

SUMMARY OF BILLS - PACKAGE B

| BILL | DESCRIPTION | AMOUNT R |
|---|---|----------|
| B1 | BOQ 1 : PRELIMINARY AND GENERAL | |
| B3 | BOQ 3: DEWATERING FACILITY | |
| B4 | BOQ 4: SERVICES (POTABLE WATER AND SECOND CLASS WATER) | |
| SUB TOTAL BILL 1 | BILL1: CIVIL AND STRUCTURAL | |
| | | |
| B2 | BOQ 1: ALTERATIONS AND REFURBISHMENT OF ADMIN BUILDING | |
| B2 | BOQ 3: NEW GUARDBOUSES | |
| B2 | BOQ 4: NEW SLUDGE DEWATERING BUILDING | |
| SUB TOTAL BILL 2 | BILL 2: BUILDING WORKS | |
| | | |
| B3 | BOQ 1 : PRELIMINARY AND GENERAL | |
| B3 | BOQ 5: DEWATERING FACILITY | |
| B3 | BOQ 6: CAKE TRANSFER AND STORAGE | |
| B3 | BOQ 9: MECHANICAL SUNDRIES | |
| B3 | BOQ 10: SECOND CLASS WATER | |
| SUB TOTAL BILL 3 | BILL 3: MECHANICAL WORK | |
| | | |
| B4 | BOQ 1: PRELIMINARY AND GENERAL | |
| B4 | BOQ 2: EMERGENCY GENERATOR SYSTEM | |
| B4 | BOQ 3: DOMESTIC POWER & LIGHTING | |
| B4 | BOQ 4: EARTHING AND LIGHTNING PROTECTION | |
| B4 | BOQ 5: MV WORKS | |
| B4 | BOQ 6: DE-WATERING ELECTRICAL SYSTEM | |
| B4 | BOQ 7: OHS, TESTING, COMMISSIONING, TRAINING, GENERAL - ELECTRICAL | |
| SUB TOTAL BILL 4 | BILL 4: ELECTRICAL WORK | |
| | | |
| B5 | BOQ 1 : PRELIMINARY AND GENERAL | |
| B5 | BOQ 2: DE-WATERING C&I SYSTEM | |
| B5 | BOQ 3: NETWORK SYSTEMS | |
| B5 | BOQ 4: SYSTEM INTEGRATION, TESTING, TRAINING, GENERAL CONTROL & INSTRUMENTATION | |
| SUB TOTAL BILL 5 | BILL 5: CONTROL AND INSTRUMENTATION WORKS | |
| | | |
| SUB TOTAL | | |
| VAT 15% | | |
| GRAND TOTAL [CARRIED FORWARD TO FORM OF OFFER - PACKAGE B] | | |

BILL 1 BOQ 1: PRELIMINARY AND GENERAL
PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|-------------|---|------|-----|------|----------|
| 1 | SANS 1200 A | SECTION A : PRELIMINARY AND GENERAL | | | | |
| 1.1 | | FIXED CHARGE ITEMS | | | | |
| | PSA 8.3 | Contractual Requirements | | | | |
| 1.1.1 | PSA 8.3.1 | Contractor's fixed establishment cost | Sum | 1 | | |
| | PSA 8.3.5 | Contractor's obligation with respect to Health and Safety | | | | |
| 1.1.2 | | a) Preparation of Project Specific Health and Safety Plan | Sum | 1 | | |
| 1.1.3 | | b) Carrying out a Hazard Identification and Risk Assessment | Sum | 1 | | |
| 1.1.4 | | c) Preparation and maintenance of H&S File | Sum | 1 | | |
| 1.1.5 | | d) Preparation of Method Statements and Safe Work Procedures | Sum | 1 | | |
| 1.1.6 | | e) Emergency Preparedness and Response plan (this item should include: First Aid, Fire and Explosions, Acts of Nature, Hazardous Chemical Substance and Flammable Substances spillage, Political unrest and violence and/or Terrorism) | Sum | 1 | | |
| 1.1.7 | | f) Occupational health provisions (Medicals - pre- and post-employment; Physical and Psychological for work at elevated heights; (Medical surveillance for hazardous work; Baseline baseline & audiometric screening tests; HIV and AIDS Programme; etc.) | Sum | 1 | | |
| 1.1.8 | | g) Compliance with the requirements of the latest COVID-19 Regulations, published in terms of the Disaster Management Act (Act 57 of 2002). | Sum | 1 | | |
| 1.1.9 | | h) Inoculation of Contractor's personnel for working on Wastewater Treatment Works | Sum | 1 | | |
| 1.1.10 | | i) Provision of Personal Protective Equipment and clothing, including but not limited to: Overalls, hard-hats, gloves, safety boots, gumboots, ear protection, dust masks, safety goggles, safety harnesses, reflective vests, etc. | Sum | 1 | | |
| 1.1.11 | | j) Provision of Occupational Health and Safety equipment | Sum | 1 | | |
| 1.1.12 | | k) Ensuring public health and safety | Sum | 1 | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 1: PRELIMINARY AND GENERAL

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|-------------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| 1.1.13 | PSA 8.3.6 | l) Occupational health and safety signage, pictograms and notices | Sum | 1 | | |
| 1.1.14 | | m) All other fixed costs associated with complying with the requirements | Sum | 1 | | |
| | | Compliance with Environmental Management Specifications | | | | |
| 1.1.15 | | a) Fixed costs with respect to Environmental Management | Sum | 1 | | |
| 1.1.16 | PSA 8.3.7 | b) Environmental awareness training | Sum | 1 | | |
| 1.1.17 | | Producing and submitting Quality Control Programme | Sum | 1 | | |
| 1.2 | PSA 8.4 | TIME RELATED ITEMS | | | | |
| | 8.4.1 | Contractual Requirements | | | | |
| 1.2.1 | PSA 8.4.2 | Time related establishment | Sum | 1 | | |
| | PSA 8.4.2.2 | Facilities for the contractor | | | | |
| 1.2.2 | PSA 8.4.6 | a) Dealing with water | Sum | 1 | | |
| 1.2.3 | | b) Search for, record and protect all survey benchmarks | Sum | 1 | | |
| 1.2.4 | | c) Maintain continuity of flow through works | Sum | 1 | | |
| 1.2.5 | | d) Provide access for authorised personnel | Sum | 1 | | |
| 1.2.6 | | e) Nightwatch and security | Sum | 1 | | |
| | | Compliance with respect to Health and Safety | | | | |
| 1.2.7 | | a) Provision of Construction Manager and alternate | Sum | 1 | | |
| 1.2.8 | | b) Provision of Assistant Construction Manager(s) | Sum | 1 | | |
| 1.2.9 | | c) Provision of Health and Safety Officer | Sum | 1 | | |
| 1.2.10 | | d) Provision of Construction supervisors and assistant construction supervisors | Sum | 1 | | |
| 1.2.11 | | e) Maintenance of H&S file | Sum | 1 | | |
| 1.2.12 | | f) Implementation and Management of the Health and Safety Plan | Sum | 1 | | |
| 1.2.13 | | g) Enforcing of Hazard Identification and Risk Assessment | Sum | 1 | | |
| 1.2.14 | | h) Implementation of Method Statements and Safe Work Procedures | Sum | 1 | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 1: PRELIMINARY AND GENERAL

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|-----------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| 1.2.15 | | i) Ensuring sub-contractors' compliance with statutory requirements, including compliance with the latest COVID-19 Regulations and monitoring and auditing of sub-contractors | Sum | 1 | | |
| 1.2.16 | | j) Occupational health and safety training, promotion and awareness | Sum | 1 | | |
| 1.2.17 | | k) Ensuring public health and safety | Sum | 1 | | |
| 1.2.18 | | l) All other time related costs associated with complying with the requirements of the OHS Act, Construction Regulations 2014, all other relevant regulations in terms of the OHS act and the Health and Safety Specifications, for the duration of the Contract. | Sum | 1 | | |
| 1.2.19 | PSA 8.4.7 | Compliance with Environmental Management Specifications | Sum | 1 | | |
| 1.2.20 | PSA 8.4.8 | Compliance with the Quality Control Programme | Sum | 1 | | |
| 1.3 | PSA 8.8 | TEMPORARY WORKS | | | | |
| 1.3.1 | PSA 8.8.2 | Traffic Accommodation | Sum | 1 | | |
| 1.4 | | PROVISION FOR POSSIBLE LOAD SHEDDING | | | | |
| | PSA 8.9 | Costs in the event of power cut (provisional) | | | | |
| 1.4.1 | | a) During working hours | hr | 192 | | |
| 1.4.2 | | b) During non-working hours | hr | 50 | | |
| 1.5 | PA 8.1 | MAINTAINING FLOW THROUGH THE WWTW | | | | |
| 1.5.1 | | f) Dealing with Flow in the existing potable water pipeline for the construction of the new pipeline (as detailed in PA 5.6) | Sum | 1 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 1: PRELIMINARY AND GENERAL
PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|-------------|--|--------|--------|------|----------|
| 2 | SANS 1200AB | SECTION AB: ENGINEER'S OFFICE | | | | |
| 2.1 | PSAB 8.3 | ENGINEERS FACILITIES ON SITE | | | | |
| | PSAB 8.3.1 | Fixed charge and value related items | | | | |
| 2.1.1 | | a) Employer's Agent's Office (incl. carport) | Sum | 1 | | |
| 2.1.2 | | b) Cellular phone | No | 1 | | |
| 2.1.3 | | c) Computer | No | 1 | | |
| 2.1.4 | | d) Survey Equipment | Sum | 1 | | |
| 2.1.5 | | e) Nameboards | No | 3 | | |
| | PSAB 8.3.2 | Time related items | | | | |
| 2.1.6 | | a) Employer's Agent's Office (incl. carport) | Sum | 1 | | |
| 2.1.7 | | b) Cellular phone | No | 1 | | |
| 2.1.8 | | c) Computer | No | 1 | | |
| 2.1.9 | | d) Survey Equipment | Sum | 1 | | |
| 2.1.10 | | e) Nameboards | No | 3 | | |
| | PSAB 8.4 | Survey and materials assistants | | | | |
| 2.1.11 | | a) Survey assistants | man.hr | 40 | | |
| 2.1.12 | | b) Materials assistants | man.hr | 40 | | |
| 2.2 | | PROVISIONAL COST SUM | | | | |
| | PSAB 8.6 | Cellular Phone Calls | | | | |
| 2.2.1 | | a) Cellular phone charges | min | 12 000 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 1: PRELIMINARY AND GENERAL
PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|-----------|---|--------|-----------|-----------|-----------|
| 3 | PSA 8.5 | PROVISIONAL SUMS | | | | |
| | PSA 8.5.1 | Testing of materials by Engineer | | | | |
| 3.1 | | a) Testing of Materials | PC Sum | 1 | 15 000.00 | 15 000.00 |
| 3.2 | | b) Overheads, charges and profit on PSA 8.5.1 (a) above | % | 15 000.00 | | |
| | PSA 8.5.2 | Relocation cost of electrical services by local authority | | | | |
| 3.3 | | a) Cost of relocating existing electrical services by local authority | PC Sum | 1 | 10 000.00 | 10 000.00 |
| 3.4 | | b) Overheads, charges and profit on PSA 8.5.2 (a) above | % | 10 000.00 | | |
| | PSA 8.5.3 | Survey by Engineer | | | | |
| 3.5 | | a) Survey work ordered by Engineer | PC Sum | 1 | 30 000.00 | 30 000.00 |
| 3.6 | | b) Overheads, charges and profit on PSA 8.5.3 (a) above | % | 30 000.00 | | |
| Total Carried Forward To Summary | | | | | | 55 000.00 |

BILL 1 BOQ 1: PRELIMINARY AND GENERAL

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| 4 | PSA 8.7 | DAYWORKS (REMEASUREABLE) | | | | |
| | | Allowance for dayworks (provisional) | | | | |
| | | General dayworks | | | | |
| | | Labour (Provisional) | | | | |
| 4.1 | | a) Qualified artisan | hr | 100 | | |
| 4.2 | | b) Skilled labourer | hr | 100 | | |
| 4.3 | | c) Semi-skilled labourer | hr | 300 | | |
| 4.4 | | d) Unskilled labourer | hr | 300 | | |
| 4.5 | | e) Foreman | hr | 150 | | |
| 4.6 | | f) Technician | hr | 150 | | |
| | | Plant (Provisional) | | | | |
| | | a) Bulldozer | | | | |
| 4.7 | | kW (small) | hr | 40 | | |
| 4.8 | | kW (large) | hr | 40 | | |
| 4.9 | | b) Grader kW | hr | 40 | | |
| 4.1 | | c) Wheel loaderm ³ bucket | hr | 40 | | |
| 4.11 | | d) Crawler excavatorkW | hr | 40 | | |
| 4.12 | | e) Tractor - loader- backhoem ³ bucket | hr | 40 | | |
| | | f) Rollers and compactors | | | | |
| 4.13 | | Pneumatic self propelled ton | hr | 40 | | |
| 4.14 | | Smooth self propelled vibrating rollerton | hr | 40 | | |
| 4.15 | | Plate compactor | hr | 40 | | |
| | | g) Trucks | | | | |
| 4.16 | | Tipper truck (10 m ³ min) | hr | 40 | | |
| 4.17 | | Tipper truck (5 m ³ min) | hr | 40 | | |
| 4.18 | | Water truck (10kl min) | hr | 40 | | |
| 4.19 | | Dumptruckm ³ | hr | 40 | | |
| 4.20 | | h) Compressor (min 10m ³ /minute), incl hammer and hose | hr | 40 | | |
| | | i) Water pumps | | | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 1: PRELIMINARY AND GENERAL
PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|---------|---|----------|-----|-----------|-----------|
| Brought Forward | | | | | | |
| 4.21 | | 75mm dia | hr | 40 | | |
| 4.22 | | 150mm dia | hr | 40 | | |
| | | j) Submersible Sewage Pumps | | | | |
| 4.23 | | 75mm dia | hr | 40 | | |
| 4.24 | | 150mm dia | hr | 40 | | |
| | | k) Sewage Handling Tankers | | | | |
| 4.25 | | 10m³ capacity | hr | 40 | | |
| 4.26 | | 15m³ capacity | hr | 40 | | |
| | | Materials: | | | | |
| 4.27 | | Cement | 50kg bag | 50 | | |
| 4.28 | | Building sand | m³ | 10 | | |
| 4.29 | | 19mm crushed stone | m³ | 10 | | |
| 4.30 | | Bricks: ROK's | 1000 | 3 | | |
| 4.31 | | a) Supply other material | Prov Sum | 1 | 10 000.00 | 10 000.00 |
| 4.32 | | b) Contractors overheads, profits, etc on item A.72 above | % | | | |
| Total Carried Forward To Summary | | | | | | 10 000.00 |

