           |           |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              |      |           |           |  |      |          | Brought Forward |        |
| 6.H1.14.2.32 | H1   | 34.007a   |           | Supply suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).  | No.  | 35       |                 |        |
|              | H1   |           |           | <b>Supply equipotential plane at precast ring chambers</b>   |      |          |                 |        |
| 6.H1.14.2.33 | H1   | 34.007a   |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 157      |                 |        |
| 6.H1.14.2.34 | H1   | 34.007a   |           | Steel cable lug welded to rebar mesh in pre-cast concrete for each section(incl roof) for chamber with a 20mm x 5mm thick connecting steel bar welded across all these lugs and coated with bitumen after cable connection | No.  | 314      |                 |        |
| 6.H1.14.2.35 | H1   | 34.007a   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 314      |                 |        |
| 6.H1.14.2.36 | H1   | 34.007a   |           | Supply suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).  | No.  | 157      |                 |        |
|              | H1   |           |           | <b>PART H1.14.3: INSTALLATION</b>  |      |          |                 |        |
|              | H1   |           |           | <b>Continuity bonding inside valve chambers</b>  |      |          |                 |        |
| 6.H1.14.3.1  | H1   | 34.006b   |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)   | m    | 334      |                 |        |
| 6.H1.14.3.2  | H1   | 34.007b   |           | Continuity Link panel (complete with labelling)  | No.  | 1        |                 |        |
| 6.H1.14.3.3  | H1   | 34.007b   |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good)  | No.  | 2        |                 |        |
| 6.H1.14.3.4  | H1   | 34.007b   |           | Stud weld and terminate cable on inline pipe and scour pipe (including, lugs, labelling & coating make good)   | No.  | 21       |                 |        |
|              | H1   |           |           | <b>Other continuity bonding</b>  |      |          |                 |        |
| 6.H1.14.3.5  | H1   | 34.007b   |           | 2 off 25mm x 5mm steel flatbar welded across the flanges (including coating make good)   | No.  | 31       |                 |        |
|              | H1   |           |           | <b>Insulation joints and surge arrestors</b>   |      |          |                 |        |
| 6.H1.14.3.6  | H1   | 34.007b   |           | DN1200 PN25 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 20       |                 |        |
| 6.H1.14.3.7  | H1   | 34.007b   |           | DN1200 PN16 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 8        |                 |        |
| 6.H1.14.3.8  | H1   | 34.007b   |           | DN400 PN25 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 9        |                 |        |
| 6.H1.14.3.9  | H1   | 34.007b   |           | DN400 PN16 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 2        |                 |        |
| 6.H1.14.3.10 | H1   | 34.007b   |           | DN300 PN25 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 1        |                 |        |
| 6.H1.14.3.11 | H1   | 34.007b   |           | DN300 PN16 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 2        |                 |        |
|              | H1   |           |           | <b>SACP station (shallow vertical well system)</b>   |      |          |                 |        |
| 6.H1.14.3.12 | H1   | 34.007b   |           | Install secure concrete bunker, 1,2m surround and foundation (incl sleeves and gradient control mat)   | No.  | 188      |                 |        |
|              |      |           |           |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|              |      | Reference |           |   |      |          |                 |        |
|              |      |           |           |   |      |          | Brought Forward |        |
|              | H1   |           |           | <b>Install bunker connection panel (including labels, cable labels, cable ties):</b>  |      |          |                 |        |
| 6.H1.14.3.13 | H1   | 34.007b   |           | Type B: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon & SRE connections   | No.  | 36       |                 |        |
| 6.H1.14.3.14 | H1   | 34.007b   |           | Type FB: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon, SRE & SS-DCD decoupler connections  | No.  | 152      |                 |        |
|              | H1   |           |           | <b>Vertical groundbed(2 wells, 5m apart at chambers):</b>   |      |          |                 |        |
| 6.H1.14.3.15 | H1   | 34.008b   |           | Install 200mm borehole active length, 3.57kg/m zinc ribbon consisting of 1m lengths with flexible 10mm <sup>2</sup> interconnections complete with spacers to centralize in hole ( including, 50/50 gypsum/bentonite backfill, 10mm <sup>2</sup> anode tails from both ends and terminations into link panel) | No.  | 3008     |                 |        |
| 6.H1.14.3.16 | H1   | 34.008b   |           | Install 200mm borehole inactive length, PVC casing, sand backfill (including 5m of 1m deep cable trench excavation and backfill)  | No.  | 1880     |                 |        |
|              | H1   |           |           | <b>CP &amp; AC equipment and cabling:</b>   |      |          |                 |        |
| 6.H1.14.3.17 | H1   | 34.007b   |           | Install 35mm <sup>2</sup> , black, single core, double insulated, Pipe Power cable (incl. thermit welds, coating make good and termination into link panel inside bunker - length 5m)   | No.  | 188      |                 |        |
| 6.H1.14.3.18 | H1   | 34.007b   |           | Install 16mm <sup>2</sup> , black, single core, double insulated, Pipe Monitor cable (incl thermit welds, coating make good and termination into link panel inside bunker - length 5m)  | No.  | 188      |                 |        |
| 6.H1.14.3.19 | H1   | 34.007b   |           | Install suitably rated VLD for gradient control mat (including 25mm <sup>2</sup> cabling and terminations to panel and gradient control mat).   | No.  | 188      |                 |        |
| 6.H1.14.3.20 | H1   | 34.007b   |           | Install 1cm <sup>2</sup> AC coupon with 10 ohm 50W resistor (incl. cabling and terminations)  | No.  | 188      |                 |        |
| 6.H1.14.3.21 | H1   | 34.007b   |           | Install 10cm <sup>2</sup> DC monitor coupon with cables   | No.  | 188      |                 |        |
| 6.H1.14.3.22 | H1   | 34.007b   |           | Install Stationary Reference Electrode (including yellow 6mm <sup>2</sup> cable and termination)  | No.  | 188      |                 |        |
| 6.H1.14.3.23 | H1   | 34.007b   |           | Install LV SS-DCD decoupler for gradient control wires (including 35mm <sup>2</sup> cabling and terminations to link panel and zinc ribbon).  | No.  | 152      |                 |        |
|              | H1   |           |           | <b>Install gradient control wires parallel to pipeline : Zinc ribbon:</b>   |      |          |                 |        |
| 6.H1.14.3.24 | H1   | 34.009b   |           | Zinc ribbon 0.983 kg/m for installation in pipe trench  | km   | 65       |                 |        |
| 6.H1.14.3.25 | H1   | 34.007b   |           | Install 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into SS-DCD inside chamber/bunker - length 5m)   | No.  | 304      |                 |        |
|              | H1   |           |           | <b>Install gradient control : Zinc mat adjacent to pipe (size as indicated):</b>  |      |          |                 |        |
| 6.H1.14.3.26 | H1   | 34.007b   |           | Zinc mat 6m x 6m made from zinc wire 0.983 kg/m for nodal installation  | No.  | 5        |                 |        |
| 6.H1.14.3.27 | H1   | 34.007b   |           | Zinc mat 3m x 3m made from zinc wire 0.983 kg/m for nodal installation  | No.  | 7        |                 |        |
| 6.H1.14.3.28 | H1   | 34.007b   |           | Install 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into link panel inside chamber/bunker with sleeve through wall sealed water tight - length 12m)  | No.  | 12       |                 |        |
|              |      |           |           |   |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              |      |           |           |  |      |          | Brought Forward |        |
|              | H1   |           |           | <b>Install equipotential plane at reinforced concrete chambers</b>   |      |          |                 |        |
| 6.H1.14.3.29 | H1   | 34.007b   |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 21       |                 |        |
| 6.H1.14.3.30 | H1   | 34.007b   |           | Steel cable lug welded to reinforcing mesh in apron to protrude into chamber (2x per chamber)  | No.  | 42       |                 |        |
| 6.H1.14.3.31 | H1   | 34.007b   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 42       |                 |        |
| 6.H1.14.3.32 | H1   | 34.007b   |           | Install suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).   | No.  | 35       |                 |        |
|              | H1   |           |           | <b>Install equipotential plane at precast ring chambers</b>  |      |          |                 |        |
| 6.H1.14.3.33 | H1   | 34.007b   |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 157      |                 |        |
| 6.H1.14.3.34 | H1   | 34.007b   |           | Steel cable lug welded to rebar mesh in pre-cast concrete for each section(incl roof) for chamber with a 20mm x 5mm thick connecting steel bar welded across all these lugs and coated with bitumen after cable connection | No.  | 314      |                 |        |
| 6.H1.14.3.35 | H1   | 34.007b   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 314      |                 |        |
| 6.H1.14.3.36 | H1   | 34.007b   |           | Install suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).   | No.  | 157      |                 |        |
|              | H1   |           |           | <b>PART H1: BPR TO OFF TAKE C<br/>(33KM + 30.5KM + 18.5KM) - CH0 TO CH82 TOTAL<br/>- Carried forward to Summary of Bills</b>   |      |          |                 |        |

| Item no.     | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|              |      |                   |           |  |      |          |                 |        |
|              | H2   |                   |           | <b>PART H2: OFF TAKE C TO OFF TAKE B CH82 TO CH95</b>  |      |          |                 |        |
|              | H2   |                   |           | <b>PART H2.14.1: COATING SURVEYS</b>   |      |          |                 |        |
| 6.H2.14.1.1  | H2   | 34.001            |           | DCVG Survey  | km   | 8        |                 |        |
| 6.H2.14.1.2  | H2   | 34.002            |           | Coating Conductance Test   | No.  | 2        |                 |        |
|              | H2   |                   |           | <b>PART H2.14.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|              | H2   |                   |           | <b>Continuity bonding inside valve chambers</b>  |      |          |                 |        |
| 6.H2.14.2.1  | H2   | 34.006a           |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)   | m    | 102      |                 |        |
| 6.H2.14.2.2  | H2   | 34.007a           |           | Continuity Link panel (complete with labelling)  | No.  | 3        |                 |        |
| 6.H2.14.2.3  | H2   | 34.007a           |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good)  | No.  | 6        |                 |        |
| 6.H2.14.2.4  | H2   | 34.007a           |           | Stud weld and terminate cable on inline pipe and scour pipe (including, lugs, labelling & coating make good)   | No.  | 3        |                 |        |
|              | H2   |                   |           | <b>Other continuity bonding</b>  |      |          |                 |        |
| 6.H2.14.2.5  | H2   | 34.007a           |           | 2 off 25mm x 5mm steel flatbar welded across the flanges (including coating make good)   | No.  | 13       |                 |        |
|              | H2   |                   |           | <b>Insulation joints and surge arrestors</b>   |      |          |                 |        |
| 6.H2.14.2.6  | H2   | 34.007a           |           | DN900 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 4        |                 |        |
| 6.H2.14.2.7  | H2   | 34.007a           |           | DN300 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 1        |                 |        |
| 6.H2.14.2.8  | H2   | 34.007a           |           | DN200 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 1        |                 |        |
| 6.H2.14.2.9  | H2   | 34.007a           |           | DN400 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 4        |                 |        |
| 6.H2.14.2.10 | H2   | 34.007a           |           | DN500 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 2        |                 |        |
|              | H2   |                   |           | <b>SACP station (shallow vertical well system)</b>   |      |          |                 |        |
| 6.H2.14.2.11 | H2   | 34.007a           |           | Supply secure concrete bunker, 1,2m surround and foundation (incl sleeves and gradient control mat)  | No.  | 18       |                 |        |
|              | H2   |                   |           | <b>Supply bunker connection panel (including labels, cable labels, cable ties):</b>  |      |          |                 |        |
| 6.H2.14.2.12 | H2   | 34.007a           |           | Type FB: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon, SRE & SS-DCD decoupler connections   | No.  | 18       |                 |        |
|              | H2   |                   |           | <b>Vertical groundbed (2 wells, 5m apart at chambers):</b>   |      |          |                 |        |
| 6.H2.14.2.13 | H2   | 34.008a           |           | Supply 200mm borehole active length, 3.57kg/m zinc ribbon consisting of 1m lengths with flexible 10mm <sup>2</sup> interconnections complete with spacers to centralize in hole ( including, 50/50 gypsum/bentonite backfill, 10mm <sup>2</sup> anode tails from both ends and terminations into link panel) | m    | 216      |                 |        |
|              |      |                   |           |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              |      |           |           |  |      |          | Brought Forward |        |
| 6.H2.14.2.14 | H2   | 34.008a   |           | Supply 200mm borehole inactive length, PVC casing, sand backfill (including 5m of 1m deep cable trench excavation and backfill)  | m    | 180      |                 |        |
|              | H2   | 34.007a   |           | <b>CP &amp; AC equipment and cabling:</b>  |      |          |                 |        |
| 6.H2.14.2.15 | H2   | 34.007a   |           | Supply 35mm <sup>2</sup> , black, single core, double insulated, Pipe Power cable (incl. stud weld to flange, coating make good and termination into link panel inside bunker - length 5m)                                 | No.  | 18       |                 |        |
| 6.H2.14.2.16 | H2   | 34.007a   |           | Supply 16mm <sup>2</sup> , black, single core, double insulated, Pipe Monitor cable (incl stud weld to flange, coating make good and termination into link panel inside bunker - length 5m)                                | No.  | 18       |                 |        |
| 6.H2.14.2.17 | H2   | 34.007a   |           | Supply suitably rated VLD for gradient control mat (including 25mm <sup>2</sup> cabling and terminations to panel and gradient control mat).   | No.  | 18       |                 |        |
| 6.H2.14.2.18 | H2   | 34.007a   |           | Supply 1cm <sup>2</sup> AC coupon with 10 ohm 50W resistor (incl. cabling and terminations)  | No.  | 18       |                 |        |
| 6.H2.14.2.19 | H2   | 34.007a   |           | Supply 10cm <sup>2</sup> DC monitor coupon with cables   | No.  | 18       |                 |        |
| 6.H2.14.2.20 | H2   | 34.007a   |           | Supply Stationary Reference Electrode (including yellow 6mm <sup>2</sup> cable and termination)  | No.  | 18       |                 |        |
| 6.H2.14.2.21 | H2   | 34.007a   |           | Supply LV SS-DCD decoupler for gradient control wires (including 35mm <sup>2</sup> cabling and terminations to link panel and zinc ribbon).  | No.  | 18       |                 |        |
|              | H2   |           |           | <b>Supply gradient control wires parallel to pipeline : Zinc ribbon:</b>   |      |          |                 |        |
| 6.H2.14.2.22 | H2   | 34.009a   |           | Zinc ribbon 0.983 kg/m for installation in pipe trench   | km   | 10.2     |                 |        |
| 6.H2.14.2.23 | H2   | 34.007a   |           | Supply 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into SS-DCD inside chamber/bunker - length 10m)                                  | No.  | 18       |                 |        |
|              | H2   |           |           | <b>Supply equipotential plane at reinforced concrete chambers</b>  |      |          |                 |        |
| 6.H2.14.2.24 | H2   | 34.007a   |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 4        |                 |        |
| 6.H2.14.2.25 | H2   | 34.007a   |           | Steel cable lug welded to reinforcing mesh in apron to protrude into chamber (2x per chamber)  | No.  | 8        |                 |        |
| 6.H2.14.2.26 | H2   | 34.007a   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 8        |                 |        |
| 6.H2.14.2.27 | H2   | 34.007a   |           | Supply suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).  | No.  | 4        |                 |        |
|              | H2   |           |           | <b>Supply equipotential plane at precast ring chambers</b>   |      |          |                 |        |
| 6.H2.14.2.28 | H2   | 34.007a   |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 18       |                 |        |
| 6.H2.14.2.29 | H2   | 34.007a   |           | Steel cable lug welded to rebar mesh in pre-cast concrete for each section(incl roof) for chamber with a 20mm x 5mm thick connecting steel bar welded across all these lugs and coated with bitumen after cable connection | No.  | 36       |                 |        |
| 6.H2.14.2.30 | H2   | 34.007a   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 36       |                 |        |
|              |      |           |           |  |      |          | Carried Forward |        |



| Item no.     | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|              |      | Reference |           |   |      |          |                 |        |
|              |      |           |           |   |      |          | Brought Forward |        |
| 6.H2.14.2.31 | H2   | 34.007a   |           | Supply suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).   | No.  | 18       |                 |        |
|              | H2   |           |           | <b>PART H2.14.3: INSTALLATION</b>   |      |          |                 |        |
|              | H2   |           |           | <b>Continuity bonding inside valve chambers</b>   |      |          |                 |        |
| 6.H2.14.3.1  | H2   | 34.006b   |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)  | m    | 102      |                 |        |
| 6.H2.14.3.2  | H2   | 34.007b   |           | Continuity Link panel (complete with labelling)   | No.  | 3        |                 |        |
| 6.H2.14.3.3  | H2   | 34.007b   |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good)   | No.  | 6        |                 |        |
| 6.H2.14.3.4  | H2   | 34.007b   |           | Stud weld and terminate cable on inline pipe and scour pipe (including, lugs, labelling & coating make good)  | No.  | 3        |                 |        |
|              | H2   |           |           | <b>Other continuity bonding</b>   |      |          |                 |        |
| 6.H2.14.3.5  | H2   | 34.007b   |           | 2 off 25mm x 5mm steel flatbar welded across the flanges (including coating make good)  | No.  | 13       |                 |        |
|              | H2   |           |           | <b>Insulation joints and surge arrestors</b>  |      |          |                 |        |
| 6.H2.14.3.6  | H2   | 34.007b   |           | DN900 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 4        |                 |        |
| 6.H2.14.3.7  | H2   | 34.007b   |           | DN300 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 1        |                 |        |
| 6.H2.14.3.8  | H2   | 34.007b   |           | DN200 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 1        |                 |        |
| 6.H2.14.3.9  | H2   | 34.007b   |           | DN400 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 4        |                 |        |
| 6.H2.14.3.10 | H2   | 34.007b   |           | DN500 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 2        |                 |        |
|              | H2   |           |           | <b>SACP station (shallow vertical well system)</b>  |      |          |                 |        |
| 6.H2.14.3.11 | H2   | 34.007b   |           | Install secure concrete bunker, 1,2m surround and foundation (incl sleeves and gradient control mat)  | No.  | 18       |                 |        |
|              | H2   |           |           | <b>Install bunker connection panel (including labels, cable labels, cable ties):</b>  |      |          |                 |        |
| 6.H2.14.3.12 | H2   | 34.007b   |           | Type FB: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon, SRE & SS-DCD decoupler connections  | No.  | 18       |                 |        |
|              | H2   |           |           | <b>Vertical groundbed(2 wells, 5m apart at chambers):</b>   |      |          |                 |        |
| 6.H2.14.3.13 | H2   | 34.008b   |           | Install 200mm borehole active length, 3.57kg/m zinc ribbon consisting of 1m lengths with flexible 10mm <sup>2</sup> interconnections complete with spacers to centralize in hole ( including, 50/50 gypsum/bentonite backfill, 10mm <sup>2</sup> anode tails from both ends and terminations into link panel) | No.  | 216      |                 |        |
| 6.H2.14.3.14 | H2   | 34.008b   |           | Install 200mm borehole inactive length, PVC casing, sand backfill (including 5m of 1m deep cable trench excavation and backfill)  | No.  | 180      |                 |        |
|              | H2   |           |           | <b>CP &amp; AC equipment and cabling:</b>   |      |          |                 |        |
| 6.H2.14.3.15 | H2   | 34.007b   |           | Install 35mm <sup>2</sup> , black, single core, double insulated, Pipe Power cable (incl. thermit welds, coating make good and termination into link panel inside bunker - length 5m)   | No.  | 18       |                 |        |
|              |      |           |           |   |      |          | Carried Forward |        |

| Item no.     | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|              |      |                   |           |  |      |          |                 |        |
|              |      |                   |           |  |      |          | Brought Forward |        |
| 6.H2.14.3.16 | H2   | 34.007b           |           | Install 16mm <sup>2</sup> , black, single core, double insulated, Pipe Monitor cable (incl thermit welds, coating make good and termination into link panel inside bunker - length 5m)                                     | No.  | 18       |                 |        |
| 6.H2.14.3.17 | H2   | 34.007b           |           | Install suitably rated VLD for gradient control mat (including 25mm <sup>2</sup> cabling and terminations to panel and gradient control mat).  | No.  | 18       |                 |        |
| 6.H2.14.3.18 | H2   | 34.007b           |           | Install 1cm <sup>2</sup> AC coupon with 10 ohm 50W resistor (incl. cabling and terminations)   | No.  | 18       |                 |        |
| 6.H2.14.3.19 | H2   | 34.007b           |           | Install 10cm <sup>2</sup> DC monitor coupon with cables  | No.  | 18       |                 |        |
| 6.H2.14.3.20 | H2   | 34.007b           |           | Install Stationary Reference Electrode (including yellow 6mm <sup>2</sup> cable and termination)   | No.  | 18       |                 |        |
| 6.H2.14.3.21 | H2   | 34.007b           |           | Install LV SS-DCD decoupler for gradient control wires (including 35mm <sup>2</sup> cabling and terminations to link panel and zinc ribbon).   | No.  | 18       |                 |        |
|              | H2   |                   |           | <b>Install gradient control wires parallel to pipeline : Zinc ribbon:</b>  |      |          |                 |        |
| 6.H2.14.3.22 | H2   | 34.009b           |           | Zinc ribbon 0.983 kg/m for installation in pipe trench   | km   | 10.2     |                 |        |
| 6.H2.14.3.23 | H2   | 34.007b           |           | Install 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into SS-DCD inside chamber/bunker - length 5m)                                  | No.  | 18       |                 |        |
|              | H2   |                   |           | <b>Install equipotential plane at reinforced concrete chambers</b>   |      |          |                 |        |
| 6.H2.14.3.24 | H2   | 34.007b           |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 4        |                 |        |
| 6.H2.14.3.25 | H2   | 34.007b           |           | Steel cable lug welded to reinforcing mesh in apron to protrude into chamber (2x per chamber)  | No.  | 8        |                 |        |
| 6.H2.14.3.26 | H2   | 34.007b           |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 8        |                 |        |
| 6.H2.14.3.27 | H2   | 34.007b           |           | Install suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).   | No.  | 4        |                 |        |
|              | H2   |                   |           | <b>Install equipotential plane at precast ring chambers</b>  |      |          |                 |        |
| 6.H2.14.3.28 | H2   | 34.007b           |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat   | No.  | 18       |                 |        |
| 6.H2.14.3.29 | H2   | 34.007b           |           | Steel cable lug welded to rebar mesh in pre-cast concrete for each section(incl roof) for chamber with a 20mm x 5mm thick connecting steel bar welded across all these lugs and coated with bitumen after cable connection | No.  | 36       |                 |        |
| 6.H2.14.3.30 | H2   | 34.007b           |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 36       |                 |        |
| 6.H2.14.3.31 | H2   | 34.007b           |           | Install suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).   | No.  | 18       |                 |        |
|              | H2   |                   |           | <b>PART H2: OFF TAKE C TO OFF TAKE B<br/>CH82 TO CH95 TOTAL<br/>- Carried forward to Summary of Bills</b>  |      |          |                 |        |

| Item no.     | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|              |      |                   |           |  |      |          |                 |        |
|              | H3   |                   |           | <b>PART H3: OFF TAKE B TO OFF TAKE A CH95 TO CH101.30</b>  |      |          |                 |        |
|              | H3   |                   |           | <b>PART H3.14.1: COATING SURVEYS</b>   |      |          |                 |        |
| 6.H3.14.1.1  | H3   | 34.001            |           | DCVG Survey  | km   | 12       |                 |        |
| 6.H3.14.1.2  | H3   | 34.002            |           | Coating Conductance Test   | No.  | 2        |                 |        |
|              | H3   |                   |           | <b>PART H3.14.2: PROCUREMENT AND DELIVERY</b>  |      |          |                 |        |
|              | H3   |                   |           | <b>Continuity bonding inside valve chambers</b>  |      |          |                 |        |
| 6.H3.14.2.1  | H3   | 34.006a           |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)   | m    | 142      |                 |        |
| 6.H3.14.2.2  | H3   | 34.007a           |           | Continuity Link panel (complete with labelling)  | No.  | 5        |                 |        |
| 6.H3.14.2.3  | H3   | 34.007a           |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good)  | No.  | 10       |                 |        |
| 6.H3.14.2.4  | H3   | 34.007a           |           | Stud weld and terminate cable on inline pipe and scour pipe (including, lugs, labelling & coating make good)   | No.  | 3        |                 |        |
|              | H3   |                   |           | <b>Other continuity bonding</b>  |      |          |                 |        |
| 6.H3.14.2.5  | H3   | 34.007a           |           | 2 off 25mm x 5mm steel flatbar welded across the flanges (including coating make good)   | No.  | 30       |                 |        |
|              | H3   |                   |           | <b>Insulation joints and surge arrestors</b>   |      |          |                 |        |
| 6.H3.14.2.6  | H3   | 34.007a           |           | DN900 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 4        |                 |        |
| 6.H3.14.2.7  | H3   | 34.007a           |           | DN400 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 8        |                 |        |
| 6.H3.14.2.8  | H3   | 34.007a           |           | DN300 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 4        |                 |        |
| 6.H3.14.2.9  | H3   | 34.007a           |           | DN200 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap   | No.  | 2        |                 |        |
|              | H3   |                   |           | <b>SACP station (shallow vertical well system)</b>   |      |          |                 |        |
| 6.H3.14.2.10 | H3   | 34.007a           |           | Supply secure concrete bunker, 1,2m surround and foundation (incl sleeves and gradient control mat)  | No.  | 29       |                 |        |
|              | H3   |                   |           | <b>Supply bunker connection panel (including labels, cable labels, cable ties):</b>  |      |          |                 |        |
| 6.H3.14.2.11 | H3   | 34.007a           |           | Type FB: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon, SRE & SS-DCD decoupler connections   | No.  | 29       |                 |        |
|              | H3   |                   |           | <b>Vertical groundbed(2 wells, 5m apart at chambers):</b>  |      |          |                 |        |
| 6.H3.14.2.12 | H3   | 34.008a           |           | Supply 200mm borehole active length, 3.57kg/m zinc ribbon consisting of 1m lengths with flexible 10mm <sup>2</sup> interconnections complete with spacers to centralize in hole ( including, 50/50 gypsum/bentonite backfill, 10mm <sup>2</sup> anode tails from both ends and terminations into link panel) | m    | 348      |                 |        |
| 6.H3.14.2.13 | H3   | 34.008a           |           | Supply 200mm borehole inactive length, PVC casing, sand backfill (including 5m of 1m deep cable trench excavation and backfill)  | m    | 290      |                 |        |
|              |      |                   |           |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|              |      | Reference |           |   |      |          |                 |        |
|              |      |           |           |   |      |          | Brought Forward |        |
|              | H3   | 34.007a   |           | <b>CP &amp; AC equipment and cabling:</b>   |      |          |                 |        |
| 6.H3.14.2.14 | H3   | 34.007a   |           | Supply 35mm <sup>2</sup> , black, single core, double insulated, Pipe Power cable (incl. stud weld to flange, coating make good and termination into link panel inside bunker - length 5m)    | No.  | 29       |                 |        |
| 6.H3.14.2.15 | H3   | 34.007a   |           | Supply 16mm <sup>2</sup> , black, single core, double insulated, Pipe Monitor cable (incl stud weld to flange, coating make good and termination into link panel inside bunker - length 5m)   | No.  | 29       |                 |        |
| 6.H3.14.2.16 | H3   | 34.007a   |           | Supply suitably rated VLD for gradient control mat (including 25mm <sup>2</sup> cabling and terminations to panel and gradient control mat).  | No.  | 29       |                 |        |
| 6.H3.14.2.17 | H3   | 34.007a   |           | Supply 1cm <sup>2</sup> AC coupon with 10 ohm 50W resistor (incl. cabling and terminations)   | No.  | 29       |                 |        |
| 6.H3.14.2.18 | H3   | 34.007a   |           | Supply 10cm <sup>2</sup> DC monitor coupon with cables  | No.  | 29       |                 |        |
| 6.H3.14.2.19 | H3   | 34.007a   |           | Supply Stationary Reference Electrode (including yellow 6mm <sup>2</sup> cable and termination)   | No.  | 29       |                 |        |
| 6.H3.14.2.20 | H3   | 34.007a   |           | Supply LV SS-DCD decoupler for gradient control wires (including 35mm <sup>2</sup> cabling and terminations to link panel and zinc ribbon).   | No.  | 29       |                 |        |
|              | H3   |           |           | <b>Supply gradient control wires parallel to pipeline : Zinc ribbon:</b>  |      |          |                 |        |
| 6.H3.14.2.21 | H3   | 34.009a   |           | Zinc ribbon 0.983 kg/m for installation in pipe trench  | km   | 11.5     |                 |        |
| 6.H3.14.2.22 | H3   | 34.007a   |           | Supply 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into SS-DCD inside chamber/bunker - length 10m)     | No.  | 29       |                 |        |
|              | H3   |           |           | <b>Supply gradient control : Zinc mat adjacent to pipe (size as indicated):</b>   |      |          |                 |        |
| 6.H3.14.2.23 | H3   | 34.007a   |           | Zinc mat 6m x 6m made from zinc wire 0.983 kg/m for nodal installation  | No.  | 10       |                 |        |
| 6.H3.14.2.24 | H3   | 34.007a   |           | Zinc mat 3m x 3m made from zinc wire 0.983 kg/m for nodal installation  | No.  | 18       |                 |        |
| 6.H3.14.2.25 | H3   | 34.007a   |           | Supply 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into link panel inside chamber/bunker - length 12m) | No.  | 28       |                 |        |
|              | H3   |           |           | <b>Supply equipotential plane at reinforced concrete chambers</b>   |      |          |                 |        |
| 6.H3.14.2.26 | H3   | 34.007a   |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat  | No.  | 6        |                 |        |
| 6.H3.14.2.27 | H3   | 34.007a   |           | Steel cable lug welded to reinforcing mesh in apron to protrude into chamber (2x per chamber)   | No.  | 12       |                 |        |
| 6.H3.14.2.28 | H3   | 34.007a   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)  | No.  | 12       |                 |        |
| 6.H3.14.2.29 | H3   | 34.007a   |           | Supply suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).                                   | No.  | 6        |                 |        |
|              | H3   |           |           | <b>Supply equipotential plane at precast ring chambers</b>  |      |          |                 |        |
| 6.H3.14.2.30 | H3   | 34.007a   |           | 1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat  | No.  | 28       |                 |        |
|              |      |           |           |   |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|---|------|----------|-----------------|--------|
|              |      | Reference |           |   |      |          |                 |        |
|              |      |           |           |   |      |          | Brought Forward |        |
| 6.H3.14.2.31 | H3   | 34.007a   |           | Steel cable lug welded to rebar mesh in pre-cast concrete for each section(incl roof) for chamber with a 20mm x 5mm thick connecting steel bar welded across all these lugs and coated with bitumen after cable connection  | No.  | 56       |                 |        |
| 6.H3.14.2.32 | H3   | 34.007a   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)  | No.  | 56       |                 |        |
| 6.H3.14.2.33 | H3   | 34.007a   |           | Supply suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).   | No.  | 28       |                 |        |
|              | H3   |           |           | <b>PART H3.14.3: INSTALLATION</b>   |      |          |                 |        |
|              | H3   |           |           | <b>Continuity bonding inside valve chambers</b>   |      |          |                 |        |
| 6.H3.14.3.1  | H3   | 34.006b   |           | 16mm <sup>2</sup> , single core, double insulated, Black cable, (Including galvanised conduit, fittings, etc.)  | m    | 142      |                 |        |
| 6.H3.14.3.2  | H3   | 34.007b   |           | Continuity Link panel (complete with labelling)   | No.  | 5        |                 |        |
| 6.H3.14.3.3  | H3   | 34.007b   |           | Stud weld and terminate cable on pipe and in connection panel -per pipe(including, lugs, labelling & coating make good)   | No.  | 10       |                 |        |
| 6.H3.14.3.4  | H3   | 34.007b   |           | Stud weld and terminate cable on inline pipe and scour pipe (including, lugs, labelling & coating make good)  | No.  | 3        |                 |        |
|              | H3   |           |           | <b>Other continuity bonding</b>   |      |          |                 |        |
| 6.H3.14.3.5  | H3   | 34.007b   |           | 2 off 25mm x 5mm steel flatbar welded across the flanges (including coating make good)  | No.  | 30       |                 |        |
|              | H3   |           |           | <b>Insulation joints and surge arrestors</b>  |      |          |                 |        |
| 6.H3.14.3.6  | H3   | 34.007b   |           | DN900 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 4        |                 |        |
| 6.H3.14.3.7  | H3   | 34.007b   |           | DN400 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 8        |                 |        |
| 6.H3.14.3.8  | H3   | 34.007b   |           | DN300 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 4        |                 |        |
| 6.H3.14.3.9  | H3   | 34.007b   |           | DN200 PN40 IF kit, Complete with insulating sleeves, studs, washers and suitably rated spark gap  | No.  | 2        |                 |        |
|              | H3   | 34.007b   |           | SACP station (shallow vertical well system)   |      |          |                 |        |
| 6.H3.14.3.10 | H3   | 34.007b   |           | Install secure concrete bunker, 1.2m surround and foundation (incl sleeves and gradient control mat)  | No.  | 29       |                 |        |
|              | H3   |           |           | <b>Install bunker connection panel (including labels, cable labels, cable ties):</b>  |      |          |                 |        |
| 6.H3.14.3.11 | H3   | 34.007b   |           | Type FB: 2x Sacrificial anode, pipe power, pipe monitor, VLD, AC coupon, DC coupon, SRE & SS-DCD decoupler connections  | No.  | 29       |                 |        |
|              | H3   |           |           | <b>Vertical groundbed (2 wells, 5m apart at chambers):</b>  |      |          |                 |        |
| 6.H3.14.3.12 | H3   | 34.008b   |           | Install 200mm borehole active length, 3.57kg/m zinc ribbon consisting of 1m lengths with flexible 10mm <sup>2</sup> interconnections complete with spacers to centralize in hole ( including, 50/50 gypsum/bentonite backfill, 10mm <sup>2</sup> anode tails from both ends and terminations into link panel) | No.  | 348      |                 |        |
| 6.H3.14.3.13 | H3   | 34.008b   |           | Install 200mm borehole inactive length, PVC casing, sand backfill (including 5m of 1m deep cable trench excavation and backfill)  | No.  | 290      |                 |        |
|              |      |           |           |   |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              |      |           |           |  |      |          | Brought Forward |        |
| 6.H3.14.3.14 | H3   | 34.007b   |           | <b>CP &amp; AC equipment and cabling:</b><br>Install 35mm <sup>2</sup> , black, single core, double insulated, Pipe Power cable (incl. thermit welds, coating make good and termination into link panel inside bunker - length 5m)         | No.  | 29       |                 |        |
| 6.H3.14.3.15 | H3   | 34.007b   |           | Install 16mm <sup>2</sup> , black, single core, double insulated, Pipe Monitor cable (incl thermit welds, coating make good and termination into link panel inside bunker - length 5m)   | No.  | 29       |                 |        |
| 6.H3.14.3.16 | H3   | 34.007b   |           | Install suitably rated VLD for gradient control mat (including 25mm <sup>2</sup> cabling and terminations to panel and gradient control mat).  | No.  | 29       |                 |        |
| 6.H3.14.3.17 | H3   | 34.007b   |           | Install 1cm <sup>2</sup> AC coupon with 10 ohm 50W resistor (incl. cabling and terminations)   | No.  | 29       |                 |        |
| 6.H3.14.3.18 | H3   | 34.007b   |           | Install 10cm <sup>2</sup> DC monitor coupon with cables  | No.  | 29       |                 |        |
| 6.H3.14.3.19 | H3   | 34.007b   |           | Install Stationary Reference Electrode (including yellow 6mm <sup>2</sup> cable and termination)   | No.  | 29       |                 |        |
| 6.H3.14.3.20 | H3   | 34.007b   |           | Install LV SS-DCD decoupler for gradient control wires (including 35mm <sup>2</sup> cabling and terminations to link panel and zinc ribbon).   | No.  | 29       |                 |        |
| 6.H3.14.3.21 | H3   | 34.009b   |           | <b>Install gradient control wires parallel to pipeline : Zinc ribbon:</b><br>Zinc ribbon 0.983 kg/m for installation in pipe trench  | km   | 11.5     |                 |        |
| 6.H3.14.3.22 | H3   | 34.007b   |           | Install 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into SS-DCD inside chamber/bunker - length 5m)  | No.  | 29       |                 |        |
| 6.H3.14.3.23 | H3   | 34.007b   |           | <b>Install gradient control : Zinc mat adjacent to pipe (size as indicated):</b><br>Zinc mat 6m x 6m made from zinc wire 0.983 kg/m for nodal installation   | No.  | 10       |                 |        |
| 6.H3.14.3.24 | H3   | 34.007b   |           | Zinc mat 3m x 3m made from zinc wire 0.983 kg/m for nodal installation   | No.  | 18       |                 |        |
| 6.H3.14.3.25 | H3   | 34.007b   |           | Install 35mm <sup>2</sup> , yellow/green single core, double insulated, cable (incl. encapsulated cable to zinc connection and termination into link panel inside chamber/bunker with sleeve through wall sealed water tight - length 12m) | No.  | 28       |                 |        |
| 6.H3.14.3.26 | H3   | 34.007b   |           | <b>Install equipotential plane at reinforced concrete chambers</b><br>1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat                             | No.  | 6        |                 |        |
| 6.H3.14.3.27 | H3   | 34.007b   |           | Steel cable lug welded to reinforcing mesh in apron to protrude into chamber (2x per chamber)  | No.  | 12       |                 |        |
| 6.H3.14.3.28 | H3   | 34.007b   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 12       |                 |        |
| 6.H3.14.3.29 | H3   | 34.007b   |           | Install suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).   | No.  | 6        |                 |        |
| 6.H3.14.3.30 | H3   | 34.007b   |           | <b>Install equipotential plane at precast ring chambers</b><br>1.2m (100mm thick 15/19 MPa conductive concrete) apron slab around valve chamber including 200 x 200 x 8mm weldmesh gradient control mat                                    | No.  | 22       |                 |        |
|              |      |           |           |  |      |          | Carried Forward |        |

| Item no.     | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|--------------|------|-----------|-----------|--|------|----------|-----------------|--------|
|              |      | Reference |           |  |      |          |                 |        |
|              |      |           |           |  |      |          | Brought Forward |        |
| 6.H3.14.3.31 | H3   | 34.007b   |           | Steel cable lug welded to rebar mesh in pre-cast concrete for each section(incl roof) for chamber with a 20mm x 5mm thick connecting steel bar welded across all these lugs and coated with bitumen after cable connection | No.  | 44       |                 |        |
| 6.H3.14.3.32 | H3   | 34.007b   |           | Steel cable lug welded to reinforcing steel of chamber to protrude into chamber (2x per chamber)   | No.  | 44       |                 |        |
| 6.H3.14.3.33 | H3   | 34.007b   |           | Install suitably rated VLD in polycarbonate enclosure fixed to wall (including 25mm <sup>2</sup> cabling and terminations to pipe and gradient control mat).   | No.  | 22       |                 |        |
|              | H3   |           |           | <b>PART H3: OFF TAKE B TO OFF TAKE A<br/>CH95 TO CH101.30<br/>- Carried forward to Summary of Bills</b>  |      |          |                 |        |
|              |      |           |           | <b>BILL 6: CATHODIC PROTECTION AND AC MITIGATION<br/>(Carried forward to Summary of Bills)</b>   |      |          |                 |        |