BILL 1 BOQ 1: PRELIMINARY AND GENERAL

SUMMARY OF SECTIONS

| SECTION | DESCRIPTION | | | AMOUNT R |
|---|-------------------------------------|--|--|-----------|
| 1 | SECTION A : PRELIMINARY AND GENERAL | | | |
| 2 | SECTION AB: ENGINEER'S OFFICE | | | |
| 3 | PROVISIONAL SUMS | | | 55 000.00 |
| 4 | DAYWORKS (REMEASUREABLE) | | | 10 000.00 |
| Total Carried Forward To Summary Of Bills | | | | 65 000.00 |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|-------------|---|----------------|-------|------|----------|
| 1 | SABS 1200 C | SECTION C : SITE CLEARANCE | | | | |
| | 8.2.1 | Clear and Grub | | | | |
| 1.1 | | a) New Guardhouse | m ² | 35 | | |
| 1.2 | | b) New Dewatering Building Facility (including retaining wall and embankment) | m ² | 2 150 | | |
| 1.3 | | c) New Concrete Road | m ² | 2 350 | | |
| | PSC 8.2.2 | Remove and grub large trees of girth | | | | |
| 1.4 | | a) over 1 m and up to and including 2 m | No. | 4 | | |
| 1.5 | | b) over 2 m and up to and including 3 m | No. | 4 | | |
| | PSC 8.2.7 | Dismantle and Relocate Pipelines, Electricity Transmission Lines, Handrailing, Cables etc (where necessary) | | | | |
| 1.6 | | a) Electricity Transmission Lines where the New Dewatering Facility is located | m | 50 | | |
| 1.7 | | b) Electrical cabling at the existing area | m | 50 | | |
| 1.8 | | c) Potable water pipe (<100mm diameter) Security Building | m | 5 | | |
| 1.9 | | d) Sewer pipe (<150mm diameter) Security Building | m | 5 | | |
| 1.10 | | e) Electrical fittings on the interior and exterior of the Security Building | Sum | 1 | | |
| 1.11 | | f) All sanitary fittings and office equipment | Sum | 1 | | |
| 1.12 | | g) Existing 300mm dia pipe at TP A03 to be located at proposed dewatering building vicinity and relocate. | m | 100 | | |
| 1.13 | | h) Existing pipe outlet (to be relocated and confirmed on site) | m | 10 | | |
| 1.14 | | i) Existing stainless steel staircase to be dismantled and modified to accommodate the new retaining wall. | Sum | 1 | | |
| | PSC 8.2.8 | Demolish and remove structures / buildings / materials / etc | | | | |
| 1.15 | | a) Demolish existing reinforced concrete thickness up to 300mm | m ² | 5 | | |
| 1.16 | | b) Existing Security Building | Sum | 1 | | |
| | PSC 8.2.10 | Remove topsoil to nominal depth of 150mm and stockpile | | | | |
| 1.17 | | a) At New Dewatering Facility | m ² | 4 500 | | |
| 1.18 | | b) At New Guardhouse Facility | m ² | 25 | | |
| | PSC 8.2.11 | Dealing with hazardous material | | | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|------------|--|----------------|-----|------|----------|
| Brought Forward | | | | | | |
| 1.19 | PSC 8.2.16 | a) 110 to 160mm diameter AC pipes | m | 10 | | |
| | | Saw cut through existing surface for trench excavation | | | | |
| 1.20 | PSC 8.2.17 | a) Premix (20mm to 80mm deep) | m | 55 | | |
| 1.21 | | b) Reinforced Concrete (100mm to 200mm thick) | m | 5 | | |
| | PSC 8.2.17 | Removal of existing kerbing, channelling and edging | | | | |
| | | a) Kerbing | | | | |
| 1.22 | PSC 8.2.18 | i) Existing kerbing | m | 10 | | |
| | | b) Channelling | | | | |
| 1.23 | PSC 8.2.18 | i) Existing C1 infall and outfall | m | 10 | | |
| | | Remove and dispose of existing pavement | | | | |
| 1.24 | | i) Existing premix surface at the Existing incoming asphalt road section (Premix 0mm to 80mm deep) | m ² | 750 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|-------------|--|------|-------|------|----------|
| 2 | SABS 1200 D | SECTION D: EARTHWORKS | | | | |
| 2.1 | PSD 8.3.2 | BULK EXCAVATION a) Excavate in all materials and use for embankment or backfill or dispose, as ordered | | | | |
| 2.1.1 | | i) Stockpile and maintain | m³ | 1 220 | | |
| 2.1.2 | | ii) Spoil to designated dump site (within freehaul distance) and spread | m³ | 3 250 | | |
| 2.1.3 | | iii) Cut to fill | m³ | 1 230 | | |
| 2.1.4 | | iii) Trench for embankment drainage system as shown in drawing 5331-C-DW-222 | m³ | 70.0 | | |
| 2.1.5 | | b) Extra-over payment item 8.3.2 for: i) Hard rock excavation | m³ | 10 | | |
| 2.2 | PSD 8.3.3 | RESTRICTED EXCAVATION a) Excavate for restricted foundations, footings and pipe trenches and use for backfill or embankment or dispose as ordered for | | | | |
| 2.2.1 | | i) Stockpile and maintain | m³ | 15 | | |
| 2.2.2 | | ii) Spoil to designated dump site (within freehaul distance) and spread | m³ | 5 | | |
| 2.2.3 | | iii) Cut to fill b) Extra-over payment item 8.3.2 | m³ | 20 | | |
| 2.2.4 | | i) Hard rock excavation | m³ | 10 | | |
| 2.2.5 | | c) Extra over item PSD 8.3.3 for importation of approved sand fill from commercial sources | m³ | 15 | | |
| 2.2.6 | | d) Extra over PSD 8.3.3 for 5% cement stabilised sand | m³ | 10 | | |
| 2.2.7 | | e) Extra over item PSD 8.3.3 for restricted backfilling against structures from stockpile | m³ | 10 | | |
| 2.2.8 | | f) Extra over item PSD 8.3.3 for restricted backfill to fill voids formed by demolition | m³ | 20 | | |
| | 8.3.4 | Importing of Material (including placing and compacting) a) Extra-over for importation of material from commercial sources | | | | |
| 2.2.9 | | 1) 150mm thick G5 quality material (compacted to 95% of Mod AASHTO density) below NewBuilding floor slab | m³ | 145 | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|---------|--|----------------|-----|------|----------|
| Brought Forward | | | | | | |
| | 8.3.8 | Existing services | | | | |
| | 8.3.8.1 | a) Excavate by hand in soft material to expose services | | | | |
| 2.2.10 | | i) Existing sewer pipes up to 200mm dia at Existing Guardhouse facility | m ³ | 5 | | |
| 2.2.11 | | ii) Existing potable water pipe at Existing Guardhouse Facility | m ³ | 5 | | |
| 2.2.12 | | iii) Existing Electrical Cables at Existing Guardhouse facility | m ³ | 5 | | |
| 2.2.13 | | iv) Existing pipes up to 200mm dia AC SNL Pipes | m ³ | 10 | | |
| 2.2.14 | | v) Existing stormwater Pipe up to 300mm dia at proposed Dewatering Building facility | m ³ | 10 | | |
| | 8.3.8.2 | Dealing with services that are at risk because of the construction of earthworks | | | | |
| 2.2.15 | | b) Temporary protection of pipes up to 300mm diameter | m | 100 | | |
| | 8.3.10 | Topsoiling | | | | |
| 2.2.16 | | 150 mm top soil from stockpile | m ² | 980 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------------|---|----------------|-----|------|----------|
| 3 | | SECTION DB: EARTHWORKS (PIPE TRENCHES) | | | | |
| 3.1 | PSDB 8.3.2 | EXCAVATION | | | | |
| | PSDB 8.3.2 (a) | Trench Excavation (All trenches deeper than 1,0m shall be shored) | | | | |
| | | a) Excavate in all materials for trenches, dewater, backfill, compact, and dispose of surplus or unsuitable material for: | | | | |
| | | i) Pipes up to and including 125mm external diameter for depths: | | | | |
| 3.1.1 | | - Exceeding 0.0m up to 1.0m | m | 30 | | |
| 3.1.2 | | - Exceeding 1.0 up to 2.0m | m | 250 | | |
| 3.1.3 | | - Exceeding 2.0 up to 3.0m | m | 50 | | |
| | | ii) Pipes over 125mm and up to 710mm external diameter for depths: | | | | |
| 3.1.4 | | - Exceeding 0.0m up to 1.0m | m | 5 | | |
| 3.1.5 | | - Exceeding 1.0 up to 2.0m | m | 10 | | |
| 3.1.6 | | - Exceeding 2.0 up to 3.0m | m | 10 | | |
| | PSDB 8.3.2 (b) | b) Extra-over Payment Items PSD 8.3.2 for: (Provisional) | | | | |
| 3.1.7 | | i) Hard rock excavation | m ³ | 5 | | |
| 3.1.8 | | iii) Hand excavation - soft material | m ³ | 5 | | |
| 3.1.9 | 8.3.2 | c) Excavate and dispose of unsuitable material from the trench bottom (provisional) | m ³ | 5 | | |
| | 8.3.3 | Excavation Ancillaries | | | | |
| | 8.3.3.1 | Make up deficiency in backfill material (Provisional) | | | | |
| 3.1.10 | | a) From other necessary excavations on site | m ³ | 10 | | |
| 3.1.11 | | c) By importation from commercial sources | m ³ | 10 | | |
| 3.1.12 | 8.3.3.3 | Compaction in Road Reserve | m ³ | 10 | | |
| 3.2 | 8.3.4 | PARTICULAR ITEMS | | | | |
| | PSDB 8.3.4 (c) | c) Excavate by hand in all materials to verify existing services, or as directed by the Engineer and backfill | | | | |
| 3.2.1 | | ii) Existing second class water pipe <160mm diameter | m ³ | 5 | | |
| 3.2.2 | | ii) Existing drainage pipe <160mm diameter | m ³ | 5 | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|--------------|--|----------------|-----|------|----------|
| Brought Forward | | | | | | |
| 3.2.3 | PSDB 8.3.5 | iii) Existing electrical cables | m ³ | 5 | | |
| 3.2.4 | | iv) Existing water main < 100mm diameter | m ³ | 5 | | |
| 3.2.5 | | v) Existing Sludge feed 200mm diameter AC pipeline | m ³ | 5 | | |
| 3.2.6 | | vi) Existing SNL 200mm diameter AC pipe | m ³ | 5 | | |
| | | Existing services that Intersect or Adjoin a pipe trench | | | | |
| | | a) Services that intersect a trench. | | | | |
| | | i) Pipeline Existing Main gate entrance and Dewatering facility | | | | |
| 3.2.7 | | - Electrical cables | No. | 10 | | |
| 3.2.8 | | - uPVC 110mm dia. sleeves with cables | No. | 10 | | |
| 3.2.9 | | - Existing pipes <100mm diameter | No. | 10 | | |
| 3.2.10 | | - Existing pipes 100-300mm diameter | No. | 5 | | |
| 3.2.11 | 8.3.5 | - Barrier Kerbs and channels | No. | 15 | | |
| | | b) Services that adjoin a pipe trench. | | | | |
| | | Pipeline Existing Inlet works | | | | |
| 3.2.12 | | - Electrical cables | No. | 5 | | |
| 3.2.13 | | - uPVC 110mm dia. sleeves with cables | No. | 5 | | |
| 3.2.14 | | - Existing pipes <100mm diameter | No. | 5 | | |
| 3.2.15 | | - Existing pipes 100-300mm diameter | No. | 5 | | |
| 3.3 | PSDB 8.3.6 | FINISHING | | | | |
| | PSDB 8.3.6.1 | Reinstate road surface complete with all courses | | | | |
| 3.3.1 | | a) Asphalt of thickness 30mm to parking area | m ² | 5 | | |
| 3.3.2 | | a) Asphalt of thickness 40mm to roadway | m ² | 10 | | |
| 3.3.3 | | b) Basecourse material stabilised with 5% cement and compacted to 98% mod AASHTO density (2 layers of 150mm thick) | m ² | 10 | | |
| 3.3.4 | | c) Subbase material compacted to 95% mod AASHTO density (2 layers of 150mm thick) | m ² | 10 | | |
| 3.3.5 | | d) Concrete interlocking block paving of thickness 60mm to walkway | m ² | 10 | | |
| 3.3.6 | | e) Precast kerbing | m | 10 | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|---------------|--|----------------|-----|------|----------|
| Brought Forward | | | | | | |
| 3.3.7 | | f) class 30MPa/19mm concrete 150mm thick with mesh reinforcement Ref 193 | m ² | 5 | | |
| 3.3.8 | PSD 8.3.14 | Shoring to protect existing structures : Pipe Trenches (Provisional) | m ² | 10 | | |
| | SABS MM 8.4.1 | Reinstate road markings (Provisional) | | | | |
| 3.3.9 | | a) White lines - unbroken | m | 10 | | |
| 3.3.10 | | b) Yellow lines - unbroken | m | 10 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|--------------|--|------|-------|------|----------|
| 4 | SANS 1200 DM | SECTION DM: EARTHWORKS (ROADS, SUBGRADE) | | | | |
| | 8.3.3 | Treatment of Road-bed | | | | |
| | | a) Road-bed preparation and compaction of 200mm thick material to 93% Mod AASHTO (100% for sand) | | | | |
| 4.1 | | (i) Road A (Incoming Road towards Dewatering Building facility) | m³ | 180 | | |
| 4.2 | | (ii) Road B (Ring Road around Dewatering Building facility) | m³ | 410 | | |
| | | b) In - Place treatment of road-bed in intermediate material by: | | | | |
| 4.3 | | (i) Ripping | m³ | 580 | | |
| | | c) In - Place treatment of road-bed in hard rock material by: | | | | |
| 4.4 | | (i) Ripping | m³ | 200 | | |
| | PSDM 8.3.4 | Cut to fill | | | | |
| | | G9 quality fill Compacted to at least 93% mod. AASHTO maximum density (100% for sand) | | | | |
| 4.5 | | (a) Road A (Incoming Road towards Dewatering Building facility) | m³ | 210 | | |
| 4.6 | | (b) Road B (Ring Road around Dewatering Building facility) | m³ | 4 300 | | |
| | PSDM 8.3.4 | Borrow to fill | | | | |