| Item no. | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|          |      |                   |           |   |      |          |                 |        |
| 7        |      |                   |           | <b>BILL 7: TESTS ON COMPLETION</b>                                    |      |          |                 |        |
|          |      |                   |           | <b>COMMISSIONING, TRIAL OPERATION AND DEFECTS NOTIFICATION PERIOD</b> |      |          |                 |        |
|          | B    |                   |           | <b>PART B: ABSTRACTION WORKS</b>                                      |      |          |                 |        |
|          | B1   |                   |           | <b>PART B1: VLIEËPOORT DIVERSION WEIR</b>                             |      |          |                 |        |
|          | B1   |                   |           | <b>COMMISSIONING</b>  |      |          |                 |        |
|          | B1   |                   |           | Local commissioning   |      |          |                 |        |
| 7.B1.1   | B1   | 48.001            |           | Civil   | sum  | 1        |                 |        |
| 7.B1.2   | B1   | 48.001            |           | Mechanical  | sum  | 1        |                 |        |
| 7.B1.3   | B1   | 48.001            |           | Electrical  | sum  | 1        |                 |        |
| 7.B1.4   | B1   | 48.001            |           | Control and Instrumentation, Communication and Security               | sum  | 1        |                 |        |
| 7.B1.5   | B1   | 48.001            |           | Cathodic Protection and AC Mitigation                                 | sum  | 1        |                 |        |
|          | B1   |                   |           | Regional commissioning  |      |          |                 |        |
| 7.B1.6   | B1   | 48.001            |           | Civil   | sum  | 1        |                 |        |
| 7.B1.7   | B1   | 48.001            |           | Mechanical  | sum  | 1        |                 |        |
| 7.B1.8   | B1   | 48.001            |           | Electrical  | sum  | 1        |                 |        |
| 7.B1.9   | B1   | 48.001            |           | Control and Instrumentation, Communication and Security               | sum  | 1        |                 |        |
| 7.B1.10  | B1   | 48.001            |           | Cathodic Protection and AC Mitigation                                 | sum  | 1        |                 |        |
|          | B1   |                   |           | <b>TRAIL OPERATIONS</b>   |      |          |                 |        |
| 7.B1.11  | B1   | 48.002            |           | Civil   | sum  | 1        |                 |        |
| 7.B1.12  | B1   | 48.002            |           | Mechanical  | sum  | 1        |                 |        |
| 7.B1.13  | B1   | 48.002            |           | Electrical  | sum  | 1        |                 |        |
| 7.B1.14  | B1   | 48.002            |           | Control and Instrumentation, Communication and Security               | sum  | 1        |                 |        |
| 7.B1.15  | B1   | 48.002            |           | Cathodic Protection and AC Mitigation                                 | sum  | 1        |                 |        |
|          | B1   |                   |           | <b>OPERATIONS AND MAINTENANCE MANUALS</b>                             |      |          |                 |        |
| 7.B1.16  | B1   | 48.003            |           | Civil   | sum  | 1        |                 |        |
| 7.B1.17  | B1   | 48.003            |           | Mechanical  | sum  | 1        |                 |        |
| 7.B1.18  | B1   | 48.003            |           | Electrical  | sum  | 1        |                 |        |
| 7.B1.19  | B1   | 48.003            |           | Control and Instrumentation, Communication and Security               | sum  | 1        |                 |        |
| 7.B1.20  | B1   | 48.003            |           | Cathodic Protection and AC Mitigation                                 | sum  | 1        |                 |        |
|          | B1   |                   |           | <b>TRAINING</b>   |      |          |                 |        |
| 7.B1.21  | B1   | 48.005            |           | Civil   | sum  | 1        |                 |        |
| 7.B1.22  | B1   | 48.005            |           | Mechanical  | sum  | 1        |                 |        |
| 7.B1.23  | B1   | 48.005            |           | Electrical  | sum  | 1        |                 |        |
| 7.B1.24  | B1   | 48.005            |           | Control and Instrumentation, Communication and Security               | sum  | 1        |                 |        |
| 7.B1.25  | B1   | 48.005            |           | Cathodic Protection and AC Mitigation                                 | sum  | 1        |                 |        |
|          | B1   |                   |           | <b>DEFECTS NOTIFICATION PERIOD</b>                                    |      |          |                 |        |
|          | B1   |                   |           | Inspection No 1   |      |          |                 |        |
| 7.B1.26  | B1   | 48.006(a)         |           | Civil   | sum  | 1        |                 |        |
| 7.B1.27  | B1   | 48.006(a)         |           | Mechanical  | sum  | 1        |                 |        |
| 7.B1.28  | B1   | 48.006(a)         |           | Electrical  | sum  | 1        |                 |        |
| 7.B1.29  | B1   | 48.006(a)         |           | Control and Instrumentation, Communication and Security               | sum  | 1        |                 |        |
| 7.B1.30  | B1   | 48.006(a)         |           | Cathodic Protection and AC Mitigation                                 | sum  | 1        |                 |        |
|          | B1   |                   |           | Inspection No 2   |      |          |                 |        |
| 7.B1.31  | B1   | 48.006(b)         |           | Civil   | sum  | 1        |                 |        |
| 7.B1.32  | B1   | 48.006(b)         |           | Mechanical  | sum  | 1        |                 |        |
| 7.B1.33  | B1   | 48.006(b)         |           | Electrical  | sum  | 1        |                 |        |
| 7.B1.34  | B1   | 48.006(b)         |           | Control and Instrumentation, Communication and Security               | sum  | 1        |                 |        |
| 7.B1.35  | B1   | 48.006(b)         |           | Cathodic Protection and AC Mitigation                                 | sum  | 1        |                 |        |
|          |      |                   |           |   |      |          | Carried Forward |        |



| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|          |      | Reference |           |   |      |          |                 |        |
|          |      |           |           |   |      |          | Brought Forward |        |
|          | B1   |           |           | <b>Inspection service 3 and Final Inspection</b>                                |      |          |                 |        |
| 7.B1.36  | B1   | 48.006(c) |           | <b>Civil</b>  | sum  | 1        |                 |        |
| 7.B1.37  | B1   | 48.006(c) |           | <b>Mechanical</b>   | sum  | 1        |                 |        |
| 7.B1.38  | B1   | 48.006(c) |           | <b>Electrical</b>   | sum  | 1        |                 |        |
| 7.B1.39  | B1   | 48.006(c) |           | <b>Control and Instrumentation, Communication and Security</b>                  | sum  | 1        |                 |        |
| 7.B1.40  | B1   | 48.006(c) |           | <b>Cathodic Protection and AC Mitigation</b>                                    | sum  | 1        |                 |        |
|          | B1   |           |           | <b>Additional site visits - Transport</b>                                       |      |          |                 |        |
| 7.B1.41  | B1   | 48.008(a) |           | <b>Civil</b>  | No   | 6        |                 |        |
| 7.B1.42  | B1   | 48.008(a) |           | <b>Mechanical</b>   | No   | 6        |                 |        |
| 7.B1.43  | B1   | 48.008(a) |           | <b>Electrical</b>   | No   | 6        |                 |        |
| 7.B1.44  | B1   | 48.008(a) |           | <b>Control and Instrumentation, Communication and Security</b>                  | No   | 6        |                 |        |
| 7.B1.45  | B1   | 48.008(a) |           | <b>Cathodic Protection and AC Mitigation</b>                                    | No   | 6        |                 |        |
|          | B1   |           |           | <b>Additional site visits - Site operations</b>                                 |      |          |                 |        |
| 7.B1.46  | B1   | 48.008(b) |           | <b>Civil</b>  | Day  | 12       |                 |        |
| 7.B1.47  | B1   | 48.008(b) |           | <b>Mechanical</b>   | Day  | 12       |                 |        |
| 7.B1.48  | B1   | 48.008(b) |           | <b>Electrical</b>   | Day  | 12       |                 |        |
| 7.B1.49  | B1   | 48.008(b) |           | <b>Control and Instrumentation, Communication and Security</b>                  | Day  | 12       |                 |        |
| 7.B1.50  | B1   | 48.008(b) |           | <b>Cathodic Protection and AC Mitigation</b>                                    | Day  | 12       |                 |        |
|          | B1   |           |           | <b>Routine inspections or services planned by the Contractor during the DNP</b> |      |          |                 |        |
| 7.B1.51  | B1   | 48.009    |           | <b>Civil</b>  | sum  | 1        |                 |        |
| 7.B1.52  | B1   | 48.009    |           | <b>Mechanical</b>   | sum  | 1        |                 |        |
| 7.B1.53  | B1   | 48.009    |           | <b>Electrical</b>   | sum  | 1        |                 |        |
| 7.B1.54  | B1   | 48.009    |           | <b>Control and Instrumentation, Communication and Security</b>                  | sum  | 1        |                 |        |
| 7.B1.55  | B1   | 48.009    |           | <b>Cathodic Protection and AC Mitigation</b>                                    | sum  | 1        |                 |        |
|          | B1   |           |           | <b>PART B1: VLIEËPOORT DIVERSION WEIR (Carried forward to Summary of Bills)</b> |      |          |                 |        |

| Item no. | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|          |      |                   |           |   |      |          |                 |        |
|          | B2   |                   |           | <b>PART B2: DIVERSION WORKS AND LOW-LIFT PUMPING STATION</b>  |      |          |                 |        |
|          | B2   |                   |           | <b>COMMISSIONING</b>  |      |          |                 |        |
|          | B2   |                   |           | <b>Local commissioning</b>  |      |          |                 |        |
| 7.B2.1   | B2   | 48.001            |           | <b>Civil</b>  | sum  | 1        |                 |        |
|          | B2   |                   |           | <b>Mechanical</b>   |      |          |                 |        |
| 7.B2.2   | B2   | 48.001            |           | <b>MECHANICAL - HVAC</b>  | sum  | 1        |                 |        |
| 7.B2.3   | B2   | 48.001            |           | <b>HVAC</b>   | sum  | 1        |                 |        |
| 7.B2.4   | B2   | 48.001            |           | Air cooled chiller c/w all controls, pumps & BACnet interface (CH1 & CH2)   | sum  | 1        |                 |        |
|          | B2   |                   |           | Air handling unit c/w all controls & BACnet interface (AHU1)  | sum  | 1        |                 |        |
|          | B2   |                   |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required) |      |          |                 |        |
| 7.B2.5   | B2   |                   |           | .....   | Sum  | 1        |                 |        |
| 7.B2.6   | B2   |                   |           | .....   | Sum  | 1        |                 |        |
| 7.B2.7   | B2   |                   |           | .....   | Sum  | 1        |                 |        |
| 7.B2.8   | B2   |                   |           | .....   | Sum  | 1        |                 |        |
|          | B2   |                   |           | <b>MECHANICAL - FIRE</b>  |      |          |                 |        |
| 7.B2.9   | B2   | 48.001            |           | <b>Fire Detection and Suppression</b>   | Sum  | 1        |                 |        |
|          | B2   | 48.001            |           | Allow for all factors required for the testing, commissioning and handover of systems and plant associated with fire detection and suppression.           |      |          |                 |        |
| 7.B2.10  | B2   | 48.001            |           | <b>Smoke Ventilation</b>  | Sum  | 1        |                 |        |
|          | B2   | 48.001            |           | Allow for all factors required for the testing, commissioning and handover of systems and plant associated with smoke ventilation.                        |      |          |                 |        |
| 7.B2.11  | B2   | 48.001            |           | <b>Fire Water</b>   | Sum  | 1        |                 |        |
|          | B2   | 48.001            |           | Allow for all factors required for the testing, commissioning and handover of systems and plant associated with fire water.                               |      |          |                 |        |
|          | B2   |                   |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required) |      |          |                 |        |
| 7.B2.12  | B2   |                   |           | .....   | Sum  | 1        |                 |        |
| 7.B2.13  | B2   |                   |           | .....   | Sum  | 1        |                 |        |
| 7.B2.14  | B2   |                   |           | .....   | Sum  | 1        |                 |        |
| 7.B2.15  | B2   |                   |           | .....   | Sum  | 1        |                 |        |
|          | B2   |                   |           | <b>Electrical</b>   |      |          |                 |        |
| 7.B2.16  | B2   | 48.001            |           | <b>MV SWITCHGEAR</b>  | Sum  | 1        |                 |        |
|          | B2   | 48.001            |           | Cold commissioning  |      |          |                 |        |
| 7.B2.17  | B2   | 48.001            |           | <b>MV VSD's</b>   | Sum  | 1        |                 |        |
|          | B2   | 48.001            |           | Supervision of Site Installation, for 5 days-(Rate for assistance 6hrs day) including 1 day for Medicals and Induction.                                   |      |          |                 |        |
| 7.B2.18  | B2   | 48.001            |           | <b>Generator</b>  | Sum  | 1        |                 |        |
|          | B2   | 48.001            |           | Allow for all factors required for the testing, commissioning and handover of systems and plant associated with Generator.                                |      |          |                 |        |
| 7.B2.19  | B2   | 48.001            |           | <b>Lighting and Small Power</b>   | Sum  | 1        |                 |        |
|          | B2   | 48.001            |           | Allow for all factors required for the testing, commissioning and handover of systems and plant associated with Lighting and Small Power.                 |      |          |                 |        |
|          |      |                   |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|          |      | Reference |           |   |      |          |                 |        |
|          |      |           |           |   |      |          | Brought Forward |        |
| 7.B2.20  | B2   | 48.001    |           | <b>General</b>  |      |          |                 |        |
|          | B2   | 48.001    |           | Allow for all factors required for the testing, commissioning and handover of systems and plant associated with General                                   | Sum  | 1        |                 |        |
|          | B2   |           |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required) |      |          |                 |        |
| 7.B2.21  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.22  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.23  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.24  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.25  | B2   | 48.001    |           | <b>Control and Instrumentation, Communication and Security</b>  | sum  | 1        |                 |        |
| 7.B2.26  | B2   | 48.001    |           | <b>Cathodic Protection and AC Mitigation</b>  | sum  | 1        |                 |        |
|          | B2   |           |           | <b>Regional commissioning</b>   |      |          |                 |        |
| 7.B2.27  | B2   | 48.001    |           | <b>Civil</b>  | sum  | 1        |                 |        |
| 7.B2.28  | B2   | 48.001    |           | <b>Mechanical</b>   | sum  | 1        |                 |        |
|          | B2   |           |           | <b>HVAC</b>   |      |          |                 |        |
| 7.B2.29  | B2   | 48.001    |           | Air cooled chiller c/w all controls, pumps & BACnet interface (CH1 & CH2)   | sum  | 1        |                 |        |
| 7.B2.30  | B2   | 48.001    |           | Air handling unit c/w all controls & BACnet interface (AHU1)  | sum  | 1        |                 |        |
|          | B2   |           |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required) |      |          |                 |        |
| 7.B2.31  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.32  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.33  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.34  | B2   |           |           | .....   | Sum  | 1        |                 |        |
|          | B2   |           |           | <b>Electrical</b>   |      |          |                 |        |
|          | B2   |           |           | <b>MV VSD's</b>   |      |          |                 |        |
| 7.B2.35  | B2   | 48.001    |           | Allow for Factory Acceptance Test in Suppliers VSD Manufacturing Plant(Local or International) , include two representatives                              | Sum  | 1        |                 |        |
|          | B2   |           |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required) |      |          |                 |        |
| 7.B2.36  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.37  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.38  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.39  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.40  | B2   | 48.001    |           | <b>Control and Instrumentation, Communication and Security</b>  | sum  | 1        |                 |        |
| 7.B2.41  | B2   | 48.001    |           | <b>Cathodic Protection and AC Mitigation</b>  | sum  | 1        |                 |        |
|          | B2   |           |           | <b>TRAIL OPERATIONS</b>   |      |          |                 |        |
| 7.B2.42  | B2   | 48.002    |           | <b>Civil</b>  | sum  | 1        |                 |        |
| 7.B2.43  | B2   | 48.002    |           | <b>Mechanical</b>   | sum  | 1        |                 |        |
| 7.B2.44  | B2   | 48.002    |           | <b>Electrical</b>   | sum  | 1        |                 |        |
| 7.B2.45  | B2   | 48.002    |           | <b>Control and Instrumentation, Communication and Security</b>  | sum  | 1        |                 |        |
| 7.B2.46  | B2   | 48.002    |           | <b>Cathodic Protection and AC Mitigation</b>  | sum  | 1        |                 |        |
|          |      |           |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|          |      |                   |           |   |      |          |                 |        |
|          |      |                   |           |   |      |          | Brought Forward |        |
|          | B2   |                   |           | <b>OPERATIONS AND MAINTENANCE MANUALS</b>   |      |          |                 |        |
| 7.B2.47  | B2   | 48.003            |           | <b>Civil</b>  | sum  | 1        |                 |        |
| 7.B2.48  | B2   | 48.003            |           | <b>Mechanical</b>   | sum  | 1        |                 |        |
|          | B2   |                   |           | <b>MECHANICAL - HVAC</b>  |      |          |                 |        |
| 7.B2.49  | B2   | 48.003            |           | Operations and maintenance manuals  | sum  | 1        |                 |        |
| 7.B2.50  | B2   | 48.003            |           | As built drawings   | sum  | 1        |                 |        |
|          | B2   |                   |           | <b>MECHANICAL - FIRE</b>  |      |          |                 |        |
|          | B2   | 48.003            |           | <b>Fire Detection and Suppression</b>   |      |          |                 |        |
| 7.B2.51  | B2   | 48.003            |           | Allow for the production of all instruction manuals, drawings, details, etc. Required for the systems and plant associated with fire detection and suppression.       | Sum  | 1        |                 |        |
| 7.B2.52  | B2   | 48.003            |           | Allow for the production of all As-Built drawings   | Sum  | 1        |                 |        |
|          | B2   |                   |           | <b>Smoke Ventilation</b>  |      |          |                 |        |
| 7.B2.53  | B2   | 48.003            |           | Allow for the production of all instruction manuals, drawings, details, etc. Required for the systems and plant associated with smoke ventilation.                    | Sum  | 1        |                 |        |
| 7.B2.54  | B2   | 48.003            |           | Allow for the production of all As-Built drawings   | Sum  | 1        |                 |        |
|          | B2   |                   |           | <b>Fire Water</b>   |      |          |                 |        |
| 7.B2.55  | B2   | 48.003            |           | Allow for the production of all instruction manuals, drawings, details, etc. Required for the systems and plant associated with fire water system.                    | Sum  | 1        |                 |        |
| 7.B2.56  | B2   | 48.003            |           | Allow for the production of all As-Built drawings   | Sum  | 1        |                 |        |
|          | B2   |                   |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)             |      |          |                 |        |
| 7.B2.57  | B2   |                   |           | .....   | Sum  | 1        |                 |        |
| 7.B2.58  | B2   |                   |           | .....   | Sum  | 1        |                 |        |
| 7.B2.59  | B2   |                   |           | .....   | Sum  | 1        |                 |        |
| 7.B2.60  | B2   |                   |           | .....   | Sum  | 1        |                 |        |
|          | B2   |                   |           | <b>Electrical</b>   |      |          |                 |        |
|          | B2   |                   |           | <b>MV SWITCHGEAR</b>  |      |          |                 |        |
| 7.B2.61  | B2   | 48.003            |           | O&M Manuals   | Sum  | 1        |                 |        |
| 7.B2.62  | B2   | 48.003            |           | As built drawings   | Sum  | 1        |                 |        |
|          | B2   |                   |           | <b>MV VSD's</b>   |      |          |                 |        |
| 7.B2.63  | B2   | 48.003            |           | Allow for the production of all instruction manuals, drawings, details, etc. Required for the systems and plant associated with medium voltage variable speed drives. | Sum  | 1        |                 |        |
|          | B2   |                   |           | <b>Generator</b>  |      |          |                 |        |
| 7.B2.64  | B2   | 48.003            |           | Allow for the production of all instruction manuals, drawings, details, etc. Required for the systems and plant associated with a generator.                          | Sum  | 1        |                 |        |
|          | B2   |                   |           | <b>Lighting and Small Power</b>   |      |          |                 |        |
| 7.B2.65  | B2   | 48.003            |           | Allow for the production of all instruction manuals, drawings, details, etc. Required for the systems and plant associated with a lighting and small power.           | Sum  | 1        |                 |        |
| 7.B2.66  | B2   | 48.003            |           | Allow for the production of all As-Built drawings   | Sum  | 1        |                 |        |
|          | B2   |                   |           | <b>General</b>  |      |          |                 |        |
| 7.B2.67  | B2   | 48.003            |           | Allow for the production of all instruction manuals, drawings, details, etc. Required for the systems and plant associated with General                               | Sum  | 1        |                 |        |
| 7.B2.68  | B2   | 48.003            |           | Allow for the production of all As-Built drawings   | Sum  | 1        |                 |        |
|          | B2   |                   |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)             |      |          |                 |        |
| 7.B2.69  | B2   |                   |           | .....   | Sum  | 1        |                 |        |
| 7.B2.70  | B2   |                   |           | .....   | Sum  | 1        |                 |        |
|          |      |                   |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|          |      | Reference |           |   |      |          |                 |        |
|          |      |           |           |   |      |          | Brought Forward |        |
| 7.B2.71  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.72  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.73  | B2   | 48.003    |           | <b>Control and Instrumentation, Communication and Security</b>  | sum  | 1        |                 |        |
| 7.B2.74  | B2   | 48.003    |           | <b>Cathodic Protection and AC Mitigation</b>  | sum  | 1        |                 |        |
|          | B2   |           |           | <b>TRAINING</b>   |      |          |                 |        |
| 7.B2.75  | B2   | 48.005    |           | <b>Civil</b>  | sum  | 1        |                 |        |
| 7.B2.76  | B2   | 48.005    |           | <b>Mechanical</b>   | sum  | 1        |                 |        |
|          | B2   |           |           | <b>MECHANICAL - HVAC</b>  |      |          |                 |        |
| 7.B2.77  | B2   | 48.005    |           | Training  | sum  | 1        |                 |        |
|          | B2   |           |           | <b>MECHANICAL - FIRE</b>  |      |          |                 |        |
|          | B2   | 48.005    |           | Fire Detection and Suppression  |      |          |                 |        |
| 7.B2.78  | B2   | 48.005    |           | Allow for the training of staff in the use of systems on completion of work. (Multiple training sessions might be required).                                  | Sum  | 1        |                 |        |
|          | B2   | 48.005    |           | <b>Smoke Ventilation</b>  |      |          |                 |        |
| 7.B2.79  | B2   | 48.005    |           | Allow for the training of staff in the use of systems on completion of work. (Multiple training sessions might be required).                                  | Sum  | 1        |                 |        |
|          | B2   | 48.005    |           | <b>Fire Water</b>   |      |          |                 |        |
| 7.B2.80  | B2   | 48.005    |           | Allow for the training of staff in the use of systems on completion of work. (Multiple training sessions might be required).                                  | Sum  | 1        |                 |        |
|          | B2   |           |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)     |      |          |                 |        |
| 7.B2.81  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.82  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.83  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.84  | B2   |           |           | .....   | Sum  | 1        |                 |        |
|          | B2   |           |           | <b>Electrical</b>   |      |          |                 |        |
|          | B2   |           |           | <b>MV SWITCHGEAR</b>  |      |          |                 |        |
| 7.B2.85  | B2   | 48.005    |           | IEC 61850 Protocol Training (Engineers/Technicians) - South Africa incl. Flights, Accommodation (4 persons)   | Sum  | 1        |                 |        |
|          | B2   |           |           | <b>MV VSD's</b>   |      |          |                 |        |
| 7.B2.86  | B2   | 48.005    |           | Allow for the training of staff in the use of the medium voltage variable speed drives on completion of work. (Multiple training sessions might be required). | Sum  | 1        |                 |        |
|          | B2   |           |           | <b>Generator</b>  |      |          |                 |        |
| 7.B2.87  | B2   | 48.005    |           | Allow for the training of staff in the use of the generator and support plants on completion of work. (Multiple training sessions might be required).         | Sum  | 1        |                 |        |
|          | B2   |           |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)     |      |          |                 |        |
| 7.B2.88  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.89  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.90  | B2   |           |           | .....   | Sum  | 1        |                 |        |
| 7.B2.91  | B2   |           |           | .....   | Sum  | 1        |                 |        |
|          |      |           |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|          |      | Reference |           |  |      |          |                 |        |
|          |      |           |           |  |      |          | Brought Forward |        |
| 7.B2.92  | B2   | 48.005    |           | Control and Instrumentation, Communication and Security  | sum  | 1        |                 |        |
| 7.B2.93  | B2   | 48.005    |           | Cathodic Protection and AC Mitigation  | sum  | 1        |                 |        |
|          | B2   |           |           | <b>DEFECTS NOTIFICATION PERIOD</b>   |      |          |                 |        |
|          | B2   |           |           | <b>Inspection No 1</b>   |      |          |                 |        |
| 7.B2.94  | B2   | 48.006(a) |           | Civil  | sum  | 1        |                 |        |
| 7.B2.95  | B2   | 48.006(a) |           | Mechanical   | sum  | 1        |                 |        |
| 7.B2.96  | B2   | 48.006(a) |           | Electrical   | sum  | 1        |                 |        |
| 7.B2.97  | B2   | 48.006(a) |           | Control and Instrumentation Systems, Communication and Security  | sum  | 1        |                 |        |
| 7.B2.98  | B2   | 48.006(a) |           | Cathodic Protection and AC Mitigation  | sum  | 1        |                 |        |
|          | B2   |           |           | <b>Inspection No 2</b>   |      |          |                 |        |
| 7.B2.99  | B2   | 48.006(b) |           | Civil  | sum  | 1        |                 |        |
| 7.B2.100 | B2   | 48.006(b) |           | Mechanical   | sum  | 1        |                 |        |
| 7.B2.101 | B2   | 48.006(b) |           | Electrical   | sum  | 1        |                 |        |
| 7.B2.102 | B2   | 48.006(b) |           | Control and Instrumentation, Communication and Security  | sum  | 1        |                 |        |
| 7.B2.103 | B2   | 48.006(b) |           | Cathodic Protection and AC Mitigation  | sum  | 1        |                 |        |
|          | B2   |           |           | <b>Inspection service 3 and Final Inspection</b>   |      |          |                 |        |
| 7.B2.104 | B2   | 48.006(c) |           | Civil  | sum  | 1        |                 |        |
| 7.B2.105 | B2   | 48.006(c) |           | Mechanical   | sum  | 1        |                 |        |
| 7.B2.106 | B2   | 48.006(c) |           | Electrical   | sum  | 1        |                 |        |
| 7.B2.107 | B2   | 48.006(c) |           | Control and Instrumentation Systems, Communication and Security  | sum  | 1        |                 |        |
| 7.B2.108 | B2   | 48.006(c) |           | Cathodic Protection and AC Mitigation  | sum  | 1        |                 |        |
|          | B2   |           |           | <b>Additional site visits - Transport</b>  |      |          |                 |        |
| 7.B2.109 | B2   | 48.008(a) |           | Civil  | No   | 6        |                 |        |
| 7.B2.110 | B2   | 48.008(a) |           | Mechanical   | No   | 6        |                 |        |
| 7.B2.111 | B2   | 48.008(a) |           | Electrical   | No   | 6        |                 |        |
| 7.B2.112 | B2   | 48.008(a) |           | Control and Instrumentation, Communication and Security  | No   | 6        |                 |        |
| 7.B2.113 | B2   | 48.008(a) |           | Cathodic Protection and AC Mitigation  | No   | 6        |                 |        |
|          | B2   |           |           | <b>Additional site visits - Site operations</b>  |      |          |                 |        |
| 7.B2.114 | B2   | 48.008(b) |           | Civil  | Day  | 12       |                 |        |
| 7.B2.115 | B2   | 48.008(b) |           | Mechanical   | Day  | 12       |                 |        |
| 7.B2.116 | B2   | 48.008(b) |           | Electrical   | Day  | 12       |                 |        |
| 7.B2.117 | B2   | 48.008(b) |           | Control and Instrumentation, Communication and Security  | Day  | 12       |                 |        |
| 7.B2.118 | B2   | 48.008(b) |           | Cathodic Protection and AC Mitigation  | Day  | 12       |                 |        |
|          | B2   |           |           | <b>Routine inspections or services planned by the Contractor during the DNP</b>  |      |          |                 |        |
| 7.B2.119 | B2   | 48.009    |           | Civil  | sum  | 1        |                 |        |
| 7.B2.120 | B2   | 48.009    |           | Mechanical   | sum  | 1        |                 |        |
| 7.B2.121 | B2   | 48.009    |           | Electrical   | sum  | 1        |                 |        |
| 7.B2.122 | B2   | 48.009    |           | Control and Instrumentation, Communication and Security  | sum  | 1        |                 |        |
| 7.B2.123 | B2   | 48.009    |           | Cathodic Protection and AC Mitigation  | sum  | 1        |                 |        |
|          | B2   |           |           | <b>PART B2: DIVERSION WORKS AND LOW-LIFT PUMPING STATION (EMPLOYER DESIGN)<br/>(Carried forward to Summary of Bills)</b> |      |          |                 |        |

| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|          |      | Reference |           |   |      |          |                 |        |
|          | C    |           |           | <b>PART C: LOW LIFT RISING MAIN</b>                     |      |          |                 |        |
|          | C    |           |           | <b>COMMISSIONING</b>                                    |      |          |                 |        |
|          | C    |           |           | <b>Local commissioning</b>                              |      |          |                 |        |
| 7.C.1    | C    | 48.001    |           | Civil   | sum  | 1        |                 |        |
| 7.C.2    | C    | 48.001    |           | Mechanical  | sum  | 1        |                 |        |
| 7.C.3    | C    | 48.001    |           | Electrical  | sum  | 1        |                 |        |
| 7.C.4    | C    | 48.001    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.C.5    | C    | 48.001    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | C    |           |           | <b>Regional commissioning</b>                           |      |          |                 |        |
| 7.C.6    | C    | 48.001    |           | Civil   | sum  | 1        |                 |        |
| 7.C.7    | C    | 48.001    |           | Mechanical  | sum  | 1        |                 |        |
| 7.C.8    | C    | 48.001    |           | Electrical  | sum  | 1        |                 |        |
| 7.C.9    | C    | 48.001    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.C.10   | C    | 48.001    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | C    |           |           | <b>TRAIL OPERATIONS</b>                                 |      |          |                 |        |
| 7.C.11   | C    | 48.002    |           | Civil   | sum  | 1        |                 |        |
| 7.C.12   | C    | 48.002    |           | Mechanical  | sum  | 1        |                 |        |
| 7.C.13   | C    | 48.002    |           | Electrical  | sum  | 1        |                 |        |
| 7.C.14   | C    | 48.002    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.C.15   | C    | 48.002    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | C    |           |           | <b>OPERATIONS AND MAINTENANCE MANUALS</b>               |      |          |                 |        |
| 7.C.16   | C    | 48.003    |           | Civil   | sum  | 1        |                 |        |
| 7.C.17   | C    | 48.003    |           | Mechanical  | sum  | 1        |                 |        |
| 7.C.18   | C    | 48.003    |           | Electrical  | sum  | 1        |                 |        |
| 7.C.19   | C    | 48.003    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.C.20   | C    | 48.003    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | C    |           |           | <b>TRAINING</b>   |      |          |                 |        |
| 7.C.21   | C    | 48.005    |           | Civil   | sum  | 1        |                 |        |
| 7.C.22   | C    | 48.005    |           | Mechanical  | sum  | 1        |                 |        |
| 7.C.23   | C    | 48.005    |           | Electrical  | sum  | 1        |                 |        |
| 7.C.24   | C    | 48.005    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.C.25   | C    | 48.005    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | C    |           |           | <b>DEFECTS NOTIFICATION PERIOD</b>                      |      |          |                 |        |
|          | C    |           |           | <b>Inspection No 1</b>                                  |      |          |                 |        |
| 7.C.26   | C    | 48.006(a) |           | Civil   | sum  | 1        |                 |        |
| 7.C.27   | C    | 48.006(a) |           | Mechanical  | sum  | 1        |                 |        |
| 7.C.28   | C    | 48.006(a) |           | Electrical  | sum  | 1        |                 |        |
| 7.C.29   | C    | 48.006(a) |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.C.30   | C    | 48.006(a) |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | C    |           |           | <b>Inspection No 2</b>                                  |      |          |                 |        |
| 7.C.31   | C    | 48.006(b) |           | Civil   | sum  | 1        |                 |        |
| 7.C.32   | C    | 48.006(b) |           | Mechanical  | sum  | 1        |                 |        |
| 7.C.33   | C    | 48.006(b) |           | Electrical  | sum  | 1        |                 |        |
| 7.C.34   | C    | 48.006(b) |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.C.35   | C    | 48.006(b) |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          |      |           |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|          |      |                   |           |   |      |          | Brought Forward |        |
|          | C    |                   |           | <b>Inspection No 3</b>  |      |          |                 |        |
| 7.C.36   | C    | 48.006(c)         |           | Civil   | sum  | 1        |                 |        |
| 7.C.37   | C    | 48.006(c)         |           | Mechanical  | sum  | 1        |                 |        |
| 7.C.38   | C    | 48.006(c)         |           | Electrical  | sum  | 1        |                 |        |
| 7.C.39   | C    | 48.006(c)         |           | Control and Instrumentation, Communication and Security                         | sum  | 1        |                 |        |
| 7.C.40   | C    | 48.006(c)         |           | Cathodic Protection and AC Mitigation   | sum  | 1        |                 |        |
|          | C    |                   |           | <b>Additional site visits - Transport</b>                                       |      |          |                 |        |
| 7.C.41   | C    | 48.008(a)         |           | Civil   | No   | 6        |                 |        |
| 7.C.42   | C    | 48.008(a)         |           | Mechanical  | No   | 6        |                 |        |
| 7.C.43   | C    | 48.008(a)         |           | Electrical  | No   | 6        |                 |        |
| 7.C.44   | C    | 48.008(a)         |           | Control and Instrumentation, Communication and Security                         | No   | 6        |                 |        |
| 7.C.45   | C    | 48.008(a)         |           | Cathodic Protection and AC Mitigation   | No   | 6        |                 |        |
|          | C    |                   |           | <b>Additional site visits - Site operations</b>                                 |      |          |                 |        |
| 7.C.46   | C    | 48.008(b)         |           | Civil   | Day  | 12       |                 |        |
| 7.C.47   | C    | 48.008(b)         |           | Mechanical  | Day  | 12       |                 |        |
| 7.C.48   | C    | 48.008(b)         |           | Electrical  | Day  | 12       |                 |        |
| 7.C.49   | C    | 48.008(b)         |           | Control and Instrumentation, Communication and Security                         | Day  | 12       |                 |        |
| 7.C.50   | C    | 48.008(b)         |           | Cathodic Protection and AC Mitigation   | Day  | 12       |                 |        |
|          | C    |                   |           | <b>Routine inspections or services planned by the Contractor during the DNP</b> |      |          |                 |        |
| 7.C.51   | C    | 48.009            |           | Civil   | sum  | 1        |                 |        |
| 7.C.52   | C    | 48.009            |           | Mechanical  | sum  | 1        |                 |        |
| 7.C.53   | C    | 48.009            |           | Electrical  | sum  | 1        |                 |        |
| 7.C.54   | C    | 48.009            |           | Control and Instrumentation, Communication and Security                         | sum  | 1        |                 |        |
| 7.C.55   | C    | 48.009            |           | Cathodic Protection and AC Mitigation   | sum  | 1        |                 |        |
|          | C    |                   |           | <b>PART C: LOW LIFT RISING MAIN (Carried forward to Summary of Bills)</b>       |      |          |                 |        |



| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|          |      | Reference |           |   |      |          |                 |        |
|          | D    |           |           | <b>BALANCING RESERVOIR &amp; SEDIMENTATION WORKS</b>    |      |          |                 |        |
|          | D1   |           |           | <b>PART D1: SEDIMENTATION WORKS</b>                     |      |          |                 |        |
|          | D1   |           |           | <b>COMMISSIONING</b>                                    |      |          |                 |        |
|          | D1   |           |           | <b>Local commissioning</b>                              |      |          |                 |        |
| 7.D1.1   | D1   | 48.001    |           | Civil   | sum  | 1        |                 |        |
| 7.D1.2   | D1   | 48.001    |           | Mechanical  | sum  | 1        |                 |        |
| 7.D1.3   | D1   | 48.001    |           | Electrical  | sum  | 1        |                 |        |
| 7.D1.4   | D1   | 48.001    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.D1.5   | D1   | 48.001    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | D1   |           |           | <b>Regional commissioning</b>                           |      |          |                 |        |
| 7.D1.6   | D1   | 48.001    |           | Civil   | sum  | 1        |                 |        |
| 7.D1.7   | D1   | 48.001    |           | Mechanical  | sum  | 1        |                 |        |
| 7.D1.8   | D1   | 48.001    |           | Electrical  | sum  | 1        |                 |        |
| 7.D1.9   | D1   | 48.001    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.D1.10  | D1   | 48.001    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | D1   |           |           | <b>TRAIL OPERATIONS</b>                                 |      |          |                 |        |
| 7.D1.11  | D1   | 48.002    |           | Civil   | sum  | 1        |                 |        |
| 7.D1.12  | D1   | 48.002    |           | Mechanical  | sum  | 1        |                 |        |
| 7.D1.13  | D1   | 48.002    |           | Electrical  | sum  | 1        |                 |        |
| 7.D1.14  | D1   | 48.002    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.D1.15  | D1   | 48.002    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | D1   |           |           | <b>OPERATIONS AND MAINTENANCE MANUALS</b>               |      |          |                 |        |
| 7.D1.16  | D1   | 48.003    |           | Civil   | sum  | 1        |                 |        |
| 7.D1.17  | D1   | 48.003    |           | Mechanical  | sum  | 1        |                 |        |
| 7.D1.18  | D1   | 48.003    |           | Electrical  | sum  | 1        |                 |        |
| 7.D1.19  | D1   | 48.003    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.D1.20  | D1   | 48.003    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | D1   |           |           | <b>TRAINING</b>   |      |          |                 |        |
| 7.D1.21  | D1   | 48.005    |           | Civil   | sum  | 1        |                 |        |
| 7.D1.22  | D1   | 48.005    |           | Mechanical  | sum  | 1        |                 |        |
| 7.D1.23  | D1   | 48.005    |           | Electrical  | sum  | 1        |                 |        |
| 7.D1.24  | D1   | 48.005    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.D1.25  | D1   | 48.005    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | D1   |           |           | <b>DEFECTS NOTIFICATION PERIOD</b>                      |      |          |                 |        |
|          | D1   |           |           | <b>Inspection No 1</b>                                  |      |          |                 |        |
| 7.D1.26  | D1   | 48.006(a) |           | Civil   | sum  | 1        |                 |        |
| 7.D1.27  | D1   | 48.006(a) |           | Mechanical  | sum  | 1        |                 |        |
| 7.D1.28  | D1   | 48.006(a) |           | Electrical  | sum  | 1        |                 |        |
| 7.D1.29  | D1   | 48.006(a) |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.D1.30  | D1   | 48.006(a) |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | D1   |           |           | <b>Inspection No 2</b>                                  |      |          |                 |        |
| 7.D1.31  | D1   | 48.006(b) |           | Civil   | sum  | 1        |                 |        |
| 7.D1.32  | D1   | 48.006(b) |           | Mechanical  | sum  | 1        |                 |        |
| 7.D1.33  | D1   | 48.006(b) |           | Electrical  | sum  | 1        |                 |        |
| 7.D1.34  | D1   | 48.006(b) |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.D1.35  | D1   | 48.006(b) |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          |      |           |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|          |      |                   |           |   |      |          | Brought Forward |        |
|          | D1   |                   |           | <b>Inspection No 3</b>  |      |          |                 |        |
| 7.D1.36  | D1   | 48.006(c)         |           | Civil   | sum  | 1        |                 |        |
| 7.D1.37  | D1   | 48.006(c)         |           | Mechanical  | sum  | 1        |                 |        |
| 7.D1.38  | D1   | 48.006(c)         |           | Electrical  | sum  | 1        |                 |        |
| 7.D1.39  | D1   | 48.006(c)         |           | Control and Instrumentation, Communication and Security                         | sum  | 1        |                 |        |
| 7.D1.40  | D1   | 48.006(c)         |           | Cathodic Protection and AC Mitigation   | sum  | 1        |                 |        |
|          | D1   |                   |           | <b>Additional site visits - Transport</b>                                       |      |          |                 |        |
| 7.D1.41  | D1   | 48.008(a)         |           | Civil   | No   | 6        |                 |        |
| 7.D1.42  | D1   | 48.008(a)         |           | Mechanical  | No   | 6        |                 |        |
| 7.D1.43  | D1   | 48.008(a)         |           | Electrical  | No   | 6        |                 |        |
| 7.D1.44  | D1   | 48.008(a)         |           | Control and Instrumentation, Communication and Security                         | No   | 6        |                 |        |
| 7.D1.45  | D1   | 48.008(a)         |           | Cathodic Protection and AC Mitigation   | No   | 6        |                 |        |
|          | D1   |                   |           | <b>Additional site visits - Site operations</b>                                 |      |          |                 |        |
| 7.D1.46  | D1   | 48.008(b)         |           | Civil   | Day  | 12       |                 |        |
| 7.D1.47  | D1   | 48.008(b)         |           | Mechanical  | Day  | 12       |                 |        |
| 7.D1.48  | D1   | 48.008(b)         |           | Electrical  | Day  | 12       |                 |        |
| 7.D1.49  | D1   | 48.008(b)         |           | Control and Instrumentation, Communication and Security                         | Day  | 12       |                 |        |
| 7.D1.50  | D1   | 48.008(b)         |           | Cathodic Protection and AC Mitigation   | Day  | 12       |                 |        |
|          | D1   |                   |           | <b>Routine inspections or services planned by the Contractor during the DNP</b> |      |          |                 |        |
| 7.D1.51  | D1   | 48.009            |           | Civil   | sum  | 1        |                 |        |
| 7.D1.52  | D1   | 48.009            |           | Mechanical  | sum  | 1        |                 |        |
| 7.D1.53  | D1   | 48.009            |           | Electrical  | sum  | 1        |                 |        |
| 7.D1.54  | D1   | 48.009            |           | Control and Instrumentation, Communication and Security                         | sum  | 1        |                 |        |
| 7.D1.55  | D1   | 48.009            |           | Cathodic Protection and AC Mitigation   | sum  | 1        |                 |        |
|          | D1   |                   |           | <b>PART D1: SEDIMENTATION WORKS (Carried forward to Summary of Bills)</b>       |      |          |                 |        |