| | | (i) Construct imported G7 quality upper selected subgrade layer from commercial source, compacted to 95% mod. AASHTO density (100% for sand); | | | | |
| 4.7 | | -Road A (Incoming Road towards Dewatering Building facility) | m³ | 120 | | |
| 4.8 | | -Road B (Ring Road around Dewatering Building facility) | m³ | 650.0 | | |
| | | (ii) Construct 200mm Thick G9 Quality Fill material Compacted to 97% MOD AASHTO Density for lower selected subgrade with material from commercial sources | | | | |
| 4.9 | | -Road A (Incoming Road towards Dewatering Building facility) | m³ | 90 | | |
| 4.10 | | -Road B (Ring Road around Dewatering Building facility) | m³ | 210 | | |
| | | (iii) Construct 200mm Thick G9 Quality Fill material Compacted to 97% MOD AASHTO Density for lower selected subgrade. with material from designated excavations. | | | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|------------|--|------|-------|------|----------|
| Brought Forward | | | | | | |
| 4.11 | PSDM 8.3.6 | -Road A (Incoming Road towards Dewatering Building facility) | m³ | 90 | | |
| 4.12 | | -Road B (Ring Road around Dewatering Building facility) | m³ | 210 | | |
| | | Cut to spoil or stockpile from | | | | |
| | | Stockpile Material with excavations from excavated road prism (Guardhouse and Dewatering Building) | | | | |
| 4.13 | | (a) Soft Material Excavation - Roadways building paved areas | m³ | 1 200 | | |
| | | Spoil Material from excavations from road prism including (Guardhouse and Dewatering Building) | | | | |
| 4.14 | | b) Soft Material Excavation - Roadways including proposed paved areas | m³ | 3 300 | | |
| 4.15 | | c) Hard Rock Excavation - Roadways including proposed paved areas | m³ | 10 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|----------------|-----|------|----------|
| 5 | | SECTION G: CONCRETE (STRUCTURAL) | | | | |
| 5.1 | | RETAINING WALL | | | | |
| 5.2 | 8.2 | FORMWORK | | | | |
| | | Rates for smooth formwork shall include corner chamfers up to 25 x 25mm as specified | | | | |
| | 8.2.1 | Rough | | | | |
| | | a) Vertical, plane | | | | |
| 5.2.1 | | i) To filled sides of retaining wall (1m to 1.5m high) | m ² | 180 | | |
| | 8.2.5 | b) Narrow widths (0-200 mm high) | | | | |
| 5.2.2 | | ii) Vertical, plane to footings and bases | m | 115 | | |
| | 8.2.2 | Smooth | | | | |
| | | a) Vertical, plane | | | | |
| 5.2.3 | | i) To exposed sides of retaining wall (1m to 1.5m high) | m ² | 180 | | |
| 5.3 | 8.3 | REINFORCEMENT | | | | |
| | 8.3.1 | Steel Bars | | | | |
| | | a) High tensile steel | | | | |
| 5.3.1 | | i) Not exceeding 8mm dia. | t | 0.4 | | |
| 5.3.2 | | i) 8mm up to 16mm diameter | t | 7.0 | | |
| 5.4 | 8.4 | CONCRETE | | | | |
| | | a) 15MPa/19mm concrete to: | | | | |
| 5.4.1 | 8.4.2 | i) Blinding layer (horizontal) | m ³ | 8 | | |
| | | b) 30 MPa/19mm concrete to: | | | | |
| 5.4.2 | 8.4.1 | ii) Strip footings | m ³ | 30 | | |
| 5.4.3 | 8.4.1 | iii) Retaining wall stem | m ³ | 30 | | |
| 5.5 | 8.4.4 | UNFORMED SURFACE FINISHES | | | | |
| 5.5.1 | | c) Wood float finish to top of wall stem | m ² | 25 | | |
| 5.5.2 | | (i) Cascade drain for dewatering facility embankment See Drawing No.5331-C-DW-222 | m ² | 45 | | |
| 5.6 | 8.5 | JOINTS | | | | |
| 5.6.1 | | a) Construction joint detail complete as shown on Drawing No. 5331-C-DW-217 | m | 20 | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|----------------|-------|------|----------|
| Brought Forward | | | | | | |
| 5.6.2 | | b) 10mm Isolation joint with jointex and 10x10mm Polyurethane sealant as shown on Drawing No. 5331-C-DW-219 | m | 115 | | |
| 5.7 | | EMBANKMENT CHANNEL | | | | |
| 5.8 | 8.4.4 | UNFORMED SURFACE FINISHES | | | | |
| 5.8.1 | | d) Class U2 surface finish to cast in situ concrete cutoff channel See Drawing No. 5331-C-DW-222 | m ² | 150 | | |
| 5.8.2 | | d) Class U2 surface finish to cast in situ concrete cascade drain See Drawing No. 5331-C-DW-222 | m ² | 50 | | |
| 5.9 | | DEWATERING FACILITY CONCRETE ROAD | | | | |
| 5.10 | 8.2 | FORMWORK Rates for smooth formwork shall include corner chamfers up to 25 x 25mm as specified | | | | |
| | 8.2.1 | Rough a) Narrow widths (0-300 mm high) | | | | |
| 5.10.1 | | i) Vertical, plane to road side | m | 330 | | |
| 5.11 | 8.3 | REINFORCEMENT | | | | |
| | 8.3.1 | Steel Bars a) High tensile steel | | | | |
| 5.11.1 | | i) Not exceeding 8mm dia. | t | 0.1 | | |
| 5.11.2 | | i) 8mm up to 16mm diameter | t | 0.1 | | |
| | 8.3.2 | High Tensile Welded Mesh a) Mesh Ref 193 (Provisional) | m ² | 5 | | |
| 5.11.4 | | b) Mesh Ref 617 | m ² | 3 000 | | |
| 5.12 | 8.4.1 | CONCRETE a) 15MPa/19mm concrete to: | | | | |
| 5.12.1 | | i) Blinding layer (horizontal) | m ³ | 150 | | |
| | | b) 30 MPa/19mm concrete to: | | | | |
| 5.12.2 | | i) Concrete road | m ³ | 480 | | |
| 5.13 | 8.4.4 | UNFORMED SURFACE FINISHES | | | | |
| 5.13.1 | | a) Broom finish to concrete road | m ² | 3 000 | | |
| 5.14 | 8.5 | JOINTS | | | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|----------------|-----|------|----------|
| Brought Forward | | | | | | |
| 5.14.1 | | a) Construction Joint A (Max Spacing longitudinal joints, 3.8m transverse joints, - Max spacing transverse joints, 4m) complete as shown on Drawing No. 5331-ST-IW-116 | m | 450 | | |
| | | NEW SLUDGE DEWATERING BUILDING | | | | |
| 5.15 | 8.2 | FORMWORK | | | | |
| | | Rates for smooth formwork shall include corner chamfers up to 25 x 25mm as specified | | | | |
| | | Formwork to soffits of solid slabs etc shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described | | | | |
| | 8.2.1 | Rough | | | | |
| | | a) Vertical, sides | | | | |
| 5.15.1 | | i) Edges, risers, ends and reveals not exceeding 300mm high or wide | m ² | 60 | | |
| | 8.2.5 | b) Soffits | | | | |
| 5.15.2 | | ii) Slabs propped up exceeding 1.5m and not exceeding 3.5m high | m ² | 5 | | |
| | 8.2.2 | Smooth | | | | |
| | | a) Vertical, Sides | | | | |
| 5.15.3 | | i) Outer face of walls of circular silo exceeding 1m radius with a total height exceeding 8m and not exceeding 9.5m above bearing level | m ² | 283 | | |
| 5.15.4 | | ii) Inner face of walls of circular silo exceeding 1m radius with a total height exceeding 8m and not exceeding 9.5m above sloping bearing level | m ² | 251 | | |
| 5.15.5 | | iii) Outer face of walls of conical section of circular silo exceeding 1m radius propped up exceeding 8m and not exceeding 9.5m above bearing level | m ² | 80 | | |
| 5.15.6 | | iv) Rectangular columns in foundations | m ² | 132 | | |
| 5.15.7 | | v) Rectangular columns with total height exceeding 3.5m and not exceeding 5m above bearing level | m ² | 322 | | |
| 5.15.8 | | vi) Rectangular columns with total height exceeding 3.5m and not exceeding 5m above bearing level | m ² | 220 | | |
| 5.15.9 | | vii) Inverted beams circular not exceeding 1m radius | m ² | 2 | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|----------------|-----|------|----------|
| Brought Forward | | | | | | |
| 5.15.10 | | viii) Inverted beams above concrete circular not exceeding 1m radius | m ² | 1 | | |
| 5.15.11 | | ix) Edges exceeding 300mm high | m ² | 35 | | |
| 5.15.12 | | x) Edges, risers, ends and reveals not exceeding 300mm high or wide | m ² | 320 | | |
| 5.15.13 | | xi) Sloping and stepped outer edges of stairs 360mm high extreme | m ² | 13 | | |
| | | b) Soffits | | | | |
| 5.15.14 | | i) Slabs propped up exceeding 3.5m and not exceeding 5m high | m ² | 304 | | |
| 5.15.15 | | ii) Slabs propped up exceeding 8m and not exceeding 9.5m high off sloping surfaces | m ² | 33 | | |
| 5.15.16 | | iii) Landings | m ² | 5 | | |
| 5.15.17 | | iv) Stairs with sloping soffits | m ² | 8 | | |
| | | c) Sides and Soffits | | | | |
| 5.15.18 | | i) Beams propped up exceeding 1.5m and not exceeding 3.5m high | m ² | 239 | | |
| 5.15.19 | | ii) Isolated beams propped up exceeding 1.5m and not exceeding 3.5m high | m ² | 268 | | |
| 5.15.20 | | iii) Isolated beams propped up exceeding 8m and not exceeding 9.5m high | m ² | 88 | | |
| | | d) Sloping top surfaces | | | | |
| 5.15.21 | | i) Inner face of walls of conical section of circular silo exceeding 1m radius | m ² | 66 | | |
| 5.15.22 | | ii) Extra over last for 3mm thick HDPE anchor knob sheet - AKS CPL green or similar approved | m ² | 66 | | |
| | | e) Boxing in smooth formwork to form | | | | |
| 5.15.23 | | i) 25 x 25mm Chamfer along top or bottom edge | m | 743 | | |
| 5.15.24 | | ii) 25 x 25mm Chamfer along top or bottom edge circular on plan exceeding 1m radius | m | 62 | | |
| 5.15.25 | | iii) 25 x 25mm Vertical chamfer at corner | m | 678 | | |
| | | f) Boxing out smooth formwork to form | | | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|----------------|-------|------|----------|
| Brought Forward | | | | | | |
| 5.15.26 | | i) 300 x 400 x 662mm High overall crane rail support with sloping soffit 400mm from top of support on 450mm wide face of column, top of support 1513mm from top of column | No | 10 | | |
| | | g) Smooth formwork to form | | | | |
| 5.15.27 | | i) Opening exceeding 2m and not exceeding 3m girth through 250mm slab | No | 4 | | |
| 5.16 | 8.3 | REINFORCEMENT | | | | |
| | 8.3.1 | Steel Bars | | | | |
| | | a) Mild steel | | | | |
| 5.16.1 | | i) Various diameters | t | 10.0 | | |
| | | b) High tensile steel | | | | |
| 5.16.2 | | i) Various diameters | t | 95.4 | | |
| | | c) Fabric Mesh reinforcement | | | | |
| 5.16.3 | | i) Type ref 395 fabric reinforcement in concrete surface beds, slabs, etc | m ² | 847.0 | | |
| 5.17 | 8.4 | CONCRETE UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES | | | | |
| | | a) 15MPa/19mm concrete to: | | | | |
| 5.17.1 | 8.4.2 | i) Surface blinding under footings and bases | m ³ | 10 | | |
| | | REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES | | | | |
| | | b) 30 MPa/19mm concrete to: | | | | |
| 5.17.2 | 8.4.1 | i) Bases | m ³ | 149 | | |
| 5.17.3 | 8.4.1 | ii) Foundation beams | m ³ | 27 | | |
| | | REINFORCED CONCRETE c) 30 MPa/19mm concrete to: | | | | |
| 5.17.4 | 8.4.1 | i) Surface beds cast in panels on waterproofing | m ³ | 176 | | |
| 5.17.5 | 8.4.1 | ii) Ramps on waterproofing | m ³ | 3 | | |
| | 8.4.1 | iii) Bottoms of floor drains on waterproofing | m ³ | 5 | | |
| 5.17.6 | 8.4.1 | iv) Slabs including beams and inverted beams | m ³ | 122 | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|----------------|-----|------|----------|
| Brought Forward | | | | | | |
| 5.17.7 | 8.4.1 | v) Raisings on tops of slabs | m ³ | 1 | | |
| 5.17.8 | 8.4.1 | vi) Plinths | m ³ | 8 | | |
| 5.17.9 | 8.4.1 | vii) Isolated beams | m ³ | 50 | | |
| 5.17.10 | 8.4.1 | viii) Stairs including landings, beams and inverted beams | m ³ | 4 | | |
| 5.17.11 | 8.4.1 | ix) Columns in foundations | m ³ | 18 | | |
| 5.17.12 | 8.4.1 | x) Columns | m ³ | 85 | | |
| 5.17.13 | 8.4.1 | xii) Walls of cylindrical silo | m ³ | 80 | | |
| 5.17.14 | 8.4.1 | xiii) Conical walls of cylindrical silo | m ³ | 22 | | |
| 5.18 | 8.4.4 | UNFORMED SURFACE FINISHES | | | | |
| 5.18.1 | | a) Wood float finish to top surfaces of concrete | | | | |
| 5.18.1.1 | | (i) Surface beds, slabs, etc | m ² | 359 | | |
| 5.18.2 | | b) Wood float finish to top surfaces of concrete with "Dry Shake" hardener added in accordance with the Manufacturer's Instructions | | | | |
| 5.18.2.1 | | (i) Surface beds, slabs, etc to falls | m ² | 23 | | |
| 5.18.3 | | c) Steel trowel finish to top surfaces of concrete | | | | |
| 5.18.3.1 | | (i) Tops of beams, walls, etc | m ² | 177 | | |
| 5.18.3.2 | | (ii) Surface beds, slabs, etc to falls | m ² | 65 | | |
| 5.18.4 | | d) Non-shrink epoxy leveling grout | | | | |
| 5.18.4.1 | | (i) Bedding approximately 5mm thick under 230 x 130mm base plate including chamfered edges all round | No | 20 | | |
| 5.19 | 8.5 | JOINTS | | | | |
| | | "Kilcher bearing" slip joints between horizontal concrete and brick surfaces including cement mortar bed | | | | |
| 5.19.1 | | a) Not exceeding 300mm wide | m | 228 | | |
| | | Expansion joints with approved joint forming material between vertical concrete and brick surfaces | | | | |
| 5.19.2 | | b) 6mm Joints not exceeding 300mm high | m | 189 | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|---------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| 5.19.3 | | Sleeves c) 100mm Diameter pipe sleeve through 250mm thick slab | No | 4 | | |
| 5.19.4 | | d) 150mm Diameter pipe sleeve through 250mm thick slab | No | 8 | | |
| 5.19.5 | | e) 250mm Diameter pipe sleeve through 250mm thick slab | No | 12 | | |
| 5.19.6 | | f) 700mm Diameter galvanised pipe not exceeding 1000mm long with and including one flanged end, blank flange, bolts and gasket cast through 250mm thick slab | No | 2 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|-------------|--|------|-----|------|----------|
| 6 | SABS 1200 L | SECTION L: MEDIUM-PRESSURE PIPE LINES | | | | |
| | PSL 8.2.1 | Supply, lay and bed HDPE PE80 PN10: | | | | |
| 6.1 | | i) 200mm diameter. | m | 100 | | |
| | | b) Electrofusion welding for fittings to suit HDPE sewer pipes : | | | | |
| 6.2 | | i) VJ Type coupling for Scour | No | 1 | | |
| 6.1 | | SPECIALS AND FITTINGS | | | | |
| | | Extra over 8.2.1 for supplying, laying, bedding and testing of specials complete with couplings: | | | | |
| 6.2 | | STAINLESS STEEL 304 | | | | |
| 6.2.1 | | i) 200mm diam x 90 degree bend (one side flanged) | No. | 1 | | |
| 6.2.2 | | ii) 200mm diam x 1000mm long pipe flanged both end | No. | 1 | | |
| 6.3 | | HDPE PE80 PN10 | | | | |
| 6.3.1 | | i) 200mm diam x 90 degree bend | No. | 2 | | |
| 6.3.2 | | i) 200mm diam x 11.5 degree bend | No. | 1 | | |
| 6.3.3 | | iii) 200mm diam x 80mm diam scour tee | No. | 2 | | |
| 6.4 | | VALVES | | | | |
| | 8.2.3 | Extra over 8.2.1 for the supplying, fixing and bedding of: | | | | |
| | | a) Valves, resilient seal gate type, including electrofusion couplings and flanges to connect into HDPE pipe | | | | |
| 6.4.1 | | i) 80 mm diam. for Scour valve to HDPE connection | No. | 1 | | |
| | PSL 8.2.4 | Flexible joints at structures | | | | |
| 6.4.2 | | a) 200mm diameter | No. | 1 | | |
| | 8.2.13 | Valve and Hydrant Chambers etc | | | | |
| 6.4.3 | | i) Scour valve chamber complete with Type 3B valve box and thrust block | No. | 1 | | |
| | 8.2.15 | Wrapping of pipes and flanges with Denso or similar protective wrapping: | | | | |
| 6.4.4 | | a) 200mm diam. VJ - type coupling | No. | 1 | | |
| 6.4.5 | | b) 200mm dia flange adapter | No. | 2 | | |
| | 8.2.11 | Thrust blocks as detailed on drawings | | | | |
| 6.4.6 | | a) Concrete Class 20/19 | m³ | 5 | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|------------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| 6.4.7 | PSL 8.2.16 | Connect to existing pipelines i) Connection of re-routed uPVC pipework to existing pipework (50mm diameter AC pipeline) | No. | 2 | | |
| 6.4.8 | PSL 8.2.20 | Markers Posts | No. | 20 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|------------|---|------|-----|------|----------|
| 7 | | SECTION LB: BEDDING (PIPES) | | | | |
| | 8.2.1 | Provision of bedding from trench excavation | | | | |
| 7.1 | | a) Selected granular material | m³ | 60 | | |
| 7.2 | | b) Selected fill material | m³ | 120 | | |
| | 8.2.2.3 | Provision of bedding by importation from commercial sources | | | | |
| 7.3 | | a) Selected granular material | m³ | 60 | | |
| 7.4 | | b) Selected fill material | m³ | 30 | | |
| | 8.2.4 | Encasing of pipes in 20MPa/19mm concrete (provisional) | | | | |
| 7.5 | | a) 300mm diameter Class 75D Pipe | m³ | 5 | | |
| 7.6 | | b) 450mm diameter Class 75D Pipe | m³ | 5 | | |
| | PSLB 8.2.6 | Provision of Bedding in waterlogged conditions | | | | |
| 7.7 | | a) Single size 19mm stone | m³ | 10 | | |
| 7.8 | | b) Geotextile | m³ | 10 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|--------------|---|------|-----|------|----------|
| 8 | SABS 1200 LC | SECTION LC: CABLE DUCTS | | | | |
| | 8.2.2 | Excavation | | | | |
| | | a) Excavate in all materials for trenches, backfill, compact, and dispose of surplus material | | | | |
| 8.1 | | i) 110mm diameter ducts | m | 150 | | |
| 8.2 | | i i) 160mm diameter ducts | m | 150 | | |
| | 8.2.7 | Drawpits/Manholes | | | | |
| | | Construct 600mm x 600mm AJB draw box with 300mm concrete surround to detail, with 230 brickwork,max height 1.2m including ductile iron cover and frame (600mm diameter EN 124 class C250) | | | | |
| 8.3 | | a) in sidewalk and verge | No. | 6 | | |
| | | Construct 1000mm x 1000mm AJB draw box with 300mm concrete surround to detail, with 230 brickwork,max height 1.2m including ductile iron cover and frame (600mm diameter EN 124 class C250) | | | | |
| 8.4 | | a) in road | No. | 6 | | |
| 8.5 | 8.2.8 | Cable route markers complete, installed, and record submitted | No | 20 | | |
| | PSLC 8.2.10 | Sealing of duct ends | | | | |
| 8.6 | | a) Electrical ducts | No | 10 | | |
| 8.7 | | b) Non-electrical ducts (100mm dia) | No | 10 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|--------------|--|------|-----|------|----------|
| 9 | SABS 1200 LD | SECTION LD: SEWERS | | | | |
| | PSLD 8.2.1 | Supply, lay, joint, bed and test pipeline | | | | |
| | | a) uPVC Class 34 sewer pipes on Class B bedding | | | | |
| 9.1 | | i) 160mm diam | m | 5 | | |
| 9.2 | | ii) 200mm diam | m | 10 | | |
| 9.3 | | iii) 315mm diam | m | 145 | | |
| | PSLD 8.2.2 | Extra-over items 8.2.1 for specials | | | | |
| | | a) Fittings to suit uPVC sewer pipes : | | | | |
| 9.4 | | i) 110mm dia endcap | No. | 1 | | |
| 9.5 | | ii) 160 x 110 dia plain 45 deg Y-junction | No. | 1 | | |
| 9.6 | | iii) 110 dia plain 45 deg long radius bend | No. | 1 | | |
| | PSLD 8.2.3 | Manholes | | | | |
| | | a) Sewer Manholes as detailed on drawing No.5331-C-DW-212 | | | | |
| | | i) For depths: | | | | |
| 9.7 | | - Over 0.0m up to 1.0m | No. | 4 | | |
| 9.8 | | - Over 1.0m up to 2.0m | No. | 6 | | |
| 9.9 | | - Over 2.0m up to 3.0m | No. | 1 | | |
| 9.10 | | - Over 3.0m up to 4.0m | No. | 1 | | |
| | PSLD 8.2.4 | Extra-over PSLD 8.2.3 for construction of manholes or chambers on existing pipelines | | | | |
| 9.11 | | i) New SNL Manhole | No. | 1 | | |
| | PSLD 8.2.7 | a) Construction of Discharge chamber complete as shown on drawings | | | | |
| 9.12 | | i) Tanker washdown as shown Drawing 5331-C-DW-212 | No. | 2 | | |
| 9.13 | 8.2.11 | Break into and connect to existing manhole including flexible joints as shown on Drawings and make good all benching | m³ | 1 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|--------------|--|------|-----|------|----------|
| 10 | SABS 1200 LE | SECTION LE: STORMWATER DRAINAGE | | | | |
| | 8.2.1 | Concrete pipe culverts, spigot and socket type with rubber ring seal, on flexible bedding | | | | |
| 10.1 | | i) 300 mm diameter Class 75D | m | 120 | | |
| | | Concrete pipe culverts, spigot and socket type with rubber ring seal, on class B bedding | | | | |
| 10.2 | | i) 375 mm diameter Class 100D | m | 10 | | |
| | PSLE 8.2.8 | a) Supply and install 1000mm Dia Manhole or similar complete as detailed on the drawings 5331-C-DW-208 and 5331-C-DW-209 | | | | |
| 10.3 | | i) Over 1.0 up to 2.0m | No | 3 | | |
| 10.4 | | ii) Over 2.0 up to 3.0m | No | 3 | | |
| 10.5 | | iii) Over 3.0 up to 4.0 | No | 1 | | |
| | | b) Single Grid Inlet unit for depths: | | | | |
| 10.6 | | i) Over 0.5m up to 1.0m | No | 2 | | |
| | | c) Double kerb inlet unit for depths and kerb type: | | | | |
| | 8.2.10 | Accessories for stormwater drainage structures | | | | |
| 10.7 | | a) Securex Z-600-D or similar approved heavy-duty ductile iron cover and frame conforming to SABS EN D 400 class | No | 6 | | |
| | PSLE 8.2.14 | Subsurface Drains complete for retaining wall as detailed on the drawings | | | | |
| 10.8 | | a) Subsurface drains system complete as shown on Drawing No. 5331-C-DW-217 | m | 200 | | |
| | PSLE 8.2.15 | Connections into existing manholes/ inlets | | | | |
| 10.9 | | i) Connection into proposed manhole/grid inlet for 110mm diameter pipe | No. | 2 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|---------------|---|------|-----|------|----------|
| 11 | SABSA 1200 ME | SECTION ME: SUBBASE | | | | |
| 11.1 | 8.2.3 | Construct G5 quality subbase with material from commercial sources, compacted to 95% of mod. AASHTO maximum density. | m³ | 82 | | |
| | 8.3.3 | Construct 100 mm Cement Stabilized subbase (C4) material with material from commercial sources compacted to 97% Mod. AASHTO Density | | | | |
| | | a) 100mm to roadways at dewatering building facility | | | | |
| 11.2 | | -Road A (Incoming Road towards Dewatering Building facility) | m³ | 80 | | |
| 11.3 | | -Road B (Ring Road around Dewatering Building facility) | m³ | 230 | | |
| | | b) 100 mm Cement Stabilized subbase (C4) Compacted to 97% Mod.AASHTO Density for: | | | | |
| 11.4 | | - Guardhouse paved area at entrance | m³ | 8 | | |
| 11.5 | | - Dewatering Building paved area | m³ | 150 | | |
| 11.1 | | SUNDRIES | | | | |
| 11.1.1 | PSMM 8.3.6 | Statutory signs, street names, and the like, supplied and erected complete | No | 6 | | |
| 11.1.2 | PSMM 8.4.1 | Retro-reflective Road Marking Paint Applied at a Nominal Rate of 0,42 l/m² | m | 150 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|--------------|--|------|-----|------|----------|
| 12 | SABS 1200 MF | SECTION MF: BASE | | | | |
| | 8.3.3 | Construct 100 mm Cement Stabilized subbase (C4) compacted to 97% Mod. AASHTO Density | | | | |
| 12.1 | | -Road A (Incoming Road towards Dewatering Building facility) | m³ | 80 | | |
| 12.2 | | -Road B (Ring Road around Dewatering Building facility) | m³ | 230 | | |
| 12.3 | | b) 100 mm to sidewalks | m³ | 20 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|--------------|---|----------------|-----|------|----------|
| 13 | SABS 1200 MJ | SECTION MJ: SEGMENTED PAVING | | | | |
| | PSMJ 8.2.2 | Construction of paving complete | | | | |
| | | a) 60mm interlocking paving blocks Class 30/2.0 S-C (Colour grey) on 25mm sand, on paved walkways | | | | |
| 13.1 | | i) Guardhouse Paved area at entrance | m ² | 25 | | |
| 13.2 | | ii) Dewatering Building Facility Paved area | m ² | 140 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|--------------|--|----------------|-----|------|----------|
| 14 | SABS 1200 MK | SECTION MK: KERBING AND CHANNELING | | | | |
| 14.1 | | CONCRETE KERBS AND CHANNELS | | | | |
| 14.2 | 8.2.1 | PRECAST CONCRETE KERBING | | | | |
| | | Barrier kerbs | | | | |
| | | a) Type BK4 | | | | |
| 14.2.1 | | i) Straights | m | 610 | | |
| 14.2.2 | | ii) 1m to 4m radius | m | 40 | | |
| 14.2.3 | | iii) 4m to 20m radius | m | 45 | | |
| 14.2.4 | | iv) Exceeding 20m radius | m | 10 | | |
| | | Footpath edging | | | | |
| | | a) Type E3 | | | | |
| 14.2.5 | | i) Straights | m | 20 | | |
| 14.2.6 | | ii) 1m to 4m radius | m | 5 | | |
| 14.2.7 | | iii) 4m to 20m radius | m | 5 | | |
| 14.2.8 | | iv) Exceeding 20m radius | m | 5 | | |
| | | Channel | | | | |
| 14.2.9 | | a) Type C1 channel | m | 410 | | |
| 14.2.10 | | b) Type C1 double channel | m | 30 | | |
| | PSMK 8.2.14 | Lift and reinstate | | | | |
| | | a) Barrier Kerb (BK1) | | | | |
| 14.2.11 | | i) Striaights | No | 8 | | |
| | | Cast in situ mesh reinforced concrete cutoff channel | | | | |
| | 8.2.7 | Trimming of excavations for concrete-lined open drains: | | | | |
| 14.2.12 | | (a) In soft material | m ² | 90 | | |
| 14.2.13 | | (c) In hard material | m ² | 10 | | |
| | | Concrete lining for open cut off drains: | | | | |
| | | (a) Cast in situ concrete lining class 20/19 | | | | |