| Item no. | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|          |      |                   |           |   |      |          |                 |        |
|          | D2   |                   |           | <b>PART D2: BALANCING RESERVOIR</b>                     |      |          |                 |        |
|          | D2   |                   |           | <b>COMMISSIONING</b>                                    |      |          |                 |        |
|          | D2   |                   |           | <b>Local commissioning</b>                              |      |          |                 |        |
| 7.D2.1   | D2   | 48.001            |           | Civil   | sum  | 1        |                 |        |
| 7.D2.2   | D2   | 48.001            |           | Mechanical  | sum  | 1        |                 |        |
| 7.D2.3   | D2   | 48.001            |           | Electrical  | sum  | 1        |                 |        |
| 7.D2.4   | D2   | 48.001            |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.D2.5   | D2   | 48.001            |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | D2   |                   |           | <b>Regional commissioning</b>                           |      |          |                 |        |
| 7.D2.6   | D2   | 48.001            |           | Civil   | sum  | 1        |                 |        |
| 7.D2.7   | D2   | 48.001            |           | Mechanical  | sum  | 1        |                 |        |
| 7.D2.8   | D2   | 48.001            |           | Electrical  | sum  | 1        |                 |        |
| 7.D2.9   | D2   | 48.001            |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.D2.10  | D2   | 48.001            |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | D2   |                   |           | <b>TRAIL OPERATIONS</b>                                 |      |          |                 |        |
| 7.D2.11  | D2   | 48.002            |           | Civil   | sum  | 1        |                 |        |
| 7.D2.12  | D2   | 48.002            |           | Mechanical  | sum  | 1        |                 |        |
| 7.D2.13  | D2   | 48.002            |           | Electrical  | sum  | 1        |                 |        |
| 7.D2.14  | D2   | 48.002            |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.D2.15  | D2   | 48.002            |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | D2   |                   |           | <b>OPERATIONS AND MAINTENANCE MANUALS</b>               |      |          |                 |        |
| 7.D2.16  | D2   | 48.003            |           | Civil   | sum  | 1        |                 |        |
| 7.D2.17  | D2   | 48.003            |           | Mechanical  | sum  | 1        |                 |        |
| 7.D2.18  | D2   | 48.003            |           | Electrical  | sum  | 1        |                 |        |
| 7.D2.19  | D2   | 48.003            |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.D2.20  | D2   | 48.003            |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | D2   |                   |           | <b>TRAINING</b>   |      |          |                 |        |
| 7.D2.21  | D2   | 48.005            |           | Civil   | sum  | 1        |                 |        |
| 7.D2.22  | D2   | 48.005            |           | Mechanical  | sum  | 1        |                 |        |
| 7.D2.23  | D2   | 48.005            |           | Electrical  | sum  | 1        |                 |        |
| 7.D2.24  | D2   | 48.005            |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.D2.25  | D2   | 48.005            |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | D2   |                   |           | <b>DEFECTS NOTIFICATION PERIOD</b>                      |      |          |                 |        |
|          | D2   |                   |           | <b>Inspection No 1</b>                                  |      |          |                 |        |
| 7.D2.26  | D2   | 48.006(a)         |           | Civil   | sum  | 1        |                 |        |
| 7.D2.27  | D2   | 48.006(a)         |           | Mechanical  | sum  | 1        |                 |        |
| 7.D2.28  | D2   | 48.006(a)         |           | Electrical  | sum  | 1        |                 |        |
| 7.D2.29  | D2   | 48.006(a)         |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.D2.30  | D2   | 48.006(a)         |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | D2   |                   |           | <b>Inspection No 2</b>                                  |      |          |                 |        |
| 7.D2.31  | D2   | 48.006(b)         |           | Civil   | sum  | 1        |                 |        |
| 7.D2.32  | D2   | 48.006(b)         |           | Mechanical  | sum  | 1        |                 |        |
| 7.D2.33  | D2   | 48.006(b)         |           | Electrical  | sum  | 1        |                 |        |
| 7.D2.34  | D2   | 48.006(b)         |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.D2.35  | D2   | 48.006(b)         |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          |      |                   |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|          |      |                   |           |   |      |          | Brought Forward |        |
|          | D2   |                   |           | <b>Inspection service 3 and Final Inspection</b>                                |      |          |                 |        |
| 7.D2.36  | D2   | 48.006(c)         |           | Civil   | sum  | 1        |                 |        |
| 7.D2.37  | D2   | 48.006(c)         |           | Mechanical  | sum  | 1        |                 |        |
| 7.D2.38  | D2   | 48.006(c)         |           | Electrical  | sum  | 1        |                 |        |
| 7.D2.39  | D2   | 48.006(c)         |           | Control and Instrumentation, Communication and Security                         | sum  | 1        |                 |        |
| 7.D2.40  | D2   | 48.006(c)         |           | Cathodic Protection and AC Mitigation   | sum  | 1        |                 |        |
|          | D2   |                   |           | <b>Additional site visits - Transport</b>                                       |      |          |                 |        |
| 7.D2.41  | D2   | 48.008(a)         |           | Civil   | No   | 6        |                 |        |
| 7.D2.42  | D2   | 48.008(a)         |           | Mechanical  | No   | 6        |                 |        |
| 7.D2.43  | D2   | 48.008(a)         |           | Electrical  | No   | 6        |                 |        |
| 7.D2.44  | D2   | 48.008(a)         |           | Control and Instrumentation, Communication and Security                         | No   | 6        |                 |        |
| 7.D2.45  | D2   | 48.008(a)         |           | Cathodic Protection and AC Mitigation   | No   | 6        |                 |        |
|          | D2   |                   |           | <b>Additional site visits - Site operations</b>                                 |      |          |                 |        |
| 7.D2.46  | D2   | 48.008(b)         |           | Civil   | Day  | 12       |                 |        |
| 7.D2.47  | D2   | 48.008(b)         |           | Mechanical  | Day  | 12       |                 |        |
| 7.D2.48  | D2   | 48.008(b)         |           | Electrical  | Day  | 12       |                 |        |
| 7.D2.49  | D2   | 48.008(b)         |           | Control and Instrumentation, Communication and Security                         | Day  | 12       |                 |        |
| 7.D2.50  | D2   | 48.008(b)         |           | Cathodic Protection and AC Mitigation   | Day  | 12       |                 |        |
|          | D2   |                   |           | <b>Routine inspections or services planned by the Contractor during the DNP</b> |      |          |                 |        |
| 7.D2.51  | D2   | 48.009            |           | Civil   | sum  | 1        |                 |        |
| 7.D2.52  | D2   | 48.009            |           | Mechanical  | sum  | 1        |                 |        |
| 7.D2.53  | D2   | 48.009            |           | Electrical  | sum  | 1        |                 |        |
| 7.D2.54  | D2   | 48.009            |           | Control and Instrumentation, Communication and Security                         | sum  | 1        |                 |        |
| 7.D2.55  | D2   | 48.009            |           | Cathodic Protection and AC Mitigation   | sum  | 1        |                 |        |
|          | D2   |                   |           | <b>PART D2: BALANCING RESERVOIR (Carried forward to Summary of Bills)</b>       |      |          |                 |        |

| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|          |      | Reference |           |   |      |          |                 |        |
|          | E    |           |           | <b>PART E: HIGH-LIFT PUMPING STATION</b>  |      |          |                 |        |
|          | E    |           |           | <b>COMMISSIONING</b>  |      |          |                 |        |
|          | E    |           |           | <b>Local commissioning</b>  |      |          |                 |        |
| 7.E.1    | E    | 48.001    |           | <b>Civil</b>  | sum  | 1        |                 |        |
| 7.E.2    | E    | 48.001    |           | <b>Mechanical</b>   | sum  | 1        |                 |        |
|          | E    |           |           | <b>MECHANICAL - HVAC</b>  |      |          |                 |        |
| 7.E.3    | E    | 48.001    |           | <b>HVAC</b>   | sum  | 1        |                 |        |
| 7.E.4    | E    | 48.001    |           | Air cooled chiller c/w all controls, pumps & BACnet interface (CH1 & CH2)   | sum  | 1        |                 |        |
| 7.E.5    | E    | 48.001    |           | Air handling unit c/w all controls & BACnet interface (AHU1 & AHU2)   | sum  | 1        |                 |        |
|          | E    |           |           | <b>MECHANICAL - FIRE</b>  |      |          |                 |        |
|          | E    |           |           | <b>Fire Detection and Suppression</b>   |      |          |                 |        |
| 7.E.6    | E    | 48.001    |           | Allow for all factors required for the testing, commissioning and handover of systems and plant associated with fire detection and suppression.           | Sum  | 1        |                 |        |
|          | E    |           |           | <b>Smoke Ventilation</b>  |      |          |                 |        |
| 7.E.7    | E    | 48.001    |           | Allow for all factors required for the testing, commissioning and handover of systems and plant associated with smoke ventilation.                        | Sum  | 1        |                 |        |
|          | E    |           |           | <b>Fire Water</b>   |      |          |                 |        |
| 7.E.8    | E    | 48.001    |           | Allow for all factors required for the testing, commissioning and handover of systems and plant associated with fire water.                               | Sum  | 1        |                 |        |
|          | E    |           |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required) |      |          |                 |        |
| 7.E.9    | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.10   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.11   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.12   | E    |           |           | .....   | Sum  | 1        |                 |        |
|          | E    |           |           | <b>Electrical</b>   |      |          |                 |        |
|          | E    |           |           | <b>MV SWITCHGEAR</b>  |      |          |                 |        |
| 7.E.13   | E    | 48.001    |           | Cold commissioning  | Sum  | 1        |                 |        |
|          | E    |           |           | <b>MV PFC</b>   |      |          |                 |        |
| 7.E.14   | E    | 48.001    |           | Commissioning   | Sum  | 1        |                 |        |
|          | E    |           |           | <b>MV VSD's</b>   |      |          |                 |        |
| 7.E.15   | E    | 48.001    |           | Supervision of Site Installation, for 5 days-(Rate for assistance 6hrs day) including 1 day for Medicals and Induction.                                   | Sum  | 1        |                 |        |
|          | E    |           |           | <b>Generator</b>  |      |          |                 |        |
| 7.E.16   | E    | 48.001    |           | Allow for all factors required for the testing, commissioning and handover of systems and plant associated with Generator.                                | Sum  | 1        |                 |        |
|          | E    |           |           | <b>Lighting and Small Power</b>   |      |          |                 |        |
| 7.E.17   | E    | 48.001    |           | Allow for all factors required for the testing, commissioning and handover of systems and plant associated with Lighting and Small Power.                 | Sum  | 1        |                 |        |
|          | E    |           |           | <b>General</b>  |      |          |                 |        |
| 7.E.18   | E    | 48.001    |           | Allow for all factors required for the testing, commissioning and handover of systems and plant associated with General                                   | Sum  | 1        |                 |        |
|          | E    |           |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required) |      |          |                 |        |
| 7.E.19   | E    |           |           | .....   | Sum  | 1        |                 |        |
|          |      |           |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|          |      | Reference |           |   |      |          |                 |        |
|          |      |           |           |   |      |          | Brought Forward |        |
| 7.E.20   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.21   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.22   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.23   | E    | 48.001    |           | <b>Control and Instrumentation, Communication and Security</b>  | sum  | 1        |                 |        |
| 7.E.24   | E    | 48.001    |           | <b>Cathodic Protection and AC Mitigation</b>  | sum  | 1        |                 |        |
|          | E    |           |           | <b>Regional commissioning</b>   |      |          |                 |        |
| 7.E.25   | E    | 48.001    |           | <b>Civil</b>  | sum  | 1        |                 |        |
| 7.E.26   | E    | 48.001    |           | <b>Mechanical</b>   | sum  | 1        |                 |        |
|          | E    |           |           | <b>MECHANICAL - HVAC</b>  |      |          |                 |        |
| 7.E.27   | E    | 48.001    |           | <b>HVAC</b>   | sum  | 1        |                 |        |
| 7.E.28   | E    | 48.001    |           | Air cooled chiller c/w all controls, pumps & BACnet interface (CH1 & CH2)   | sum  | 1        |                 |        |
| 7.E.29   | E    | 48.001    |           | Air handling unit c/w all controls & BACnet interface (AHU1 & AHU2)   | sum  | 1        |                 |        |
|          | E    |           |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required) |      |          |                 |        |
| 7.E.30   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.31   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.32   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.33   | E    |           |           | .....   | Sum  | 1        |                 |        |
|          | E    |           |           | <b>Electrical</b>   |      |          |                 |        |
|          | E    |           |           | <b>MV VSD's</b>   |      |          |                 |        |
| 7.E.34   | E    | 48.001    |           | Allow for Factory Acceptance Test in Suppliers VSD Manufacturing Plant(Local or International) , include two representatives                              | Sum  | 1        |                 |        |
|          | E    |           |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required) |      |          |                 |        |
| 7.E.35   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.36   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.37   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.38   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.39   | E    | 48.001    |           | <b>Control and Instrumentation Systems, Communication and Security</b>  | sum  | 1        |                 |        |
| 7.E.40   | E    | 48.001    |           | <b>Cathodic Protection and AC Mitigation</b>  | sum  | 1        |                 |        |
|          | E    |           |           | <b>TRAIL OPERATIONS</b>   |      |          |                 |        |
| 7.E.41   | E    | 48.002    |           | <b>Civil</b>  | sum  | 1        |                 |        |
| 7.E.42   | E    | 48.002    |           | <b>Mechanical</b>   | sum  | 1        |                 |        |
| 7.E.43   | E    | 48.002    |           | <b>Electrical</b>   | sum  | 1        |                 |        |
| 7.E.44   | E    | 48.002    |           | <b>Control and Instrumentation, Communication and Security</b>  | sum  | 1        |                 |        |
| 7.E.45   | E    | 48.002    |           | <b>Cathodic Protection and AC Mitigation</b>  | sum  | 1        |                 |        |
|          | E    |           |           | <b>OPERATIONS AND MAINTENANCE MANUALS</b>   |      |          |                 |        |
| 7.E.46   | E    | 48.003    |           | <b>Civil</b>  | sum  | 1        |                 |        |
| 7.E.47   | E    | 48.003    |           | <b>Mechanical</b>   | sum  | 1        |                 |        |
|          | E    |           |           | <b>MECHANICAL - HVAC</b>  |      |          |                 |        |
| 7.E.48   | E    | 48.003    |           | Operations and Maintenance Manuals  | sum  | 1        |                 |        |
| 7.E.49   | E    | 48.003    |           | As Built Drawings   | sum  | 1        |                 |        |
|          |      |           |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|          |      | Reference |           |   |      |          |                 |        |
|          |      |           |           |   |      |          | Brought Forward |        |
|          | E    |           |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)             |      |          |                 |        |
| 7.E.50   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.51   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.52   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.53   | E    |           |           | .....   | Sum  | 1        |                 |        |
|          | E    |           |           | <b>MECHANICAL - FIRE</b>  |      |          |                 |        |
|          | E    |           |           | <b>Fire Detection and Suppression</b>   |      |          |                 |        |
| 7.E.54   | E    | 48.003    |           | Allow for the production of all instruction manuals, drawings, details, etc. Required for the systems and plant associated with fire detection and suppression.       | Sum  | 1        |                 |        |
| 7.E.55   | E    | 48.003    |           | Allow for the production of all As-Built drawings   | Sum  | 1        |                 |        |
|          | E    |           |           | <b>Smoke Ventilation</b>  |      |          |                 |        |
| 7.E.56   | E    | 48.003    |           | Allow for the production of all instruction manuals, drawings, details, etc. Required for the systems and plant associated with smoke ventilation.                    | Sum  | 1        |                 |        |
| 7.E.57   | E    | 48.003    |           | Allow for the production of all As-Built drawings   | Sum  | 1        |                 |        |
|          | E    |           |           | <b>Fire Water</b>   |      |          |                 |        |
| 7.E.58   | E    | 48.003    |           | Allow for the production of all instruction manuals, drawings, details, etc. Required for the systems and plant associated with fire water system.                    | Sum  | 1        |                 |        |
| 7.E.59   | E    | 48.003    |           | Allow for the production of all As-Built drawings   | Sum  | 1        |                 |        |
|          | E    |           |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)             |      |          |                 |        |
| 7.E.60   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.61   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.62   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.63   | E    |           |           | .....   | Sum  | 1        |                 |        |
|          | E    |           |           | <b>Electrical</b>   |      |          |                 |        |
|          | E    |           |           | <b>MV SWITCHGEAR</b>  |      |          |                 |        |
| 7.E.64   | E    | 48.003    |           | O&M Manuals   | Sum  | 1        |                 |        |
| 7.E.65   | E    | 48.003    |           | As built drawings   | Sum  | 1        |                 |        |
|          | E    |           |           | <b>MV VSD's</b>   |      |          |                 |        |
| 7.E.66   | E    | 48.003    |           | Allow for the production of all instruction manuals, drawings, details, etc. Required for the systems and plant associated with medium voltage variable speed drives. | Sum  | 1        |                 |        |
|          | E    |           |           | <b>Generator</b>  |      |          |                 |        |
| 7.E.67   | E    | 48.003    |           | Allow for the production of all instruction manuals, drawings, details, etc. Required for the systems and plant associated with a generator.                          | Sum  | 1        |                 |        |
|          | E    |           |           | <b>Lighting and Small Power</b>   |      |          |                 |        |
| 7.E.68   | E    | 48.003    |           | Allow for the production of all instruction manuals, drawings, details, etc. Required for the systems and plant associated with a lighting and small power.           | Sum  | 1        |                 |        |
| 7.E.69   | E    | 48.003    |           | Allow for the production of all As-Built drawings   | Sum  | 1        |                 |        |
|          | E    |           |           | <b>General</b>  |      |          |                 |        |
| 7.E.70   | E    | 48.003    |           | Allow for the production of all instruction manuals, drawings, details, etc. Required for the systems and plant associated with General                               | Sum  | 1        |                 |        |
| 7.E.71   | E    | 48.003    |           | Allow for the production of all As-Built drawings   | Sum  | 1        |                 |        |
|          |      |           |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|          |      | Reference |           |   |      |          |                 |        |
|          |      |           |           |   |      |          | Brought Forward |        |
|          | E    |           |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)     |      |          |                 |        |
| 7.E.72   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.73   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.74   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.75   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.76   | E    | 48.003    |           | <b>Control and Instrumentation, Communication and Security</b>  | sum  | 1        |                 |        |
| 7.E.77   | E    | 48.003    |           | <b>Cathodic Protection and AC Mitigation</b>  | sum  | 1        |                 |        |
|          | E    |           |           | <b>TRAINING</b>   |      |          |                 |        |
| 7.E.78   | E    | 48.005    |           | <b>Civil</b>  | sum  | 1        |                 |        |
| 7.E.79   | E    | 48.005    |           | <b>Mechanical</b>   | sum  | 1        |                 |        |
| 7.E.80   | E    | 48.005    |           | <b>MECHANICAL - HVAC</b>  | sum  | 1        |                 |        |
|          | E    |           |           | <b>MECHANICAL - FIRE</b>  |      |          |                 |        |
|          | E    | 48.005    |           | <b>Fire Detection and Suppression</b>   |      |          |                 |        |
| 7.E.81   | E    | 48.005    |           | Allow for the training of staff in the use of systems on completion of work. (Multiple training sessions might be required).                                  | Sum  | 1        |                 |        |
|          | E    | 48.005    |           | <b>Smoke Ventilation</b>  |      |          |                 |        |
| 7.E.82   | E    | 48.005    |           | Allow for the training of staff in the use of systems on completion of work. (Multiple training sessions might be required).                                  | Sum  | 1        |                 |        |
|          | E    | 48.005    |           | <b>Fire Water</b>   |      |          |                 |        |
| 7.E.83   | E    | 48.005    |           | Allow for the training of staff in the use of systems on completion of work. (Multiple training sessions might be required).                                  | Sum  | 1        |                 |        |
|          | E    |           |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)     |      |          |                 |        |
| 7.E.84   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.85   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.86   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.87   | E    |           |           | .....   | Sum  | 1        |                 |        |
|          | E    |           |           | <b>Electrical</b>   |      |          |                 |        |
|          | E    |           |           | <b>MV SWITCHGEAR</b>  |      |          |                 |        |
| 7.E.88   | E    | 48.005    |           | IEC 61850 Protocol Training (Engineers/Technicians) - South Africa incl. Flights, Accommodation (4 persons)   | Sum  | 1        |                 |        |
|          | E    |           |           | <b>MV VSD's</b>   |      |          |                 |        |
| 7.E.89   | E    | 48.005    |           | Allow for the training of staff in the use of the medium voltage variable speed drives on completion of work. (Multiple training sessions might be required). | Sum  | 1        |                 |        |
|          | E    |           |           | <b>Generator</b>  |      |          |                 |        |
| 7.E.90   | E    | 48.005    |           | Allow for the training of staff in the use of the generator and support plants on completion of work. (Multiple training sessions might be required).         | Sum  | 1        |                 |        |
|          | E    |           |           | Any other charges not included above. Contractor to indicate below against sums as unit prices in the amount column ("Nil" to be entered if not required)     |      |          |                 |        |
| 7.E.91   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.92   | E    |           |           | .....   | Sum  | 1        |                 |        |
|          |      |           |           |   |      |          | Carried Forward |        |



| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|          |      | Reference |           |   |      |          |                 |        |
|          |      |           |           |   |      |          | Brought Forward |        |
| 7.E.93   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.94   | E    |           |           | .....   | Sum  | 1        |                 |        |
| 7.E.95   | E    | 48.005    |           | Control and Instrumentation, Communication and Security                         | sum  | 1        |                 |        |
| 7.E.96   | E    | 48.005    |           | Cathodic Protection and AC Mitigation   | sum  | 1        |                 |        |
|          | E    |           |           | <b>DEFECTS NOTIFICATION PERIOD</b>  |      |          |                 |        |
|          | E    |           |           | <b>Inspection No 1</b>  |      |          |                 |        |
| 7.E.97   | E    | 48.006(a) |           | Civil   | sum  | 1        |                 |        |
| 7.E.98   | E    | 48.006(a) |           | Mechanical  | sum  | 1        |                 |        |
| 7.E.99   | E    | 48.006(a) |           | Electrical  | sum  | 1        |                 |        |
| 7.E.100  | E    | 48.006(a) |           | Control and Instrumentation, Communication and Security                         | sum  | 1        |                 |        |
| 7.E.101  | E    | 48.006(a) |           | Cathodic Protection and AC Mitigation   | sum  | 1        |                 |        |
|          | E    |           |           | <b>Inspection No 2</b>  |      |          |                 |        |
| 7.E.102  | E    | 48.006(b) |           | Civil   | sum  | 1        |                 |        |
| 7.E.103  | E    | 48.006(b) |           | Mechanical  | sum  | 1        |                 |        |
| 7.E.104  | E    | 48.006(b) |           | Electrical  | sum  | 1        |                 |        |
| 7.E.105  | E    | 48.006(b) |           | Control and Instrumentation, Communication and Security                         | sum  | 1        |                 |        |
| 7.E.106  | E    | 48.006(b) |           | Cathodic Protection and AC Mitigation   | sum  | 1        |                 |        |
|          | E    |           |           | <b>Inspection service 3 and Final Inspection</b>                                |      |          |                 |        |
| 7.E.107  | E    | 48.006(c) |           | Civil   | sum  | 1        |                 |        |
| 7.E.108  | E    | 48.006(c) |           | Mechanical  | sum  | 1        |                 |        |
| 7.E.109  | E    | 48.006(c) |           | Electrical  | sum  | 1        |                 |        |
| 7.E.110  | E    | 48.006(c) |           | Control and Instrumentation, Communication and Security                         | sum  | 1        |                 |        |
| 7.E.111  | E    | 48.006(c) |           | Cathodic Protection and AC Mitigation   | sum  | 1        |                 |        |
|          | E    |           |           | <b>Additional site visits - Transport</b>                                       |      |          |                 |        |
| 7.E.112  | E    | 48.008(a) |           | Civil   | No   | 6        |                 |        |
| 7.E.113  | E    | 48.008(a) |           | Mechanical  | No   | 6        |                 |        |
| 7.E.114  | E    | 48.008(a) |           | Electrical  | No   | 6        |                 |        |
| 7.E.115  | E    | 48.008(a) |           | Control and Instrumentation, Communication and Security                         | No   | 6        |                 |        |
| 7.E.116  | E    | 48.008(a) |           | Cathodic Protection and AC Mitigation   | No   | 6        |                 |        |
|          | E    |           |           | <b>Additional site visits - Site operations</b>                                 |      |          |                 |        |
| 7.E.117  | E    | 48.008(b) |           | Civil   | Day  | 12       |                 |        |
| 7.E.118  | E    | 48.008(b) |           | Mechanical  | Day  | 12       |                 |        |
| 7.E.119  | E    | 48.008(b) |           | Electrical  | Day  | 12       |                 |        |
| 7.E.120  | E    | 48.008(b) |           | Control and Instrumentation, Communication and Security                         | Day  | 12       |                 |        |
| 7.E.121  | E    | 48.008(b) |           | Cathodic Protection and AC Mitigation   | Day  | 12       |                 |        |
|          | E    |           |           | <b>Routine inspections or services planned by the Contractor during the DNP</b> |      |          |                 |        |
| 7.E.122  | E    | 48.009    |           | Civil   | sum  | 1        |                 |        |
| 7.E.123  | E    | 48.009    |           | Mechanical  | sum  | 1        |                 |        |
| 7.E.124  | E    | 48.009    |           | Electrical  | sum  | 1        |                 |        |
| 7.E.125  | E    | 48.009    |           | Control and Instrumentation, Communication and Security                         | sum  | 1        |                 |        |
| 7.E.126  | E    | 48.009    |           | Cathodic Protection and AC Mitigation   | sum  | 1        |                 |        |
|          | E    |           |           | <b>PART E: HIGH-LIFT PUMPING STATION (Carried forward to Summary of Bills)</b>  |      |          |                 |        |

| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|          |      | Reference |           |   |      |          |                 |        |
|          | F    |           |           | <b>PART F: HIGH LIFT RISING MAIN</b>                    |      |          |                 |        |
|          | F    |           |           | <b>COMMISSIONING</b>                                    |      |          |                 |        |
|          | F    |           |           | <b>Local commissioning</b>                              |      |          |                 |        |
| 7.F.1    | F    | 48.001    |           | Civil   | sum  | 1        |                 |        |
| 7.F.2    | F    | 48.001    |           | Electrical  | sum  | 1        |                 |        |
| 7.F.3    | F    | 48.001    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.F.4    | F    | 48.001    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | F    |           |           | <b>Regional commissioning</b>                           |      |          |                 |        |
| 7.F.5    | F    | 48.001    |           | Civil   | sum  | 1        |                 |        |
| 7.F.6    | F    | 48.001    |           | Electrical  | sum  | 1        |                 |        |
| 7.F.7    | F    | 48.001    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.F.8    | F    | 48.001    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | F    |           |           | <b>TRAIL OPERATIONS</b>                                 |      |          |                 |        |
| 7.F.9    | F    | 48.002    |           | Civil   | sum  | 1        |                 |        |
| 7.F.10   | F    | 48.002    |           | Electrical  | sum  | 1        |                 |        |
| 7.F.11   | F    | 48.002    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.F.12   | F    | 48.002    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | F    |           |           | <b>OPERATIONS AND MAINTENANCE MANUALS</b>               |      |          |                 |        |
| 7.F.13   | F    | 48.003    |           | Civil   | sum  | 1        |                 |        |
| 7.F.14   | F    | 48.003    |           | Electrical  | sum  | 1        |                 |        |
| 7.F.15   | F    | 48.003    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.F.16   | F    | 48.003    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | F    |           |           | <b>TRAINING</b>   |      |          |                 |        |
| 7.F.17   | F    | 48.005    |           | Civil   | sum  | 1        |                 |        |
| 7.F.18   | F    | 48.005    |           | Electrical  | sum  | 1        |                 |        |
| 7.F.19   | F    | 48.005    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.F.20   | F    | 48.005    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | F    |           |           | <b>DEFECTS NOTIFICATION PERIOD</b>                      |      |          |                 |        |
|          | F    |           |           | <b>Inspection No 1</b>                                  |      |          |                 |        |
| 7.F.21   | F    | 48.006(a) |           | Civil   | sum  | 1        |                 |        |
| 7.F.22   | F    | 48.006(a) |           | Electrical  | sum  | 1        |                 |        |
| 7.F.23   | F    | 48.006(a) |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.F.24   | F    | 48.006(a) |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | F    |           |           | <b>Inspection No 2</b>                                  |      |          |                 |        |
| 7.F.25   | F    | 48.006(b) |           | Civil   | sum  | 1        |                 |        |
| 7.F.26   | F    | 48.006(b) |           | Electrical  | sum  | 1        |                 |        |
| 7.F.27   | F    | 48.006(b) |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.F.28   | F    | 48.006(b) |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | F    |           |           | <b>Inspection service 3 and Final Inspection</b>        |      |          |                 |        |
| 7.F.29   | F    | 48.006(c) |           | Civil   | sum  | 1        |                 |        |
| 7.F.30   | F    | 48.006(c) |           | Electrical  | sum  | 1        |                 |        |
| 7.F.31   | F    | 48.006(c) |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.F.32   | F    | 48.006(c) |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          |      |           |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|          |      | Reference |           |  |      |          |                 |        |
|          |      |           |           |  |      |          | Brought Forward |        |
|          | F    |           |           | <b>Additional site visits - Transport</b>  |      |          |                 |        |
| 7.F.33   | F    | 48.008(a) |           | Civil  | No   | 6        |                 |        |
| 7.F.34   | F    | 48.008(a) |           | Electrical   | No   | 6        |                 |        |
| 7.F.35   | F    | 48.008(a) |           | Control and Instrumentation, Communication and Security                          | No   | 6        |                 |        |
| 7.F.36   | F    | 48.008(a) |           | Cathodic Protection and AC Mitigation  | No   | 6        |                 |        |
|          | F    |           |           | <b>Additional site visits - Site operations</b>                                  |      |          |                 |        |
| 7.F.37   | F    | 48.008(b) |           | Civil  | Day  | 12       |                 |        |
| 7.F.38   | F    | 48.008(b) |           | Electrical   | Day  | 12       |                 |        |
| 7.F.39   | F    | 48.008(b) |           | Control and Instrumentation, Communication and Security                          | Day  | 12       |                 |        |
| 7.F.40   | F    | 48.008(b) |           | Cathodic Protection and AC Mitigation  | Day  | 12       |                 |        |
|          | F    |           |           | <b>Routine inspections or services planned by the Contractor during the DNP</b>  |      |          |                 |        |
| 7.F.41   | F    | 48.009    |           | Civil  | sum  | 1        |                 |        |
| 7.F.42   | F    | 48.009    |           | Electrical   | sum  | 1        |                 |        |
| 7.F.43   | F    | 48.009    |           | Control and Instrumentation, Communication and Security                          | sum  | 1        |                 |        |
| 7.F.44   | F    | 48.009    |           | Cathodic Protection and AC Mitigation  | sum  | 1        |                 |        |
|          | F    |           |           | <b>PART F: HIGH LIFT RISING MAIN TOTAL (Carried forward to Summary of Bills)</b> |      |          |                 |        |

| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|          |      | Reference |           |   |      |          |                 |        |
|          | G    |           |           | <b>PART G: BREAK PRESSURE RESERVOIR</b>                 |      |          |                 |        |
|          | G    |           |           | <b>COMMISSIONING</b>                                    |      |          |                 |        |
|          | G    |           |           | <b>Local commissioning</b>                              |      |          |                 |        |
| 7.G.1    | G    | 48.001    |           | Civil   | sum  | 1        |                 |        |
| 7.G.2    | G    | 48.001    |           | Electrical  | sum  | 1        |                 |        |
| 7.G.3    | G    | 48.001    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.G.4    | G    | 48.001    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | G    |           |           | <b>Regional commissioning</b>                           |      |          |                 |        |
| 7.G.5    | G    | 48.001    |           | Civil   | sum  | 1        |                 |        |
| 7.G.6    | G    | 48.001    |           | Electrical  | sum  | 1        |                 |        |
| 7.G.7    | G    | 48.001    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.G.8    | G    | 48.001    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | G    |           |           | <b>TRAIL OPERATIONS</b>                                 |      |          |                 |        |
| 7.G.9    | G    | 48.002    |           | Civil   | sum  | 1        |                 |        |
| 7.G.10   | G    | 48.002    |           | Electrical  | sum  | 1        |                 |        |
| 7.G.11   | G    | 48.002    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.G.12   | G    | 48.002    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | G    |           |           | <b>OPERATIONS AND MAINTENANCE MANUALS</b>               |      |          |                 |        |
| 7.G.13   | G    | 48.003    |           | Civil   | sum  | 1        |                 |        |
| 7.G.14   | G    | 48.003    |           | Electrical  | sum  | 1        |                 |        |
| 7.G.15   | G    | 48.003    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.G.16   | G    | 48.003    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | G    |           |           | <b>TRAINING</b>   |      |          |                 |        |
| 7.G.17   | G    | 48.005    |           | Civil   | sum  | 1        |                 |        |
| 7.G.18   | G    | 48.005    |           | Electrical  | sum  | 1        |                 |        |
| 7.G.19   | G    | 48.005    |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.G.20   | G    | 48.005    |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | G    |           |           | <b>DEFECTS NOTIFICATION PERIOD</b>                      |      |          |                 |        |
|          | G    |           |           | <b>Inspection No 1</b>                                  |      |          |                 |        |
| 7.G.21   | G    | 48.006(a) |           | Civil   | sum  | 1        |                 |        |
| 7.G.22   | G    | 48.006(a) |           | Electrical  | sum  | 1        |                 |        |
| 7.G.23   | G    | 48.006(a) |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.G.24   | G    | 48.006(a) |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | G    |           |           | <b>Inspection No 2</b>                                  |      |          |                 |        |
| 7.G.25   | G    | 48.006(b) |           | Civil   | sum  | 1        |                 |        |
| 7.G.26   | G    | 48.006(b) |           | Electrical  | sum  | 1        |                 |        |
| 7.G.27   | G    | 48.006(b) |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.G.28   | G    | 48.006(b) |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          | G    |           |           | <b>Inspection service 3 and Final Inspection</b>        |      |          |                 |        |
| 7.G.29   | G    | 48.006(c) |           | Civil   | sum  | 1        |                 |        |
| 7.G.30   | G    | 48.006(c) |           | Electrical  | sum  | 1        |                 |        |
| 7.G.31   | G    | 48.006(c) |           | Control and Instrumentation, Communication and Security | sum  | 1        |                 |        |
| 7.G.32   | G    | 48.006(c) |           | Cathodic Protection and AC Mitigation                   | sum  | 1        |                 |        |
|          |      |           |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|          |      | Reference |           |   |      |          |                 |        |
|          |      |           |           |   |      |          | Brought Forward |        |
|          | G    |           |           | <b>Additional site visits - Transport</b>   |      |          |                 |        |
| 7.G.33   | G    | 48.008(a) |           | Civil   | No   | 6        |                 |        |
| 7.G.34   | G    | 48.008(a) |           | Electrical  | No   | 6        |                 |        |
| 7.G.35   | G    | 48.008(a) |           | Control and Instrumentation, Communication and Security                                       | No   | 6        |                 |        |
| 7.G.36   | G    | 48.008(a) |           | Cathodic Protection and AC Mitigation   | No   | 6        |                 |        |
|          | G    |           |           | <b>Additional site visits - Site operations</b>   |      |          |                 |        |
| 7.G.37   | G    | 48.008(b) |           | Civil   | Day  | 12       |                 |        |
| 7.G.38   | G    | 48.008(b) |           | Electrical  | Day  | 12       |                 |        |
| 7.G.39   | G    | 48.008(b) |           | Control and Instrumentation, Communication and Security                                       | Day  | 12       |                 |        |
| 7.G.40   | G    | 48.008(b) |           | Cathodic Protection and AC Mitigation   | Day  | 12       |                 |        |
|          | G    |           |           | <b>Routine inspections or services planned by the Contractor during the DNP</b>               |      |          |                 |        |
| 7.G.41   | G    | 48.009    |           | Civil   | sum  | 1        |                 |        |
| 7.G.42   | G    | 48.009    |           | Electrical  | sum  | 1        |                 |        |
| 7.G.43   | G    | 48.009    |           | Control and Instrumentation, Communication and Security                                       | sum  | 1        |                 |        |
| 7.G.44   | G    | 48.009    |           | Cathodic Protection and AC Mitigation   | sum  | 1        |                 |        |
|          | G    |           |           | <b>PART G: BREAK PRESSURE RESERVOIR TOTAL</b><br><i>(Carried forward to Summary of Bills)</i> |      |          |                 |        |

| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|          |      | Reference |           |   |      |          |                 |        |
|          | H    |           |           | <b>PART H: GRAVITY MAINS</b>  |      |          |                 |        |
|          | H1   |           |           | <b>PART H1: BPR TO OFF TAKE C<br/>(33KM + 30.5KM + 18.5KM) - CH0 TO CH2</b> |      |          |                 |        |
|          | H1   |           |           | <b>COMMISSIONING</b>  |      |          |                 |        |
|          | H1   |           |           | <b>Local commissioning</b>  |      |          |                 |        |
| 7.H1.1   | H1   | 48.001    |           | Civil   | sum  | 1        |                 |        |
| 7.H1.2   | H1   | 48.001    |           | Electrical  | sum  | 1        |                 |        |
| 7.H1.3   | H1   | 48.001    |           | Control and Instrumentation, Communication and Security                     | sum  | 1        |                 |        |
| 7.H1.4   | H1   | 48.001    |           | Cathodic Protection and AC Mitigation                                       | sum  | 1        |                 |        |
|          | H1   |           |           | <b>Regional commissioning</b>   |      |          |                 |        |
| 7.H1.5   | H1   | 48.001    |           | Civil   | sum  | 1        |                 |        |
| 7.H1.6   | H1   | 48.001    |           | Electrical  | sum  | 1        |                 |        |
| 7.H1.7   | H1   | 48.001    |           | Control and Instrumentation, Communication and Security                     | sum  | 1        |                 |        |
| 7.H1.8   | H1   | 48.001    |           | Cathodic Protection and AC Mitigation                                       | sum  | 1        |                 |        |
|          | H1   |           |           | <b>TRAIL OPERATIONS</b>   |      |          |                 |        |
| 7.H1.9   | H1   | 48.002    |           | Civil   | sum  | 1        |                 |        |
| 7.H1.10  | H1   | 48.002    |           | Electrical  | sum  | 1        |                 |        |
| 7.H1.11  | H1   | 48.002    |           | Control and Instrumentation, Communication and Security                     | sum  | 1        |                 |        |
| 7.H1.12  | H1   | 48.002    |           | Cathodic Protection and AC Mitigation                                       | sum  | 1        |                 |        |
|          | H1   |           |           | <b>OPERATIONS AND MAINTENANCE MANUALS</b>                                   |      |          |                 |        |
| 7.H1.13  | H1   | 48.003    |           | Civil   | sum  | 1        |                 |        |
| 7.H1.14  | H1   | 48.003    |           | Electrical  | sum  | 1        |                 |        |
| 7.H1.15  | H1   | 48.003    |           | Control and Instrumentation, Communication and Security                     | sum  | 1        |                 |        |
| 7.H1.16  | H1   | 48.003    |           | Cathodic Protection and AC Mitigation                                       | sum  | 1        |                 |        |
|          | H1   |           |           | <b>TRAINING</b>   |      |          |                 |        |
| 7.H1.17  | H1   | 48.005    |           | Civil   | sum  | 1        |                 |        |
| 7.H1.18  | H1   | 48.005    |           | Electrical  | sum  | 1        |                 |        |
| 7.H1.19  | H1   | 48.005    |           | Control and Instrumentation, Communication and Security                     | sum  | 1        |                 |        |
| 7.H1.20  | H1   | 48.005    |           | Cathodic Protection and AC Mitigation                                       | sum  | 1        |                 |        |
|          | H1   |           |           | <b>DEFECTS NOTIFICATION PERIOD</b>  |      |          |                 |        |
|          | H1   |           |           | <b>Inspection No 1</b>  |      |          |                 |        |
| 7.H1.21  | H1   | 48.006(a) |           | Civil   | sum  | 1        |                 |        |
| 7.H1.22  | H1   | 48.006(a) |           | Electrical  | sum  | 1        |                 |        |
| 7.H1.23  | H1   | 48.006(a) |           | Control and Instrumentation, Communication and Security                     | sum  | 1        |                 |        |
| 7.H1.24  | H1   | 48.006(a) |           | Cathodic Protection and AC Mitigation                                       | sum  | 1        |                 |        |
|          | H1   |           |           | <b>Inspection No 2</b>  |      |          |                 |        |
| 7.H1.25  | H1   | 48.006(b) |           | Civil   | sum  | 1        |                 |        |
| 7.H1.26  | H1   | 48.006(b) |           | Electrical  | sum  | 1        |                 |        |
| 7.H1.27  | H1   | 48.006(b) |           | Control and Instrumentation, Communication and Security                     | sum  | 1        |                 |        |
| 7.H1.28  | H1   | 48.006(b) |           | Cathodic Protection and AC Mitigation                                       | sum  | 1        |                 |        |
|          | H1   |           |           | <b>Inspection service 3 and Final Inspection</b>                            |      |          |                 |        |
| 7.H1.29  | H1   | 48.006(c) |           | Civil   | sum  | 1        |                 |        |
| 7.H1.30  | H1   | 48.006(c) |           | Electrical  | sum  | 1        |                 |        |
| 7.H1.31  | H1   | 48.006(c) |           | Control and Instrumentation, Communication and Security                     | sum  | 1        |                 |        |
| 7.H1.32  | H1   | 48.006(c) |           | Cathodic Protection and AC Mitigation                                       | sum  | 1        |                 |        |
|          |      |           |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|          |      |                   |           |  |      |          |                 |        |
|          |      |                   |           |  |      |          | Brought Forward |        |
|          | H1   |                   |           | <b>Additional site visits - Transport</b>  |      |          |                 |        |
| 7.H1.33  | H1   | 48.008(a)         |           | Civil  | No   | 6        |                 |        |
| 7.H1.34  | H1   | 48.008(a)         |           | Electrical   | No   | 6        |                 |        |
| 7.H1.35  | H1   | 48.008(a)         |           | Control and Instrumentation, Communication and Security  | No   | 12       |                 |        |
| 7.H1.36  | H1   | 48.008(a)         |           | Cathodic Protection and AC Mitigation  | No   | 6        |                 |        |
|          | H1   |                   |           | <b>Additional site visits - Site operations</b>  |      |          |                 |        |
| 7.H1.37  | H1   | 48.008(b)         |           | Civil  | Day  | 12       |                 |        |
| 7.H1.38  | H1   | 48.008(b)         |           | Electrical   | Day  | 12       |                 |        |
| 7.H1.39  | H1   | 48.008(b)         |           | Control and Instrumentation, Communication and Security  | Day  | 24       |                 |        |
| 7.H1.40  | H1   | 48.008(b)         |           | Cathodic Protection and AC Mitigation  | Day  | 12       |                 |        |
|          | H1   |                   |           | <b>Routine inspections or services planned by the Contractor during the DNP</b>  |      |          |                 |        |
| 7.H1.41  | H1   | 48.009            |           | Civil  | sum  | 1        |                 |        |
| 7.H1.42  | H1   | 48.009            |           | Electrical   | sum  | 1        |                 |        |
| 7.H1.43  | H1   | 48.009            |           | Control and Instrumentation, Communication and Security  | sum  | 1        |                 |        |
| 7.H1.44  | H1   | 48.009            |           | Cathodic Protection and AC Mitigation  | sum  | 1        |                 |        |
|          | H1   |                   |           | <b>PART H1: BPR TO OFF TAKE C<br/>(33KM + 30.5KM + 18.5KM) - CH0 TO CH82 TOTAL<br/>(Carried forward to Summary of Bills)</b> |      |          |                 |        |

| Item no. | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|          |      | Reference |           |  |      |          |                 |        |
|          | H2   |           |           | <b>PART H2: OFF TAKE C TO OFF TAKE B (13KM) - CH82 TO CH95</b> |      |          |                 |        |
|          | H2   |           |           | <b>COMMISSIONING</b>   |      |          |                 |        |
|          | H2   |           |           | <b>Local commissioning</b>                                     |      |          |                 |        |
| 7.H2.1   | H2   | 48.001    |           | Civil  | sum  | 1        |                 |        |
| 7.H2.2   | H2   | 48.001    |           | Electrical   | sum  | 1        |                 |        |
| 7.H2.3   | H2   | 48.001    |           | Control and Instrumentation, Communication and Security        | sum  | 1        |                 |        |
| 7.H2.4   | H2   | 48.001    |           | Cathodic Protection and AC Mitigation                          | sum  | 1        |                 |        |
|          | H2   |           |           | <b>Regional commissioning</b>                                  |      |          |                 |        |
| 7.H2.5   | H2   | 48.001    |           | Civil  | sum  | 1        |                 |        |
| 7.H2.6   | H2   | 48.001    |           | Electrical   | sum  | 1        |                 |        |
| 7.H2.7   | H2   | 48.001    |           | Control and Instrumentation, Communication and Security        | sum  | 1        |                 |        |
| 7.H2.8   | H2   | 48.001    |           | Cathodic Protection and AC Mitigation                          | sum  | 1        |                 |        |
|          | H2   |           |           | <b>TRAIL OPERATIONS</b>  |      |          |                 |        |
| 7.H2.9   | H2   | 48.002    |           | Civil  | sum  | 1        |                 |        |
| 7.H2.10  | H2   | 48.002    |           | Electrical   | sum  | 1        |                 |        |
| 7.H2.11  | H2   | 48.002    |           | Control and Instrumentation, Communication and Security        | sum  | 1        |                 |        |
| 7.H2.12  | H2   | 48.002    |           | Cathodic Protection and AC Mitigation                          | sum  | 1        |                 |        |
|          | H2   |           |           | <b>OPERATIONS AND MAINTENANCE MANUALS</b>                      |      |          |                 |        |
| 7.H2.13  | H2   | 48.003    |           | Civil  | sum  | 1        |                 |        |
| 7.H2.14  | H2   | 48.003    |           | Electrical   | sum  | 1        |                 |        |
| 7.H2.15  | H2   | 48.003    |           | Control and Instrumentation, Communication and Security        | sum  | 1        |                 |        |
| 7.H2.16  | H2   | 48.003    |           | Cathodic Protection and AC Mitigation                          | sum  | 1        |                 |        |
|          | H2   |           |           | <b>TRAINING</b>  |      |          |                 |        |
| 7.H2.17  | H2   | 48.005    |           | Civil  | sum  | 1        |                 |        |
| 7.H2.18  | H2   | 48.005    |           | Electrical   | sum  | 1        |                 |        |
| 7.H2.19  | H2   | 48.005    |           | Control and Instrumentation, Communication and Security        | sum  | 1        |                 |        |
| 7.H2.20  | H2   | 48.005    |           | Cathodic Protection and AC Mitigation                          | sum  | 1        |                 |        |
|          | H2   |           |           | <b>DEFECTS NOTIFICATION PERIOD</b>                             |      |          |                 |        |
|          | H2   |           |           | <b>Inspection No 1</b>   |      |          |                 |        |
| 7.H2.21  | H2   | 48.006(a) |           | Civil  | sum  | 1        |                 |        |
| 7.H2.22  | H2   | 48.006(a) |           | Electrical   | sum  | 1        |                 |        |
| 7.H2.23  | H2   | 48.006(a) |           | Control and Instrumentation, Communication and Security        | sum  | 1        |                 |        |
| 7.H2.24  | H2   | 48.006(a) |           | Cathodic Protection and AC Mitigation                          | sum  | 1        |                 |        |
|          | H2   |           |           | <b>Inspection No 2</b>   |      |          |                 |        |
| 7.H2.25  | H2   | 48.006(b) |           | Civil  | sum  | 1        |                 |        |
| 7.H2.26  | H2   | 48.006(b) |           | Electrical   | sum  | 1        |                 |        |
| 7.H2.27  | H2   | 48.006(b) |           | Control and Instrumentation, Communication and Security        | sum  | 1        |                 |        |
| 7.H2.28  | H2   | 48.006(b) |           | Cathodic Protection and AC Mitigation                          | sum  | 1        |                 |        |
|          | H2   |           |           | <b>Inspection service 3 and Final Inspection</b>               |      |          |                 |        |
| 7.H2.29  | H2   | 48.006(c) |           | Civil  | sum  | 1        |                 |        |
| 7.H2.30  | H2   | 48.006(c) |           | Electrical   | sum  | 1        |                 |        |
| 7.H2.31  | H2   | 48.006(c) |           | Control and Instrumentation, Communication and Security        | sum  | 1        |                 |        |
| 7.H2.32  | H2   | 48.006(c) |           | Cathodic Protection and AC Mitigation                          | sum  | 1        |                 |        |
|          |      |           |           |  |      |          | Carried Forward |        |



| Item no. | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|--|------|----------|-----------------|--------|
|          |      | Reference |           |  |      |          |                 |        |
|          |      |           |           |  |      |          | Brought Forward |        |
|          | H2   |           |           | <b>Additional site visits - Transport</b>  |      |          |                 |        |
| 7.H2.33  | H2   | 48.008(a) |           | Civil  | No   | 6        |                 |        |
| 7.H2.34  | H2   | 48.008(a) |           | Electrical   | No   | 6        |                 |        |
| 7.H2.35  | H2   | 48.008(a) |           | Control and Instrumentation, Communication and Security  | No   | 12       |                 |        |
| 7.H2.36  | H2   | 48.008(a) |           | Cathodic Protection and AC Mitigation  | No   | 6        |                 |        |
|          | H2   |           |           | <b>Additional site visits - Site operations</b>  |      |          |                 |        |
| 7.H2.37  | H2   | 48.008(b) |           | Civil  | Day  | 12       |                 |        |
| 7.H2.38  | H2   | 48.008(b) |           | Electrical   | Day  | 12       |                 |        |
| 7.H2.39  | H2   | 48.008(b) |           | Control and Instrumentation, Communication and Security  | Day  | 24       |                 |        |
| 7.H2.40  | H2   | 48.008(b) |           | Cathodic Protection and AC Mitigation  | Day  | 12       |                 |        |
|          | H2   |           |           | <b>Routine inspections or services planned by the Contractor during the DNP</b>                            |      |          |                 |        |
| 7.H2.41  | H2   | 48.009    |           | Civil  | sum  | 1        |                 |        |
| 7.H2.42  | H2   | 48.009    |           | Electrical   | sum  | 1        |                 |        |
| 7.H2.43  | H2   | 48.009    |           | Control and Instrumentation, Communication and Security  | sum  | 1        |                 |        |
| 7.H2.44  | H2   | 48.009    |           | Cathodic Protection and AC Mitigation  | sum  | 1        |                 |        |
|          | H2   |           |           | <b>PART H2: OFF TAKE C TO OFF TAKE B (13KM) - CH82 TO CH95 TOTAL (Carried forward to Summary of Bills)</b> |      |          |                 |        |

| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|          |      | Reference |           |   |      |          |                 |        |
|          | H3   |           |           | <b>PART H3: OFF TAKE B TO OFF TAKE A (6.3KM) - CH95 TO CH101.30</b> |      |          |                 |        |
|          | H3   |           |           | <b>COMMISSIONING</b>  |      |          |                 |        |
|          | H3   |           |           | <b>Local commissioning</b>  |      |          |                 |        |
| 7.H3.1   | H3   | 48.001    |           | Civil   | sum  | 1        |                 |        |
| 7.H3.2   | H3   | 48.001    |           | Electrical  | sum  | 1        |                 |        |
| 7.H3.3   | H3   | 48.001    |           | Control and Instrumentation, Communication and Security             | sum  | 1        |                 |        |
| 7.H3.4   | H3   | 48.001    |           | Cathodic Protection and AC Mitigation                               | sum  | 1        |                 |        |
|          | H3   |           |           | <b>Regional commissioning</b>                                       |      |          |                 |        |
| 7.H3.5   | H3   | 48.001    |           | Civil   | sum  | 1        |                 |        |
| 7.H3.6   | H3   | 48.001    |           | Electrical  | sum  | 1        |                 |        |
| 7.H3.7   | H3   | 48.001    |           | Control and Instrumentation, Communication and Security             | sum  | 1        |                 |        |
| 7.H3.8   | H3   | 48.001    |           | Cathodic Protection and AC Mitigation                               | sum  | 1        |                 |        |
|          | H3   |           |           | <b>TRAIL OPERATIONS</b>   |      |          |                 |        |
| 7.H3.9   | H3   | 48.002    |           | Civil   | sum  | 1        |                 |        |
| 7.H3.10  | H3   | 48.002    |           | Electrical  | sum  | 1        |                 |        |
| 7.H3.11  | H3   | 48.002    |           | Control and Instrumentation, Communication and Security             | sum  | 1        |                 |        |
| 7.H3.12  | H3   | 48.002    |           | Cathodic Protection and AC Mitigation                               | sum  | 1        |                 |        |
|          | H3   |           |           | <b>OPERATIONS AND MAINTENANCE MANUALS</b>                           |      |          |                 |        |
| 7.H3.13  | H3   | 48.003    |           | Civil   | sum  | 1        |                 |        |
| 7.H3.14  | H3   | 48.003    |           | Electrical  | sum  | 1        |                 |        |
| 7.H3.15  | H3   | 48.003    |           | Control and Instrumentation, Communication and Security             | sum  | 1        |                 |        |
| 7.H3.16  | H3   | 48.003    |           | Cathodic Protection and AC Mitigation                               | sum  | 1        |                 |        |
|          | H3   |           |           | <b>TRAINING</b>   |      |          |                 |        |
| 7.H3.17  | H3   | 48.005    |           | Civil   | sum  | 1        |                 |        |
| 7.H3.18  | H3   | 48.005    |           | Electrical  | sum  | 1        |                 |        |
| 7.H3.19  | H3   | 48.005    |           | Control and Instrumentation, Communication and Security             | sum  | 1        |                 |        |
| 7.H3.20  | H3   | 48.005    |           | Cathodic Protection and AC Mitigation                               | sum  | 1        |                 |        |
|          | H3   |           |           | <b>DEFECTS NOTIFICATION PERIOD</b>                                  |      |          |                 |        |
|          | H3   |           |           | <b>Inspection No 1</b>  |      |          |                 |        |
| 7.H3.21  | H3   | 48.006(a) |           | Civil   | sum  | 1        |                 |        |
| 7.H3.22  | H3   | 48.006(a) |           | Electrical  | sum  | 1        |                 |        |
| 7.H3.23  | H3   | 48.006(a) |           | Control and Instrumentation, Communication and Security             | sum  | 1        |                 |        |
| 7.H3.24  | H3   | 48.006(a) |           | Cathodic Protection and AC Mitigation                               | sum  | 1        |                 |        |
|          | H3   |           |           | <b>Inspection No 2</b>  |      |          |                 |        |
| 7.H3.25  | H3   | 48.006(b) |           | Civil   | sum  | 1        |                 |        |
| 7.H3.26  | H3   | 48.006(b) |           | Electrical  | sum  | 1        |                 |        |
| 7.H3.27  | H3   | 48.006(b) |           | Control and Instrumentation, Communication and Security             | sum  | 1        |                 |        |
| 7.H3.28  | H3   | 48.006(b) |           | Cathodic Protection and AC Mitigation                               | sum  | 1        |                 |        |
|          | H3   |           |           | <b>Inspection service 3 and Final Inspection</b>                    |      |          |                 |        |
| 7.H3.29  | H3   | 48.006(c) |           | Civil   | sum  | 1        |                 |        |
| 7.H3.30  | H3   | 48.006(c) |           | Electrical  | sum  | 1        |                 |        |
| 7.H3.31  | H3   | 48.006(c) |           | Control and Instrumentation, Communication and Security             | sum  | 1        |                 |        |
| 7.H3.32  | H3   | 48.006(c) |           | Cathodic Protection and AC Mitigation                               | sum  | 1        |                 |        |
|          |      |           |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|          |      |                   |           |   |      |          |                 |        |
|          |      |                   |           |   |      |          | Brought Forward |        |
|          | H3   |                   |           | <b>Additional site visits - Transport</b>   |      |          |                 |        |
| 7.H3.33  | H3   | 48.008(a)         |           | Civil   | No   | 6        |                 |        |
| 7.H3.34  | H3   | 48.008(a)         |           | Electrical  | No   | 6        |                 |        |
| 7.H3.35  | H3   | 48.008(a)         |           | Control and Instrumentation, Communication and Security   | No   | 12       |                 |        |
| 7.H3.36  | H3   | 48.008(a)         |           | Cathodic Protection and AC Mitigation   | No   | 6        |                 |        |
|          | H3   |                   |           | <b>Additional site visits - Site operations</b>   |      |          |                 |        |
| 7.H3.37  | H3   | 48.008(b)         |           | Civil   | Day  | 12       |                 |        |
| 7.H3.38  | H3   | 48.008(b)         |           | Electrical  | Day  | 12       |                 |        |
| 7.H3.39  | H3   | 48.008(b)         |           | Control and Instrumentation, Communication and Security   | Day  | 24       |                 |        |
| 7.H3.40  | H3   | 48.008(b)         |           | Cathodic Protection and AC Mitigation   | Day  | 12       |                 |        |
|          | H3   |                   |           | <b>Routine inspections or services planned by the Contractor during the DNP</b>   |      |          |                 |        |
| 7.H3.41  | H3   | 48.009            |           | Civil   | sum  | 1        |                 |        |
| 7.H3.42  | H3   | 48.009            |           | Electrical  | sum  | 1        |                 |        |
| 7.H3.43  | H3   | 48.009            |           | Control and Instrumentation, Communication and Security   | sum  | 1        |                 |        |
| 7.H3.44  | H3   | 48.009            |           | Cathodic Protection and AC Mitigation   | sum  | 1        |                 |        |
|          | H3   |                   |           | <b>PART H3: OFF TAKE B TO OFF TAKE A (6.3KM) - CH95 TO CH101.30 TOTAL</b><br><i>(Carried forward to Summary of Bills)</i> |      |          |                 |        |

| Item no.                                     | Part | Payment   | Breakdown | Description                             | Unit | Quantity | Rate            | Amount |
|--|------|-----------|-----------|---|------|----------|-----------------|--------|
|  |      | Reference |           |   |      |          |                 |        |
| <b>PLANT SPARES REQUIRED BY THE EMPLOYER</b> |      |           |           |   |      |          |                 |        |
| <b>CIVIL</b>                                 |      |           |           |   |      |          |                 |        |
| 7.1  |      | 48.007    |           | 150mm Air Valves (4000KPa)              | no   | 5        |                 |        |
| 7.2  |      | 48.007    |           | 150mm Air Valves (2500KPa)              | no   | 10       |                 |        |
| 7.3  |      | 48.007    |           | 150mm Air Valves (1600KPa)              | no   | 3        |                 |        |
| 7.4  |      | 48.007    |           | 150mm Air Valves (1000KPa)              | no   | 3        |                 |        |
| 7.5  |      | 48.007    |           | 150mm RSV (2500KPa)                     | no   | 5        |                 |        |
| 7.6  |      | 48.007    |           | 150mm RSV (1600KPa)                     | no   | 2        |                 |        |
| 7.7  |      | 48.007    |           | 150mm RSV (1000KPa)                     | no   | 2        |                 |        |
| 7.8  |      | 48.007    |           | 150mm Ball valves (4000KPa)             | no   | 2        |                 |        |
| 7.9  |      | 48.007    |           | 150mm Ball valves (2500KPa)             | no   | 4        |                 |        |
| 7.10   |      | 48.007    |           | 150mm Ball valves (1600KPa)             | no   | 2        |                 |        |
| 7.11   |      | 48.007    |           | 150mm Ball valves (1000KPa)             | no   | 2        |                 |        |
| 7.12   |      | 48.007    |           | 300mm WGV (4000KPa)                     | no   | 2        |                 |        |
| 7.13   |      | 48.007    |           | 200mm WGV (4000KPa)                     | no   | 2        |                 |        |
| 7.14   |      | 48.007    |           | 150mm WGV (4000KPa)                     | no   | 4        |                 |        |
| 7.15   |      | 48.007    |           | 400mm WGV (2500KPa)                     | no   | 5        |                 |        |
| 7.16   |      | 48.007    |           | 300mm WGV (2500KPa)                     | no   | 3        |                 |        |
| 7.17   |      | 48.007    |           | 400mm WGV (1600KPa)                     | no   | 2        |                 |        |
| 7.18   |      | 48.007    |           | 300mm WGV (1600KPa)                     | no   | 2        |                 |        |
| 7.19   |      | 48.007    |           | 200mm WGV (1600KPa)                     | no   | 1        |                 |        |
| 7.20   |      | 48.007    |           | 200mm WGV (1000KPa)                     | no   | 1        |                 |        |
| 7.21   |      | 48.007    |           | 400mm Flow control valve (4000KPa)      | no   | 1        |                 |        |
| 7.22   |      | 48.007    |           | 300mm Flow control valve (4000KPa)      | no   | 1        |                 |        |
| 7.23   |      | 48.007    |           | 1200mm Butterfly Valve (4000KPa)        | no   | 1        |                 |        |
| 7.24   |      | 48.007    |           | 900mm Butterfly Valve (4000KPa)         | no   | 1        |                 |        |
| 7.25   |      | 48.007    |           | 400mm Butterfly Valve (4000KPa)         | no   | 1        |                 |        |
| 7.26   |      | 48.007    |           | 300mm Butterfly Valve (4000KPa)         | no   | 1        |                 |        |
| 7.27   |      | 48.007    |           | 1200mm Butterfly Valve (2500KPa)        | no   | 1        |                 |        |
| 7.28   |      | 48.007    |           | 1200mm Butterfly Valve (1600KPa)        | no   | 1        |                 |        |
| 7.29   |      | 48.007    |           | 1000mm Butterfly Valve (1600KPa)        | no   | 1        |                 |        |
| 7.30   |      | 48.007    |           | 1000mm Butterfly Valve (1000KPa)        | no   | 1        |                 |        |
| 7.31   |      | 48.007    |           | 1200mm Flange Adaptor (4000KPa)         | no   | 1        |                 |        |
| 7.32   |      | 48.007    |           | 1000mm Flange Adaptor (4000KPa)         | no   | 1        |                 |        |
| 7.33   |      | 48.007    |           | 900mm Flange Adaptor (4000KPa)          | no   | 1        |                 |        |
| 7.34   |      | 48.007    |           | 500mm Flange Adaptor (4000KPa)          | no   | 1        |                 |        |
| 7.35   |      | 48.007    |           | 400mm Flange Adaptor (4000KPa)          | no   | 2        |                 |        |
| 7.36   |      | 48.007    |           | 300mm Flange Adaptor (4000KPa)          | no   | 2        |                 |        |
| 7.37   |      | 48.007    |           | 200mm Flange Adaptor (4000KPa)          | no   | 2        |                 |        |
| 7.38   |      | 48.007    |           | 1200mm Flange Adaptor (2500KPa)         | no   | 1        |                 |        |
| 7.39   |      | 48.007    |           | 1000mm Flange Adaptor (2500KPa)         | no   | 1        |                 |        |
| 7.40   |      | 48.007    |           | 400mm Flange Adaptor (2500KPa)          | no   | 3        |                 |        |
| 7.41   |      | 48.007    |           | 300mm Flange Adaptor (2500KPa)          | no   | 2        |                 |        |
| 7.42   |      | 48.007    |           | 1200mm Flange Adaptor (1600KPa)         | no   | 1        |                 |        |
| 7.43   |      | 48.007    |           | 1000mm Flange Adaptor (1600KPa)         | no   | 2        |                 |        |
| 7.44   |      | 48.007    |           | 400mm Flange Adaptor (1600KPa)          | no   | 1        |                 |        |
| 7.45   |      | 48.007    |           | 300mm Flange Adaptor (1600KPa)          | no   | 1        |                 |        |
| 7.46   |      | 48.007    |           | 200mm Flange Adaptor (1600KPa)          | no   | 1        |                 |        |
| 7.47   |      | 48.007    |           | 1400mm Flange Adaptor (1000KPa)         | no   | 1        |                 |        |
| 7.48   |      | 48.007    |           | 1000mm Flange Adaptor (1000KPa)         | no   | 1        |                 |        |
| 7.49   |      | 48.007    |           | 200mm Flange Adaptor (1000KPa)          | no   | 1        |                 |        |
| 7.50   |      | 48.007    |           | 20mm Farmer off-takes (4000KPa)         | no   | 10       |                 |        |
| 7.51   |      | 48.007    |           | 100mm Pressure Reducing Valve (1000KPa) | no   | 1        |                 |        |
|  |      |           |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|          |      |                   |           |   |      |          | Brought Forward |        |
|          |      |                   |           | <b>MECHANICAL</b>                                     |      |          |                 |        |
| 7.52     |      | 48.007            |           | Flow Switch   | no   | 2        |                 |        |
| 7.53     |      | 48.007            |           | Press Transmitter                                     | no   | 2        |                 |        |
| 7.54     |      | 48.007            |           | Suction Pipe (Item HLS 1.5 - DN1000 Spool Piece)      | no   | 1        |                 |        |
| 7.55     |      | 48.007            |           | Suction Pipe (Item HLS 1.8 DN1000 X DN700 Reducer))   | no   | 1        |                 |        |
| 7.56     |      | 48.007            |           | Discharge Pipe (Item HLD 1.2 DN500 x DN800 Reducer)   | no   | 1        |                 |        |
| 7.57     |      | 48.007            |           | Discharge Pipe (Item HLD 1.21 DN800 Spool Pipe)       | no   | 1        |                 |        |
| 7.58     |      | 48.007            |           | Temperature Sensor                                    | no   | 2        |                 |        |
| 7.59     |      | 48.007            |           | Vibration Sensor                                      | no   | 4        |                 |        |
| 7.60     |      | 48.007            |           | Pump Impeller   | no   | 1        |                 |        |
| 7.61     |      | 48.007            |           | Pump Casing   | no   | 3        |                 |        |
| 7.62     |      | 48.007            |           | Pump Seal   | no   | 18       |                 |        |
| 7.63     |      | 48.007            |           | Pump Bearing  | no   | 17       |                 |        |
| 7.64     |      | 48.007            |           | Motorpeorsht  | no   | 5        |                 |        |
| 7.65     |      | 48.007            |           | Pumpstarter   | no   | 14       |                 |        |
| 7.66     |      | 48.007            |           | Motor Bearing   | no   | 28       |                 |        |
| 7.67     |      | 48.007            |           | LL Floor Sump Pump                                    | no   | 1        |                 |        |
| 7.68     |      | 48.007            |           | HL Floor Sump Pump                                    | no   | 1        |                 |        |
| 7.69     |      | 48.007            |           | DN800 PN40 Nozzle Type Non-Return Valve (Item HLD1.3) | no   | 1        |                 |        |
| 7.70     |      | 48.007            |           | DN1000 PN16 Butterfly Valve (HLS1.6)                  | no   | 1        |                 |        |
| 7.71     |      | 48.007            |           | DN800 PN40 Butterfly Valve (HLD1.6)                   | no   | 1        |                 |        |
|          |      |                   |           | <u>Low-Lift Pumps</u>                                 |      |          |                 |        |
|          |      |                   |           | <b>Commissioning Spares</b>                           |      | 1        |                 |        |
| 7.72     |      | 48.007            |           | Sets of O-rings & V-rings                             | no   | 2        |                 |        |
| 7.73     |      | 48.007            |           | Sets of Angular Contact Bearings (set of 2)           | no   | 2        |                 |        |
| 7.74     |      | 48.007            |           | Deep Groove Ball Bearings                             | no   | 2        |                 |        |
| 7.75     |      | 48.007            |           | Sets of mechanical seals (set of 2)                   | no   | 2        |                 |        |
|          |      |                   |           | <b>Rotating Assembly</b>                              |      | 1        |                 |        |
| 7.76     |      | 48.007            |           | Impeller  | no   | 1        |                 |        |
| 7.77     |      | 48.007            |           | Shart   | no   | 1        |                 |        |
| 7.78     |      | 48.007            |           | Shaft Protecting Sleeves(set of 2)                    | no   | 1        |                 |        |
| 7.79     |      | 48.007            |           | Casing Wear ring (set of 2)                           | no   | 1        |                 |        |
| 7.80     |      | 48.007            |           | Sets of Angular Contact Bearings (set of 2)           | no   | 1        |                 |        |
| 7.81     |      | 48.007            |           | Deep Groove Ball Bearings                             | no   | 2        |                 |        |
| 7.82     |      | 48.007            |           | Set of mechanical seals (set of 2)                    | no   | 1        |                 |        |
|          |      |                   |           | <u>High-Lift Pumps</u>                                |      |          |                 |        |
|          |      |                   |           | <b>Commissioning Spares</b>                           |      |          |                 |        |
| 7.83     |      | 48.007            |           | Sets of O-rings & V-rings                             | no   | 2        |                 |        |
| 7.84     |      | 48.007            |           | Sets of Bearings                                      | no   | 2        |                 |        |
|          |      |                   |           | <b>Rotating Assembly</b>                              |      |          |                 |        |
| 7.85     |      | 48.007            |           | Impeller  | no   | 1        |                 |        |
| 7.86     |      | 48.007            |           | Shart   | no   | 1        |                 |        |
| 7.87     |      | 48.007            |           | Shaft Protecting Sleeves(set of 2)                    | no   | 1        |                 |        |
| 7.88     |      | 48.007            |           | Casing Wear ring (set of 2)                           | no   | 1        |                 |        |
| 7.89     |      | 48.007            |           | Set of Bearings                                       | no   | 1        |                 |        |
| 7.90     |      | 48.007            |           | Set of mechanical seals (set of 2)                    | no   | 1        |                 |        |
|          |      |                   |           | <u>HVAC - LLPS</u>                                    |      |          |                 |        |
| 7.91     |      | 48.007            |           | Air Handling Unit - Supply Air Fan                    | no   | 2        |                 |        |
| 7.92     |      | 48.007            |           | Air Handling Unit - Controller                        | no   | 1        |                 |        |
| 7.93     |      | 48.007            |           | Chiller - PC Board                                    | no   | 1        |                 |        |
| 7.94     |      | 48.007            |           | Chiller - Expansion Module                            | no   | 2        |                 |        |
| 7.95     |      | 48.007            |           | Chiller - Electronic thermostatic module              | no   | 1        |                 |        |
| 7.96     |      | 48.007            |           | Chiller - Compressor c/w Heaters and Controllers      | no   | 1        |                 |        |
| 7.97     |      | 48.007            |           | Chiller - Pumps                                       | no   | 2        |                 |        |
| 7.98     |      | 48.007            |           | Chiller - Condenser Fans                              | no   | 1        |                 |        |
|          |      |                   |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|          |      |                   |           |  |      |          |                 |        |
|          |      |                   |           |  |      |          | Brought Forward |        |
|          |      |                   |           | <b>HVAC - HLPS</b>   |      |          |                 |        |
| 7.99     |      | 48.007            |           | Air Handling Unit - Supply Air Fan   | no   | 2        |                 |        |
| 7.100    |      | 48.007            |           | Air Handling Unit - Controller   | no   | 1        |                 |        |
| 7.101    |      | 48.007            |           | Chiller - PC Board   | no   | 1        |                 |        |
| 7.102    |      | 48.007            |           | Chiller - Expansion Module   | no   | 1        |                 |        |
| 7.103    |      | 48.007            |           | Chiller - Electronic thermostatic module   | no   | 2        |                 |        |
| 7.104    |      | 48.007            |           | Chiller - Compressor c/w Heaters and Controllers   | no   | 1        |                 |        |
| 7.105    |      | 48.007            |           | Chiller - Pumps  | no   | 2        |                 |        |
|          |      |                   |           | <b>PASSIVE FIRE PROTECTION</b>   |      |          |                 |        |
| 7.106    |      | 48.007            |           | 4.5kg Dry Chemical Powder Fire Extinguishers   | no   | 2        |                 |        |
| 7.107    |      | 48.007            |           | 9kg Dry Chemical Powder Fire Extinguishers   | no   | 4        |                 |        |
| 7.108    |      | 48.007            |           | 5kg Co2 Fire Extinguishers   | no   | 4        |                 |        |
| 7.109    |      | 48.007            |           | Hydrant clack washer   | no   | 4        |                 |        |
| 7.110    |      | 48.007            |           | Hydrant Lip Washer   | no   | 4        |                 |        |
| 7.111    |      | 48.007            |           | Hose and Reel Nozzle   | no   | 4        |                 |        |
| 7.112    |      | 48.007            |           | CP Valve for Hose and Reel   | no   | 2        |                 |        |
|          |      |                   |           | <b>FIRE DETECTION PROTECTION</b>   |      |          |                 |        |
| 7.113    |      | 48.007            |           | Optical Smoke Detector   | no   | 2        |                 |        |
| 7.114    |      | 48.007            |           | Gas Release Control Panel  | no   | 1        |                 |        |
| 7.115    |      | 48.007            |           | Hybrid Aspirating Detector - 2 Pipes   | no   | 1        |                 |        |
| 7.116    |      | 48.007            |           | Inline Filter  | no   | 4        |                 |        |
| 7.117    |      | 48.007            |           | Backup Batteries 12V DC  | no   | 4        |                 |        |
| 7.118    |      | 48.007            |           | Gas Release Interface Relay  | no   | 1        |                 |        |
|          |      |                   |           | <b>GAS SUPPRESSION PROTECTION</b>  |      |          |                 |        |
| 7.119    |      | 48.007            |           | Pilot Cylinder   | no   | 2        |                 |        |
| 7.120    |      | 48.007            |           | 200 Bar Pyrishield 80l Gas Cylinders   | no   | 42       |                 |        |
|          |      |                   |           | <b>ELECTRICAL</b>  |      |          |                 |        |
|          |      |                   |           | <u>6.35/11 kV Type A XLPE/LHPVC/SWA/LHPVC (blue stripe) Cable:</u>   |      |          |                 |        |
| 7.121    |      | 48.007            |           | 185 mm <sup>2</sup> Cu, 3-Core   | no   | 300      |                 |        |
|          |      |                   |           | <u>6.35/11 kV Type A XLPE joints:</u>  |      |          |                 |        |
| 7.122    |      | 48.007            |           | Three core XLPE 185mm <sup>2</sup> (Cu)  | no   | 6        |                 |        |
| 7.123    |      | 48.007            |           | Single core XLPE 500mm <sup>2</sup> (Al)   | no   | 6        |                 |        |
|          |      |                   |           | <u>6.35/11 kV Type A XLPE terminations:</u>  |      |          |                 |        |
| 7.124    |      | 48.007            |           | Three core XLPE 185mm <sup>2</sup> (Cu)  | no   | 3        |                 |        |
| 7.125    |      | 48.007            |           | Single core XLPE 500mm <sup>2</sup> (Al)   | no   | 3        |                 |        |
|          |      |                   |           | <u>Spares for an 11 kV medium voltage switchgear panel complete with all associated plant, CT's, VT's, onboard protection scheme, system mimic, etc. (to replace complete switchgear panel as a collective):</u> |      |          |                 |        |
| 7.126    |      | 48.007            |           | Main incomer panel - 1250A (LLPS) :  | no   | 1        |                 |        |
| 7.127    |      | 48.007            |           | Feeder panel - 800A (LLPS)   | no   | 1        |                 |        |
| 7.128    |      | 48.007            |           | Main incomer panel - 2500A (HLPS)  | no   | 1        |                 |        |
| 7.129    |      | 48.007            |           | Feeder panels (HLPS) - 800A (LLPS)   | no   | 1        |                 |        |
|          |      |                   |           | <b>ELECTRICAL - LLSP -VSD</b>  |      |          |                 |        |
| 7.130    |      | 48.007            |           | Power Arm MVW3000 GI 310A/690V SP  | no   | 6        |                 |        |
| 7.131    |      | 48.007            |           | Control Module MVW3000 V2  | no   | 1        |                 |        |
| 7.132    |      | 48.007            |           | HMI MVW3000 MT8103iE   | no   | 1        |                 |        |
| 7.133    |      | 48.007            |           | Temperature Controller Kit NT538AD 16  | no   | 1        |                 |        |
| 7.134    |      | 48.007            |           | Voltage Measurement Board ISOC.22  | no   | 1        |                 |        |
| 7.135    |      | 48.007            |           | Voltage Measurement Module ISOC2.OO  | no   | 1        |                 |        |
| 7.136    |      | 48.007            |           | Feedback Board PCY.310C  | no   | 1        |                 |        |
| 7.137    |      | 48.007            |           | Power Supply PS24  | no   | 1        |                 |        |
| 7.138    |      | 48.007            |           | DC/DC Power Supply MINI-PS-1224DC/5-15D  | no   | 1        |                 |        |
| 7.139    |      | 48.007            |           | Power Resistor 200W 5 ohm ULV200   | no   | 6        |                 |        |
| 7.140    |      | 48.007            |           | Fuse NH aR FNHOO-250K-A  | no   | 12       |                 |        |
| 7.141    |      | 48.007            |           | 3 Optical Fibers Kit MVW3000 F014 1  | no   | 1        |                 |        |
| 7.142    |      | 48.007            |           | 3 Optical Fibers Kit MVW3000 F014 2  | no   | 1        |                 |        |
| 7.143    |      | 48.007            |           | 3 Optical Fibers Kit MVW3000 F014 3  | no   | 1        |                 |        |
| 7.144    |      | 48.007            |           | 3 Optical Fibers Kit MVW3000 F014 4  | no   | 1        |                 |        |
| 7.145    |      | 48.007            |           | 7 Optical Fibers Kit MVW3000   | no   | 1        |                 |        |
|          |      |                   |           |  |      |          | Carried Forward |        |