| 14.2.14 | 8.2.8 | (i) Cut off channel for dewatering facility embankment See Drawing No. 5331-C-MISC-407 & 5331-C-DW-222 | m ³ | 15 | | |
| | | Class U2 surface finish to cast in situ concrete | | | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|---------|---|----------------|-----|------|----------|
| Brought Forward | | | | | | |
| 14.2.15 | | (i) Cut off channel for dewatering facility embankment See Drawing No.5331-C-MISC-407 & 5331-C-DW-222 | m ² | 120 | | |
| | 8.2.9 | Formwork to cast in situ concrete cut off drain (Class F1 surface finish): | | | | |
| 14.2.16 | | (b) To sides with formwork on both internal and external faces (each face measured) | m ² | 250 | | |
| 14.2.17 | | (c) To ends of slabs | m ² | 6 | | |
| | 8.2.10 | Sealed joints in concrete linings of open cutoff drains: | | | | |
| 14.2.18 | | (i) Spaced at 10m intervals | m | 20 | | |
| | 8.2.13 | Water Proofing | | | | |
| 14.2.19 | | 250 Micron DPM under cast insitu concrete channel See Drawing No. 5331-C-DW-222 | m ² | 120 | | |
| | | Cast in situ mesh reinforced concrete cascade drain | | | | |
| | 8.2.7 | Trimming of excavations for concrete-lined open drains: | | | | |
| 14.2.20 | | (a) In soft material | m ² | 25 | | |
| 14.2.21 | | (b) In hard material | m ² | 5 | | |
| | | Concrete lining for open cascade drains: | | | | |
| | | (a) Cast in situ concrete lining class 20/19 | | | | |
| 14.2.22 | 8.2.8 | (i) Cascade drain for dewatering facility embankment See Drawing No. 5331-C-DW-222 | m ³ | 5 | | |
| | 8.2.9 | Formwork to cast in situ concrete cascade drain (Class F2 surface finish): | | | | |
| 14.2.23 | | (a) To sides with formwork on both internal and external faces (each face measured) | m ² | 30 | | |
| 14.2.24 | | (b) To ends of slabs | m ² | 10 | | |
| 14.2.25 | 8.2.12 | Steel Reinforcement Mesh Ref 193 to Cascade drain | t | 0.5 | | |
| | 8.2.13 | Water Proofing | | | | |
| 14.2.26 | | 250 Micron DPM under cast insitu concrete channel See Drawing No. 5331-C-DW-222 | m ² | 40 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|--------------|---|------|-----|------|----------|
| 15 | SABS 1200 MM | SECTION MM: ANCILLARY ROADWORKS | | | | |
| 15.1 | | SCHEDULED ITEMS FOR GUARDRAILS FOR ROAD A AS PER DRAWINGS 5331-C-DW-216, 217, 218 AND 219 | | | | |
| 15.2 | 8.2.1 | GUARDRAIL ON POSTS | | | | |
| 15.2.1 | | a) Galvanized | m | 200 | | |
| 15.3 | 8.2.2 | EXTRA-OVER FOR ITEM 8.2.1 FOR HORIZONTALLY CURVED GUARDRAIL | m | 20 | | |
| | 8.2.3 | End units | | | | |
| 15.3.1 | | a) End wings (Bullnose) | No | 4 | | |
| 15.3.2 | 8.2.5 | Reflector plates | No | 70 | | |
| 15.4 | | SCHEDULED ITEMS FOR GUARDRAILS FOR PROTECTION AROUND SILOS | | | | |
| 15.5 | 8.2.1 | GUARDRAIL ON POSTS FOR ROAD B | | | | |
| 15.5.1 | | a) Galvanized | m | 15 | | |
| | 8.2.3 | End units | | | | |
| 15.5.2 | | a) End wings (Bullnose) | No | 4 | | |
| 15.5.3 | 8.2.5 | Reflector plates | No | 10 | | |
| 15.6 | PSMM 8.2.8 | Steel base plate and housing for post along road a as per drawings DRAWINGS 5331-C-DW-216 AND 217 | No | 15 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|-----------|---|----------------|-------|------|----------|
| 16 | | SECTION PGE: EROSION CONTROL | | | | |
| | PGE 7.3.1 | Supply of erosion control mat | | | | |
| 16.1 | | Supply of biodegradable jute netting/matting to dewatering facility embankment slope for erosion control. See Drawing 5331-C-DW-222 | m ² | 1 200 | | |
| | PGE 7.3.2 | Installation of erosion control mat | | | | |
| 16.2 | | Installation of biodegradable jute netting/matting to dewatering facility embankment slope for erosion control. See Drawing 5331-C-DW-222 | m ² | 1 200 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 3: DEWATERING FACILITY

SUMMARY OF SECTIONS

| SECTION | DESCRIPTION | | | | AMOUNT R |
|---|--|--|--|--|----------|
| 1 | SECTION C : SITE CLEARANCE | | | | |
| 2 | SECTION D: EARTHWORKS | | | | |
| 3 | SECTION DB: EARTHWORKS (PIPE TRENCHES) | | | | |
| 4 | SECTION DM: EARTHWORKS (ROADS, SUBGRADE) | | | | |
| 5 | SECTION G: CONCRETE (STRUCTURAL) | | | | |
| 6 | SECTION L: MEDIUM-PRESSURE PIPE LINES | | | | |
| 7 | SECTION LB: BEDDING (PIPES) | | | | |
| 8 | SECTION LC: CABLE DUCTS | | | | |
| 9 | SECTION LD: SEWERS | | | | |
| 10 | SECTION LE: STORMWATER DRAINAGE | | | | |
| 11 | SECTION ME: SUBBASE | | | | |
| 12 | SECTION MF: BASE | | | | |
| 13 | SECTION MJ: SEGMENTED PAVING | | | | |
| 14 | SECTION MK: KERBING AND CHANNELING | | | | |
| 15 | SECTION MM: ANCILLARY ROADWORKS | | | | |
| 16 | SECTION PGE: EROSION CONTROL | | | | |
| Total Carried Forward To Summary Of Bills | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|-------------|---|------|-----|------|----------|
| 1 | SANS 1200 C | SECTION C: SITE CLEARANCE | | | | |
| 1.1 | | CLEAR SITE | | | | |
| 1.1.1 | 8.2.1 | Clear and grub | m² | 525 | | |
| | 8.2.2 | Remove and grub large trees of girth: | | | | |
| 1.1.2 | | a) Less than 1.0m | No | 1 | | |
| 1.1.3 | | b) Over 1.0m up to 2.0m | No | 1 | | |
| 1.1.4 | | c) Over 2.0m up to 3.0m | No | 1 | | |
| | PSC 8.2.16 | Saw cut through existing surface for trench excavation | | | | |
| 1.1.5 | | a) Premix (20mm to 80mm deep) | m | 170 | | |
| 1.1.6 | | b) Reinforced Concrete (100mm to 200mm thick) | m | 40 | | |
| | PSC 8.2.17 | Removal of existing kerbing, channelling and edging | | | | |
| 1.1.7 | | c) Lift and remove existing interlocking pavers in the sidewalk (up to 80 mm thick) | m² | 368 | | |
| 1.1.8 | PSC 8.2.18 | Removal of existing asphalt surfacing | m² | 51 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|-------------|---|------|-----|------|----------|
| 2 | SABS 1200 D | SECTION D: EARTHWORKS | | | | |
| | PSD 8.3.3 | Restricted Excavation | | | | |
| 2.1 | | AT SECOND CLASS WATER PUMP STATION | | | | |
| | | a) Excavate in all materials and use for embankment or backfill or dispose, as ordered | | | | |
| 2.1.1 | | i) Stockpile and Maintain | m³ | 10 | | |
| 2.1.2 | | iii) Cut to fill | m³ | 10 | | |
| | | b) Extra-over payment item 8.3.3 for: | | | | |
| 2.1.3 | | i) Hard rock excavation | m³ | 1 | | |
| 2.1.4 | | c) Extra-over for item PSD 8.3.3 for importation of approved sand fill from commercial sources | m³ | 8 | | |
| 2.1.5 | | d) Extra-over for item PSD 8.3.3 for 5% cement stabilised sand | m³ | 2 | | |
| 2.1.6 | | e) Extra-over for item PSD 8.3.3 for restricted backfilling against structures | m³ | 5 | | |
| | 8.3.4 | Importing of Materials | | | | |
| | | a) Importation of materials from commercial sources or from borrow pits, place and compact | | | | |
| | | i) G9-quality material (compacted to 100% of Mod AASHTO density for fill to : | | | | |
| 2.1.7 | | - New concrete slab at the Second Class water pump station | m³ | 3 | | |
| | | Extra-over for importation of material from commercial sources | | | | |
| 2.1.8 | | i) G7-quality material (compacted to 95% of Mod AASHTO density for 100% for sand fill to Paved area | m³ | 5 | | |
| 2.1.9 | | ii) G8-quality material (compacted to 95% of Mod AASHTO density for fill to Paved area | m³ | 5 | | |
| | 8.3.8.1 | c) Excavate by hand in soft material to expose services | | | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|---------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| 2.1.10 | | ii) Existing second class water pipe (<100mm diameter) | m³ | 1 | | |
| 2.1.11 | | iii) Existing electrical cables | m³ | 5 | | |
| | 8.3.8.2 | Dealing with services that are at risk because of the construction of earthworks | | | | |
| | | a) Cables | | | | |
| 2.1.12 | | i) Electrical cables | No. | 2 | | |
| | | c) Temporary protection of services | | | | |
| 2.1.13 | | i) Existing electrical cables | No. | 2 | | |
| 2.1.14 | | ii) Existing second class water pipe <160mm pipe | No. | 2 | | |
| 2.1.15 | | iii) Existing water main < 100mm diameter | No. | 2 | | |
| 2.1.16 | | iv) 900mm diameter AC pipe | No. | 1 | | |
| 2.1.17 | | v) Existing stormwater pipe < 350mm diameter | No. | 3 | | |
| 2.1.18 | 8.3.10 | Topsoiling | m² | 25 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------------|--|----------------|-----|------|----------|
| 3 | SANS 1200 DB | SECTION DB: EARTHWORKS (PIPE TRENCHES) | | | | |
| 3.1 | | REMOVAL OF TOPSOIL | | | | |
| 3.1.1 | 8.3.1 | Remove topsoil to 150mm depth, stockpile and maintain | m ² | 350 | | |
| 3.2 | 8.3.2 | EXCAVATION | | | | |
| | PSDB 8.3.2 a) | a) Excavate by hand all materials for trenches, dewater, backfill, compact, and dispose of surplus or unsuitable material for: | | | | |
| | | 1) Pipes up to 150mm diameter and trench depth: | | | | |
| 3.2.1 | | i) Exceeding 0.0m up to 1.0m | m | 630 | | |
| 3.2.2 | | ii) Exceeding 1.0m up to 2.0m | m | 420 | | |
| 3.2.3 | | iii) Exceeding 2.0m up to 3.0m | m | 1 | | |
| | | 1) Pipes over 150mm up to 315mm diameter and trench depth: | | | | |
| 3.2.4 | | i) Exceeding 0.0m up to 1.0m | m | 20 | | |
| 3.2.5 | | ii) Exceeding 1.0m up to 2.0m | m | 20 | | |
| 3.2.6 | | iii) Exceeding 2.0m up to 3.0m | m | 2 | | |
| | PSDB 8.3.2 b) | Extra-over Payment items 8.3.2 for: | | | | |
| 3.2.7 | | 1) Hard rock excavation | m ³ | 1 | | |
| 3.2.8 | | 2) Hand excavation - soft material | m ³ | 756 | | |
| 3.2.9 | 8.3.2 | c) Excavate and dispose of unsuitable material from the trench bottom (provisional) | m ³ | 10 | | |
| | 8.3.3.1 | Make up deficiency in backfill material | | | | |
| 3.2.10 | | a) from stockpile | m ³ | 252 | | |
| 3.3 | 8.3.4 | PARTICULAR ITEMS | | | | |
| | PSDB 8.3.4 (c) | Excavate by hand in all material to verify positions of existing services, or as directed by the Engineer and backfill | | | | |
| 3.3.1 | | 1) Existing 63-100mm diameter potable water pipe | m ³ | 5 | | |
| 3.3.2 | | 2) Existing 150mm diameter second class water pipe | m ³ | 5 | | |
| 3.3.3 | | 3) Existing 700mm diameter rising main | m ³ | 2 | | |
| 3.3.4 | | 4) Existing 900mm diameter effluent pipe | m ³ | 2 | | |
| 3.3.5 | | 5) Existing 160mm-700mm sludge pipes around the aerators | m ³ | 10 | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R | |
|----------------------------------|--|--|--|-----|------|----------|--|
| Brought Forward | | | | | | | |
| 3.3.6 | 8.3.5 | 6) 2 No. Existing 200mm AC pipe around the sludge drying beds | m³ | 3 | | | |
| | | Existing services that adjoin or intersect trench | | | | | |
| | | a) Services that intersect a trench. | | | | | |
| 3.3.7 | | 1) Pipes up to 150mm diameter | No | 20 | | | |
| 3.3.8 | | 2) Pipes larger than 150mm up to 300mm diameter | No | 20 | | | |
| 3.3.9 | | 3) Pipes larger than 300mm up to 1.0m diameter | No | 20 | | | |
| 3.3.10 | | 4) Pipes larger than 1.0m diameter | No | 20 | | | |
| 3.3.11 | | 5) Telkom or Electrical cables and sleeves | No | 20 | | | |
| | | 8.3.5(b) | b) Services that adjoin a pipe trench. | | | | |
| 3.3.12 | | 1) Pipes up to 150mm diameter | m | 30 | | | |
| 3.3.13 | | 2) Pipes larger than 150mm up to 300mm diameter | m | 30 | | | |
| 3.3.14 | 3) Pipes larger than 300mm up to 1.0m diameter | m | 100 | | | | |
| 3.3.15 | 4) Pipes larger than 1.0m diameter | m | 30 | | | | |
| 3.3.16 | 5) Telkom or Electrical cables and sleeves | m | 30 | | | | |
| 3.4 | PSDB 8.3.6 | FINISHING | | | | | |
| | PSDB 8.3.6.1 | Reinstate road surfaces to existing road pavement complete with all courses 150mm thick basecourse | | | | | |
| 3.4.1 | | a) Asphalt of thickness not more than 60mm in roadway | m² | 51 | | | |
| 3.4.2 | | b) Basecourse material stabilised with 5% cement and compacted to 98% mod AASHTO density (2 layers of 150mm thick) | m³ | 20 | | | |
| 3.4.3 | | c) 150mm thick G5 quality subbase (from recovered material) compacted to 95% mod. AASHTO | m³ | 20 | | | |
| 3.4.4 | | e) Precast kerbing from storage, including laying, bedding and grouting | m | 100 | | | |
| 3.4.5 | | f) Reinforced concrete slab 200mm thickness | m² | 15 | | | |
| Total Carried Forward To Summary | | | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|-------------|--|------|-----|------|----------|
| 4 | SABS 1200 G | SECTION G: CONCRETE (STRUCTURAL) | | | | |
| 4.1 | | CONCRETE WORK AT THE SECOND CLASS WATER PUMP STATION | | | | |
| | 8.2 | Formwork | | | | |
| | 8.2.1 | Rough | | | | |
| | | a) Vertical, plane | | | | |
| 4.1.1 | | i) To sides of sumps etc (0mm to 500mm high) | m² | 2 | | |
| | | b) Narrow widths (0-300 mm high) | | | | |
| 4.1.2 | | i) Vertical, plane to plinths, slab | m | 21 | | |
| | 8.2.2 | Smooth - Plane | | | | |
| 4.1.3 | | a) Vertical (0 to 300mm high) | m | 5 | | |
| 4.1.4 | | b) Vertical (300mm to 1.0m high) | m² | 15 | | |
| | | c) Narrow widths (0-300 mm high) | | | | |
| 4.1.5 | | 2) Staircase riser (150mm) approx 450m height | No. | 2 | | |
| | 8.3 | Reinforcement | | | | |
| | 8.3.1 | Steel Bars | | | | |
| | | a) High tensile steel | | | | |
| 4.1.6 | | 1) 8mm up to 16mm diameter | t | 0.6 | | |
| | 8.3.2 | High Tensile Welded Mesh | | | | |
| 4.1.7 | | a) Mesh Ref 617 | m² | 42 | | |
| | 8.4.1 | Concrete | | | | |
| | | a) 35MPa /19mm concrete to base slab | | | | |
| 4.1.8 | | i) Walls | m³ | 5 | | |
| 4.1.9 | | ii) Floor slab | m³ | 15 | | |
| 4.1.10 | | iii) Plinth | m³ | 1 | | |
| 4.1.11 | | iv) Steps | m³ | 1 | | |
| | | b) 15MPa Structural screed to floor slab | | | | |
| 4.1.12 | | i) To floor slabs | m³ | 25 | | |
| 4.1.13 | | d) Extra-over item 8.4.1 for the addition of a protection layer of Sika 264 Selflevelling Epoxy or similar | m² | 42 | | |
| | 8.4.4 | Unformed surface finishes | | | | |
| 4.1.14 | | a) Steel float finish to top of slab | m² | 8 | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|-------------|---|----------------|-----|------|----------|
| Brought Forward | | | | | | |
| 4.1.15 | 8.5 | b) Wood float finish to floor and plinth slab | m ² | 42 | | |
| | | Joints | | | | |
| 4.1.16 | | a) Construction Joint A complete as shown on Drawing No. 5331-ST-IW-116 | m | 11 | | |
| 4.1.17 | PSG 8.7 (e) | b) Construction Joint C complete as shown on Drawing No. 5331-ST-IW-116 | m | 29 | | |
| | | Casting in of ducts into structure for ducts: | | | | |
| 4.1.18 | | b) 50mm diameter up to 100mm diameter | m | 40 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|-------------|---|------|-----|------|----------|
| 5 | SABS 1200 H | SECTION H: STRUCTURAL STEELWORK | | | | |
| 5.1 | | SECOND CLASS WATER PUMP STATION | | | | |
| 5.2 | 8.3.1 | SUPPLY AND FABRICATION | | | | |
| 5.2.1 | 8.3.1.1 | Preparation of shop detail drawings | Sum | 1 | | |
| 5.2.2 | 8.3.1.2 | Supply and fabrication of steelwork (see Drawing 5312-ST-A400-P) complete using steel to SANS 1431 Grade 355JR with all the necessary cleats, brackets, gussets, packs, etc., as follows: | t | 2.5 | | |
| 5.3 | | DELIVERY TO SITE | | | | |
| | 8.3.2 | Delivery of steelwork inclusive | | | | |
| 5.3.1 | | a) Normal loads | t | 2.5 | | |
| 5.4 | 8.3.3 | ERECTION | | | | |
| 5.4.1 | | Offloading, stacking on Site, and erection of steelwork | t | 2.5 | | |
| 5.5 | 8.3.4 | ERECTION BOLTS AND NUTS | | | | |
| | | Supply, deliver to Site and store as follows: | | | | |
| 5.5.1 | | Grade 4.6 bolts including flat or tapered washers, as appropriate (plain) | t | 0.1 | | |
| 5.5.2 | | Grade 8.8 bolts including thru' hardened flat or tapered washers, as appropriate | t | 0.1 | | |
| | 8.3.6 | HOLDING-DOWN BOLTS AND NUTS Supply, deliver, and stack on Site as directed for building in by civil contractor, as follows: | | | | |
| 5.5.3 | | 25mm diameter | t | 0.2 | | |
| 5.5.4 | | 16mm diameter | t | 0.2 | | |
| 5.5.5 | | M10 chemical anchors | No | 28 | | |
| 5.5.6 | | M16 Chemical anchors with 16mm plate | No | 28 | | |
| | 8.3.7 | Handrails | | | | |
| | | b) Hand rail assembly complete for: | | | | |
| | | 1) Horizontal | | | | |
| 5.5.7 | | i) New Second class water Pump station as shown on Drawing No. 5331-ST-MISC-413 | m | 5 | | |
| | | 3) Shaped ends | | | | |
| 5.5.8 | | i) New Second class water Pump station as shown on Drawing No. 5331-ST-MISC-413 | No. | 4 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|--------------|--|----------------|-----|------|----------|
| 6 | SABS 1200 HA | SECTION HA: STRUCTURAL STEELWORK (SUNDRY ITEMS) | | | | |
| 6.1 | PSHA 8.3.8 | Stainless steel 304 Gratings a) Second class water Pump Station : Over the sump as shown on Drawing No. 5331-ST-MISC-413 SUNDRIES 1) 50x50x5 HDG angles with fishtails cast into floor slab : | m ² | 5 | | |
| 6.1.1 | | a) Second class water Pump Station as shown on Drawing No.5331-ST-MISC-413 | m | 2 | | |
| 6.1.2 | PSHA 8.3.11 | Design, supply and cast into concrete road skip rail | Sum | 1 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|--------------|--|------|-----|------|----------|
| 7 | SABS 1200 HB | SECTION HB: CLADDING AND SHEETING | | | | |
| 7.1 | | NEW SECOND CLASS WATER PUMP STATION | | | | |
| | 8.2.2 | Supply, deliver to Site, erect and fix galvanised sheeting/cladding, etc., including the supply of all necessary fasteners, etc., and cutting and notching: (See Drawings) | | | | |
| 7.1.1 | | Approved troughed profile-cladding to sides and gables, 0,6mm | m² | 55 | | |
| 7.1.2 | | Approved troughed profile-sheeting to roofs, Galvanised steel 0,6mm | m² | 52 | | |
| | 8.2.3 | Flashings | | | | |
| 7.1.3 | | Bullnose flashing 450mm radius finish and profile to match sheeting | m | 10 | | |
| 7.1.4 | | Corner flashing | m | 12 | | |
| | 8.2.3 | Rainwater Goods | | | | |
| 7.1.5 | | a) 150mm diameter hot dipped galvanised steel gutter fixed to roof | m | 6 | | |
| 7.1.6 | | b) 110mm diameter uPVC downpipe fixed to sides | m | 12 | | |
| 7.1.7 | | c) Extra over downpipes for 45 deg elbow bend | No. | 2 | | |
| 7.1.8 | | d) Extra over downpipes for shoe | No. | 2 | | |
| | 8.2.5 | Tests | | | | |
| 7.1.9 | | a) As specified in Subclause 7.2.1 of SANS 1200 HB | Sum | 1 | | |
| 7.1.10 | | b) As specified in Subclause 7.2.2 of SANS 1200 HB | Sum | 1 | | |
| 7.1.11 | | c) As specified in Subclause 7.3.1 of SANS 1200 HB | Sum | 1 | | |
| 7.1.12 | | d) As specified in Subclause 7.3.2 of SANS 1200 HB | Sum | 1 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|--------------|--|------|-----|------|----------|
| 8 | SABS 1200 HC | SECTION HC: COROSSION PROTECTION OF STRUCTURAL STREELWORK | | | | |
| 8.1 | 8.2.2 | Transportation | t | 5.0 | | |
| | 8.2.3 | Surface preparation and coating application | | | | |
| 8.2 | | Hot-dip galvanising and paintwork of structural steelwork for canopy at the Second class water pump station as shown on Drawing No. 5331-ST-MISC-413 | t | 5.0 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|-------------|--|------|-----|------|----------|
| 9 | SANS 1200 L | SECTION L: MEDIUM-PRESSURE PIPELINES | | | | |
| | 8.2.1 | Supply, handle, lay, bed and test pipes complete with couplings/joints | | | | |
| | | a) HDPE PN10 (PE80) on class B bedding | | | | |
| 9.1 | | (i) 63mm dia | m | 300 | | |
| 9.2 | | (ii) 100mm dia | m | 100 | | |
| 9.3 | | (iii) 150mm dia | m | 680 | | |
| 9.1 | | SPECIALS AND FITTINGS | | | | |
| | 8.2.3 | Extra over 8.2.1 for supplying, laying, bedding and testing of specials complete with couplings: | | | | |
| | | HPDE PN10 fittings to suit pipework | | | | |
| 9.1.1 | | a) 63mm x 22.5 degree bend | No | 2 | | |
| 9.1.2 | | b) 63mm x 45 degree bend | No | 5 | | |
| 9.1.3 | | c) 63mm x 90 degree bend | No. | 30 | | |
| 9.1.4 | | d) 63mm equal Tee | No. | 15 | | |
| 9.1.5 | | e) 100x 63 Tee | No. | 1 | | |
| 9.1.6 | | f) 100mm x 90 degree bend | No. | 4 | | |
| 9.1.7 | | g) 100mm equal Tee | No. | 3 | | |
| 9.1.8 | | h) 150mm x 22.5 degree bend | No | 5 | | |
| 9.1.9 | | i) 150mm x 45 degree bend | No | 10 | | |
| 9.1.10 | | j) 150mm x 90 degree bend | No | 13 | | |
| 9.1.11 | | k) 150mm equal Tee | No | 30 | | |
| | | SG Iron Hydrant Tees | | | | |
| 9.1.12 | | i) 150mm x 80mm Tee | No | 3 | | |
| | | VJ Type Flange Adapter: | | | | |
| 9.1.13 | | a) 50mm diameter | No | 2 | | |
| 9.1.14 | | b) 65mm diameter | No | 2 | | |
| 9.1.15 | | c) 100mm diameter | No. | 2 | | |
| 9.1.16 | | d) 160mm diameter | No | 2 | | |
| | | VJ Type Coupling: | | | | |
| 9.1.17 | | a) 150mm diameter | No | 2 | | |
| | | Ductile Iron Saddles: | | | | |
| 9.1.18 | | b) 150mm diameter | No | 2 | | |
| Total Carried Forward | | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|------------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| 9.1.19 | | End Caps: b) 150mm diameter Stainless Steel BSP Socket | No | 1.0 | | |
| 9.1.20 | | a) 80mm dia socket | No | 1 | | |
| 9.2 | | VALVES | | | | |
| | 8.2.3 | Extra over 8.2.1 for the supplying, installation, testing and bedding of: PN16 Flanged Resilient Seal Gate Valve plus all fittings water and second class water reticulation system, as per details drawing | | | | |
| 9.2.1 | | a) 80mm dia flanged | No | 3 | | |
| 9.2.2 | | b) 100mm dia flanged | No. | 4 | | |
| 9.2.3 | | c) 160mm dia flanged | No | 18 | | |
| 9.2.4 | 8.2.11 | Thrust Blocks as per details drawing | m³ | 3 | | |
| | 8.2.13 | Valve chambers complete as shown on drawings: | | | | |
| 9.2.5 | | a) Type 2 valve chamber | No | 4 | | |
| 9.2.6 | | b) Hydrant chamber | No | 2 | | |
| 9.3 | | FIRE HYDRANTS | | | | |
| | | a) Supply, install and connection of fire hydrant with new valve | | | | |
| 9.3.1 | | i) with tamperproof valve | No | 2 | | |
| 9.3.2 | | b) Installation and connection of fire hydrant | No | 2 | | |
| 9.3.3 | | c) 110mm x 80mm SG Iron Tees | No | 2 | | |
| 9.3.4 | | d) 500mm long piece , flanged on both sides | No | 2 | | |
| | PSL 8.2.20 | Markers for Valves and Fire Hydrants | | | | |
| 9.3.5 | | Markers Posts | No | 20 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|--------------|---|------|-----|------|----------|
| 10 | SANS 1200 LB | SECTION LB : BEDDING (PIPES) | | | | |
| | 8.2.1 | Provision of bedding from trench excavation | | | | |
| 10.1 | | (a) Selected granular material | m³ | 32 | | |
| 10.2 | | (b) Selected fill material | m³ | 128 | | |
| | 8.2.2.3 | Provision of bedding by importation from commercial sources | | | | |
| 10.3 | | (a) Selected granular material | m³ | 128 | | |
| 10.4 | | (b) Selected fill material | m³ | 32 | | |
| | PSLB 8.2.6 | Provision of Bedding in waterlogged conditions | | | | |
| 10.5 | | (a) Single size 19mm stone | m³ | 5 | | |
| 10.6 | | (b) Bidim A4 or equal approved geotextile | m² | 10 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|----------------------------------|--------------|------------------------------------|------|------|------|----------|
| 11 | SANS 1200 MK | SECTION MK: KERBING AND CHANNELING | | | | |
| | 8.2.1 | Concrete kerbing | | | | |
| | | a) Barrier Kerb (Type BK2) | | | | |
| 11.1 | | i) Straights | m | 150 | | |
| 11.2 | | ii) 1m to 4m radius | m | 5 | | |
| 11.3 | | iii) 4m to 20m radius | m | 5 | | |
| 11.4 | | iii) Exceeding 20m radius | m | 10.0 | | |
| | | Channel | | | | |
| 11.5 | | a) Type C1 channel | m | 300 | | |
| 11.6 | | b) Type C1 double channel | m | 10 | | |
| | PSMK 8.2.14 | Lift and reinstate | | | | |
| | | a) Barrier Kerb (BK2) | | | | |
| 11.7 | | i) Striahts | No | 20 | | |
| Total Carried Forward To Summary | | | | | | |

BILL 1 BOQ 4: SERVICES POTABLE WATER & SECOND CLASS WATER
SUMMARY OF SECTIONS

| SECTION | DESCRIPTION | | | AMOUNT R |
|---|---|--|--|----------|
| 1 | SECTION C: SITE CLEARANCE | | | |
| 2 | SECTION D: EARTHWORKS | | | |
| 3 | SECTION DB: EARTHWORKS (PIPE TRENCHES) | | | |
| 4 | SECTION G: CONCRETE (STRUCTURAL) | | | |
| 5 | SECTION H: STRUCTURAL STEELWORK | | | |
| 6 | SECTION HA: STRUCTURAL STEELWORK (SUNDRY ITEMS) | | | |