| Item no. | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|          |      |                   |           |   |      |          |                 |        |
|          |      |                   |           |   |      |          | Brought Forward |        |
|          |      |                   |           | <b>MEASUREMENT</b>  |      |          |                 |        |
| 7.146    |      | 48.007            |           | Filter Blanket 9X385X340mm  | no   | 4        |                 |        |
| 7.147    |      | 48.007            |           | Fan Axial 230Vac 9X385X490mm  | no   | 12       |                 |        |
| 7.148    |      | 48.007            |           | Fan Axial 230Vac  | no   | 1        |                 |        |
| 7.149    |      | 48.007            |           | Fan Centrifugal 230Vac  | no   | 2        |                 |        |
| 7.150    |      | 48.007            |           | Fan Radial 230Vac   | no   | 2        |                 |        |
| 7.151    |      | 48.007            |           | Electrical - HLSP -VSD  | no   | 1        |                 |        |
| 7.152    |      | 48.007            |           | Power Arm MVW3000 GI 310A/690V SP   | no   | 3        |                 |        |
| 7.153    |      | 48.007            |           | Control Module MVW3000 V2   | no   | 1        |                 |        |
| 7.154    |      | 48.007            |           | HMI MVW3000 MT8103IE  | no   | 1        |                 |        |
| 7.155    |      | 48.007            |           | Temperature Controller KIT NT538AD 16                                       | no   | 1        |                 |        |
| 7.156    |      | 48.007            |           | Voltage Measurement Board ISOC.22   | no   | 1        |                 |        |
| 7.157    |      | 48.007            |           | Voltage Measurement Module ISOC2.OO   | no   | 1        |                 |        |
| 7.158    |      | 48.007            |           | Feedback Board PCY.500  | no   | 1        |                 |        |
| 7.159    |      | 48.007            |           | Power Supply PS24   | no   | 1        |                 |        |
| 7.160    |      | 48.007            |           | DC/DC Power Supply MINI-PS-1224DC/5-15D                                     | no   | 1        |                 |        |
| 7.161    |      | 48.007            |           | Power Resistor 200W 5 ohm ULV200  | no   | 3        |                 |        |
| 7.162    |      | 48.007            |           | Fuse NH aR FNHOO-125K-A   | no   | 3        |                 |        |
| 7.163    |      | 48.007            |           | Fuse NH aR FNH3FEM-500Y   | no   | 15       |                 |        |
| 7.164    |      | 48.007            |           | Function Expansion Board KIT PLC2.OO  | no   | 1        |                 |        |
| 7.165    |      | 48.007            |           | Communication Board Kit KFB-ENCFW09   | no   | 1        |                 |        |
| 7.166    |      | 48.007            |           | 7 Optical Fibers Kit MVW3000 11kV 6-7                                       | no   | 1        |                 |        |
| 7.167    |      | 48.007            |           | 10 Optical Fibers Kit MVW3000 11kV 8-10                                     | no   | 1        |                 |        |
| 7.168    |      | 48.007            |           | 7 Optical Fibers Kit MVW3000 11kV 4-5                                       | no   | 1        |                 |        |
| 7.169    |      | 48.007            |           | OPT Fiber Set MVW3000   | no   | 1        |                 |        |
|          |      |                   |           | <b>MEASUREMENT 4</b>  |      |          |                 |        |
| 7.170    |      | 48.007            |           | 10 Optical Fibers Kit MVW3000 11kV 13                                       | no   | 1        |                 |        |
| 7.171    |      | 48.007            |           | Filter Blanket 20X385X490mm   | no   | 20       |                 |        |
| 7.172    |      | 48.007            |           | Fan Axial 230Vac  | no   | 1        |                 |        |
| 7.173    |      | 48.007            |           | Fan Radial 230Vac   | no   | 2        |                 |        |
|          |      |                   |           | <b>CONTROL AND INSTRUMENTATION,<br/>COMMUNICATION AND SECURITY</b>          |      |          |                 |        |
| 7.174    |      | 48.007            |           | Level Transmitter   | no   | 2        |                 |        |
| 7.175    |      | 48.007            |           | Status Indicator (Limit Switches)   | no   | 20       |                 |        |
|          |      |                   |           | <u>PLC</u>  |      |          |                 |        |
| 7.176    |      | 48.007            |           | CPU Units   | no   | 2        |                 |        |
| 7.177    |      | 48.007            |           | Power Supply Unit   | no   | 2        |                 |        |
| 7.178    |      | 48.007            |           | DI Units - Channels sink/source   | no   | 2        |                 |        |
| 7.179    |      | 48.007            |           | DO Units - Channels sink/source   | no   | 2        |                 |        |
| 7.180    |      | 48.007            |           | AI Units - Individually isolated channels                                   | no   | 2        |                 |        |
| 7.181    |      | 48.007            |           | Ethernet/IP Communication Module  | no   | 2        |                 |        |
| 7.182    |      | 48.007            |           | IEC61850 Communication Module   | no   | 2        |                 |        |
|          |      |                   |           | <u>COMMUNICATION</u>  |      |          |                 |        |
| 7.183    |      | 48.007            |           | Layer 3 Network Router  |      | 4        |                 |        |
| 7.184    |      | 48.007            |           | Small Factor Pluggable Transceiver (SFP) - 0 to 10km                        | no   | 8        |                 |        |
|          |      |                   |           | Small Factor Pluggable Transceiver (SFP) - 10 to 25km                       | no   | 8        |                 |        |
| 7.185    |      | 48.007            |           | Small Factor Pluggable Transceiver (SFP) - 25 to 40km                       | no   | 8        |                 |        |
| 7.186    |      | 48.007            |           | Small Factor Pluggable Transceiver (SFP) - 40 to 70km                       | no   | 8        |                 |        |
| 7.187    |      | 48.007            |           | Small Factor Pluggable Transceiver (SFP) - 70 to 100km                      | no   | 8        |                 |        |
| 7.188    |      | 48.007            |           | Small Factor Pluggable Transceiver (SFP) - 100 to 125km                     | no   | 8        |                 |        |
| 7.189    |      | 48.007            |           | Industrial LC type Single-mode Fibre Optic Patch Leads                      | no   | 48       |                 |        |
| 7.190    |      | 48.007            |           | Microwave Outdoor PTP820c Radio Units - Upper 6GHz                          | no   | 4        |                 |        |
| 7.191    |      | 48.007            |           | Layer 2 Managed Network Switch  | no   | 4        |                 |        |
| 7.192    |      | 48.007            |           | Microwave Outdoor PTP820c Radio Units - 23GHz                               | no   | 4        |                 |        |
| 7.193    |      | 48.007            |           | Single-mode 9/125 µm Steel Corrugated Armoured Fibre Optic Cable - 4km drum | no   | 1        |                 |        |
|          |      |                   |           |   |      |          | Carried Forward |        |

| Item no. | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|---|------|----------|-----------------|--------|
|          |      |                   |           |   |      |          | Brought Forward |        |
|          |      |                   |           | <b>CATHODIC PROTECTION AND AC MITIGATION</b>  |      |          |                 |        |
| 7.194    |      | 48.007            |           | Copper/Copper Sulphate Halfcell   | no   | 2        |                 |        |
| 7.195    |      | 48.007            |           | Multimeter with logging function (TBM525 or similar)                                  | no   | 1        |                 |        |
| 7.196    |      | 48.007            |           | Copper/Copper Sulphate Portable Reference Electrode                                   | no   | 14       |                 |        |
| 7.197    |      | 48.007            |           | Multimeter with logging function (TBM525 or similar)                                  | no   | 7        |                 |        |
| 7.198    |      | 48.007            |           | LV SS-DCD for gradient control wires (low voltages solid state DC decoupling devices) | no   | 5        |                 |        |
| 7.199    |      | 48.007            |           | VLD for gradient control mats (voltage limiting devices)                              | no   | 10       |                 |        |
| 7.200    |      | 48.007            |           | Spark gap for insulating flanges  | no   | 5        |                 |        |
|          |      |                   |           | <b>PLANT SPARES REQUIRED BY THE EMPLOYER (Carried forward to Summary of Bills)</b>    |      |          |                 |        |
|          |      |                   |           | <b>BILL 7: TESTS ON COMPLETION TESTS (Carried forward to Summary of Bills)</b>        |      |          |                 |        |



| Item no. | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount     |
|----------|------|-----------|-----------|---|------|----------|-----------------|------------|
|          |      | Reference |           |   |      |          |                 |            |
| 8        |      |           |           | <b>BILL 8: PROVISIONAL SUMS &amp; DAYWORKS</b>  |      |          |                 |            |
| 8.1      |      |           |           | <b>GENERAL REQUIREMENT FOR THE ENGINEER / EMPLOYER</b>  |      |          |                 |            |
| 8.1.1    |      | 1.009     |           | Cellular phone costs  | PS   | 1        | 1 975 000       | 1 975 000  |
| 8.1.2    |      | 1.009     |           | Long Terms Accommodation  | PS   | 1        | 2 146 000       | 2 146 000  |
| 8.1.3    |      | 1.009     |           | Ad-Hod Accommodation  | PS   | 1        | 2 012 000       | 2 012 000  |
| 8.1.4    |      | 1.009     |           | Transport   | PS   | 1        | 4 024 000       | 4 024 000  |
| 8.1.5    |      | 1.009     |           | Office Consumables and stationary   | PS   | 1        | 268 000         | 268 000    |
| 8.1.6    |      | 1.009     |           | Ablution Consumables  | PS   | 1        | 403 000         | 403 000    |
| 8.1.7    |      | 1.009     |           | IT Equipment  | PS   | 1        | 4 648 000       | 4 648 000  |
| 8.1.8    |      | 1.009     |           | Office Equipment and Furniture  | PS   | 1        | 3 100 000       | 3 100 000  |
| 8.1.9    |      | 1.009     |           | Personal Protective Equipment (PPE)   | PS   | 1        | 805 000         | 805 000    |
| 8.1.10   |      | 1.009     |           | Subsistence expenses  | PS   | 1        | 537 000         | 537 000    |
| 8.1.11   |      | 1.009     |           | Supplementary catering for monthly site meetings  | PS   | 1        | 1 610 000       | 1 610 000  |
| 8.1.12   |      | 1.009     |           | Factory Acceptance Testing (FAT)  | PS   | 1        | 45 505 000      | 45 505 000 |
| 8.1.13   |      | 1.009     |           | Laboratory and Field Testing Equipment  | PS   | 1        | 3 314 000       | 3 314 000  |
| 8.1.14   |      | 1.009     |           | Contractor's charges and profit on above  | %    |          | 70 347 000      |            |
| 8.2      |      |           |           | <b>OH&amp;S, ENVIRONMENTAL AND SOCIAL ALLOWANCES</b>  |      |          |                 |            |
| 8.2.1    |      | 1.009     |           | Project Launch / Ground Breaking  | PS   | 1        |                 | 482 900    |
| 8.2.2    |      | 1.009     |           | Contractor's charges and profit   | %    |          | 482 900         |            |
| 8.2.3    |      | 1.009     |           | Relocation of endangered, protected and sensitive species   | PS   | 1        |                 | 7 954 200  |
| 8.2.4    |      | 1.009     |           | Contractor's charges and profit   | %    |          | 7 954 200       |            |
| 8.2.5    |      | 1.009     |           | Rescue and transplanting of protected trees   | PS   | 1        |                 | 13 677 400 |
| 8.2.6    |      | 1.009     |           | Contractor's charges and profit   | %    |          | 13 677 400      |            |
| 8.2.7    |      | 1.009     |           | Collection of propagules for reinstatement purposes   | PS   | 1        |                 | 3 085 100  |
| 8.2.8    |      | 1.009     |           | Contractor's charges and profit   | %    |          | 3 085 100       |            |
| 8.2.9    |      | 1.009     |           | Comprehensive monitoring plan be drafted that is aimed at determining the overall functionality of the fishway as well as the fish communities (and other aquatic biota) within the river reach | PS   | 1        |                 | 402 400    |
| 8.2.10   |      | 1.009     |           | Contractor's charges and profit   | %    |          | 402 400         |            |
| 8.2.11   |      | 1.009     |           | Replacement of lost individuals where translocation operations fall short   | PS   | 1        |                 | 15 557 300 |
| 8.2.12   |      | 1.009     |           | Contractor's charges and profit   | %    |          | 15 557 300      |            |
| 8.2.13   |      | 1.009     |           | All other fencing not measured elsewhere in the bill of quantities  | PS   | 1        |                 | 45 496 200 |
| 8.2.14   |      | 1.009     |           | Contractor's charges and profit   | %    |          | 45 496 200      |            |
| 8.2.15   |      | 1.009     |           | Additional noise & vibration preventative requirements for protected and sensitive fauna  | PS   | 1        |                 | 7 323 800  |
| 8.2.16   |      | 1.009     |           | Contractor's charges and profit   | %    |          | 7 323 800       |            |
| 8.2.17   |      | 1.009     |           | Relocation of Graves / Management of heritage & paleontological features  | PS   | 1        |                 | 6 203 700  |
| 8.2.18   |      | 1.009     |           | Contractor's charges and profit   | %    |          | 6 203 700       |            |
| 8.2.19   |      | 1.009     |           | Terrestrial Ecologist, Aquatic Ecologist, Botanist, Heritage Specialist and Social Specialist for Walkdown  | PS   | 1        |                 | 5 633 700  |
| 8.2.20   |      | 1.009     |           | Contractor's charges and profit   | %    |          | 5 633 700       |            |
|          |      |           |           |   |      |          | Carried Forward |            |

| Item no. | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount      |
|----------|------|-------------------|-----------|--|------|----------|-----------------|-------------|
|          |      |                   |           |  |      |          |                 |             |
|          |      |                   |           |  |      |          | Brought Forward |             |
| 8.2.21   |      | 1.009             |           | General environmental and social preventative requirements that may require construction related equipment to execute.   | PS   | 1        |                 | 8 048 100   |
| 8.2.22   |      | 1.009             |           | Contractor's charges and profit  | %    |          | 8 048 100       |             |
| 8.2.23   |      | 1.009             |           | Temporary/New watering holes for game  | PS   | 1        |                 | 2 012 000   |
| 8.2.24   |      | 1.009             |           | Contractor's charges and profit  | %    |          | 2 012 000       |             |
| 8.2.25   |      | 1.009             |           | Provision of vegetative material   | PS   | 1        |                 | 26 538 600  |
| 8.2.26   |      | 1.009             |           | Contractor's charges and profit  | %    |          | 26 538 600      |             |
| 8.2.27   |      | 1.009             |           | Planting of vegetative material  | PS   | 1        |                 | 8 846 200   |
| 8.2.28   |      | 1.009             |           | Contractor's charges and profit  | %    |          | 8 846 200       |             |
| 8.2.29   |      | 1.009             |           | Additional rehabilitation measures   | PS   | 1        |                 | 7 779 800   |
| 8.2.30   |      | 1.009             |           | Contractor's charges and profit  | %    |          | 7 779 800       |             |
| 8.2.31   |      | 1.009             |           | Pit for AIA radiographic material storage  | PS   | 1        |                 | 2 280 300   |
| 8.2.32   |      | 1.009             |           | Contractor's charges and profit  | %    |          | 2 280 300       |             |
| 8.2.33   |      | 1.009             |           | Additional PPE provision for varying COVID lockdown level requirements (applicable to lock down level 4 and higher)      | PS   | 1        |                 | 12 300 200  |
| 8.2.34   |      | 1.009             |           | Contractor's charges and profit  | %    |          | 12 300 200      |             |
| 8.2.35   |      | 1.009             |           | Occupational Health and Safety training and equipment for landowners using site access roads                             | PS   | 1        |                 | 1 207 200   |
| 8.2.36   |      | 1.009             |           | Contractor's charges and profit  | %    |          | 1 207 200       |             |
| 8.2.37   |      | 1.009             |           | Emergency evacuation other than contractor's workforce and staff   | PS   | 1        |                 | 670 700     |
| 8.2.38   |      | 1.009             |           | Contractor's charges and profit  | %    |          | 670 700         |             |
| 8.2.39   |      | 1.009             |           | Mobile clinic  | PS   | 1        |                 | 2 704 200   |
| 8.2.40   |      | 1.009             |           | Contractor's charges and profit  | %    |          | 2 704 200       |             |
| 8.2.41   |      | 1.009             |           | Social management and socio-economic development related resources (excl. RAP)   | PS   | 1        |                 | 10 730 800  |
| 8.2.42   |      | 1.009             |           | Contractor's charges and profit  | %    |          | 10 730 800      |             |
| 8.2.43   |      | 1.009             |           | Royalties and other charges  | PS   | 1        |                 | 2 682 700   |
| 8.2.44   |      | 1.009             |           | Contractor's charges and profit  | %    |          | 2 682 700       |             |
| 8.2.45   |      | 1.009             |           | Licence plate recognition cameras  | PS   | 1        |                 | 1 207 200   |
| 8.2.46   |      | 1.009             |           | Contractor's charges and profit  | %    |          | 1 207 200       |             |
| 8.2.47   |      | 1.009             |           | RAP (Relocation of homesteads, game and livestock camps, crops and the related matters, including the specialist costs). | PS   | 1        |                 | 150 000 000 |
| 8.2.48   |      | 1.009             |           | Contractor's charges and profit  | %    |          | 150 000 000     |             |
|          |      |                   |           |  |      |          | Carried Forward |             |

| Item no.   | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount     |
|------------|------|-------------------|-----------|--|------|----------|-----------------|------------|
|            |      |                   |           |  |      |          |                 |            |
|            |      |                   |           |  |      |          | Brought Forward |            |
| <b>8.3</b> |      |                   |           | <b>RELOCATION OF SERVICES</b>  |      |          |                 |            |
| 8.3.1      |      | 1.009             |           | Moving of unknown services   | PS   | 1        |                 | 858 500    |
| 8.3.2      |      | 1.009             |           | Contractor's charges and profit  | %    |          | 858 500         |            |
| 8.3.3      |      | 1.009             |           | Moving existing telephone reticulation   | PS   | 1        |                 | 1 877 900  |
| 8.3.4      |      | 1.009             |           | Contractor's charges and profit  | %    |          | 1 877 900       |            |
| 8.3.5      |      | 1.009             |           | Moving existing Eskom electrical reticulation  | PS   | 1        |                 | 5 365 400  |
| 8.3.6      |      | 1.009             |           | Contractor's charges and profit  | %    |          | 5 365 400       |            |
| <b>8.4</b> |      |                   |           | <b>QUALITY CONTROL AND TESTING</b>   |      |          |                 |            |
| 8.4.1      |      | 1.009             |           | Acceptance control testing by external laboratory or other accredited facilities                         | PS   | 1        |                 | 8 048 100  |
| 8.4.2      |      | 1.009             |           | Contractor's charges and profit  | %    |          | 8 048 100       |            |
| 8.4.3      |      | 1.009             |           | Specialist Third Party Inspection  | PS   | 1        |                 | 26 826 900 |
| 8.4.4      |      | 1.009             |           | Contractor's charges and profit  | %    |          | 26 826 900      |            |
| 8.4.5      |      | 1.009             |           | Hand tools, instruments and other testing equipment and consumables                                      | PS   | 1        |                 | 1 690 100  |
| 8.4.6      |      | 1.009             |           | Contractor's mark-up   | %    |          | 1 690 100       |            |
| 8.4.7      |      | 1.009             |           | Electronic Site Management System and Smartphone Application   | PS   | 1        |                 | 6 706 700  |
| 8.4.8      |      | 1.009             |           | Contractor's mark-up   | %    |          | 6 706 700       |            |
| 8.4.9      |      | 1.009             |           | Electronic Preferential Procurement Management and Reporting System                                      | PS   | 1        |                 | 1 690 100  |
| 8.4.10     |      | 1.009             |           | Contractor's mark-up   | %    |          | 1 690 100       |            |
| 8.4.11     |      | 1.009             |           | Independent high-frequency pressure and flow logging during the Commissioning and Trial Operation phases | PS   | 1        |                 | 2 146 200  |
| 8.4.12     |      | 1.009             |           | Contractor's mark-up   | %    |          | 2 146 200       |            |
| 8.4.13     |      | 1.009             |           | Geotechnical tests   | PS   | 1        |                 | 1 341 300  |
| 8.4.14     |      | 1.009             |           | Contractor's mark-up   | %    |          | 1 341 300       |            |
| 8.4.15     |      | 1.009             |           | Drilling and borehole yield test   | PS   | 1        |                 | 2 682 700  |
| 8.4.16     |      | 1.009             |           | Contractor's mark-up   | %    |          | 2 682 700       |            |
| <b>8.5</b> |      |                   |           | <b>CIVIL</b>   |      |          |                 |            |
| 8.5.1      |      | 1.009             |           | Water supply for Hydrotesting  | PS   | 1        |                 | 670 700    |
| 8.5.2      |      | 1.009             |           | Contractor's charges and profit  | %    |          | 670 700         |            |
| 8.5.3      |      | 1.009             |           | Chamber manhole cover (locking mechanism)  | PS   | 1        |                 | 4 024 000  |
| 8.5.4      |      | 1.009             |           | Contractor's charges and profit  | %    |          | 4 024 000       |            |
| 8.5.5      |      | 1.009             |           | Facebrick material   | PS   | 1        |                 | 3 755 800  |
| 8.5.6      |      | 1.009             |           | Contractor's charges and profit  | %    |          | 3 755 800       |            |
| 8.5.7      |      | 1.009             |           | Furniture, blinds, storage, feature wall, safe and appliances  | PS   | 1        |                 | 985 900    |
| 8.5.8      |      | 1.009             |           | Contractor's charges and profit  | %    |          | 985 900         |            |
|            |      |                   |           |  |      |          | Carried Forward |            |

| Item no.   | Part | Payment         | Breakdown | Description   | Unit | Quantity | Rate            | Amount      |
|------------|------|-----------------|-----------|---|------|----------|-----------------|-------------|
|            |      | Reference       |           |   |      |          |                 |             |
|            |      |                 |           |   |      |          | Brought Forward |             |
| 8.5.9      |      | 1.009           |           | Storage shelving, cupboards and countertops   | PS   | 1        |                 | 449 400     |
| 8.5.10     |      | 1.009           |           | Contractor's charges and profit   | %    |          | 449 400         |             |
| 8.5.11     |      | 25.012(a)       |           | Provision of approved herbicide and ant poison  | PS   | 1        |                 | 181 100     |
| 8.5.12     |      | 25.012(b)       |           | Contractor's charges and profit   | %    |          | 181 100         |             |
| 8.5.13     |      | 1.009           |           | Mass haul provision   | PS   | 1        |                 | 134 134 700 |
| 8.5.14     |      | 1.009           |           | Contractor's charges and profit   | %    |          | 134 134 700     |             |
| 8.5.15     |      | 1.009           |           | Assessing, upgrading and maintaining of underperforming Access Roads  | PS   | 1        |                 | 150 000 000 |
| 8.5.16     |      | 1.009           |           | Contractor's charges and profit   | %    |          | 150 000 000     |             |
| 8.5.17     |      | 1.009           |           | Ancillary infrastructure  | PS   | 1        |                 | 450 000 000 |
| 8.5.18     |      | 1.009           |           | Contractor's charges and profit   | %    |          | 450 000 000     |             |
| 8.5.19     |      | 1.009           |           | The provision of Water for Construction   | PS   | 1        |                 | 1 300 000   |
| 8.5.20     |      | 1.009           |           | Contractor's charges and profit   | %    |          | 1 300 000       |             |
| 8.5.21     |      | 1.009           |           | Cost of the contractor to construct river bank protection in accordance with the drawings, specifications and bill of quantities as provided and instructed by the Engineer.  | PS   | 1        |                 | 39 500 000  |
| 8.5.22     |      | 1.009           |           | Contractor's charges and profit   | %    |          | 39 500 000      |             |
| <b>8.6</b> |      |                 |           | <b>MECHANICAL &amp; ELECTRICAL</b>  |      |          |                 |             |
| 8.6.1      |      | 31.002 & 31.003 |           | 5 metric tonne mono-rail complete with electrical wire rope hoist and crawl   | PS   | 1        |                 | 812 100     |
| 8.6.2      |      | 1.009           |           | Contractor's charges and profit   | %    |          | 812 100         |             |
| 8.6.3      |      | 1.009           |           | Repeater A (LLPS to HLPS)   | PS   | 1        |                 | 447 700     |
| 8.6.4      |      | 1.009           |           | Contractor's charges and profit   | %    |          | 447 700         |             |
| 8.6.5      |      |                 |           | Design, supply, delivery, installation and commissioning of hydro-cyclone sediment removal system including:<br>Three hydro-cyclone clusters with all related valves and internal pipework, earth works, pipework feeding hydro-cyclone clusters, transferring overflows to balancing dams and transferring underflows to sludge channels, concrete foundations, access platforms and stairs, control and instrumentation, safety equipment and signage | PS   | 1        |                 | 83 500 000  |
| 8.6.6      |      | 1.009           |           | Contractor's charges and profit   | %    |          | 83 500 000      |             |
|            |      |                 |           | <b>Distribution Transformers Power Supply Points</b>  |      |          |                 |             |
| 8.6.7      |      | 1.009           |           | Break Pressure Reservoir (BPR)  | PS   | 1        | 403 100         | 403 100     |
| 8.6.8      |      | 1.009           |           | Break Pressure Tank (BPT)   | PS   | 1        | 403 100         | 403 100     |
| 8.6.9      |      | 1.009           |           | Off-Take A  | PS   | 1        | 403 100         | 403 100     |
| 8.6.10     |      | 1.009           |           | Off-Take B  | PS   | 1        | 403 100         | 403 100     |
| 8.6.11     |      | 1.009           |           | Off-Take C (Future)   | PS   | 1        | 403 100         | 403 100     |
| 8.6.12     |      | 1.009           |           | Repeater A (BPR to Off-Takes) (1 x Magnetic Flow Meter)   | PS   | 1        | 403 100         | 403 100     |
| 8.6.13     |      | 1.009           |           | Repeater A (HLPS to BPT)  | PS   | 1        | 403 100         | 403 100     |
| 8.6.14     |      | 1.009           |           | Repeater B (BPR to Off-Takes) (Flow Meter Installation)   | PS   | 1        | 403 100         | 403 100     |
| 8.6.15     |      | 1.009           |           | Repeater C (BPR to Off-Takes) ( Flow Meter Installation)  | PS   | 1        | 403 100         | 403 100     |
| 8.6.16     |      | 1.009           |           | Contractor's charges and profit on above  | %    |          | 3 627 900       |             |
|            |      |                 |           |   |      |          | Carried Forward |             |

| Item no. | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount     |
|----------|------|-----------|-----------|--|------|----------|-----------------|------------|
|          |      | Reference |           |  |      |          |                 |            |
|          |      |           |           |  |      |          | Brought Forward |            |
| 8.7      |      |           |           | <b>CONTROL AND INSTRUMENTATION SYSTEMS, COMMUNICATION AND SECURITY</b>                           |      |          |                 |            |
| 8.7.1    |      | 1.009     |           | Full Integration between the RMS, MCWAP-1 and MCWAP-2 Primary and Secondary Communication System | PS   | 1        |                 | 600 000    |
| 8.7.2    |      | 1.009     |           | Contractor's charges and profit  | %    |          | 600 000         |            |
| 8.7.3    |      | 1.009     |           | Full Integration between the RMS, MCWAP-1 and MCWAP-2 Control Systems                            | PS   | 1        |                 | 1 600 000  |
| 8.7.4    |      | 1.009     |           | Contractor's charges and profit  | %    |          | 1 600 000       |            |
| 8.7.5    |      | 1.009     |           | SCADA system programme updating  | PS   | 1        |                 | 200 000    |
| 8.7.6    |      | 1.009     |           | Contractor's charges and profit  | %    |          | 200 000         |            |
| 8.8      |      |           |           | <b>AC &amp; CP QUALITY CONTROL AND TESTING</b>   |      |          |                 |            |
| 8.8.1    |      | 34.003    |           | Short Deep Soil Resistivity Survey   | PS   | 1        |                 | 2 028 700  |
| 8.8.2    |      | 1.009     |           | Contractor's charges and profit  | %    |          | 2 028 700       |            |
| 8.8.3    |      | 34.004    |           | SRB Testing  | PS   | 1        |                 | 685 200    |
| 8.8.4    |      | 1.009     |           | Contractor's charges and profit  | %    |          | 685 200         |            |
| 8.8.5    |      | 34.005    |           | DC & AC Potential monitoring (during construction & commissioning period)                        | PS   | 1        |                 | 17 627 200 |
| 8.8.6    |      | 1.009     |           | Contractor's charges and profit  | %    |          | 17 627 200      |            |
| 8.8.7    |      | 34.005    |           | DC & AC Potential monitoring (3 months - Trial operation)  | PS   | 1        |                 | 839 700    |
| 8.8.8    |      | 1.009     |           | Contractor's charges and profit  | %    |          | 839 700         |            |
| 8.8.9    |      | 34.010    |           | Coating Conductance Test   | PS   | 1        |                 | 456 800    |
| 8.8.10   |      | 1.009     |           | Contractor's charges and profit  | %    |          | 456 800         |            |
| 8.8.11   |      | 34.011    |           | CIPS/DCVG Survey (at completion of construction)   | PS   | 1        |                 | 3 923 100  |
| 8.8.12   |      | 1.009     |           | Contractor's charges and profit  | %    |          | 3 923 100       |            |
| 8.8.13   |      | 34.011    |           | CIPS/DCVG Survey (End of DNP)  | PS   | 1        |                 | 3 923 100  |
| 8.8.14   |      | 1.009     |           | Contractor's charges and profit  | %    |          | 3 923 100       |            |
| 8.9      |      |           |           | <b>MISCELLANEOUS</b>   |      |          |                 |            |
| 8.9.1    |      | 1.009     |           | DAB allowance (Employer's contribution)  | PS   | 1        |                 | 21 193 300 |
| 8.9.2    |      | 1.009     |           | Contractor's charges and profit  | %    |          | 21 193 300      |            |
| 8.10     |      |           |           | <b>ADDITIONAL SPARES CONSIDERED NECESSARY BY THE EMPLOYER</b>                                    |      |          |                 |            |
| 8.10.1   |      | 1.009     |           | Civil Works  | PS   | 1        |                 | 268 300    |
| 8.10.2   |      | 1.009     |           | Contractor's charges and profit  | %    |          | 268 300         |            |
| 8.10.3   |      | 1.009     |           | Mechanical Works   | PS   | 1        |                 | 4 581 900  |
| 8.10.4   |      | 1.009     |           | Contractor's charges and profit  | %    |          | 4 581 900       |            |
| 8.10.5   |      | 1.009     |           | Electrical Works   | PS   | 1        |                 | 2 149 700  |
| 8.10.6   |      | 1.009     |           | Contractor's charges and profit  | %    |          | 2 149 700       |            |
|          |      |           |           |  |      |          | Carried Forward |            |

| Item no.   | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount  |
|--|------|-----------|-----------|---|------|----------|-----------------|---------|
|  |      | Reference |           |   |      |          |                 |         |
|  |      |           |           |   |      |          | Brought Forward |         |
| 8.10.7   |      | 1.009     |           | Control Systems, Wireless Communication and Security Control                  | PS   | 1        |                 | 873 300 |
| 8.10.8   |      | 1.009     |           | Contractor's charges and profit   | %    |          | 873 300         |         |
| <b>8.11 DAYWORK CHARGES - LABOUR</b>   |      |           |           |   |      |          |                 |         |
| <b>Varied work instructed by the Engineer to be executed on daywork basis</b>  |      |           |           |   |      |          |                 |         |
| 8.11.1   |      | 1.009     |           | General Unskilled Labour  | hr   | 20 000   |                 |         |
| 8.11.2   |      | 1.009     |           | General Semi-Skilled Labour   | hr   | 16 000   |                 |         |
| 8.11.3   |      | 1.009     |           | General Skilled Labour  | hr   | 12 000   |                 |         |
| 8.11.4   |      | 1.009     |           | Artisan   | hr   | 1 600    |                 |         |
| 8.11.5   |      | 1.009     |           | Boilermaker (Pipe Fabricator)   | hr   | 2 400    |                 |         |
| 8.11.6   |      | 1.009     |           | Boilermaker Assistant   | hr   | 2 400    |                 |         |
| 8.11.7   |      | 1.009     |           | Qualified Welder  | hr   | 2 400    |                 |         |
| 8.11.8   |      | 1.009     |           | Welder Assistant  | hr   | 2 400    |                 |         |
| 8.11.9   |      | 1.009     |           | Fitter  | hr   | 1 600    |                 |         |
| 8.11.10  |      | 1.009     |           | Fitter Assistant  | hr   | 1 600    |                 |         |
| 8.11.11  |      | 1.009     |           | Grinder   | hr   | 1 600    |                 |         |
| 8.11.12  |      | 1.009     |           | Qualified Electrician   | hr   | 1 200    |                 |         |
| 8.11.13  |      | 1.009     |           | Electrician Assistant   | hr   | 1 200    |                 |         |
| 8.11.14  |      | 1.009     |           | Shutter hand  | hr   | 1 600    |                 |         |
| 8.11.15  |      | 1.009     |           | Steel Fixer   | hr   | 1 600    |                 |         |
| 8.11.16  |      | 1.009     |           | Rigger  | hr   | 1 200    |                 |         |
| 8.11.17  |      | 1.009     |           | Quality Inspector   | hr   | 4 000    |                 |         |
| 8.11.18  |      | 1.009     |           | Quality Inspector Technician  | hr   | 4 000    |                 |         |
| 8.11.19  |      | 1.009     |           | Mechanic  | hr   | 800      |                 |         |
| 8.11.20  |      | 1.009     |           | General Operator  | hr   | 8 000    |                 |         |
| 8.11.21  |      | 1.009     |           | LDV Driver  | hr   | 8 000    |                 |         |
| 8.11.22  |      | 1.009     |           | Bus Driver  | hr   | 4 000    |                 |         |
| <b>8.12 DAYWORK CHARGES - EQUIPMENT</b>  |      |           |           |   |      |          |                 |         |
| <b>Varied work instructed by the Engineer to be executed under daywork basis. Rate to include operator, fuel, maintenance, insurances and all other costs. Dry rate must be completed else value = "nil" ("Dry rate" = "Wet rate" less Fuel)</b> |      |           |           |   |      |          |                 |         |
| 8.12.1   |      | 1.009     |           | <b>Backhoe Loaders (TLB's)</b><br>4x2 Size > 5 ton / small (Dry rate = _____) | hr   | 320      |                 |         |
| 8.12.2   |      | 1.009     |           | 4x4 Size > 7 ton / medium (Dry rate = _____)                                  | hr   | 360      |                 |         |
| 8.12.3   |      | 1.009     |           | 4x4 Size > 9 ton / large (Dry rate = _____)                                   | hr   | 400      |                 |         |
| 8.12.4   |      | 1.009     |           | <b>Bulldozers</b><br>Size D6 > 125 kW (Dry rate = _____)                      | hr   | 120      |                 |         |
| 8.12.5   |      | 1.009     |           | Size D8 > 200 kW (Dry rate = _____)   | hr   | 160      |                 |         |
| 8.12.6   |      | 1.009     |           | Size D10 > 400 kW (Dry rate = _____)  | hr   | 240      |                 |         |
| 8.12.7   |      | 1.009     |           | Other Size _____, _____ kW<br>(Dry rate = _____)                              | hr   | 80       |                 |         |
| 8.12.8   |      | 1.009     |           | <b>Flatbed Truck with crane</b><br>Capacity 4 ton / small (Dry rate = _____)  | hr   | 280      |                 |         |
| 8.12.9   |      | 1.009     |           | Capacity 6 ton / medium (Dry rate = _____)                                    | hr   | 320      |                 |         |
| 8.12.10  |      | 1.009     |           | Capacity 10 ton / large (Dry rate = _____)                                    | hr   | 360      |                 |         |
| 8.12.11  |      | 1.009     |           | <b>Off highway dump trucks</b><br>Capacity 8m³ / small (Dry rate = _____)     | hr   | 280      |                 |         |
| 8.12.12  |      | 1.009     |           | Capacity 10 m³ / medium (Dry rate = _____)                                    | hr   | 320      |                 |         |
| 8.12.13  |      | 1.009     |           | Capacity 15 m³ / large (Dry rate = _____)                                     | hr   | 360      |                 |         |
| 8.12.14  |      | 1.009     |           | <b>Tipper Trucks</b><br>Capacity > 8m³ / small (Dry rate = _____)             | hr   | 120      |                 |         |
| 8.12.15  |      | 1.009     |           | Capacity > 10 m³ / medium (Dry rate = _____)                                  | hr   | 160      |                 |         |
| 8.12.16  |      | 1.009     |           | Capacity > 15 m³ / large (Dry rate = _____)                                   | hr   | 200      |                 |         |
| 8.12.17  |      | 1.009     |           | <b>Wheel Loaders</b><br>Bobcat  | hr   | 160      |                 |         |
|  |      |           |           |   |      |          | Carried Forward |         |