| 7 | SECTION HB: CLADDING AND SHEETING | | | |
| 8 | SECTION HC: COROSSION PROTECTION OF STRUCTURAL STREELWORK | | | |
| 9 | SECTION L: MEDIUM-PRESSURE PIPELINES | | | |
| 10 | SECTION LB : BEDDING (PIPES) | | | |
| 11 | SECTION MK: KERBING AND CHANNELING | | | |
| Total Carried Forward To Summary Of Bills | | | | |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| | | <u>SECTION 1</u> | | | | |
| | | <u>PRELIMINARIES</u> | | | | |
| | | NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 190 for Haylett formula purposes | | | | |
| | | Allow for preliminary and general items | | | | |
| 1.1 | | Fixed | Item | 1 | | |
| 1.2 | | Time | Item | 1 | | |
| 1.3 | | Value | Item | 1 | | |
| Total Carried Forward To Summary: Section 1 | | | | | | |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| | | <u>SECTION 2</u> <u>ALTERATIONS</u> PREAMBLES For Preambles see "Model preambles for Trades" NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 102 for Haylett formula purposes SUPPLEMENTARY PREAMBLES Refer to the specification at the beginning of this document for full requirements REMOVAL OF EXISTING WORK <u>Breaking down/up and removing brickwork, concrete, etc</u> Note: breaking of walls deemed to include plaster, tile or paint finishes <u>Take up and remove roofs, ceilings, partitions, floors, etc.</u> | | | | |
| 2.1 | | M90 Block wall or half brick wall | m2 | 69 | | |
| 2.2 | | Loose stone chip to flat roofs not exceeding 100mm thick, carefully stockpile re-use | m2 | 236 | | |
| 2.3 | | Plasterboard ceilings, including, insulation, cornice and light fittings | m2 | 16 | | |
| 2.4 | | Woodwool/rockwool acoustic ceiling panels and exposed Tee suspension system, affixed directly to concrete soffit, including grinding or scraping off all adhesive | m2 | 135 | | |
| 2.5 | | Rockwool panels as before but suspended not exceeding 1m below concrete soffit, including cornices and minor bulkheads. | m2 | 61 | | |
| 2.6 | | Acrylic or bituminous waterproofing membrane to flat concrete roofs including protective layers, and prepare for new waterproofing (elsewhere) | m2 | 236 | | |
| 2.7 | | Timber or gypsum clad partition walling approximately 90mm thick, including studs and grounds (not exceeding 3m high) | m2 | 15 | | |
| 2.8 | | Existing control equipment enclosure, approximately 2800mm high and 5400mm girth with drywall panelling and cupboard doors including sundry obsolete switchgear and guages | Item | 1 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| 2.9 | | Existing control equipment floor duct approximately 3000 x 1200 x 400mm deep, including vastrap flooring and frame and sundry sleeving and cabling and prepare for filling (elsewhere) | Item | 1 | | |
| 2.10 | | Spiral staircase 2800mm high and approximately 1700mm diameter including precast concrete treads and steel support complete | Item | 1 | | |
| | | <u>Taking out and removing doors, windows, etc including thresholds, sills, etc from brick walls, generally</u> | | | | |
| 2.11 | | Single hollow core door and steel frame | No | 9 | | |
| 2.12 | | Double (or one and half) door and frame | No | 3 | | |
| | | <u>Taking out and removing aluminium shopfront style windows, or parts of aluminium shopfront style windows, including fair cutting and repairs to adjacent mullions, cills, etc, and temporary support</u> | | | | |
| 2.13 | | Louvred fanlight 1600 x 700mm high in two panes | No | 1 | | |
| 2.14 | | Window 4750 x 1318mm high, in four equal panes | No | 2 | | |
| 2.15 | | Glazed door and sidelight, 1188 x 2058mm overall | No | 6 | | |
| | | <u>Taking off and removing wall finishes</u> | | | | |
| 2.16 | | White glazed tile or similar, patch and stone back plaster under and prepare for new finishes | m2 | 67 | | |
| | | <u>Taking up and removing floor coverings</u> | | | | |
| 2.17 | | Quarry Tile floor including timber skirtings including scraping, grinding or otherwise removing all traces of old adhesive and preparing screed for new tiles (elsewhere), | m2 | 169 | | |
| 2.18 | | Carpet and underlay, ditto | m2 | 93 | | |
| | | <u>Take out and remove sanitary fittings, including cutting back supply and waste piping and carefully capping/sealing same</u> | | | | |
| 2.19 | | Toilet pedestal and cistern | No | 4 | | |
| 2.20 | | Shower enclosure and plinth | No | 2 | | |
| 2.21 | | Basin or sink | No | 6 | | |
| 2.22 | | 250l Geyser ditto, but carefully set aside for re-use | Item | 1 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | <u>Taking out/off and removing sundry metal or timber fittings</u> | | | | |
| 2.23 | | Steel balustrade approx 1m high, part curved | m | 8 | | |
| 2.24 | | Sign, shelf or other minor fitting | No | 25 | | |
| 2.25 | | Pinboard, whiteboard or similar | No | 8 | | |
| 2.26 | | Built in cupboard, not exceeding 5m2 on elevation | No | 4 | | |
| 2.27 | | Reception counter and glazed screen, not exceeding 6m2 on elevation | Item | 1 | | |
| 2.28 | | Built in shelving to existing admin store, not exceeding 15m2 on elevation | Item | 1 | | |
| 2.29 | | Built in cupboards to existing tea kitchen, including floor and high level cupboards and counter-tops | Item | 1 | | |
| 2.30 | | Laboratory tables, built in cupboards and counter tops and fume extractor complete from existing laboratory room | Item | 1 | | |
| 2.31 | | Obsolete ducted air handling to passage ceilings (approximately 20m long) including high level room outlet vents (approximately 10No, not exceeding 2,5m2), and timber surrounds and prepare for filling (elsewhere) | Item | 1 | | |
| | | BUILDING UP OPENINGS | | | | |
| | | <u>Blockwork in class II mortar in building up openings</u> | | | | |
| 2.32 | | 90mm Blockwork | m2 | 2 | | |
| 2.33 | | 150mm Blockwork | m2 | 5 | | |
| | | <u>Brickwork in NFP bricks in class II mortar in building up openings</u> | | | | |
| 2.34 | | One brick wall | m2 | 4 | | |
| | | SUNDRIES | | | | |
| 2.35 | | Cutting toothings and bonding new brick or block-work to existing | m2 | 12 | | |
| | | Calci face brick to match existing, or to Architects approval | | | | |
| 2.36 | | Extra over brickwork for face brickwork in patches | m2 | 4 | | |
| | | MAKING GOOD FINISHES, ETC | | | | |
| | | <u>Making good internal cement plaster</u> | | | | |
| 2.37 | | Walls in patches | m2 | 12 | | |
| | | <u>Making good profiled steel roof sheeting to match existing</u> | | | | |
| 2.39 | | 0.8mm IBR profile colour finished, not exceeding 25Deg pitch, in patches | m2 | 5 | | |
| 2.40 | | 0.8mm Flashings, not exceeding 400mm girth thrice bent, ditto | m | 8 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | NEW OPENINGS THROUGH EXISTING WALLS ETC | | | | |
| | | Note: walls may have partial openings already from removed windows, etc | | | | |
| | | <u>Breaking out for and forming openings through plasterboard partition walls including new timber grounds and making good plasterboard on both sides and into reveals</u> | | | | |
| 2.41 | | Opening not exceeding 0,5m2 through one brick wall | No | 1 | | |
| | | <u>Breaking out for and forming openings through brick walls including propping for precast or insitu cast lintels (taken elsewhere) and making good plaster on both sides and into reveals and with screeded concrete thresholds with steel trowelled finish (making good paintwork elsewhere)</u> | | | | |
| 2.42 | | Opening not exceeding 0,5m2 through one brick wall | No | 1 | | |
| 2.43 | | Ditto, exceeding 0,5m2 and not exceeding 1,5m2 | No | 3 | | |
| | | <u>Breaking out for and forming openings through brick walls for new doors and frames including propping for precast or cast insitu concrete lintels (taken elsewhere) and making good plaster on both sides and into reveals and with rendered concrete thresholds with steel trowelled finish (new doors and frames and making good paintwork elsewhere)</u> | | | | |
| 2.44 | | Single door through one brick wall | No | 1 | | |
| | | <u>Breaking out for and forming opening through reinforced concrete</u> | | | | |
| 2.45 | | Opening 2400 x 750mm high through 150mm fluted wall | No | 1 | | |
| 2.46 | | Opening approximately 2400 x 13000mm wide through slab approximately 200mm thick for stair (elsewhere), including fair cutting all round | No | 1 | | |
| 2.47 | | Opening for foundation 1500 x 1500 x 300mm deep through existing surface bed and earth sub-base including fair cutting all round and making good damp proof membrane | Item | 1 | | |
| | | BUILDING WORK IN CONNECTION WITH ELECTRICAL AND MECHANICAL | | | | |
| | | <u>Take out and remove</u> | | | | |
| 2.48 | | Surface mounted electrical conduit, related conductors | m | 45 | | |
| 2.49 | | light fitting or similar and strip out related conductors | No | 35 | | |
| 2.50 | | Switch or plug outlet, related conductors and prepare for new | No | 28 | | |
| 2.51 | | DB Board including breakers, related conductors | No | 5 | | |
| 2.52 | | Air conditioner unit | No | 10 | | |
| 2.53 | | Specialist IT and server equipment, plant control equipment relocation | Item | 1 | | |
| | | | | | | R |
| Total Carried Forward To Summary: Section 2 | | | | | | |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| | | SECTION 3 | | | | |
| | | CONCRETE, FORMWORK AND REINFORCEMENT | | | | |
| | | For preambles see "Model Preambles for Trades" | | | | |
| | | NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 110 for Haylett formula purposes | | | | |
| | | REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES | | | | |
| | | <u>25MPa/19mm concrete</u> | | | | |
| 3.1 | | Strip footings, bases, etc | m3 | 2 | | |
| | | REINFORCED CONCRETE | | | | |
| | | <u>25MPa/19mm concrete</u> | | | | |
| 3.2 | | Filling to steel stairs and landings | m3 | 1 | | |
| 3.3 | | Surface beds on waterproofing | m3 | 1 | | |
| 3.4 | | Walls | m3 | 1 | | |
| | | TEST BLOCKS | | | | |
| 3.5 | | Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional) | No | 1 | | |
| | | ROUGH FORMWORK (DEGREE OF ACCURACY II) | | | | |
| | | <u>Rough formwork to sides</u> | | | | |
| 3.6 | | Walls, not exceeding 3.5m high | m2 | 12 | | |
| | | EXTRA ON ROUGH FORMWORK FOR | | | | |
| 3.7 | | Fluted (IBR) face to match existing walls, including all patching, stoning and dressing to smooth finish | m2 | 6 | | |
| | | REINFORCEMENT | | | | |
| | | <u>Steel reinforcement to structural concrete work</u> | | | | |
| 3.8 | | Bars in diameters not exceeding 25mm | t | 5 | | |
| | | <u>Fabric reinforcement</u> | | | | |
| 3.9 | | Type 193 fabric reinforcement in concrete surface beds, slabs, etc | m2 | 2 | | |
| Total Carried Forward To Summary: Section 3 | | | | | | R |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|-----|------|----------|
| | | SECTION 4 | | | | |
| | | MASONRY | | | | |
| | | For preambles see "Model Preambles for Trades" | | | | |
| | | NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 116 for Haylett formula purposes | | | | |
| | | SUPERSTRUCTURE | | | | |
| | | <u>Brickwork of NFP bricks in class II mortar</u> | | | | |
| 4.1 | | Half brick walls | m2 | 29 | | |
| 4.2 | | One brick walls | m2 | 10 | | |
| | | BRICKWORK SUNDRIES | | | | |
| | | <u>Brickwork reinforcement</u> | | | | |
| 4.3 | | 75mm Built in horizontally | m | 90 | | |
| 4.4 | | 150mm Ditto | m | 30 | | |
| | | <u>Prestressed fabricated lintels</u> | | | | |
| 4.5 | | 100 x 70mm Lintels in lengths not exceeding 3m | m | 12 | | |
| | | <u>Galvanised hoop iron cramps, ties, etc</u> | | | | |
| 4.6 | | 30 x 1,6mm Cramp 500mm long with one end fixed to window or door frames, etc. and built into brickwork | No | 22 | | |
| | | <u>Expansion joints with 10mm 'Masonite' bitumen impregnated softboard between horizontal and/or vertical brick or concrete surfaces:</u> | | | | |
| 4.7 | | Joint not exceeding 300mm high or wide. | m | 17 | | |