| Item no. | Part | Payment Reference | Breakdown | Description  | Unit | Quantity | Rate            | Amount |
|----------|------|-------------------|-----------|--|------|----------|-----------------|--------|
|          |      |                   |           |  |      |          |                 |        |
|          |      |                   |           |  |      |          | Brought Forward |        |
| 8.12.18  |      | 1.009             |           | Capacity > 1.5 m³ bucket / small<br>(Dry rate = _____)     | hr   | 240      |                 |        |
| 8.12.19  |      | 1.009             |           | Capacity > 3 m³ bucket / medium<br>(Dry rate = _____)      | hr   | 280      |                 |        |
| 8.12.20  |      | 1.009             |           | Capacity > 5 m³ bucket / large<br>(Dry rate = _____)       | hr   | 320      |                 |        |
|          |      |                   |           | <b>Water Tankers</b>                                       |      |          |                 |        |
| 8.12.21  |      | 1.009             |           | Capacity > 2 kl / small towable (Dry rate = _____)         | hr   | 320      |                 |        |
| 8.12.22  |      | 1.009             |           | Capacity > 10 kl / medium (Dry rate = _____)               | hr   | 360      |                 |        |
| 8.12.23  |      | 1.009             |           | Capacity > 18 kl / large (Dry rate = _____)                | hr   | 400      |                 |        |
|          |      |                   |           | <b>Light Delivery Vehicle (LDV)</b>                        |      |          |                 |        |
| 8.12.24  |      | 1.009             |           | LDV > 2 ton (Dry rate = _____)                             | hr   | 800      |                 |        |
|          |      |                   |           | <b>Crawler Excavator</b>                                   |      |          |                 |        |
| 8.12.25  |      | 1.009             |           | Model > 15 ton / 88 kw / small (Dry rate = _____)          | hr   | 560      |                 |        |
| 8.12.26  |      | 1.009             |           | Model > 20 ton / 120 kw / medium<br>(Dry rate = _____)     | hr   | 600      |                 |        |
| 8.12.27  |      | 1.009             |           | Model > 30 ton / 200 kW / large (Dry rate = _____)         | hr   | 640      |                 |        |
|          |      |                   |           | <b>Motor Graders</b>                                       |      |          |                 |        |
| 8.12.28  |      | 1.009             |           | Model > 130 kW / medium (Dry rate = _____)                 | hr   | 240      |                 |        |
| 8.12.28  |      |                   |           |  |      |          |                 |        |
|          |      |                   |           | <b>Self propelled vibrating rollers (smooth drum)</b>      |      |          |                 |        |
| 8.12.29  |      | 1.009             |           | Mass > 5 ton / medium (Dry rate = _____)                   | hr   | 80       |                 |        |
| 8.12.30  |      | 1.009             |           | Mass > 10 ton / medium (Dry rate = _____)                  | hr   | 120      |                 |        |
|          |      |                   |           | <b>Self propelled vibrating rollers (padfoot)</b>          |      |          |                 |        |
| 8.12.32  |      | 1.009             |           | Mass > 8 ton / medium (Dry rate = _____)                   | hr   | 80       |                 |        |
| 8.12.33  |      | 1.009             |           | Mass > 12 ton / medium (Dry rate = _____)                  | hr   | 120      |                 |        |
|          |      |                   |           | <b>Pneumatic tyred rollers (specify mass)</b>              |      |          |                 |        |
| 8.12.34  |      | 1.009             |           | Mass > 9 ton / medium (Dry rate = _____)                   | hr   | 80       |                 |        |
| 8.12.35  |      | 1.009             |           | Mass > 15 ton / large (Dry rate = _____)                   | hr   | 120      |                 |        |
|          |      |                   |           | <b>Walk behind vibrating rollers</b>                       |      |          |                 |        |
| 8.12.36  |      | 1.009             |           | Model > 700 kg / BW 65 / small (Dry rate = _____)          | hr   | 160      |                 |        |
| 8.12.37  |      | 1.009             |           | Model > 1000 kg / BW 75/medium<br>(Dry rate = _____)       | hr   | 200      |                 |        |
|          |      |                   |           | <b>Plate compactors</b>                                    |      |          |                 |        |
| 8.12.38  |      | 1.009             |           | Model > 100 kg (Dry rate = _____)                          | hr   | 160      |                 |        |
|          |      |                   |           | <b>Wacker's</b>  |      |          |                 |        |
| 8.12.39  |      | 1.009             |           | Model > 60kg (Dry rate = _____)                            | hr   | 160      |                 |        |
|          |      |                   |           | <b>Concrete mixers</b>                                     |      |          |                 |        |
| 8.12.40  |      | 1.009             |           | Volume > 320 litre / small (Dry rate=_____)                | hr   | 440      |                 |        |
| 8.12.41  |      | 1.009             |           | Volume > 1200 litre / medium towable<br>(Dry rate = _____) | hr   | 440      |                 |        |
| 8.12.42  |      | 1.009             |           | Volume > 7000 litre / large (Dry rate = _____)             | hr   | 440      |                 |        |
|          |      |                   |           | <b>Concrete mixer truck</b>                                |      |          |                 |        |
| 8.12.43  |      | 1.009             |           | Capacity > 5m³ (Dry rate = _____)                          | hr   | 280      |                 |        |
|          |      |                   |           | <b>Portable diesel compressors</b>                         |      |          |                 |        |
| 8.12.44  |      | 1.009             |           | Capacity > 50 cfm / small (Dry rate=_____)                 | hr   | 240      |                 |        |
| 8.12.45  |      | 1.009             |           | Capacity > 250 cfm / medium Dry rate=_____)                | hr   | 280      |                 |        |
| 8.12.46  |      | 1.009             |           | Capacity > 490 cfm / large Dry rate=_____)                 | hr   | 320      |                 |        |
|          |      |                   |           | <b>Water pump</b>  |      |          |                 |        |
| 8.12.47  |      | 1.009             |           | Capacity > 30 l/s / small (Dry rate=_____)                 | hr   | 240      |                 |        |
| 8.12.48  |      | 1.009             |           | Capacity > 100 l/s / medium (Dry rate=_____)               | hr   | 280      |                 |        |
| 8.12.49  |      | 1.009             |           | Capacity > 300 l/s / large (Dry rate=_____)                | hr   | 320      |                 |        |
|          |      |                   |           | <b>Welding unit</b>  |      |          |                 |        |
| 8.12.50  |      | 1.009             |           | Size > 200 Amp / small (Dry rate=_____)                    | hr   | 160      |                 |        |
| 8.12.51  |      | 1.009             |           | Size > 300 Amp / medium (Dry rate=_____)                   | hr   | 200      |                 |        |
| 8.12.52  |      | 1.009             |           | Size > 800 Amp / large (Dry rate=_____)                    | hr   | 240      |                 |        |
|          |      |                   |           |  |      |          | Carried Forward |        |

| Item no.   | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate            | Amount     |
|--|------|-----------|-----------|--|------|----------|-----------------|------------|
|  |      | Reference |           |  |      |          |                 |            |
|  |      |           |           |  |      |          | Brought Forward |            |
| 8.12.53  |      | 1.009     |           | <b>Mobile generator set (specify KVA)</b><br>Size > 2 kVA / small (Dry rate=_____)           | hr   | 160      |                 |            |
| 8.12.54  |      | 1.009     |           | Size > 4 kVA / medium (Dry rate=_____)   | hr   | 200      |                 |            |
| 8.12.55  |      | 1.009     |           | Size > 8 kVA / large (Dry rate=_____)  | hr   | 240      |                 |            |
|  |      |           |           | <b>Lifting Equipment</b>   |      |          |                 |            |
| 8.12.56  |      | 1.009     |           | Side Booms Pipe Layer  | hr   | 240      |                 |            |
| 8.12.57  |      | 1.009     |           | Crane > 20 ton / small (Dry rate=_____)  | hr   | 280      |                 |            |
| 8.12.58  |      | 1.009     |           | Crane > 30 ton / medium (Dry rate=_____)   | hr   | 320      |                 |            |
| 8.12.59  |      | 1.009     |           | Crane > 50 ton / large (Dry rate=_____)  | hr   | 400      |                 |            |
|  |      |           |           | <b>General Equipment</b>   |      |          |                 |            |
| 8.12.60  |      | 1.009     |           | Blasting Pot   | hr   | 80       |                 |            |
| 8.12.61  |      | 1.009     |           | Airless Spray Machine  | hr   | 80       |                 |            |
| <b>Transport Heavy Equipment to and from Site.<br/>Distance shall be measured only way only (tender rate shall however include for transport in both directions). Note: Distance travelled on Site will not be paid.</b> |      |           |           |  |      |          |                 |            |
| 8.12.62  |      | 1.009     |           | Low-bed (suitable for the largest piece of equipment)  | km   | 4 000    |                 |            |
|  |      |           |           | <b>Flatbed Truck with crane</b>  |      |          |                 |            |
| 8.12.63  |      | 1.009     |           | Capacity 4 ton / small   | km   | 1 000    |                 |            |
| 8.12.64  |      | 1.009     |           | Capacity 6 ton / medium  | km   | 1 000    |                 |            |
| 8.12.65  |      | 1.009     |           | Capacity 10 ton / large  | km   | 1 000    |                 |            |
|  |      |           |           | <b>Tipper Trucks</b>   |      |          |                 |            |
| 8.12.66  |      | 1.009     |           | Capacity > 8m <sup>3</sup> / small   | km   | 1 000    |                 |            |
| 8.12.67  |      | 1.009     |           | Capacity > 10 m <sup>3</sup> / medium  | km   | 1 000    |                 |            |
| 8.12.68  |      | 1.009     |           | Capacity > 15 m <sup>3</sup> / large   | km   | 1 000    |                 |            |
|  |      |           |           | <b>Water Tankers</b>   |      |          |                 |            |
| 8.12.69  |      | 1.009     |           | Capacity > 2 kl / small towable  | km   | 4 000    |                 |            |
| 8.12.70  |      | 1.009     |           | Capacity > 10 kl / medium  | km   | 4 000    |                 |            |
| 8.12.71  |      | 1.009     |           | Capacity > 18 kl / large   | km   | 4 000    |                 |            |
| 8.12.72  |      | 1.009     |           | Provisional Amount for establishment charge by rental company as instructed by the Engineer. | PS   | 1        |                 | 804 800    |
| 8.12.73  |      | 1.009     |           | Contractor's charges and profit  | %    |          | 804 800         |            |
| <b>DAYWORK CHARGES - MATERIALS</b>   |      |           |           |  |      |          |                 |            |
| 8.12.74  |      | 1.009     |           | Materials required in the execution of dayworks  | PS   | 1        |                 | 10 730 800 |
| 8.12.75  |      | 1.009     |           | Contractor's charges and profit  | %    |          | 10 730 800      |            |
| <b>BILL 8: PROVISIONAL SUMS &amp; DAYWORKS TESTS (Carried forward to Summary of Bills)</b>   |      |           |           |  |      |          |                 |            |



**Part C: Low Lift Rising Main (LLRM)**  
**PART C2: Pipe Supply, Delivery and Installation**  
**Options 2 to 3**

| Item no.        | Part | Payment        | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|----------------|-----------|---|------|----------|------|--------|
|                 |      | Reference      |           |   |      |          |      |        |
|                 | C    |                |           | <b>PART C: LOW LIFT RISING MAIN (Option 2)</b>  |      |          |      |        |
|                 | C    |                |           | <b>C2: Pipe Supply, Delivery and Installation</b>   |      |          |      |        |
| 2.C2.1          | C    | 32.001 &35.001 |           | Pipes and pipe specials: Design and documentation (As required: <b>For Employer Design</b> )            | Sum  | 1        |      |        |
| 2.C2.2          | C    | 37.001         |           | Corrosion protection: PQP and other documentation   | Sum  | 1        |      |        |
|                 |      |                |           | <b>PIPES</b>  |      |          |      |        |
|                 |      |                |           | <b>MANUFACTURE AND SUPPLY OF PIPES AND DELIVERY TO STORAGE ON SITE (EXCLUDING CORROSION PROTECTION)</b> |      |          |      |        |
|                 |      |                |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.C2.3          | C    | 32.002         | X         | 1420mm OD pipe, 11mm wall thickness   | m    | 195      |      |        |
| 2.C2.4          | C    | 32.002         | X         | 1016mm OD pipe, 12mm wall thickness   | m    | 2355     |      |        |
| 2.C2.5          | C    | 32.002         | X         | 1016mm OD pipe, 7mm wall thickness  | m    | 9185     |      |        |
|                 |      |                |           | <b>SPARE PIPES</b>  |      |          |      |        |
|                 |      |                |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.C2.6          | C    | 32.002         | X         | 1420mm OD pipe, 11mm wall thickness   | m    | 20       |      |        |
| 2.C2.7          | C    | 32.002         | X         | 1016mm OD pipe, 12mm wall thickness   | m    | 77       |      |        |
| 2.C2.8          | C    | 32.002         | X         | 1016mm OD pipe, 7mm wall thickness  | m    | 77       |      |        |
|                 |      |                |           | <b>EXTERNAL PIPE COATING (factory applied):</b>   |      |          |      |        |
|                 |      |                |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 |      |                |           | <b>Option No. 2: Three Layer Polyethylene (Svstem No 228/235)</b>                                       |      |          |      |        |
| 2.C2.9          | C    | 37.002         | X         | 1420mm OD pipes   | m    | 195      |      |        |
| 2.C2.10         | C    | 37.002         | X         | 1420mm OD spare pipes   | m    | 20       |      |        |
| 2.C2.11         | C    | 37.002         | X         | 1016mm OD pipes   | m    | 11540    |      |        |
| 2.C2.12         | C    | 37.002         | X         | 1016mmOD spare pipes  | m    | 154      |      |        |
|                 |      |                |           | <b>INTERNAL PIPE LINING (factory applied)</b>   |      |          |      |        |
|                 |      |                |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 |      |                |           | <b>Glass flake or ceramic filled reinforced epoxy (System No 258)</b>                                   |      |          |      |        |
| 2.C2.13         | C    | 37.003         | X         | 1420mm OD pipes   | m    | 195      |      |        |
| 2.C2.14         | C    | 37.003         | X         | 1420mm OD spare pipes   | m    | 20       |      |        |
| 2.C2.15         | C    | 37.003         | X         | 1016mm OD pipes   | m    | 11540    |      |        |
| 2.C2.16         | C    | 37.003         | X         | 1016mmOD spare pipes  | m    | 154      |      |        |
| Carried Forward |      |                |           |   |      |          |      |        |

| Item no.        | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|-----------|-----------|---|------|----------|------|--------|
|                 |      | Reference |           |   |      |          |      |        |
| Brought Forward |      |           |           |   |      |          |      |        |
|                 |      |           |           | <b>PIPE SPECIALS</b>  |      |          |      |        |
|                 |      |           |           | <b>MANUFACTURE AND SUPPLY OF PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b>       |      |          |      |        |
|                 |      |           |           | <b>BEND/JOINT TYPE NO. 5: GLASS FLAKE OR CERAMIC FILLED REINFORCED EPOXY (System No 258) AND EPOXY PLUS TAPE WRAP (System No 226)</b> |      |          |      |        |
|                 |      |           |           | <b>Grade X52, Ends prepared for site welding</b>  |      |          |      |        |
|                 |      |           |           | <b>1420mm OD pipe, 11mm wall thickness</b>  |      |          |      |        |
| 2.C3.17         | C    | 32.003    | X         | Bend between 22.5 to and including 45 degrees   | No   | 2        |      |        |
|                 |      |           |           | <b>1016mm OD pipe, 12mm wall thickness</b>  |      |          |      |        |
| 2.C7.18         | C    | 32.003    | X         | Bend between 11.25 to and including 22.5 degrees  | No   | 4        |      |        |
| 2.C9.19         | C    | 32.003    | X         | Bend between 22.5 to and including 45 degrees   | No   | 2        |      |        |
| 2.C11.20        | C    | 32.003    | X         | Bend between 45 to and including 90 degrees   | No   | 4        |      |        |
|                 |      |           |           | <b>1016mm OD pipe, 7mm wall thickness</b>   |      |          |      |        |
| 2.C15.21        | C    | 32.003    | X         | Bend between 11.25 to and including 22.5 degrees  | No   | 2        |      |        |
| 2.C17.22        | C    | 32.003    | X         | Bend between 22.5 to and including 45 degrees   | No   | 8        |      |        |
| 2.C19.23        | C    | 32.003    | X         | Bend between 45 to and including 90 degrees   | No   | 6        |      |        |
|                 |      |           |           | <b>LAY AND WELD STEEL PIPES</b>   |      |          |      |        |
|                 |      |           |           | <b>Grade X52</b>  |      |          |      |        |
| 2.C2.24         | C    | 33.001    | X         | 1420mm OD pipe, 11mm wall thickness   | m    | 195      |      |        |
| 2.C2.25         | C    | 33.001    | X         | 1016mm OD pipe, 12mm wall thickness   | m    | 2355     |      |        |
| 2.C2.26         | C    | 33.001    | X         | 1016mm OD pipe, 7mm wall thickness  | m    | 9185     |      |        |
|                 |      |           |           | <b>INSTALLATION AND TESTING OF PIPE SPECIALS</b>  |      |          |      |        |
|                 |      |           |           | <b>Grade X52</b>  |      |          |      |        |
|                 |      |           |           | <b>1420mm OD pipe, 11mm wall thickness</b>  |      |          |      |        |
| 2.C2.27         | C    | 33.007    | X         | Bend between 22.5 to and including 45 degrees   | No   | 2        |      |        |
|                 |      |           |           | <b>1016mm OD pipe, 12mm wall thickness</b>  |      |          |      |        |
| 2.C2.28         | C    | 32.007    | X         | Bend between 11.25 to and including 22.5 degrees  | No   | 4        |      |        |
| 2.C2.29         | C    | 33.007    | X         | Bend between 22.5 to and including 45 degrees   | No   | 2        |      |        |
| 2.C2.30         | C    | 33.007    | X         | Bend between 45 to and including 90 degrees   | No   | 4        |      |        |
|                 |      |           |           | <b>1016mm OD pipe, 7mm wall thickness</b>   |      |          |      |        |
| 2.C2.31         | C    | 32.007    | X         | Bend between 11.25 to and including 22.5 degrees  | No   | 2        |      |        |
| 2.C2.32         | C    | 33.007    | X         | Bend between 22.5 to and including 45 degrees   | No   | 8        |      |        |
| 2.C2.33         | C    | 33.007    | X         | Bend between 45 to and including 90 degrees   | No   | 6        |      |        |
|                 |      |           |           | <b>EXTRA OVER ITEM 33.001 FOR MITRE DEFLECTIONS UP TO 11.25 DEGREE TO FORM BENDS</b>  |      |          |      |        |
|                 |      |           |           | <b>Grade X52</b>  |      |          |      |        |
| 2.C2.34         | C    | 32.002    | X         | 1420mm OD pipe, 11mm wall thickness   | No   | 2        |      |        |
| Carried Forward |      |           |           |   |      |          |      |        |

| Item no.        | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|-----------|-----------|---|------|----------|------|--------|
|                 |      | Reference |           |   |      |          |      |        |
| Brought Forward |      |           |           |   |      |          |      |        |
| 2.C2.35         | C    | 32.002    | X         | 1100mm OD pipe, 12mm wall thickness   | No   | 16       |      |        |
| 2.C2.36         | C    | 32.002    | X         | 1100mm OD pipe, 7mm wall thickness  | No   | 92       |      |        |
|                 |      |           |           | <b>SUPPLY AND INSTALL EXTERNAL COATING AND INTERNAL LINING OF PIPE JOINTS (field applied)</b>   |      |          |      |        |
|                 |      |           |           | <b>BEND/JOINT TYPE NO. 5: GLASS FLAKE OR CERAMIC FILLED REINFORCED EPOXY (System No 258) AND EPOXY PLUS TAPE WRAP (System No 226)</b> |      |          |      |        |
| 2.C2.37         | C    | 37.004    | X         | 1420mm OD pipe  | No   | 20       |      |        |
| 2.C2.38         | C    | 37.004    | X         | 1016mm OD pipe  | No   | 869      |      |        |
|                 |      |           |           | <b>HYDROSTATIC TESTING</b>  |      |          |      |        |
| 2.C2.39         | C    | 33.008(a) |           | 1420mm OD pipe, 11mm wall thickness   | km   | 0.2      |      |        |
| 2.C2.40         | C    | 33.008(a) |           | 1016mm OD pipe, 12mm wall thickness   | km   | 2.36     |      |        |
| 2.C2.41         | C    | 33.008(a) |           | 1016mm OD pipe, 7mm wall thickness  | km   | 9.19     |      |        |
|                 |      |           |           | <b>PIPE LINING INTEGRITY TESTING</b>  |      |          |      |        |
| 2.C2.42         | C    | 33.009    |           | 1420mm OD as specified on drawing   | m    | 195      |      |        |
| 2.C2.43         | C    | 33.009    |           | 1016mm OD as specified on drawing   | m    | 11540    |      |        |
|                 |      |           |           | <b>PIPE COATING INTEGRITY SURVEYS</b>   |      |          |      |        |
| 2.C2.44         | C    | 33.010    |           | 1420mm OD as specified on drawing   | m    | 195      |      |        |
| 2.C2.45         | C    | 33.010    |           | 1016 mm OD as specified on drawing  | m    | 11540    |      |        |
|                 |      |           |           | <b>MARKER POSTS</b>   |      |          |      |        |
| 2.C2.46         | C    | 33.012    |           | As detailed on the drawing No 2A-C6-114   | no   | 155      |      |        |
|                 |      |           |           | <b>BENCHMARK AND TRIANGULATION BEACONS</b>  |      |          |      |        |
| 2.C2.47         | C    | 33.013(a) |           | Survey  | Sum  | 1        |      |        |
| 2.C2.48         | C    | 33.013(b) |           | Benchmark and beacons   | No   | 154      |      |        |
|                 |      |           |           | <b>PIPE LEVEL MONITORING PLANT</b>  |      |          |      |        |
| 2.C2.49         | C    | 33.014    |           | Pipe level monitoring plant as per dwg. 2A-C6-114   | no   | 51       |      |        |
|                 |      |           |           | <b>PART C2: Pipe Supply, Delivery and Installation (Carried forward to Summary of Bills - Option2)</b>                                |      |          |      |        |

| Item no.        | Part | Payment        | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|----------------|-----------|---|------|----------|------|--------|
|                 |      | Reference      |           |   |      |          |      |        |
|                 | C    |                |           | <b>PART C: LOW LIFT RISING MAIN (Option 3)</b>  |      |          |      |        |
|                 | C    |                |           | <b>C2: Pipe Supply, Delivery and Installation</b>   |      |          |      |        |
| 2.C2.1          | C    | 32.001 &35.001 |           | Pipes and pipe specials: Design and documentation (As required: <b>For Employer Design</b> )            | Sum  | 1        |      |        |
| 2.C2.2          | C    | 37.001         |           | Corrosion protection: PQP and other documentation   | Sum  | 1        |      |        |
|                 |      |                |           | <b>PIPES</b>  |      |          |      |        |
|                 |      |                |           | <b>MANUFACTURE AND SUPPLY OF PIPES AND DELIVERY TO STORAGE ON SITE (EXCLUDING CORROSION PROTECTION)</b> |      |          |      |        |
|                 |      |                |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.C2.3          | C    | 32.002         | X         | 1420mm OD pipe, 11mm wall thickness   | m    | 195      |      |        |
| 2.C2.4          | C    | 32.002         | X         | 1016mm OD pipe, 12mm wall thickness   | m    | 2355     |      |        |
| 2.C2.5          | C    | 32.002         | X         | 1016mm OD pipe, 7mm wall thickness  | m    | 9185     |      |        |
|                 |      |                |           | <b>SPARE PIPES</b>  |      |          |      |        |
|                 |      |                |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.C2.6          | C    | 32.002         | X         | 1420mm OD pipe, 11mm wall thickness   | m    | 20       |      |        |
| 2.C2.7          | C    | 32.002         | X         | 1016mm OD pipe, 12mm wall thickness   | m    | 77       |      |        |
| 2.C2.8          | C    | 32.002         | X         | 1016mm OD pipe, 7mm wall thickness  | m    | 77       |      |        |
|                 |      |                |           | <b>EXTERNAL PIPE COATING (factory applied):</b>   |      |          |      |        |
|                 |      |                |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 |      |                |           | <b>Option No. 3: Rigid Polyurethane (System No 229B/237)</b>  |      |          |      |        |
| 2.C2.9          | C    | 37.002         | X         | 1420mm OD pipes   | m    | 195      |      |        |
| 2.C2.10         | C    | 37.002         | X         | 1420mm OD spare pipes   | m    | 20       |      |        |
| 2.C2.11         | C    | 37.002         | X         | 1016mm OD pipes   | m    | 11540    |      |        |
| 2.C2.12         | C    | 37.002         | X         | 1016mm OD spare pipes   | m    | 154      |      |        |
|                 |      |                |           | <b>INTERNAL PIPE LINING (factory applied)</b>   |      |          |      |        |
|                 |      |                |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 |      |                |           | <b>Glass flake or ceramic filled reinforced epoxy (System No 258)</b>                                   |      |          |      |        |
| 2.C2.13         | C    | 37.003         | X         | 1420mm OD pipes   | m    | 195      |      |        |
| 2.C2.14         | C    | 37.003         | X         | 1420mm OD spare pipes   | m    | 20       |      |        |
| 2.C2.15         | C    | 37.003         | X         | 1016mm OD pipes   | m    | 11540    |      |        |
| 2.C2.16         | C    | 37.003         | X         | 1016mm OD spare pipes   | m    | 154      |      |        |
| Carried Forward |      |                |           |   |      |          |      |        |

| Item no.  | Part | Payment   | Breakdown | Description                                      | Unit | Quantity | Rate | Amount |
|---|------|-----------|-----------|--|------|----------|------|--------|
|   |      | Reference |           |  |      |          |      |        |
| Brought Forward   |      |           |           |  |      |          |      |        |
| <b>PIPE SPECIALS</b>  |      |           |           |  |      |          |      |        |
| <b>MANUFACTURE AND SUPPLY OF PIPE<br/>                     ANCILLARIES AND SPECIALS AND DELIVERY TO<br/>                     STORAGE ON SITE<br/>                     (INCLUDING CORROSION PROTECTION)</b>  |      |           |           |  |      |          |      |        |
| <b>BEND/JOINT TYPE NO. 6:<br/>                     GLASS FLAKE OR CERAMIC FILLED<br/>                     REINFORCED EPOXY (System No 258)<br/>                     AND<br/>                     RIGID POLYURETHANE COATING<br/>                     (System No 229B)</b> |      |           |           |  |      |          |      |        |
| <b>Grade X52, Ends prepared for site welding</b>  |      |           |           |  |      |          |      |        |
| <b>1420mm OD pipe, 11mm wall thickness</b>  |      |           |           |  |      |          |      |        |
| 2.C3.17   | C    | 32.003    | X         | Bend between 22.5 to and including 45 degrees    | No   | 2        |      |        |
| <b>1016mm OD pipe, 12mm wall thickness</b>  |      |           |           |  |      |          |      |        |
| 2.C7.18   | C    | 32.003    | X         | Bend between 11.25 to and including 22.5 degrees | No   | 4        |      |        |
| 2.C9.19   | C    | 32.003    | X         | Bend between 22.5 to and including 45 degrees    | No   | 2        |      |        |
| 2.C11.20  | C    | 32.003    | X         | Bend between 45 to and including 90 degrees      | No   | 4        |      |        |
| <b>1016mm OD pipe, 7mm wall thickness</b>   |      |           |           |  |      |          |      |        |
| 2.C15.21  | C    | 32.003    | X         | Bend between 11.25 to and including 22.5 degrees | No   | 2        |      |        |
| 2.C17.22  | C    | 32.003    | X         | Bend between 22.5 to and including 45 degrees    | No   | 8        |      |        |
| 2.C19.23  | C    | 32.003    | X         | Bend between 45 to and including 90 degrees      | No   | 6        |      |        |
| <b>LAY AND WELD STEEL PIPES</b>   |      |           |           |  |      |          |      |        |
| <b>Grade X52</b>  |      |           |           |  |      |          |      |        |
| 2.C2.24   | C    | 33.001    | X         | 1420mm OD pipe, 11mm wall thickness              | m    | 195      |      |        |
| 2.C2.25   | C    | 33.001    | X         | 1016mm OD pipe, 12mm wall thickness              | m    | 2355     |      |        |
| 2.C2.26   | C    | 33.001    | X         | 1016mm OD pipe, 7mm wall thickness               | m    | 9185     |      |        |
| <b>INSTALLATION AND TESTING OF PIPE SPECIALS</b>  |      |           |           |  |      |          |      |        |
| <b>Grade X52</b>  |      |           |           |  |      |          |      |        |
| <b>1420mm OD pipe, 11mm wall thickness</b>  |      |           |           |  |      |          |      |        |
| 2.C2.27   | C    | 33.007    | X         | Bend between 22.5 to and including 45 degrees    | No   | 2        |      |        |
| <b>1016mm OD pipe, 12mm wall thickness</b>  |      |           |           |  |      |          |      |        |
| 2.C2.28   | C    | 32.007    | X         | Bend between 11.25 to and including 22.5 degrees | No   | 4        |      |        |
| 2.C2.29   | C    | 33.007    | X         | Bend between 22.5 to and including 45 degrees    | No   | 2        |      |        |
| 2.C2.30   | C    | 33.007    | X         | Bend between 45 to and including 90 degrees      | No   | 4        |      |        |
| <b>1016mm OD pipe, 7mm wall thickness</b>   |      |           |           |  |      |          |      |        |
| 2.C2.31   | C    | 32.007    | X         | Bend between 11.25 to and including 22.5 degrees | No   | 2        |      |        |
| 2.C2.32   | C    | 33.007    | X         | Bend between 22.5 to and including 45 degrees    | No   | 8        |      |        |
| 2.C2.33   | C    | 33.007    | X         | Bend between 45 to and including 90 degrees      | No   | 6        |      |        |
| Carried Forward   |      |           |           |  |      |          |      |        |

| Item no.        | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|-----------|-----------|---|------|----------|------|--------|
|                 |      | Reference |           |   |      |          |      |        |
| Brought Forward |      |           |           |   |      |          |      |        |
|                 |      |           |           | <b>EXTRA OVER ITEM 33.001 FOR MITRE DEFLECTIONS UP TO 11.25 DEGREE TO FORM BENDS</b>  |      |          |      |        |
|                 |      |           |           | <b>Grade X52</b>  |      |          |      |        |
| 2.C2.34         | C    | 32.002    | X         | 1420mm OD pipe, 11mm wall thickness   | No   | 2        |      |        |
| 2.C2.35         | C    | 32.002    | X         | 1100mm OD pipe, 12mm wall thickness   | No   | 16       |      |        |
| 2.C2.36         | C    | 32.002    | X         | 1100mm OD pipe, 7mm wall thickness  | No   | 92       |      |        |
|                 |      |           |           | <b>SUPPLY AND INSTALL EXTERNAL COATING AND INTERNAL LINING OF PIPE JOINTS (field applied)</b>   |      |          |      |        |
|                 |      |           |           | <b>BEND/JOINT TYPE NO. 6:<br/>GLASS FLAKE OR CERAMIC FILLED REINFORCED EPOXY (System No 258)<br/>AND<br/>RIGID POLYURETHANE COATING (System No 276)</b> |      |          |      |        |
| 2.C2.37         | C    | 37.004    | X         | 1420mm OD pipe  | No   | 20       |      |        |
| 2.C2.38         | C    | 37.004    | X         | 1016mm OD pipe  | No   | 869      |      |        |
|                 |      |           |           | <b>HYDROSTATIC TESTING</b>  |      |          |      |        |
| 2.C2.39         | C    | 33.008(a) |           | 1420mm OD pipe, 11mm wall thickness   | km   | 0.2      |      |        |
| 2.C2.40         | C    | 33.008(a) |           | 1016mm OD pipe, 12mm wall thickness   | km   | 2.36     |      |        |
| 2.C2.41         | C    | 33.008(a) |           | 1016mm OD pipe, 7mm wall thickness  | km   | 9.19     |      |        |
|                 |      |           |           | <b>PIPE LINING INTEGRITY TESTING</b>  |      |          |      |        |
| 2.C2.42         | C    | 33.009    |           | 1420mm OD as specified on drawing   | m    | 195      |      |        |
| 2.C2.43         | C    | 33.009    |           | 1016mm OD as specified on drawing   | m    | 11540    |      |        |
|                 |      |           |           | <b>PIPE COATING INTEGRITY SURVEYS</b>   |      |          |      |        |
| 2.C2.44         | C    | 33.010    |           | 1420mm OD as specified on drawing   | m    | 195      |      |        |
| 2.C2.45         | C    | 33.010    |           | 1016 mm OD as specified on drawing  | m    | 11540    |      |        |
|                 |      |           |           | <b>MARKER POSTS</b>   |      |          |      |        |
| 2.C2.46         | C    | 33.012    |           | As detailed on the drawing No 2A-C6-114   | no   | 155      |      |        |
|                 |      |           |           | <b>BENCHMARK AND TRIANGULATION BEACONS</b>  |      |          |      |        |
| 2.C2.47         | C    | 33.013(a) |           | Survey  | Sum  | 1        |      |        |
| 2.C2.48         | C    | 33.013(b) |           | Benchmark and beacons   | No   | 154      |      |        |
|                 |      |           |           | <b>PIPE LEVEL MONITORING PLANT</b>  |      |          |      |        |
| 2.C2.49         | C    | 33.014    |           | Pipe level monitoring plant as per dwg.2A-C6-114  | no   | 51       |      |        |
|                 |      |           |           | <b>PART C2: Pipe Supply, Delivery and Installation (Carried forward to Summary of Bills - Option3)</b>  |      |          |      |        |

**Part E: Highlift Pump Station (HLPS)**  
**PART E1.7: Pipe Supply, Delivery and Installation**  
**Options 2 to 3**



| Item no.  | Part | Payment        | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------|------|----------------|-----------|---|------|----------|------|--------|
|           |      | Reference      |           |   |      |          |      |        |
|           | E    |                |           | <b>PART E: HIGHLIFT PUMP STATION (OPTION 2)</b>   |      |          |      |        |
|           | E    |                |           | <b>PART E1.7: Pipe Supply, Delivery and Installation</b>  |      |          |      |        |
| 2.E1.7.1  | E    | 32.001 &35.001 |           | Pipes and pipe specials: Design and documentation (As required: <b>For Employer Design</b> )                                    | Sum  | 1        |      |        |
| 2.E1.7.2  | E    | 37.001         |           | Corrosion protection: PQP and other documentation   | Sum  | 1        |      |        |
|           |      |                |           | <b>PIPES</b>  |      |          |      |        |
|           |      |                |           | <b>MANUFACTURE AND SUPPLY OF PIPES AND DELIVERY TO STORAGE ON SITE (EXCLUDING CORROSION PROTECTION)</b>                         |      |          |      |        |
|           |      |                |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.E1.7.3  | E    | 32.002         | X         | <b>1420mm</b> OD pipe, <b>12mm</b> wall thickness   | m    | 255      |      |        |
|           |      |                |           | <b>EXTERNAL PIPE COATING (factory applied):</b>   |      |          |      |        |
|           |      |                |           | Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)  |      |          |      |        |
|           |      |                |           | <b>Option No. 2: Three Layer Polyethylene (System No 228/235)</b>   |      |          |      |        |
| 2.E1.7.4  | E    | 37.002         | X         | <b>1420mm</b> OD pipes  | m    | 255      |      |        |
|           |      |                |           | <b>INTERNAL PIPE LINING (factory applied)</b>   |      |          |      |        |
|           |      |                |           | Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)  |      |          |      |        |
|           |      |                |           | <b>Hot applied solvent free epoxy (System No 220)</b>   |      |          |      |        |
| 2.E1.7.5  | E    | 37.003         | X         | <b>1420mm</b> OD pipes  | m    | 255      |      |        |
|           |      |                |           | <b>PIPE SPECIALS</b>  |      |          |      |        |
|           |      |                |           | <b>MANUFACTURE AND SUPPLY OF PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |      |        |
|           |      |                |           | <b>BEND/JOINT TYPE NO. 2: HOT APPLIED SOLVENT FREE EPOXY (System No 220) AND EPOXY PLUS TAPE WRAP (System No 226)</b>           |      |          |      |        |
|           |      |                |           | <b>Grade X52, Ends prepared for site welding</b>  |      |          |      |        |
|           |      |                |           | <b>1420mm</b> OD pipe, <b>12mm</b> wall thickness   |      |          |      |        |
| 2.E1.7.6  | E    | 32.003         | X         | Bend between <b>11.25</b> to and including <b>22.5</b> degrees  | No   | 1        |      |        |
| 2.E1.7.7  | E    | 32.003         | X         | Bend between <b>45</b> to and including <b>90</b> degrees   | No   | 2        |      |        |
|           |      |                |           | <b>LAY AND WELD STEEL PIPES</b>   |      |          |      |        |
|           |      |                |           | <b>Grade X52</b>  |      |          |      |        |
| 2.E1.7.8  | E    | 33.001         | X         | <b>1420mm</b> OD pipe, <b>12mm</b> wall thickness   | m    | 255      |      |        |
|           |      |                |           | <b>INSTALLATION AND TESTING OF PIPE SPECIALS</b>  |      |          |      |        |
|           |      |                |           | <b>Grade X52</b>  |      |          |      |        |
|           |      |                |           | <b>1420mm</b> OD pipe, <b>12mm</b> wall thickness   |      |          |      |        |
| 2.E1.7.9  | E    | 33.007         | X         | Bend between <b>11.25</b> to and including <b>22.5</b> degrees  | No   | 1        |      |        |
| 2.E1.7.10 | E    | 33.007         | X         | Bend between <b>45</b> to and including <b>90</b> degrees   | No   | 2        |      |        |

Carried Forward

| Item no.  | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate            | Amount |
|-----------|------|-----------|-----------|---|------|----------|-----------------|--------|
|           |      |           | Reference |   |      |          |                 |        |
|           |      |           |           |   |      |          | Brought Forward |        |
|           |      |           |           | <b>SUPPLY AND INSTALL EXTERNAL COATING AND INTERNAL LINING OF PIPE JOINTS (field applied)</b>                                     |      |          |                 |        |
|           |      |           |           | <b>BEND/JOINT TYPE NO. 2:<br/>HOT APPLIED SOLVENT FREE EPOXY (System No 220)<br/>AND<br/>EPOXY PLUS TAPE WRAP (System No 226)</b> |      |          |                 |        |
| 2.E1.7.11 | E    | 37.004    | X         | 1420mm OD pipe  | No   | 22       |                 |        |
|           |      |           |           | <b>HYDROSTATIC TESTING</b>  |      |          |                 |        |
| 2.E1.7.12 | E    | 33.008(a) |           | 1420mm OD pipe, 12mm wall thickness   | km   | 0.26     |                 |        |
|           |      |           |           | <b>PIPE LINING INTEGRITY TESTING</b>  |      |          |                 |        |
| 2.E1.7.13 | E    | 33.009    |           | 1420mm OD as specified on drawing   | m    | 255      |                 |        |
|           |      |           |           | <b>PIPE COATING INTEGRITY SURVEYS</b>   |      |          |                 |        |
| 2.E1.7.14 | E    | 33.010    |           | 1420mm OD as specified on drawing   | m    | 255      |                 |        |
|           |      |           |           | <b>MARKER POSTS</b>   |      |          |                 |        |
| 2.E1.7.15 | E    | 33.012    |           | As detailed on the drawing No 2A-C6-114   | no   | 3        |                 |        |
|           |      |           |           | <b>BENCHMARK AND TRIANGULATION BEACONS</b>  |      |          |                 |        |
| 2.E1.7.16 | E    | 33.013(a) |           | Survey  | Sum  | 1        |                 |        |
| 2.E1.7.17 | E    | 33.013(b) |           | Benchmark and beacons   | No   | 16       |                 |        |
|           |      |           |           | <b>PART E1.7: Pipe Supply, Delivery and Installation (Carried forward to Summary of Bills - Option2)</b>                          |      |          |                 |        |

| Item no. | Part | Payment        | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|----------|------|----------------|-----------|---|------|----------|------|--------|
|          |      | Reference      |           |   |      |          |      |        |
|          | E    |                |           | <b>PART E: HIGHLIFT PUMP STATION (OPTION 3)</b>   |      |          |      |        |
|          | E    |                |           | <b>PART E1.7: Pipe Supply, Delivery and Installation</b>  |      |          |      |        |
| 2.E1.7.1 | E    | 32.001 &35.001 |           | Pipes and pipe specials: Design and documentation (As required: <b>For Employer Design</b> )                                    | Sum  | 1        |      |        |
| 2.E1.7.2 | E    | 37.001         |           | Corrosion protection: PQP and other documentation   | Sum  | 1        |      |        |
|          |      |                |           | <b>PIPES</b>  |      |          |      |        |
|          |      |                |           | <b>MANUFACTURE AND SUPPLY OF PIPES AND DELIVERY TO STORAGE ON SITE (EXCLUDING CORROSION PROTECTION)</b>                         |      |          |      |        |
|          |      |                |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.E1.7.3 | E    | 32.002         | X         | <b>1420mm</b> OD pipe, <b>12mm</b> wall thickness   | m    | 255      |      |        |
|          |      |                |           | <b>EXTERNAL PIPE COATING (factory applied):</b>   |      |          |      |        |
|          |      |                |           | Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)  |      |          |      |        |
|          |      |                |           | <b>Option No. 3: Rigid Polyurethane (System No 229B/237)</b>  |      |          |      |        |
| 2.E1.7.4 | E    | 37.002         | X         | <b>1420mm</b> OD pipes  | m    | 255      |      |        |
|          |      |                |           | <b>INTERNAL PIPE LINING (factory applied)</b>   |      |          |      |        |
|          |      |                |           | Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)  |      |          |      |        |
|          |      |                |           | <b>Hot applied solvent free epoxy (System No 220)</b>   |      |          |      |        |
| 2.E1.7.5 | E    | 37.003         | X         | <b>1420mm</b> OD pipes  | m    | 255      |      |        |
|          |      |                |           | <b>PIPE SPECIALS</b>  |      |          |      |        |
|          |      |                |           | <b>MANUFACTURE AND SUPPLY OF PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |      |        |
|          |      |                |           | <b>BEND/JOINT TYPE NO. 3: HOT APPLIED SOLVENT FREE EPOXY (System No 220) AND RIGID POLYURETHANE COATING (System No 229B)</b>    |      |          |      |        |
|          |      |                |           | <b>Grade X52, Ends prepared for site welding</b>  |      |          |      |        |
|          |      |                |           | <b>1420mm</b> OD pipe, <b>12mm</b> wall thickness   |      |          |      |        |
| 2.E1.7.6 | E    | 32.003         | X         | Bend between <b>11.25</b> to and including <b>22.5</b> degrees  | No   | 1        |      |        |
| 2.E1.7.7 | E    | 32.003         | X         | Bend between <b>45</b> to and including <b>90</b> degrees   | No   | 2        |      |        |
|          |      |                |           | <b>LAY AND WELD STEEL PIPES</b>   |      |          |      |        |
|          |      |                |           | <b>Grade X52</b>  |      |          |      |        |
| 2.E1.7.8 | E    | 33.001         | X         | <b>1420mm</b> OD pipe, <b>12mm</b> wall thickness   | m    | 255      |      |        |

Carried Forward

| Item no.        | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|-----------|-----------|---|------|----------|------|--------|
|                 |      | Reference |           |   |      |          |      |        |
| Brought Forward |      |           |           |   |      |          |      |        |
|                 |      |           |           | <b>INSTALLATION AND TESTING OF PIPE SPECIALS</b>  |      |          |      |        |
|                 |      |           |           | <b>Grade X52</b>  |      |          |      |        |
|                 |      |           |           | <b>1420mm OD pipe, 12mm wall thickness</b>  |      |          |      |        |
| 2.E1.7.9        | E    | 33.007    | X         | Bend between 11.25 to and including 22.5 degrees  | No   | 1        |      |        |
| 2.E1.7.10       | E    | 33.007    | X         | Bend between 45 to and including 90 degrees   | No   | 2        |      |        |
|                 |      |           |           | <b>SUPPLY AND INSTALL EXTERNAL COATING AND INTERNAL LINING OF PIPE JOINTS (field applied)</b>   |      |          |      |        |
|                 |      |           |           | <b>BEND/JOINT TYPE NO. 3:<br/>HOT APPLIED SOLVENT FREE EPOXY (System No 220)<br/>AND<br/>RIGID POLYURETHANE COATING (System No 276)</b> |      |          |      |        |
| 2.E1.7.11       | E    | 37.004    | X         | 1420mm OD pipe  | No   | 22       |      |        |
|                 |      |           |           | <b>HYDROSTATIC TESTING</b>  |      |          |      |        |
| 2.E1.7.12       | E    | 33.008(a) |           | 1420mm OD pipe, 12mm wall thickness   | km   | 0.26     |      |        |
|                 |      |           |           | <b>PIPE LINING INTEGRITY TESTING</b>  |      |          |      |        |
| 2.E1.7.13       | E    | 33.009    |           | 1420mm OD as specified on drawing   | m    | 255      |      |        |
|                 |      |           |           | <b>PIPE COATING INTEGRITY SURVEYS</b>   |      |          |      |        |
| 2.E1.7.14       | E    | 33.010    |           | 1420mm OD as specified on drawing   | m    | 255      |      |        |
|                 |      |           |           | <b>MARKER POSTS</b>   |      |          |      |        |
| 2.E1.7.15       | E    | 33.012    |           | As detailed on the drawing No 2A-C6-114   | no   | 3        |      |        |
|                 |      |           |           | <b>BENCHMARK AND TRIANGULATION BEACONS</b>  |      |          |      |        |
| 2.E1.7.16       | E    | 33.013(a) |           | Survey  | Sum  | 1        |      |        |
| 2.E1.7.17       | E    | 33.013(b) |           | Benchmark and beacons   | No   | 16       |      |        |
|                 |      |           |           | <b>PART E1.7: Pipe Supply, Delivery and Installation (Carried forward to Summary of Bills - Option3)</b>                                |      |          |      |        |

**PART F: High Lift Rising Main (HLRM)**  
**PART F3: Pipe supply, delivery, installation and testing**  
**Options 2 to 3**

| Item no.        | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|-----------|-----------|---|------|----------|------|--------|
|                 |      | Reference |           |   |      |          |      |        |
|                 |      |           |           | <b>CIVILS</b>   |      |          |      |        |
|                 | F    |           |           | <b>PART F: HIGH LIFT RISING MAIN (OPTION 2)</b>   |      |          |      |        |
|                 | F    |           |           | <b>PART F3: Pipe supply, delivery, installation and testing</b>   |      |          |      |        |
|                 | F    |           |           | <b>DETAILING AND DOCUMENTATION</b>  |      |          |      |        |
| 2.F.3.1         | F    | 32.001    |           | Pipes and pipe specials: Design and documentation (As required: <b>For Employer Design</b> )            | Sum  | 1        |      |        |
| 2.F.3.2         | F    | 37.001    |           | Corrosion protection: PQP and other documentation   | Sum  | 1        |      |        |
|                 | F    |           |           | <b>PIPES</b>  |      |          |      |        |
|                 | F    |           |           | <b>MANUFACTURE AND SUPPLY OF PIPES AND DELIVERY TO STORAGE ON SITE (EXCLUDING CORROSION PROTECTION)</b> |      |          |      |        |
|                 | F    |           |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.F.3.3         | F    | 32.002    | X         | 1420mm OD pipe, 12mm wall thickness   | m    | 4630     |      |        |
| 2.F.3.4         | F    | 32.002    | X         | 1420mm OD pipe, 10mm wall thickness   | m    | 24200    |      |        |
|                 | F    |           |           | <b>SPARE PIPES</b>  |      |          |      |        |
|                 | F    |           |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.F.3.5         | F    | 32.002    | X         | 1420mm OD pipe, 12mm wall thickness   | m    | 39       |      |        |
| 2.F.3.6         | F    | 32.002    | X         | 1420mm OD pipe, 10mm wall thickness   | m    | 77       |      |        |
|                 | F    |           |           | <b>EXTERNAL PIPE COATING (factory applied):</b>   |      |          |      |        |
|                 | F    |           |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 | F    |           |           | <b>Option No. 2: Three Layer Polyethylene (System No 228/235)</b>                                       |      |          |      |        |
| 2.F.3.7         | F    | 37.002    | X         | 1420mm OD pipes   | m    | 28830    |      |        |
| 2.F.3.8         | F    | 37.002    | X         | 1420mm OD spare pipes   | m    | 116      |      |        |
|                 | F    |           |           | <b>INTERNAL PIPE LINING (factory applied)</b>   |      |          |      |        |
|                 | F    |           |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 | F    |           |           | <b>Hot applied solvent free epoxy (System No 220)</b>   |      |          |      |        |
| 2.F.3.9         | F    | 37.003    | X         | 1420mm OD pipes   | m    | 28830    |      |        |
| 2.F.3.10        | F    | 37.003    | X         | 1420mm OD spare pipes   | m    | 116      |      |        |
| Carried Forward |      |           |           |   |      |          |      |        |

| Item            | Part | Payment | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|---------|-----------|---|------|----------|------|--------|
| Brought Forward |      |         |           |   |      |          |      |        |
|                 | F    |         |           | <b>PIPE SPECIALS</b>  |      |          |      |        |
|                 | F    |         |           | <b>MANUFACTURE AND SUPPLY OF PIPE<br/>ANCILLARIES AND SPECIALS AND DELIVERY TO<br/>STORAGE ON SITE<br/>(INCLUDING CORROSION PROTECTION)</b> |      |          |      |        |
|                 | F    |         |           | <b>BEND/JOINT TYPE NO. 2:<br/>HOT APPLIED SOLVENT FREE EPOXY<br/>(System No 220)<br/>AND<br/>EPOXY PLUS TAPE WRAP (Svstem No 226)</b>       |      |          |      |        |
|                 | F    |         |           | <b>Grade X52, Ends prepared for site welding</b>  |      |          |      |        |
|                 | F    |         |           | <b>1420mm OD pipe, 12mm wall thickness</b>  |      |          |      |        |
| 2.F.3.11        | F    | 32.003  | X         | Bend between 11.25 to and including 22.5 degrees  | No   | 3        |      |        |
| 2.F.3.12        | F    | 32.003  | X         | Bend between 45 to and including 90 degrees   | No   | 2        |      |        |
|                 | F    |         |           | <b>1420mm OD pipe, 10mm wall thickness</b>  |      |          |      |        |
| 2.F.3.13        | F    | 32.003  | X         | Bend between 22.5 to and including 45 degrees   | No   | 4        |      |        |
| 2.F.3.14        | F    | 32.003  | X         | Bend between 45 to and including 90 degrees   | No   | 6        |      |        |
|                 | F    |         |           | <b>LAY AND WELD STEEL PIPES</b>   |      |          |      |        |
|                 | F    |         |           | <b>Grade X52</b>  |      |          |      |        |
| 2.F.3.15        | F    | 33.001  | X         | 1420mm OD pipe, 12mm wall thickness   | m    | 4630     |      |        |
| 2.F.3.16        | F    | 33.001  | X         | 1420mm OD pipe, 10mm wall thickness   | m    | 24200    |      |        |
|                 | F    |         |           | <b>INSTALLATION AND TESTING OF PIPE SPECIALS</b>  |      |          |      |        |
|                 | F    |         |           | <b>Grade X52</b>  |      |          |      |        |
|                 | F    |         |           | <b>1420mm OD pipe, 12mm wall thickness</b>  |      |          |      |        |
| 2.F.3.17        | F    | 33.007  | X         | Bend between 11.25 to and including 22.5 degrees  | No   | 3        |      |        |
| 2.F.3.18        | F    | 33.007  | X         | Bend between 45 to and including 90 degrees   | No   | 2        |      |        |
|                 | F    |         |           | <b>1420mm OD pipe, 10mm wall thickness</b>  |      |          |      |        |
| 2.F.3.19        | F    | 33.007  | X         | Bend between 22.5 to and including 45 degrees   | No   | 4        |      |        |
| 2.F.3.20        | F    | 33.007  | X         | Bend between 45 to and including 90 degrees   | No   | 6        |      |        |
|                 | F    |         |           | <b>EXTRA OVER ITEM 33.001 FOR MITRE<br/>DEFLECTIONS UP TO 11.25 DEGREE TO FORM<br/>BENDS</b>  |      |          |      |        |
|                 | F    |         |           | <b>Grade X52</b>  |      |          |      |        |
| 2.F.3.21        | F    | 33.002  | X         | 1420mm OD pipe, 12mm wall thickness   | No   | 35       |      |        |
| 2.F.3.22        | F    | 33.002  | X         | 1420mm OD pipe, 10mm wall thickness   | No   | 26       |      |        |
| Carried Forward |      |         |           |   |      |          |      |        |

| Item            | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|-----------|-----------|---|------|----------|------|--------|
| Brought Forward |      |           |           |   |      |          |      |        |
|                 | F    |           |           | <b>SUPPLY AND INSTALL EXTERNAL COATING AND INTERNAL LINING OF PIPE JOINTS</b><br><b>(field applied)</b>   |      |          |      |        |
|                 | F    |           |           | <b>BEND/JOINT TYPE NO. 2:</b><br><b>HOT APPLIED SOLVENT FREE EPOXY</b><br><b>(System No 220)</b><br><b>AND</b><br><b>EPOXY PLUS TAPE WRAP (System No 226)</b> |      |          |      |        |
| 2.F.3.23        | F    | 37.004    | X         | 1420mm OD pipe  | No   | 1808     |      |        |
| 2.F.3.24        | F    | 37.004    | X         | 1000mm OD pipe  | No   | 27       |      |        |
|                 | F    |           |           | <b>HYDROSTATIC TESTING</b>  |      |          |      |        |
| 2.F.3.25        | F    | 33.008(a) |           | 1420mm OD pipe, 12mm wall thickness   | km   | 4.63     |      |        |
| 2.F.3.26        | F    | 33.008(a) |           | 1420mm OD pipe, 10mm wall thickness   | km   | 24.2     |      |        |
|                 | F    |           |           | <b>PIPE LINING INTEGRITY TESTING</b>  |      |          |      |        |
| 2.F.3.27        | F    | 33.009    |           | 1420mm OD as specified on drawing   | m    | 28830    |      |        |
|                 | F    |           |           | <b>PIPE COATING INTEGRITY SURVEYS</b>   |      |          |      |        |
| 2.F.3.28        | F    | 33.010    |           | 1420mm OD as specified on drawing   | m    | 28830    |      |        |
|                 | F    |           |           | <b>MARKER POSTS</b>   |      |          |      |        |
| 2.F.3.29        | F    | 33.012    |           | As detailed on the drawing No 2A-C6-114   | no   | 225      |      |        |
|                 | F    |           |           | <b>BENCHMARK AND TRIANGULATION BEACONS</b>  |      |          |      |        |
| 2.F.3.30        | F    | 33.013(a) |           | Survey  | Sum  | 1        |      |        |
| 2.F.3.31        | F    | 33.013(b) |           | Benchmark and beacons   | No   | 304      |      |        |
|                 | F    |           |           | <b>PART F3: Pipe supply, delivery, installation and testing total</b><br><b>(Carried forward to Summary of Bills - Option2)</b>                               |      |          |      |        |



| Item no.        | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|-----------|-----------|---|------|----------|------|--------|
|                 |      | Reference |           |   |      |          |      |        |
|                 |      |           |           | <b>CIVILS</b>   |      |          |      |        |
|                 | F    |           |           | <b>PART F: HIGH LIFT RISING MAIN (OPTION 3)</b>   |      |          |      |        |
|                 | F    |           |           | <b>PART F3: Pipe supply, delivery, installation and testing</b>   |      |          |      |        |
|                 | F    |           |           | <b>DETAILING AND DOCUMENTATION</b>  |      |          |      |        |
| 2.F.3.1         | F    | 32.001    |           | Pipes and pipe specials: Design and documentation (As required: <b>For Employer Design</b> )            | Sum  | 1        |      |        |
| 2.F.3.2         | F    | 37.001    |           | Corrosion protection: PQP and other documentation   | Sum  | 1        |      |        |
|                 | F    |           |           | <b>PIPES</b>  |      |          |      |        |
|                 | F    |           |           | <b>MANUFACTURE AND SUPPLY OF PIPES AND DELIVERY TO STORAGE ON SITE (EXCLUDING CORROSION PROTECTION)</b> |      |          |      |        |
|                 | F    |           |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.F.3.3         | F    | 32.002    | X         | 1420mm OD pipe, 12mm wall thickness   | m    | 4630     |      |        |
| 2.F.3.4         | F    | 32.002    | X         | 1420mm OD pipe, 10mm wall thickness   | m    | 24200    |      |        |
|                 | F    |           |           | <b>SPARE PIPES</b>  |      |          |      |        |
|                 | F    |           |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.F.3.5         | F    | 32.002    | X         | 1420mm OD pipe, 12mm wall thickness   | m    | 39       |      |        |
| 2.F.3.6         | F    | 32.002    | X         | 1420mm OD pipe, 10mm wall thickness   | m    | 77       |      |        |
|                 | F    |           |           | <b>EXTERNAL PIPE COATING (factory applied):</b>   |      |          |      |        |
|                 | F    |           |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 | F    |           |           | <b>Option No. 3: Rigid Polyurethane (System No 229B/237)</b>  |      |          |      |        |
| 2.F.3.7         | F    | 37.002    | X         | 1420mm OD pipes   | m    | 28830    |      |        |
| 2.F.3.8         | F    | 37.002    | X         | 1420mm OD spare pipes   | m    | 116      |      |        |
|                 | F    |           |           | <b>INTERNAL PIPE LINING (factory applied)</b>   |      |          |      |        |
|                 | F    |           |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 | F    |           |           | <b>Hot applied solvent free epoxy (System No 220)</b>   |      |          |      |        |
| 2.F.3.9         | F    | 37.003    | X         | 1420mm OD pipes   | m    | 28830    |      |        |
| 2.F.3.10        | F    | 37.003    | X         | 1420mm OD spare pipes   | m    | 116      |      |        |
| Carried Forward |      |           |           |   |      |          |      |        |

|          |   |        |   |  |    |  | Brought Forward |  |
|----------|---|--------|---|--|----|--|-----------------|--|
|          | F |        |   | <b>MANUFACTURE AND SUPPLY OF PIPE<br/>ANCILLARIES AND SPECIALS AND DELIVERY TO<br/>STORAGE ON SITE<br/>(INCLUDING CORROSION PROTECTION)</b>      |    |  |                 |  |
|          | F |        |   | <b>BEND/JOINT TYPE NO. 3:<br/>HOT APPLIED SOLVENT FREE EPOXY<br/>(System No 220)<br/>AND<br/>RIGID POLYURETHANE COATING<br/>(System No 229B)</b> |    |  |                 |  |
|          | F |        |   | <b>Grade X52, Ends prepared for site welding</b>   |    |  |                 |  |
|          | F |        |   | <b>1420mm OD pipe, 12mm wall thickness</b>   |    |  |                 |  |
| 2.F.3.11 | F | 32.003 | X | Bend between 11.25 to and including 22.5 degrees   | No |  | 3               |  |
| 2.F.3.12 | F | 32.003 | X | Bend between 45 to and including 90 degrees  | No |  | 2               |  |
|          | F |        |   | <b>1420mm OD pipe, 10mm wall thickness</b>   |    |  |                 |  |
| 2.F.3.13 | F | 32.003 | X | Bend between 22.5 to and including 45 degrees  | No |  | 4               |  |
| 2.F.3.14 | F | 32.003 | X | Bend between 45 to and including 90 degrees  | No |  | 6               |  |
|          | F |        |   | <b>LAY AND WELD STEEL PIPES</b>  |    |  |                 |  |
|          | F |        |   | <b>Grade X52</b>   |    |  |                 |  |
| 2.F.3.15 | F | 33.001 | X | 1420mm OD pipe, 12mm wall thickness  | m  |  | 4630            |  |
| 2.F.3.16 | F | 33.001 | X | 1420mm OD pipe, 10mm wall thickness  | m  |  | 24200           |  |
|          | F |        |   | <b>INSTALLATION AND TESTING OF PIPE SPECIALS</b>   |    |  |                 |  |
|          | F |        |   | <b>Grade X52</b>   |    |  |                 |  |
|          | F |        |   | <b>1420mm OD pipe, 12mm wall thickness</b>   |    |  |                 |  |
| 2.F.3.17 | F | 33.007 | X | Bend between 11.25 to and including 22.5 degrees   | No |  | 3               |  |
| 2.F.3.18 | F | 33.007 | X | Bend between 45 to and including 90 degrees  | No |  | 2               |  |
|          | F |        |   | <b>1420mm OD pipe, 10mm wall thickness</b>   |    |  |                 |  |
| 2.F.3.19 | F | 33.007 | X | Bend between 22.5 to and including 45 degrees  | No |  | 4               |  |
| 2.F.3.20 | F | 33.007 | X | Bend between 45 to and including 90 degrees  | No |  | 6               |  |
|          | F |        |   | <b>EXTRA OVER ITEM 33.001 FOR MITRE<br/>DEFLECTIONS UP TO 11.25 DEGREE TO FORM<br/>BENDS</b>   |    |  |                 |  |
|          | F |        |   | <b>Grade X52</b>   |    |  |                 |  |
| 2.F.3.21 | F | 32.002 | X | 1420mm OD pipe, 12mm wall thickness  | No |  | 35              |  |
| 2.F.3.22 | F | 32.002 | X | 1420mm OD pipe, 10mm wall thickness  | No |  | 26              |  |
|          |   |        |   |  |    |  | Carried Forward |  |

|          |   |           |   |  |   |     | Brought Forward |  |
|----------|---|-----------|---|--|---|-----|-----------------|--|
|          | F |           |   |  | <b>SUPPLY AND INSTALL EXTERNAL COATING AND INTERNAL LINING OF PIPE JOINTS (field applied)</b>                               |     |                 |  |
|          | F |           |   |  | <b>BEND/JOINT TYPE NO. 3: HOT APPLIED SOLVENT FREE EPOXY (System No 220) AND RIGID POLYURETHANE COATING (System No 276)</b> |     |                 |  |
| 2.F.3.23 | F | 37.004    | X |  | 1420mm OD pipe  | No  | 1808            |  |
| 2.F.3.24 | F | 37.004    | X |  | 1000mm OD pipe  | No  | 27              |  |
|          | F |           |   |  | <b>HYDROSTATIC TESTING</b>  |     |                 |  |
| 2.F.3.25 | F | 33.008(a) |   |  | 1420mm OD pipe, 12mm wall thickness   | km  | 4.63            |  |
| 2.F.3.26 | F | 33.008(a) |   |  | 1420mm OD pipe, 10mm wall thickness   | km  | 24.2            |  |
|          | F |           |   |  | <b>PIPE LINING INTEGRITY TESTING</b>  |     |                 |  |
| 2.F.3.27 | F | 33.009    |   |  | 1420mm OD as specified on drawing   | m   | 28830           |  |
|          | F |           |   |  | <b>PIPE COATING INTEGRITY SURVEYS</b>   |     |                 |  |
| 2.F.3.28 | F | 33.010    |   |  | 1420mm OD as specified on drawing   | m   | 28830           |  |
|          | F |           |   |  | <b>MARKER POSTS</b>   |     |                 |  |
| 2.F.3.29 | F | 33.012    |   |  | As detailed on the drawing No 2A-C6-114   | no  | 225             |  |
|          | F |           |   |  | <b>BENCHMARK AND TRIANGULATION BEACONS</b>  |     |                 |  |
| 2.F.3.30 | F | 33.013(a) |   |  | Survey  | Sum | 1               |  |
| 2.F.3.31 | F | 33.013(b) |   |  | Benchmark and beacons   | No  | 304             |  |
|          | F |           |   |  | <b>PART F3: Pipe supply, delivery, installation and testing total (Carried forward to Summary of Bills - Option3)</b>       |     |                 |  |

**PART H1: Gravity Mains: BPR to Off Take C (GM1)**  
**PART H1.3: Pipe supply, delivery, installation and testing**  
**Options 2 to 3**

| Item no.        | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|-----------|-----------|---|------|----------|------|--------|
|                 |      | Reference |           |   |      |          |      |        |
|                 | H    |           |           | <b>PART H: GRAVITY MAINS</b>  |      |          |      |        |
|                 | H1   |           |           | <b>PART H1: BPR TO OFF TAKE C (33KM + 30.5KM + 18.5KM) - CH0 TO CH82 (OPTION 2)</b>                     |      |          |      |        |
|                 | H1   |           |           | <b>PART H1.3: Pipe supply, delivery, installation and testing</b>                                       |      |          |      |        |
|                 | H1   |           |           | <b>DETAILING AND DOCUMENTATION</b>  |      |          |      |        |
| 2.H1.3.1        | H1   | 32.001    |           | Pipes and pipe specials: Design and documentation (As required: <b>For Employer Design</b> )            | Sum  | 1        |      |        |
| 2.H1.3.2        | H1   | 37.001    |           | Corrosion protection: PQP and other documentation   | Sum  | 1        |      |        |
|                 | H1   |           |           | <b>PIPES</b>  |      |          |      |        |
|                 | H1   |           |           | <b>MANUFACTURE AND SUPPLY OF PIPES AND DELIVERY TO STORAGE ON SITE (EXCLUDING CORROSION PROTECTION)</b> |      |          |      |        |
|                 | H1   |           |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.H1.3.3        | H1   | 32.002    | X         | 1620mm OD pipe, 11mm wall thickness   | m    | 32980    |      |        |
| 2.H1.3.4        | H1   | 32.002    | X         | 1520mm OD pipe, 10mm wall thickness   | m    | 30500    |      |        |
| 2.H1.3.5        | H1   | 32.002    | X         | 1420mm OD pipe, 10mm wall thickness   | m    | 18575    |      |        |
|                 | H1   |           |           | <b>SPARE PIPES</b>  |      |          |      |        |
|                 | H1   |           |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.H1.3.6        | H1   | 32.002    | X         | 1620mm OD pipe, 11mm wall thickness   | m    | 77       |      |        |
| 2.H1.3.7        | H1   | 32.002    | X         | 1520mm OD pipe, 10mm wall thickness   | m    | 77       |      |        |
| 2.H1.3.8        | H1   | 32.002    | X         | 1420mm OD pipe, 10mm wall thickness   | m    | 39       |      |        |
|                 | H1   |           |           | <b>EXTERNAL PIPE COATING (factory applied):</b>   |      |          |      |        |
|                 | H1   |           |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 | H1   |           |           | <b>Option No. 2: Three Layer Polyethylene (System No 228/235)</b>                                       |      |          |      |        |
| 2.H1.3.9        | H1   | 37.002    | X         | 1620mm OD pipes   | m    | 32980    |      |        |
| 2.H1.3.10       | H1   | 37.002    | X         | 1620mm OD spare pipes   | m    | 77       |      |        |
| 2.H1.3.11       | H1   | 37.002    | X         | 1520mm OD pipes   | m    | 30500    |      |        |
| 2.H1.3.12       | H1   | 37.002    | X         | 1520mm OD spare pipes   | m    | 77       |      |        |
| 2.H1.3.13       | H1   | 37.002    | X         | 1420mm OD pipes   | m    | 18575    |      |        |
| 2.H1.3.14       | H1   | 37.002    | X         | 1420mm OD spare pipes   | m    | 39       |      |        |
| Carried Forward |      |           |           |   |      |          |      |        |

| Item            | Part | Payment | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|---------|-----------|---|------|----------|------|--------|
| Brought Forward |      |         |           |   |      |          |      |        |
|                 | H1   |         |           | <b>INTERNAL PIPE LINING (factory applied)</b>   |      |          |      |        |
|                 | H1   |         |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>   |      |          |      |        |
|                 | H1   |         |           | <b>Hot applied solvent free epoxy (System No 220)</b>   |      |          |      |        |
| 2.H1.3.15       | H1   | 37.003  | X         | 1620mm OD pipes   | m    | 32980    |      |        |
| 2.H1.3.16       | H1   | 37.003  | X         | 1620mm OD spare pipes   | m    | 77       |      |        |
| 2.H1.3.17       | H1   | 37.003  | X         | 1520mm OD pipes   | m    | 30500    |      |        |
| 2.H1.3.18       | H1   | 37.003  | X         | 1520mm OD spare pipes   | m    | 77       |      |        |
| 2.H1.3.19       | H1   | 37.003  | X         | 1420mm OD pipes   | m    | 18575    |      |        |
| 2.H1.3.20       | H1   | 37.003  | X         | 1420mm OD spare pipes   | m    | 39       |      |        |
|                 | H1   |         |           | <b>PIPE SPECIALS</b>  |      |          |      |        |
|                 | H1   |         |           | <b>MANUFACTURE AND SUPPLY OF PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |      |          |      |        |
|                 | H1   |         |           | <b>BEND/JOINT TYPE NO. 2: HOT APPLIED SOLVENT FREE EPOXY (System No 220) AND EPOXY PLUS TAPE WRAP (System No 226)</b>           |      |          |      |        |
|                 | H1   |         |           | <b>Grade X52, Ends prepared for site welding</b>  |      |          |      |        |
|                 | H1   |         |           | <b>1620mm OD pipe, 11mm wall thickness</b>  |      |          |      |        |
| 2.H1.3.21       | H1   | 32.003  | X         | Bend between 22.5 to and including 45 degrees   | No   | 6        |      |        |
| 2.H1.3.22       | H1   | 32.003  | X         | Bend between 45 to and including 90 degrees   | No   | 9        |      |        |
|                 | H1   |         |           | <b>1520mm OD pipe, 10mm wall thickness</b>  |      |          |      |        |
| 2.H1.3.23       | H1   | 32.003  | X         | Bend between 11.25 to and including 22.5 degrees  | No   | 5        |      |        |
| 2.H1.3.24       | H1   | 32.003  | X         | Bend between 22.5 to and including 45 degrees   | No   | 6        |      |        |
| 2.H1.3.25       | H1   | 32.003  | X         | Bend between 45 to and including 90 degrees   | No   | 2        |      |        |
|                 | H1   |         |           | <b>1420mm OD pipe, 10mm wall thickness</b>  |      |          |      |        |
| 2.H1.3.26       | H1   | 32.003  | X         | Bend between 22.5 to and including 45 degrees   | No   | 1        |      |        |
| 2.H1.3.27       | H1   | 32.003  | X         | Bend between 45 to and including 90 degrees   | No   | 2        |      |        |
|                 | H1   |         |           | <b>LAY AND WELD STEEL PIPES</b>   |      |          |      |        |
|                 | H1   |         |           | <b>Grade X52</b>  |      |          |      |        |
| 2.H1.3.28       | H1   | 33.001  | X         | 1620mm OD pipe, 11mm wall thickness   | m    | 32980    |      |        |
| 2.H1.3.29       | H1   | 33.001  | X         | 1520mm OD pipe, 10mm wall thickness   | m    | 30500    |      |        |
| 2.H1.3.30       | H1   | 33.001  | X         | 1420mm OD pipe, 10mm wall thickness   | m    | 18575    |      |        |
| Carried Forward |      |         |           |   |      |          |      |        |

| Item            | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|-----------|-----------|---|------|----------|------|--------|
| Brought Forward |      |           |           |   |      |          |      |        |
|                 | H1   |           |           | <b>INSTALLATION AND TESTING OF PIPE SPECIALS</b>  |      |          |      |        |
|                 | H1   |           |           | <b>Grade X52</b>  |      |          |      |        |
|                 | H1   |           |           | <b>1620mm OD pipe, 11mm wall thickness</b>  |      |          |      |        |
| 2.H1.3.31       | H1   | 33.007    | X         | Bend between 22.5 to and including 45 degrees   | No   | 6        |      |        |
| 2.H1.3.32       | H1   | 33.007    | X         | Bend between 45 to and including 90 degrees   | No   | 9        |      |        |
|                 | H1   |           |           | <b>1520mm OD pipe, 10mm wall thickness</b>  |      |          |      |        |
| 2.H1.3.33       | H1   | 33.007    | X         | Bend between 11.25 to and including 22.5 degrees  | No   | 5        |      |        |
| 2.H1.3.34       | H1   | 33.007    | X         | Bend between 22.5 to and including 45 degrees   | No   | 6        |      |        |
| 2.H1.3.35       | H1   | 33.007    | X         | Bend between 45 to and including 90 degrees   | No   | 2        |      |        |
|                 | H1   |           |           | <b>1420mm OD pipe, 10mm wall thickness</b>  |      |          |      |        |
| 2.H1.3.36       | H1   | 33.007    | X         | Bend between 22.5 to and including 45 degrees   | No   | 1        |      |        |
| 2.H1.3.37       | H1   | 33.007    | X         | Bend between 45 to and including 90 degrees   | No   | 2        |      |        |
|                 | H1   |           |           | <b>EXTRA OVER ITEM 33.001 FOR MITRE DEFLECTIONS UP TO 11.25 DEGREE TO FORM BENDS</b>  |      |          |      |        |
|                 | H1   |           |           | <b>Grade X52</b>  |      |          |      |        |
| 2.H1.3.38       | H1   | 33.002    | X         | 1620mm OD pipe, 11mm wall thickness   | No   | 92       |      |        |
| 2.H1.3.39       | H1   | 33.002    | X         | 1520mm OD pipe, 10mm wall thickness   | No   | 114      |      |        |
| 2.H1.3.40       | H1   | 33.002    | X         | 1420mm OD pipe, 10mm wall thickness   | No   | 50       |      |        |
|                 | H1   |           |           | <b>SUPPLY AND INSTALL EXTERNAL COATING AND INTERNAL LINING OF PIPE JOINTS (field applied)</b>                                     |      |          |      |        |
|                 | H1   |           |           | <b>BEND/JOINT TYPE NO. 2:<br/>HOT APPLIED SOLVENT FREE EPOXY (System No 220)<br/>AND<br/>EPOXY PLUS TAPE WRAP (System No 226)</b> |      |          |      |        |
| 2.H1.3.41       | H1   | 37.004    | X         | 1620mm OD pipe  | No   | 1926     |      |        |
| 2.H1.3.42       | H1   | 37.004    | X         | 1520mm OD pipe  | No   | 1808     |      |        |
| 2.H1.3.43       | H1   | 37.004    | X         | 1420mm OD pipe  | No   | 1073     |      |        |
|                 | H1   |           |           | <b>HYDROSTATIC TESTING</b>  |      |          |      |        |
| 2.H1.3.44       | H1   | 33.008(a) |           | 1620mm OD pipe, 11mm wall thickness   | km   | 32.98    |      |        |
| 2.H1.3.45       | H1   | 33.008(a) |           | 1520mm OD pipe, 10mm wall thickness   | km   | 30.50    |      |        |
| 2.H1.3.46       | H1   | 33.008(a) |           | 1420mm OD pipe, 10mm wall thickness   | km   | 18.58    |      |        |
|                 | H1   |           |           | <b>PIPE LINING INTEGRITY TESTING</b>  |      |          |      |        |
| 2.H1.3.47       | H1   | 33.009    |           | 1620mm OD as specified on drawing   | m    | 32980    |      |        |
| 2.H1.3.48       | H1   | 33.009    |           | 1520mm OD as specified on drawing   | m    | 30500    |      |        |
| 2.H1.3.49       | H1   | 33.009    |           | 1420mm OD as specified on drawing   | m    | 18575    |      |        |
| Carried Forward |      |           |           |   |      |          |      |        |

| Item            | Part | Payment   | Breakdown | Description  | Unit | Quantity | Rate | Amount |
|-----------------|------|-----------|-----------|--|------|----------|------|--------|
| Brought Forward |      |           |           |  |      |          |      |        |
|                 | H1   |           |           | <b>PIPE COATING INTEGRITY SURVEYS</b>  |      |          |      |        |
| 2.H1.3.50       | H1   | 33.010    |           | 1620mm OD as specified on drawing  | m    | 32980    |      |        |
| 2.H1.3.51       | H1   | 33.010    |           | 1520mm OD as specified on drawing  | m    | 30500    |      |        |
| 2.H1.3.52       | H1   | 33.010    |           | 1420mm OD as specified on drawing  | m    | 18575    |      |        |
|                 | H1   |           |           | <b>MARKER POSTS</b>  |      |          |      |        |
| 2.H1.3.53       | H1   | 33.012    |           | As detailed on the drawing No 2A-C6-114  | no   | 729      |      |        |
|                 | H1   |           |           | <b>BENCHMARK AND TRIANGULATION BEACONS</b>   |      |          |      |        |
| 2.H1.3.54       | H1   | 33.013(a) |           | Survey   | Sum  | 1        |      |        |
| 2.H1.3.55       | H1   | 33.013(b) |           | Benchmark and beacons  | No   | 862      |      |        |
|                 | H1   |           |           | <b>PART H1.3: Pipe Supply, Delivery and Installation</b><br><i>(Carried forward to Summary of Bills - Option2)</i> |      |          |      |        |



| Item no.        | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|-----------|-----------|---|------|----------|------|--------|
|                 |      | Reference |           |   |      |          |      |        |
|                 | H    |           |           | <b>PART H: GRAVITY MAINS</b>  |      |          |      |        |
|                 | H1   |           |           | <b>PART H1: BPR TO OFF TAKE C (33KM + 30.5KM + 18.5KM) - CH0 TO CH82 (OPTION 3)</b>                     |      |          |      |        |
|                 | H1   |           |           | <b>PART H1.3: Pipe supply, delivery, installation and testing</b>                                       |      |          |      |        |
|                 | H1   |           |           | <b>DETAILING AND DOCUMENTATION</b>  |      |          |      |        |
| 2.H1.3.1        | H1   | 32.001    |           | Pipes and pipe specials: Design and documentation (As required: <b>For Employer Design</b> )            | Sum  | 1        |      |        |
| 2.H1.3.2        | H1   | 37.001    |           | Corrosion protection: PQP and other documentation   | Sum  | 1        |      |        |
|                 | H1   |           |           | <b>PIPES</b>  |      |          |      |        |
|                 | H1   |           |           | <b>MANUFACTURE AND SUPPLY OF PIPES AND DELIVERY TO STORAGE ON SITE (EXCLUDING CORROSION PROTECTION)</b> |      |          |      |        |
|                 | H1   |           |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.H1.3.3        | H1   | 32.002    | X         | 1620mm OD pipe, 11mm wall thickness   | m    | 32980    |      |        |
| 2.H1.3.4        | H1   | 32.002    | X         | 1520mm OD pipe, 10mm wall thickness   | m    | 30500    |      |        |
| 2.H1.3.5        | H1   | 32.002    | X         | 1420mm OD pipe, 10mm wall thickness   | m    | 18575    |      |        |
|                 | H1   |           |           | <b>SPARE PIPES</b>  |      |          |      |        |
|                 | H1   |           |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.H1.3.6        | H1   | 32.002    | X         | 1620mm OD pipe, 11mm wall thickness   | m    | 77       |      |        |
| 2.H1.3.7        | H1   | 32.002    | X         | 1520mm OD pipe, 10mm wall thickness   | m    | 77       |      |        |
| 2.H1.3.8        | H1   | 32.002    | X         | 1420mm OD pipe, 10mm wall thickness   | m    | 39       |      |        |
|                 | H1   |           |           | <b>EXTERNAL PIPE COATING (factory applied):</b>   |      |          |      |        |
|                 | H1   |           |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 | H1   |           |           | <b>Option No. 3: Rigid Polyurethane (System No 229B/237)</b>  |      |          |      |        |
| 2.H1.3.9        | H1   | 37.002    | X         | 1620mm OD pipes   | m    | 32980    |      |        |
| 2.H1.3.10       | H1   | 37.002    | X         | 1620mm OD spare pipes   | m    | 77       |      |        |
| 2.H1.3.11       | H1   | 37.002    | X         | 1520mm OD pipes   | m    | 30500    |      |        |
| 2.H1.3.12       | H1   | 37.002    | X         | 1520mm OD spare pipes   | m    | 77       |      |        |
| 2.H1.3.13       | H1   | 37.002    | X         | 1420mm OD pipes   | m    | 18575    |      |        |
| 2.H1.3.14       | H1   | 37.002    | X         | 1420mm OD spare pipes   | m    | 39       |      |        |
| Carried Forward |      |           |           |   |      |          |      |        |

|           |    |        |   |  |   |    | Brought Forward |  |
|-----------|----|--------|---|--|---|----|-----------------|--|
|           | H1 |        |   |  | <b>INTERNAL PIPE LINING (factory applied)</b>   |    |                 |  |
|           | H1 |        |   |  | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>   |    |                 |  |
|           | H1 |        |   |  | <b>Hot applied solvent free epoxy (System No 220)</b>   |    |                 |  |
| 2.H1.3.15 | H1 | 37.003 | X |  | 1620mm OD pipes   | m  | 32980           |  |
| 2.H1.3.16 | H1 | 37.003 | X |  | 1620mm OD spare pipes   | m  | 77              |  |
| 2.H1.3.17 | H1 | 37.003 | X |  | 1520mm OD pipes   | m  | 30500           |  |
| 2.H1.3.18 | H1 | 37.003 | X |  | 1520mm OD spare pipes   | m  | 77              |  |
| 2.H1.3.19 | H1 | 37.003 | X |  | 1420mm OD pipes   | m  | 18575           |  |
| 2.H1.3.20 | H1 | 37.003 | X |  | 1420mm OD spare pipes   | m  | 39              |  |
|           | H1 |        |   |  | <b>PIPE SPECIALS</b>  |    |                 |  |
|           | H1 |        |   |  | <b>MANUFACTURE AND SUPPLY OF PIPE ANCILLARIES AND SPECIALS AND DELIVERY TO STORAGE ON SITE (INCLUDING CORROSION PROTECTION)</b> |    |                 |  |
|           | H1 |        |   |  | <b>BEND/JOINT TYPE NO. 3: HOT APPLIED SOLVENT FREE EPOXY (System No 220) AND RIGID POLYURETHANE COATING (System No 229B)</b>    |    |                 |  |
|           | H1 |        |   |  | <b>Grade X52, Ends prepared for site welding</b>  |    |                 |  |
|           | H1 |        |   |  | <b>1620mm OD pipe, 11mm wall thickness</b>  |    |                 |  |
| 2.H1.3.21 | H1 | 32.003 | X |  | Bend between 22.5 to and including 45 degrees   | No | 6               |  |
| 2.H1.3.22 | H1 | 32.003 | X |  | Bend between 45 to and including 90 degrees   | No | 9               |  |
|           | H1 |        |   |  | <b>1520mm OD pipe, 10mm wall thickness</b>  |    |                 |  |
| 2.H1.3.23 | H1 | 32.003 | X |  | Bend between 11.25 to and including 22.5 degrees  | No | 5               |  |
| 2.H1.3.24 | H1 | 32.003 | X |  | Bend between 22.5 to and including 45 degrees   | No | 6               |  |
| 2.H1.3.25 | H1 | 32.003 | X |  | Bend between 45 to and including 90 degrees   | No | 2               |  |
|           | H1 |        |   |  | <b>1420mm OD pipe, 10mm wall thickness</b>  |    |                 |  |
| 2.H1.3.26 | H1 | 32.003 | X |  | Bend between 22.5 to and including 45 degrees   | No | 1               |  |
| 2.H1.3.27 | H1 | 32.003 | X |  | Bend between 45 to and including 90 degrees   | No | 2               |  |
|           | H1 |        |   |  | <b>LAY AND WELD STEEL PIPES</b>   |    |                 |  |
|           | H1 |        |   |  | <b>Grade X52</b>  |    |                 |  |
| 2.H1.3.28 | H1 | 33.001 | X |  | 1620mm OD pipe, 11mm wall thickness   | m  | 32980           |  |
| 2.H1.3.29 | H1 | 33.001 | X |  | 1520mm OD pipe, 10mm wall thickness   | m  | 30500           |  |
| 2.H1.3.30 | H1 | 33.001 | X |  | 1420mm OD pipe, 10mm wall thickness   | m  | 18575           |  |
|           |    |        |   |  |   |    | Carried Forward |  |

|           |    |           |   |  |   |    | Brought Forward |  |
|-----------|----|-----------|---|--|---|----|-----------------|--|
|           | H1 |           |   |  | <b>INSTALLATION AND TESTING OF PIPE SPECIALS</b>  |    |                 |  |
|           | H1 |           |   |  | <b>Grade X52</b>  |    |                 |  |
|           | H1 |           |   |  | <b>1620mm OD pipe, 11mm wall thickness</b>  |    |                 |  |
| 2.H1.3.31 | H1 | 33.007    | X |  | Bend between 22.5 to and including 45 degrees   | No | 6               |  |
| 2.H1.3.32 | H1 | 33.007    | X |  | Bend between 45 to and including 90 degrees   | No | 9               |  |
|           | H1 |           |   |  | <b>1520mm OD pipe, 10mm wall thickness</b>  |    |                 |  |
| 2.H1.3.33 | H1 | 33.007    | X |  | Bend between 11.25 to and including 22.5 degrees  | No | 5               |  |
| 2.H1.3.34 | H1 | 33.007    | X |  | Bend between 22.5 to and including 45 degrees   | No | 6               |  |
| 2.H1.3.35 | H1 | 33.007    | X |  | Bend between 45 to and including 90 degrees   | No | 2               |  |
|           | H1 |           |   |  | <b>1420mm OD pipe, 10mm wall thickness</b>  |    |                 |  |
| 2.H1.3.36 | H1 | 33.007    | X |  | Bend between 22.5 to and including 45 degrees   | No | 1               |  |
| 2.H1.3.37 | H1 | 33.007    | X |  | Bend between 45 to and including 90 degrees   | No | 2               |  |
|           | H1 |           |   |  | <b>EXTRA OVER ITEM 33.001 FOR MITRE DEFLECTIONS UP TO 11.25 DEGREE TO FORM BENDS</b>  |    |                 |  |
|           | H1 |           |   |  | <b>Grade X52</b>  |    |                 |  |
| 2.H1.3.38 | H1 | 33.002    | X |  | 1620mm OD pipe, 11mm wall thickness   | No | 92              |  |
| 2.H1.3.39 | H1 | 33.002    | X |  | 1520mm OD pipe, 10mm wall thickness   | No | 114             |  |
| 2.H1.3.40 | H1 | 33.002    | X |  | 1420mm OD pipe, 10mm wall thickness   | No | 50              |  |
|           | H1 |           |   |  | <b>SUPPLY AND INSTALL EXTERNAL COATING AND INTERNAL LINING OF PIPE JOINTS (field applied)</b>   |    |                 |  |
|           | H1 |           |   |  | <b>BEND/JOINT TYPE NO. 3:<br/>HOT APPLIED SOLVENT FREE EPOXY (System No 220)<br/>AND<br/>RIGID POLYURETHANE COATING (System No 276)</b> |    |                 |  |
| 2.H1.3.41 | H1 | 37.004    | X |  | 1620mm OD pipe  | No | 1926            |  |
| 2.H1.3.42 | H1 | 37.004    | X |  | 1520mm OD pipe  | No | 1808            |  |
| 2.H1.3.43 | H1 | 37.004    | X |  | 1420mm OD pipe  | No | 1073            |  |
|           | H1 |           |   |  | <b>HYDROSTATIC TESTING</b>  |    |                 |  |
| 2.H1.3.44 | H1 | 33.008(a) |   |  | 1620mm OD pipe, 11mm wall thickness   | km | 32.98           |  |
| 2.H1.3.45 | H1 | 33.008(a) |   |  | 1520mm OD pipe, 10mm wall thickness   | km | 30.50           |  |
| 2.H1.3.46 | H1 | 33.008(a) |   |  | 1420mm OD pipe, 10mm wall thickness   | km | 18.58           |  |
|           | H1 |           |   |  | <b>PIPE LINING INTEGRITY TESTING</b>  |    |                 |  |
| 2.H1.3.47 | H1 | 33.009    |   |  | 1620mm OD as specified on drawing   | m  | 32980           |  |
| 2.H1.3.48 | H1 | 33.009    |   |  | 1520mm OD as specified on drawing   | m  | 30500           |  |
| 2.H1.3.49 | H1 | 33.009    |   |  | 1420mm OD as specified on drawing   | m  | 18575           |  |
|           |    |           |   |  |   |    | Carried Forward |  |

|           |    |           |  |  |     |       | Brought Forward |  |
|-----------|----|-----------|--|--|-----|-------|-----------------|--|
|           | H1 |           |  | <b>PIPE COATING INTEGRITY SURVEYS</b>  |     |       |                 |  |
| 2.H1.3.50 | H1 | 33.010    |  | 1620mm OD as specified on drawing  | m   | 32980 |                 |  |
| 2.H1.3.51 | H1 | 33.010    |  | 1520mm OD as specified on drawing  | m   | 30500 |                 |  |
| 2.H1.3.52 | H1 | 33.010    |  | 1420mm OD as specified on drawing  | m   | 18575 |                 |  |
|           | H1 |           |  | <b>MARKER POSTS</b>  |     |       |                 |  |
| 2.H1.3.53 | H1 | 33.012    |  | As detailed on the drawing No 2A-C6-114  | no  | 729   |                 |  |
|           | H1 |           |  | <b>BENCHMARK AND TRIANGULATION BEACONS</b>   |     |       |                 |  |
| 2.H1.3.54 | H1 | 33.013(a) |  | Survey   | Sum | 1     |                 |  |
| 2.H1.3.55 | H1 | 33.013(b) |  | Benchmark and beacons  | No  | 862   |                 |  |
|           | H1 |           |  | <b>PART H1.3: Pipe Supply, Delivery and Installation</b><br><i>(Carried forward to Summary of Bills - Option3)</i> |     |       |                 |  |

**PART H2: Gravity Mains: Off Take C to Off Take B (GM2)**  
**PART H2.3: Pipe supply, delivery, installation and testing**  
**Options 2 to 3**

| Item no.        | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|-----------|-----------|---|------|----------|------|--------|
|                 |      | Reference |           |   |      |          |      |        |
|                 | H    |           |           | <b>PART H: GRAVITY MAINS</b>  |      |          |      |        |
|                 | H2   |           |           | <b>PART H2: OFF TAKE C TO OFF TAKE B (13KM) - CH82 TO CH95 (OPTION 2)</b>                               |      |          |      |        |
|                 | H2   |           |           | <b>PART H2.3: Pipe supply, delivery, installation and testing</b>                                       |      |          |      |        |
|                 | H2   |           |           | <b>DETAILING AND DOCUMENTATION</b>  |      |          |      |        |
| 2.H2.3.1        | H2   | 32.001    |           | Pipes and pipe specials: Design and documentation (As required: <b>For Employer Design</b> )            | Sum  | 1        |      |        |
| 2.H2.3.2        | H2   | 37.001    |           | Corrosion protection: PQP and other documentation   | Sum  | 1        |      |        |
|                 | H2   |           |           | <b>PIPES</b>  |      |          |      |        |
|                 | H2   |           |           | <b>MANUFACTURE AND SUPPLY OF PIPES AND DELIVERY TO STORAGE ON SITE (EXCLUDING CORROSION PROTECTION)</b> |      |          |      |        |
|                 | H2   |           |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.H2.3.3        | H2   | 32.002    | X         | <b>1118mm</b> OD pipe, <b>9mm</b> wall thickness  | m    | 12940    |      |        |
| 2.H2.3.4        | H2   | 32.002    | X         | <b>914mm</b> OD pipe, <b>8mm</b> wall thickness   | m    | 95       |      |        |
|                 | H2   |           |           | <b>SPARE PIPES</b>  |      |          |      |        |
|                 | H2   |           |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.H2.3.5        | H2   | 32.002    | X         | <b>1118mm</b> OD pipe, <b>9mm</b> wall thickness  | m    | 39       |      |        |
|                 | H2   |           |           | <b>EXTERNAL PIPE COATING (factory applied):</b>   |      |          |      |        |
|                 | H2   |           |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 | H2   |           |           | <b>Option No. 2: Three Layer Polyethylene (System No 228/235)</b>                                       |      |          |      |        |
| 2.H2.3.6        | H2   | 37.002    | X         | <b>1118mm</b> OD pipes  | m    | 12940    |      |        |
| 2.H2.3.7        | H2   | 37.002    | X         | <b>1118mm</b> OD spare pipes  | m    | 39       |      |        |
| 2.H2.3.8        | H2   | 37.002    | X         | <b>914mm</b> OD pipes   | m    | 95       |      |        |
|                 | H2   |           |           | <b>INTERNAL PIPE LINING (factory applied)</b>   |      |          |      |        |
|                 | H2   |           |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 | H2   |           |           | <b>Hot applied solvent free epoxy (System No 220)</b>   |      |          |      |        |
| 2.H2.3.9        | H2   | 37.003    | X         | <b>1118mm</b> OD pipes  | m    | 12940    |      |        |
| 2.H2.3.10       | H2   | 37.003    | X         | <b>1118mm</b> OD spare pipes  | m    | 39       |      |        |
| 2.H2.3.11       | H2   | 37.003    | X         | <b>914mm</b> OD pipes   | m    | 95       |      |        |
| Carried Forward |      |           |           |   |      |          |      |        |

|           |    |           |   |  |   |    | Brought Forward |  |
|-----------|----|-----------|---|--|---|----|-----------------|--|
|           | H2 |           |   |  | <b>PIPE SPECIALS</b>  |    |                 |  |
|           | H2 |           |   |  | <b>MANUFACTURE AND SUPPLY OF PIPE<br/>ANCILLARIES AND SPECIALS AND DELIVERY TO<br/>STORAGE ON SITE<br/>(INCLUDING CORROSION PROTECTION)</b> |    |                 |  |
|           | H2 |           |   |  | <b>BEND/JOINT TYPE NO. 2:<br/>HOT APPLIED SOLVENT FREE EPOXY<br/>(System No 220)<br/>AND<br/>EPOXY PLUS TAPE WRAP (System No 226)</b>       |    |                 |  |
|           | H2 |           |   |  | <b>Grade X52, Ends prepared for site welding</b>  |    |                 |  |
|           | H2 |           |   |  | <b>1118mm OD pipe, 9mm wall thickness</b>   |    |                 |  |
| 2.H2.3.12 | H2 | 32.003    | X |  | Bend between 45 to and including 90 degrees   | No | 2               |  |
|           | H2 |           |   |  | <b>LAY AND WELD STEEL PIPES</b>   |    |                 |  |
|           | H2 |           |   |  | <b>Grade X52</b>  |    |                 |  |
| 2.H2.3.13 | H2 | 33.001    | X |  | 1118mm OD pipe, 9mm wall thickness  | m  | 12940           |  |
| 2.H2.3.14 | H2 | 33.001    | X |  | 914mm OD pipe, 8mm wall thickness   | m  | 95              |  |
|           | H2 |           |   |  | <b>INSTALLATION AND TESTING OF PIPE SPECIALS</b>  |    |                 |  |
|           | H2 |           |   |  | <b>Grade X52</b>  |    |                 |  |
|           | H2 |           |   |  | <b>1118mm OD pipe, 9mm wall thickness</b>   |    |                 |  |
| 2.H2.3.15 | H2 | 33.007    | X |  | Bend between 45 to and including 90 degrees   | No | 2               |  |
|           | H2 |           |   |  | <b>EXTRA OVER ITEM 33.001 FOR MITRE<br/>DEFLECTIONS UP TO 11.25 DEGREE TO FORM<br/>BENDS</b>  |    |                 |  |
|           | H2 |           |   |  | <b>Grade X52</b>  |    |                 |  |
| 2.H2.3.16 | H2 | 33.002    | X |  | 1118mm OD pipe, 9mm wall thickness  | No | 37              |  |
|           | H2 |           |   |  | <b>SUPPLY AND INSTALL EXTERNAL COATING AND<br/>INTERNAL LINING OF PIPE JOINTS<br/>(field applied)</b>                                       |    |                 |  |
|           | H2 |           |   |  | <b>BEND/JOINT TYPE NO. 2:<br/>HOT APPLIED SOLVENT FREE EPOXY<br/>(System No 220)<br/>AND<br/>EPOXY PLUS TAPE WRAP (System No 226)</b>       |    |                 |  |
| 2.H2.3.17 | H2 | 37.004    | X |  | 1118mm OD pipe  | No | 750             |  |
| 2.H2.3.18 | H2 | 37.004    | X |  | 914mm OD pipes  | No | 7               |  |
|           | H2 |           |   |  | <b>HYDROSTATIC TESTING</b>  |    |                 |  |
| 2.H2.3.19 | H2 | 33.008(a) |   |  | 1118mm OD pipe, 9mm wall thickness  | km | 12.94           |  |
| 2.H2.3.20 | H2 | 33.008(a) |   |  | 914mm OD pipe, 8mm wall thickness   | km | 0.10            |  |
|           | H2 |           |   |  | <b>PIPE LINING INTEGRITY TESTING</b>  |    |                 |  |
| 2.H2.3.21 | H2 | 33.009    |   |  | 1118mm OD as specified on drawing   | m  | 12940           |  |
| 2.H2.3.22 | H2 | 33.009    |   |  | 914mm OD as specified on drawing  | m  | 95              |  |
|           |    |           |   |  |   |    | Carried Forward |  |

|           |    |           |  |  |     |       | Brought Forward |  |
|-----------|----|-----------|--|--|-----|-------|-----------------|--|
|           | H2 |           |  | <b>PIPE COATING INTEGRITY SURVEYS</b>  |     |       |                 |  |
| 2.H2.3.23 | H2 | 33.010    |  | 1118mm OD as specified on drawing  | m   | 12940 |                 |  |
| 2.H2.3.24 | H2 | 33.010    |  | 914mm OD as specified on drawing   | m   | 95    |                 |  |
|           | H2 |           |  | <b>MARKER POSTS</b>  |     |       |                 |  |
| 2.H2.3.25 | H2 | 33.012    |  | As detailed on the drawing No 2A-C6-114  | no  | 120   |                 |  |
|           | H2 |           |  | <b>BENCHMARK AND TRIANGULATION BEACONS</b>   |     |       |                 |  |
| 2.H2.3.26 | H2 | 33.013(a) |  | Survey   | Sum | 1     |                 |  |
| 2.H2.3.27 | H2 | 33.013(b) |  | Benchmark and beacons  | No  | 144   |                 |  |
|           | H2 |           |  | <b>PART H2.3: Pipe Supply, Delivery and Installation</b><br><i>(Carried forward to Summary of Bills - Option2)</i> |     |       |                 |  |



| Item no.        | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|-----------|-----------|---|------|----------|------|--------|
|                 |      | Reference |           |   |      |          |      |        |
|                 | H    |           |           | <b>PART H: GRAVITY MAINS</b>  |      |          |      |        |
|                 | H2   |           |           | <b>PART H2: OFF TAKE C TO OFF TAKE B (13KM) - CH82 TO CH95 (OPTION 3)</b>                               |      |          |      |        |
|                 | H2   |           |           | <b>PART H2.3: Pipe supply, delivery, installation and testing</b>                                       |      |          |      |        |
|                 | H2   |           |           | <b>DETAILING AND DOCUMENTATION</b>  |      |          |      |        |
| 2.H2.3.1        | H2   | 32.001    |           | Pipes and pipe specials: Design and documentation (As required: <b>For Employer Design</b> )            | Sum  | 1        |      |        |
| 2.H2.3.2        | H2   | 37.001    |           | Corrosion protection: PQP and other documentation   | Sum  | 1        |      |        |
|                 | H2   |           |           | <b>PIPES</b>  |      |          |      |        |
|                 | H2   |           |           | <b>MANUFACTURE AND SUPPLY OF PIPES AND DELIVERY TO STORAGE ON SITE (EXCLUDING CORROSION PROTECTION)</b> |      |          |      |        |
|                 | H2   |           |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.H2.3.3        | H2   | 32.002    | X         | <b>1118mm</b> OD pipe, <b>9mm</b> wall thickness  | m    | 12940    |      |        |
| 2.H2.3.4        | H2   | 32.002    | X         | <b>914mm</b> OD pipe, <b>8mm</b> wall thickness   | m    | 95       |      |        |
|                 | H2   |           |           | <b>SPARE PIPES</b>  |      |          |      |        |
|                 | H2   |           |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.H2.3.5        | H2   | 32.002    | X         | <b>1118mm</b> OD pipe, <b>9mm</b> wall thickness  | m    | 39       |      |        |
|                 | H2   |           |           | <b>EXTERNAL PIPE COATING (factory applied):</b>   |      |          |      |        |
|                 | H2   |           |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 | H2   |           |           | <b>Option No. 3: Rigid Polyurethane (System No 229B/237)</b>  |      |          |      |        |
| 2.H2.3.6        | H2   | 37.002    | X         | <b>1118mm</b> OD pipes  | m    | 12940    |      |        |
| 2.H2.3.7        | H2   | 37.002    | X         | <b>1118mm</b> OD spare pipes  | m    | 39       |      |        |
| 2.H2.3.8        | H2   | 37.002    | X         | <b>914mm</b> OD pipes   | m    | 95       |      |        |
|                 | H2   |           |           | <b>INTERNAL PIPE LINING (factory applied)</b>   |      |          |      |        |
|                 | H2   |           |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 | H2   |           |           | <b>Hot applied solvent free epoxy (System No 220)</b>   |      |          |      |        |
| 2.H2.3.9        | H2   | 37.003    | X         | <b>1118mm</b> OD pipes  | m    | 12940    |      |        |
| 2.H2.3.10       | H2   | 37.003    | X         | <b>1118mm</b> OD spare pipes  | m    | 39       |      |        |
| 2.H2.3.11       | H2   | 37.003    | X         | <b>914mm</b> OD pipes   | m    | 95       |      |        |
| Carried Forward |      |           |           |   |      |          |      |        |

|           |    |           |   |  |    |  | Brought Forward |  |
|-----------|----|-----------|---|--|----|--|-----------------|--|
|           | H2 |           |   |  |    |  |                 |  |
|           | H2 |           |   | <b>PIPE SPECIALS</b>   |    |  |                 |  |
|           | H2 |           |   | <b>MANUFACTURE AND SUPPLY OF PIPE<br/>ANCILLARIES AND SPECIALS AND DELIVERY TO<br/>STORAGE ON SITE<br/>(INCLUDING CORROSION PROTECTION)</b>      |    |  |                 |  |
|           | H2 |           |   | <b>BEND/JOINT TYPE NO. 3:<br/>HOT APPLIED SOLVENT FREE EPOXY<br/>(System No 220)<br/>AND<br/>RIGID POLYURETHANE COATING<br/>(Svstem No 229B)</b> |    |  |                 |  |
|           | H2 |           |   | <b>Grade X52, Ends prepared for site welding</b>   |    |  |                 |  |
|           | H2 |           |   | <b>1118mm OD pipe, 9mm wall thickness</b>  |    |  |                 |  |
| 2.H2.3.12 | H2 | 32.003    | X | Bend between 45 to and including 90 degrees  | No |  | 2               |  |
|           | H2 |           |   | <b>LAY AND WELD STEEL PIPES</b>  |    |  |                 |  |
|           | H2 |           |   | <b>Grade X52</b>   |    |  |                 |  |
| 2.H2.3.13 | H2 | 33.001    | X | 1118mm OD pipe, 9mm wall thickness   | m  |  | 12940           |  |
| 2.H2.3.14 | H2 | 33.001    | X | 914mm OD pipe, 8mm wall thickness  | m  |  | 95              |  |
|           | H2 |           |   | <b>INSTALLATION AND TESTING OF PIPE SPECIALS</b>   |    |  |                 |  |
|           | H2 |           |   | <b>Grade X52</b>   |    |  |                 |  |
|           | H2 |           |   | <b>1118mm OD pipe, 9mm wall thickness</b>  |    |  |                 |  |
| 2.H2.3.15 | H2 | 33.007    | X | Bend between 45 to and including 90 degrees  | No |  | 2               |  |
|           | H2 |           |   | <b>EXTRA OVER ITEM 33.001 FOR MITRE<br/>DEFLECTIONS UP TO 11.25 DEGREE TO FORM<br/>BENDS</b>   |    |  |                 |  |
|           | H2 |           |   | <b>Grade X52</b>   |    |  |                 |  |
| 2.H2.3.16 | H2 | 33.002    | X | 1118mm OD pipe, 9mm wall thickness   | No |  | 37              |  |
|           | H2 |           |   | <b>SUPPLY AND INSTALL EXTERNAL COATING AND<br/>INTERNAL LINING OF PIPE JOINTS<br/>(field applied)</b>  |    |  |                 |  |
|           | H2 |           |   | <b>BEND/JOINT TYPE NO. 3:<br/>HOT APPLIED SOLVENT FREE EPOXY<br/>(System No 220)<br/>AND<br/>RIGID POLYURETHANE COATING<br/>(Svstem No 276)</b>  |    |  |                 |  |
| 2.H2.3.17 | H2 | 37.004    | X | 1118mm OD pipe   | No |  | 750             |  |
| 2.H2.3.18 | H2 | 37.004    | X | 914mm OD pipes   | No |  | 7               |  |
|           | H2 |           |   | <b>HYDROSTATIC TESTING</b>   |    |  |                 |  |
| 2.H2.3.19 | H2 | 33.008(a) |   | 1118mm OD pipe, 9mm wall thickness   | km |  | 12.94           |  |
| 2.H2.3.20 | H2 | 33.008(a) |   | 914mm OD pipe, 8mm wall thickness  | km |  | 0.10            |  |
|           | H2 |           |   | <b>PIPE LINING INTEGRITY TESTING</b>   |    |  |                 |  |
| 2.H2.3.21 | H2 | 33.009    |   | 1118mm OD as specified on drawing  | m  |  | 12940           |  |
| 2.H2.3.22 | H2 | 33.009    |   | 914mm OD as specified on drawing   | m  |  | 95              |  |
|           |    |           |   |  |    |  | Carried Forward |  |

|           |    |           |  |  |     |       | Brought Forward |  |
|-----------|----|-----------|--|--|-----|-------|-----------------|--|
|           | H2 |           |  | <b>PIPE COATING INTEGRITY SURVEYS</b>  |     |       |                 |  |
| 2.H2.3.23 | H2 | 33.010    |  | 1118mm OD as specified on drawing  | m   | 12940 |                 |  |
| 2.H2.3.24 | H2 | 33.010    |  | 914mm OD as specified on drawing   | m   | 95    |                 |  |
|           | H2 |           |  | <b>MARKER POSTS</b>  |     |       |                 |  |
| 2.H2.3.25 | H2 | 33.012    |  | As detailed on the drawing No 2A-C6-114  | no  | 120   |                 |  |
|           | H2 |           |  | <b>BENCHMARK AND TRIANGULATION BEACONS</b>   |     |       |                 |  |
| 2.H2.3.26 | H2 | 33.013(a) |  | Survey   | Sum | 1     |                 |  |
| 2.H2.3.27 | H2 | 33.013(b) |  | Benchmark and beacons  | No  | 144   |                 |  |
|           | H2 |           |  | <b>PART H2.3: Pipe Supply, Delivery and Installation</b><br><i>(Carried forward to Summary of Bills - Option3)</i> |     |       |                 |  |

**PART H3: Gravity Mains: Off Take B to Off Take A (GM3)**  
**PART H3.3: Pipe supply, delivery, installation and testing**  
**Options 2 to 3**

| Item no.        | Part | Payment Reference | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|-------------------|-----------|---|------|----------|------|--------|
|                 | H    |                   |           | <b>PART H: GRAVITY MAINS</b>  |      |          |      |        |
|                 | H3   |                   |           | <b>PART H3: OFF TAKE B TO OFF TAKE A (6.3KM) - CH95 TO CH101.30 (OPTION 2)</b>                          |      |          |      |        |
|                 | H3   |                   |           | <b>PART H3.3: Pipe supply, delivery, installation and testing</b>                                       |      |          |      |        |
|                 | H3   |                   |           | <b>DETAILING AND DOCUMENTATION</b>  |      |          |      |        |
| 2.H3.3.1        | H3   | 32.001            |           | Pipes and pipe specials: Design and documentation (As required: <b>For Employer Design</b> )            | Sum  | 1        |      |        |
| 2.H3.3.2        | H3   | 37.001            |           | Corrosion protection: PQP and other documentation   | Sum  | 1        |      |        |
|                 | H3   |                   |           | <b>PIPES</b>  |      |          |      |        |
|                 | H3   |                   |           | <b>MANUFACTURE AND SUPPLY OF PIPES AND DELIVERY TO STORAGE ON SITE (EXCLUDING CORROSION PROTECTION)</b> |      |          |      |        |
|                 | H3   |                   |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.H3.3.3        | H3   | 32.002            | X         | 914mm OD pipe, 8mm wall thickness   | m    | 6160     |      |        |
|                 | H3   |                   |           | <b>SPARE PIPES</b>  |      |          |      |        |
|                 | H3   |                   |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.H3.3.4        | H3   | 32.002            | X         | 914mm OD pipe, 8mm wall thickness   | m    | 39       |      |        |
|                 | H3   |                   |           | <b>EXTERNAL PIPE COATING (factory applied):</b>   |      |          |      |        |
|                 | H3   |                   |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 | H3   |                   |           | <b>Option No. 2: Three Layer Polyethylene (System No 228/235)</b>                                       |      |          |      |        |
| 2.H3.3.5        | H3   | 37.002            | X         | 914mm OD pipes  | m    | 6160     |      |        |
| 2.H3.3.6        | H3   | 37.002            | X         | 914mm OD spare pipes  | m    | 39       |      |        |
|                 | H3   |                   |           | <b>INTERNAL PIPE LINING (factory applied)</b>   |      |          |      |        |
|                 | H3   |                   |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 | H3   |                   |           | <b>Hot applied solvent free epoxy (System No 220)</b>   |      |          |      |        |
| 2.H3.3.7        | H3   | 37.003            | X         | 914mm OD pipes  | m    | 6160     |      |        |
| 2.H3.3.8        | H3   | 37.003            | X         | 914mm OD spare pipes  | m    | 39       |      |        |
| Carried Forward |      |                   |           |   |      |          |      |        |

|           |    |           |   |  |   |    | Brought Forward |      |  |
|-----------|----|-----------|---|--|---|----|-----------------|------|--|
|           | H3 |           |   |  | <b>PIPE SPECIALS</b>  |    |                 |      |  |
|           | H3 |           |   |  | <b>MANUFACTURE AND SUPPLY OF PIPE<br/>ANCILLARIES AND SPECIALS AND DELIVERY TO<br/>STORAGE ON SITE<br/>(INCLUDING CORROSION PROTECTION)</b> |    |                 |      |  |
|           | H3 |           |   |  | <b>BEND/JOINT TYPE NO. 2:<br/>HOT APPLIED SOLVENT FREE EPOXY<br/>(System No 220)<br/>AND<br/>EPOXY PLUS TAPE WRAP (System No 226)</b>       |    |                 |      |  |
|           | H3 |           |   |  | <b>Grade X52, Ends prepared for site welding</b>  |    |                 |      |  |
|           | H3 |           |   |  | <b>914mm OD pipe, 8mm wall thickness</b>  |    |                 |      |  |
| 2.H3.3.9  | H3 | 32.003    | X |  | Bend between 22.5 to and including 45 degrees   | No |                 | 3    |  |
| 2.H3.3.10 | H3 | 32.003    | X |  | Bend between 45 to and including 90 degrees   | No |                 | 1    |  |
|           | H3 |           |   |  | <b>LAY AND WELD STEEL PIPES</b>   |    |                 |      |  |
|           | H3 |           |   |  | <b>Grade X52</b>  |    |                 |      |  |
| 2.H3.3.11 | H3 | 33.001    | X |  | 914mm OD pipe, 8mm wall thickness   | m  |                 | 6160 |  |
|           | H3 |           |   |  | <b>INSTALLATION AND TESTING OF PIPE SPECIALS</b>  |    |                 |      |  |
|           | H3 |           |   |  | <b>Grade X52</b>  |    |                 |      |  |
|           | H3 |           |   |  | <b>914mm OD pipe, 8mm wall thickness</b>  |    |                 |      |  |
| 2.H3.3.12 | H3 | 33.007    | X |  | Bend between 22.5 to and including 45 degrees   | No |                 | 3    |  |
| 2.H3.3.13 | H3 | 33.007    | X |  | Bend between 45 to and including 90 degrees   | No |                 | 1    |  |
|           | H3 |           |   |  | <b>EXTRA OVER ITEM 33.001 FOR MITRE<br/>DEFLECTIONS UP TO 11.25 DEGREE TO FORM<br/>BENDS</b>  |    |                 |      |  |
|           | H3 |           |   |  | <b>Grade X52</b>  |    |                 |      |  |
| 2.H3.3.14 | H3 | 33.002    | X |  | 914mm OD pipe, 8mm wall thickness   | No |                 | 11   |  |
|           | H3 |           |   |  | <b>SUPPLY AND INSTALL EXTERNAL COATING AND<br/>INTERNAL LINING OF PIPE JOINTS<br/>(field applied)</b>                                       |    |                 |      |  |
|           | H3 |           |   |  | <b>BEND/JOINT TYPE NO. 2:<br/>HOT APPLIED SOLVENT FREE EPOXY<br/>(System No 220)<br/>AND<br/>EPOXY PLUS TAPE WRAP (System No 226)</b>       |    |                 |      |  |
| 2.H3.3.15 | H3 | 37.004    | X |  | 914mm OD pipes  | No |                 | 357  |  |
|           | H3 |           |   |  | <b>HYDROSTATIC TESTING</b>  |    |                 |      |  |
| 2.H3.3.16 | H3 | 33.008(a) |   |  | 914mm OD pipe, 8mm wall thickness   | km |                 | 6.16 |  |
|           | H3 |           |   |  | <b>PIPE LINING INTEGRITY TESTING</b>  |    |                 |      |  |
| 2.H3.3.17 | H3 | 33.009    |   |  | 914mm OD as specified on drawing  | m  |                 | 6160 |  |
|           | H3 |           |   |  | <b>PIPE COATING INTEGRITY SURVEYS</b>   |    |                 |      |  |
| 2.H3.3.18 | H3 | 33.010    |   |  | 914mm OD as specified on drawing  | m  |                 | 6160 |  |
|           |    |           |   |  |   |    | Carried Forward |      |  |

|           |    |           |  |  |     |     | Brought Forward |  |
|-----------|----|-----------|--|--|-----|-----|-----------------|--|
|           | H3 |           |  | <b>MARKER POSTS</b>  |     |     |                 |  |
| 2.H3.3.19 | H3 | 33.012    |  | As detailed on the drawing <b>No 2A-C6-114</b>   | no  | 111 |                 |  |
|           | H3 |           |  | <b>BENCHMARK AND TRIANGULATION BEACONS</b>   |     |     |                 |  |
| 2.H3.3.20 | H3 | 33.013(a) |  | Survey   | Sum | 1   |                 |  |
| 2.H3.3.21 | H3 | 33.013(b) |  | Benchmark and beacons  | No  | 75  |                 |  |
|           | H3 |           |  | <b>PART H3.3: Pipe Supply, Delivery and Installation</b><br><i>(Carried forward to Summary of Bills - Option2)</i> |     |     |                 |  |

| Item no.        | Part | Payment   | Breakdown | Description   | Unit | Quantity | Rate | Amount |
|-----------------|------|-----------|-----------|---|------|----------|------|--------|
|                 |      | Reference |           |   |      |          |      |        |
|                 | H    |           |           | <b>PART H: GRAVITY MAINS</b>  |      |          |      |        |
|                 | H3   |           |           | <b>PART H3: OFF TAKE B TO OFF TAKE A (6.3KM) - CH95 TO CH101.30 (OPTION 3)</b>                          |      |          |      |        |
|                 | H3   |           |           | <b>PART H3.3: Pipe supply, delivery, installation and testing</b>                                       |      |          |      |        |
|                 | H3   |           |           | <b>DETAILING AND DOCUMENTATION</b>  |      |          |      |        |
| 2.H3.3.1        | H3   | 32.001    |           | Pipes and pipe specials: Design and documentation (As required: <b>For Employer Design</b> )            | Sum  | 1        |      |        |
| 2.H3.3.2        | H3   | 37.001    |           | Corrosion protection: PQP and other documentation   | Sum  | 1        |      |        |
|                 | H3   |           |           | <b>PIPES</b>  |      |          |      |        |
|                 | H3   |           |           | <b>MANUFACTURE AND SUPPLY OF PIPES AND DELIVERY TO STORAGE ON SITE (EXCLUDING CORROSION PROTECTION)</b> |      |          |      |        |
|                 | H3   |           |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.H3.3.3        | H3   | 32.002    | X         | 914mm OD pipe, 8mm wall thickness   | m    | 6160     |      |        |
|                 | H3   |           |           | <b>SPARE PIPES</b>  |      |          |      |        |
|                 | H3   |           |           | <b>Grade X52; Ends prepared for site welding</b>  |      |          |      |        |
| 2.H3.3.4        | H3   | 32.002    | X         | 914mm OD pipe, 8mm wall thickness   | m    | 39       |      |        |
|                 | H3   |           |           | <b>EXTERNAL PIPE COATING (factory applied):</b>   |      |          |      |        |
|                 | H3   |           |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 | H3   |           |           | <b>Option No. 3: Rigid Polyurethane (System No 229B/237)</b>  |      |          |      |        |
| 2.H3.3.5        | H3   | 37.002    | X         | 914mm OD pipes  | m    | 6160     |      |        |
| 2.H3.3.6        | H3   | 37.002    | X         | 914mm OD spare pipes  | m    | 39       |      |        |
|                 | H3   |           |           | <b>INTERNAL PIPE LINING (factory applied)</b>   |      |          |      |        |
|                 | H3   |           |           | <b>Refer to Section 37: Painting and Corrosion Protection (Clause 37.10.12.4)</b>                       |      |          |      |        |
|                 | H3   |           |           | <b>Hot applied solvent free epoxy (System No 220)</b>   |      |          |      |        |
| 2.H3.3.7        | H3   | 37.003    | X         | 914mm OD pipes  | m    | 6160     |      |        |
| 2.H3.3.8        | H3   | 37.003    | X         | 914mm OD spare pipes  | m    | 39       |      |        |
| Carried Forward |      |           |           |   |      |          |      |        |



|           |    |           |   |   |    |  | Brought Forward |  |
|-----------|----|-----------|---|---|----|--|-----------------|--|
|           | H3 |           |   |   |    |  |                 |  |
|           | H3 |           |   |   |    |  |                 |  |
|           | H3 |           |   |   |    |  |                 |  |
|           | H3 |           |   |   |    |  |                 |  |
|           | H3 |           |   |   |    |  |                 |  |
| 2.H3.3.9  | H3 | 32.003    | X | Bend between 22.5 to and including 45 degrees | No |  | 3               |  |
| 2.H3.3.10 | H3 | 32.003    | X | Bend between 45 to and including 90 degrees   | No |  | 1               |  |
|           | H3 |           |   |   |    |  |                 |  |
|           | H3 |           |   |   |    |  |                 |  |
| 2.H3.3.11 | H3 | 33.001    | X | 914mm OD pipe, 8mm wall thickness             | m  |  | 6160            |  |
|           | H3 |           |   |   |    |  |                 |  |
|           | H3 |           |   |   |    |  |                 |  |
| 2.H3.3.12 | H3 | 33.007    | X | Bend between 22.5 to and including 45 degrees | No |  | 3               |  |
| 2.H3.3.13 | H3 | 33.007    | X | Bend between 45 to and including 90 degrees   | No |  | 1               |  |
|           | H3 |           |   |   |    |  |                 |  |
|           | H3 |           |   |   |    |  |                 |  |
| 2.H3.3.14 | H3 | 33.002    | X | 914mm OD pipe, 8mm wall thickness             | No |  | 11              |  |
|           | H3 |           |   |   |    |  |                 |  |
|           | H3 |           |   |   |    |  |                 |  |
| 2.H3.3.15 | H3 | 37.004    | X | 914mm OD pipes                                | No |  | 357             |  |
|           | H3 |           |   |   |    |  |                 |  |
| 2.H3.3.16 | H3 | 33.008(a) |   | 914mm OD pipe, 8mm wall thickness             | km |  | 6.16            |  |
|           | H3 |           |   |   |    |  |                 |  |
| 2.H3.3.17 | H3 | 33.009    |   | 914mm OD as specified on drawing              | m  |  | 6160            |  |
|           |    |           |   |   |    |  | Carried Forward |  |

|           |    |           |  |  |     |      | Brought Forward |  |
|-----------|----|-----------|--|--|-----|------|-----------------|--|
|           | H3 |           |  | <b>PIPE COATING INTEGRITY SURVEYS</b>  |     |      |                 |  |
| 2.H3.3.18 | H3 | 33.010    |  | 914mm OD as specified on drawing   | m   | 6160 |                 |  |
|           | H3 |           |  | <b>MARKER POSTS</b>  |     |      |                 |  |
| 2.H3.3.19 | H3 | 33.012    |  | As detailed on the drawing No 2A-C6-114  | no  | 111  |                 |  |
|           | H3 |           |  | <b>BENCHMARK AND TRIANGULATION BEACONS</b>   |     |      |                 |  |
| 2.H3.3.20 | H3 | 33.013(a) |  | Survey   | Sum | 1    |                 |  |
| 2.H3.3.21 | H3 | 33.013(b) |  | Benchmark and beacons  | No  | 75   |                 |  |
|           | H3 |           |  | <b>PART H3.3: Pipe Supply, Delivery and Installation</b><br><i>(Carried forward to Summary of Bills - Option3)</i> |     |      |                 |  |