| Total Carried Forward To Summary: Section 4 | | | | | | R |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| | | SECTION 5 WATERPROOFING For preambles see "Model Preambles for Trades" NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 120 for Haylett formula purposes SUPPLEMENTARY PREAMBLES <u>Waterproofing</u> Waterproofing of roofs, basements, etc shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets etc with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs DAMP-PROOFING OF WALLS AND FLOORS <u>One layer of 375 micron "Consol Plastics Brikgrip DPC" embossed damp proof course</u> 5.1 In walls m2 2 <u>One layer of 250 micron "Consol Plastics Gunplas USB Green" waterproof sheeting sealed at laps with "Gunplas Pressure Sensitive Tape"</u> 5.2 Under surface beds m2 5 WATERPROOFING TO ROOFS, BASEMENTS, ETC <u>4mm "Derbigum SP" fully bonded waterproofing</u> 5.3 Flat roofs, upstands, etc m2 270 5.4 Additional membrane 150mm girth at internal and external angles m 105 5.5 Additional membrane at 100mm diameter outlet No 2 PROTECTIVE ROOFING PAINT, ETC <u>Two coats bituminous aluminium paint</u> 5.6 On waterproofing to flat roofs m2 270 <u>High density polystyrene foam sheet</u> 5.7 25mm, laid loose over roof waterproofing m2 236 <u>Stone chip</u> 5.8 From stock piles on site (supplement where necessary), spread and level in nominal 80mm layer m2 236 JOINT SEALANTS ETC <u>Polysulphide sealing compound including backing cord, bond breaker, primer, etc</u> 5.9 10 x 10mm In expansion joints m 17 | | | | |
| Total Carried Forward To Summary: Section 5 | | | | | | R |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|-----|------|----------|
| | | SECTION 6 FLOOR COVERINGS, WALL LININGS, ETC For preambles see "Model Preambles for Trades" NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 130 for Haylett formula purposes FLOOR COVERINGS <u>Van Dyck "FLORPOINT" broadloom carpet tile, 500 x 500mm.</u> <u>(Sample to be provided to client for approval)</u> 6.1 Floors m2 77 <u>Belgotex "Sylvan" Heavy duty Dry back vinyl plank flooring,</u> <u>including stripping and polishing, (Sample to be provided to client for approval)</u> 6.2 Floors m2 61 <u>Trims, edging, etc</u> 6.3 Aluminium cover strip 45mm m 10 | | | | |
| Total Carried Forward To Summary: Section 6 | | | | | | R |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| | | <u>SECTION 7</u> <u>CARPENTRY AND JOINERY</u> For preambles see "Model Preambles for Trades" NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 126 for Haylett formula purposes SKIRTINGS, ETC. <u>Wrought meranti</u> 19 x 70mm Skirting plugged, including 30mm quadrant to match existing DOORS <u>Semi-solid flush panel door with concealed edge strips and timber veneer</u> 40mm Single door (D04), 813 x 2032mm high <u>Solid core flush panel door with concealed edge strips and timber veneer</u> 40mm Single door (D05/06), 813 x 2032mm high | | | | |
| 7.1 | | | m | 196 | | |
| 7.2 | | | No | 1 | | |
| 7.3 | | | No | 3 | | |
| Total Carried Forward To Summary: Section 7 | | | | | | R |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| | | SECTION 8 CEILINGS, PARTITIONS AND ACCESS FLOORING <p>For preambles see "Model Preambles for Trades"</p> <p>NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 128 for Haylett formula purposes</p> SUPPLEMENTARY PREAMBLES <u>Rhino-Drywall PartitionSystem</u> <p>Partitioning shall comprise steel framing formed of 52 x 25 x 0,6mm top and bottom tracks and 51 x 35 x 0,6mm vertical studs at maximum 600mm centres, friction fitted or pop-riveted to the top and bottom tracks with similar additional vertical studs as necessary at abutments, ends, etc and covered as described with wallboard screwed to studding with Drywall screws at maximum 220mm centres.</p> <p>Boards are to be bevel edged gypsum plasterboard sheets generally in 1200mm widths and in single lengths to the height. Sheets shall be butt jointed and finished with Rhino tape and Readymix D jointing compound all in accordance with the manufacturer's instructions. Intersections and abutments are measured separately and descriptions shall be deemed to include any additional studs, corner beads, jointing compound, tape, etc.</p> CEILINGS <u>6,4mm gypsum plasterboard with "Rhino M" cover strips</u> <p>Ceilings including 38 x 38mm sawn softwood branderling at 450mm centres</p> <p>Extra on ceiling for opening for surface mounted light fitting (elsewhere) including additional support if required</p> <p>75mm Coved cornices to suit</p> <u>6.4mm Gypsum plasterboard with skimmed joints and faces, including ground, hangers, etc</u> <p>200mm high vertical bulkhead (at change in ceiling levels) including additional support and trim top and bottom</p> <u>Gyprex white washable vinyl clad lay in proprietary suspended ceiling system including exposed Tees, hangers, etc</u> <p>600 x 600 x 12,5 Panels, suspended not exceeding 1m from concrete structure</p> <p>22mm Shadowline cornice to suit</p> <p>Extra on ceiling for opening for drop in light fitting, including all additional trim and support if required</p> INSULATION <u>Isotherm Insulation</u> <p>100mm Thick, to ceilings</p> | | | | |
| 8.1 | | Ceilings including 38 x 38mm sawn softwood branderling at 450mm centres | m2 | 16 | | |
| 8.2 | | Extra on ceiling for opening for surface mounted light fitting (elsewhere) including additional support if required | No | 2 | | |
| 8.3 | | 75mm Coved cornices to suit | m | 16 | | |
| 8.4 | | 200mm high vertical bulkhead (at change in ceiling levels) including additional support and trim top and bottom | m | 50 | | |
| 8.5 | | 600 x 600 x 12,5 Panels, suspended not exceeding 1m from concrete structure | m2 | 187 | | |
| 8.6 | | 22mm Shadowline cornice to suit | m | 223 | | |
| 8.7 | | Extra on ceiling for opening for drop in light fitting, including all additional trim and support if required | No | 22 | | |
| 8.8 | | 100mm Thick, to ceilings | m2 | 16 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | DRYWALL PARTITIONS ETC | | | | |
| | | Work Group No 138 for Haylett formula purposes | | | | |
| | | <u>Rhino-Drywall steel stud partitioning with 12,5mm Rhino board both sides</u> | | | | |
| 8.9 | | Partitioning 2800mm high | m | 9 | | |
| | | <u>Extra over Rhino dry-wall partitioning for:</u> | | | | |
| 8.10 | | Right angle or skew angle (on plan) | No | 3 | | |
| 8.11 | | Tee intersection or wall intersection | No | 3 | | |
| 8.12 | | Semi solid flush door (D03), including aluminium frame and ironmongery | No | 2 | | |
| 8.13 | | Aluminium glazed deadlight (W08) 600 x 1800mm high with 6mm safety glass | No | 1 | | |
| 8.14 | | Ditto but 675 x 1800mm (W09) high | No | 1 | | |
| 8.15 | | Ditto but 2000 x 900mm high (W10). ditto | No | 1 | | |
| | | PROPRIETARY PARTITION SYSTEMS | | | | |
| | | <u>Vitrex "Classic" modular toilet partitions including supports and fixings complete</u> | | | | |
| 8.16 | | 1800mm high | m | 10 | | |
| | | <u>Extr over Vitrex toilet partitioning for:</u> | | | | |
| 8.17 | | Right angle | No | 2 | | |
| 8.18 | | Tee intersection or wall intersection | No | 8 | | |
| 8.19 | | Cubicle door, including frame finish and furniture | No | 4 | | |
| | | | | | | R |
| Total Carried Forward To Summary: Section 8 | | | | | | |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|-----|------|----------|
| | | SECTION 9 | | | | |
| | | IRONMONGERY | | | | |
| | | For preambles see "Model Preambles for Trades" | | | | |
| | | NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 132 for Haylett formula purposes | | | | |
| | | EN-SUITE LOCKS | | | | |
| 9.1 | | Union "Gower, 3 lever morticed lockset | No | 2 | | |
| | | PUSH PLATES AND HANDLES | | | | |
| 9.2 | | Union AL5066-06AS, push plate | No | 2 | | |
| 9.3 | | Union 5D63 Pull handle on 152 x 152mm backplate, | No | 2 | | |
| | | DOOR CLOSERS | | | | |
| 9.4 | | Dorma TS91B, cam action | No | 2 | | |
| | | BATHROOM | | | | |
| 9.5 | | Franke HF2400HD stainless steel sensor operated hand dryer | No | 2 | | |
| 9.6 | | Franke "Rodan" RODx618 soap dispenser | No | 2 | | |
| 9.7 | | Franke "Rodan" RODX607 wall mounted stainless steel bin | No | 2 | | |
| 9.8 | | Franke "Medius" MEDX001HP 600mm stainless steel towel rail | No | 1 | | |
| 9.9 | | Vitraflex TR3 stainless steel lockable toilet paper dispenser | No | 4 | | |
| | | SUNDRY | | | | |
| 9.10 | | Union AL8730AS stop | No | 5 | | |
| 9.11 | | Emergency key box (break glass) with key | No | 2 | | |
| 9.12 | | Union AL5063E-06ASE (male or female) doorsign | No | 2 | | |
| 9.13 | | 300 x 350mm Trox "AGS - T", natural anodised door grille including fitting in timber door (door elsewhere) | No | 6 | | |
| 9.14 | | Service all existing ironmongery to Admin building; strip locksets (approx 10No), replace worn components, lubricate and re-assemble including provision of new key and master key sets as required | Item | 1 | | |
| Total Carried Forward To Summary: Section 9 | | | | | | R |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| | | <u>SECTION 10</u> <u>METALWORK</u> <p>For preambles see "Model Preambles for Trades"</p> <p>NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 136 for Haylett formula purposes</p> SUPPLEMENTARY PREAMBLES <p>Note: Aluminium windows to match existing windows. New shopfront windows are generally to be inserted or removed from existing shopfront style aluminium facade, and must match the mullion style and be fitted into existing openings. Rates to include for repairs to all purpose made cills, plinth detail, etc</p> <p>Windows generally are glazed with 5mm safety glass (OEApproved). Tinting, as well as removal of the old existing tint, is taken under the glazing trade</p> <p>Deadlights in partition walls are taken under "Ceilings and Partitions Trade"</p> <p>Aluminium doors and windows are to include for all furniture and ironmongery, as per the Architects schedules 5331-ST-A-14/15 & 16</p> ALUMINIUM <u>Aluminium windows including frames and furniture, glazed</u> | | | | |
| 10.1 | | Deadlight (W11) 600 x 900mm high, single fixed pane | No | 1 | | |
| 10.2 | | Ditto (W12) 1500 x 900, ditto | No | 1 | | |
| 10.3 | | Fanlight (D01) 1600 x 700mm high in two equal fixed panes | No | 1 | | |
| 10.4 | | Window (W13) 600 x 1800mm high, single fixed pane | No | 1 | | |
| 10.5 | | Window (W06) 2400 x 750mm high, in two equal side hung pivoting lights | No | 1 | | |
| 10.6 | | Shopfront window (W01/W03) 1188 x 2058mm high, single fixed pane | No | 2 | | |
| 10.7 | | Ditto (W02) but 1318mm high, ditto | No | 1 | | |
| 10.8 | | Ditto (W04) but 1048mm high, ditto | No | 1 | | |
| 10.9 | | Shopfront window (W07) 4750 x 1318mm high, in four equal panes | No | 1 | | |
| | | <u>Aluminium doors including frames and ironmongery, glazed with clear safety glass</u> | | | | |
| 10.10 | | Single door and sidelight combination (D02) 1188 x 2058mm high overall | No | 1 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| 10.11 | | GALVANISED PRESSED STEEL DOOR FRAMES <u>1,2mm Double rebated frames suitable for half brick walls</u> Frame for door 813 x 2032mm high | No | 4 | | |
| 10.12 | | SUNDRY METALWORK Purpose built steel stair structure including all welded frames, treads and fixing for concrete infill (elsewhere) | Item | 1 | | |
| 10.13 | | Balustrading to last | Item | 1 | | |
| Total Carried Forward To Summary: Section 10 | | | | | | R |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|--|------|-----|------|----------|
| | | <u>SECTION 11</u> <u>PLASTERING</u> For preambles see "Model Preambles for Trades" NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 142 for Haylett formula purposes <u>SCREEDS</u> <u>Cementitious self-levelling screed topping, including preparation/ grinding and primer</u> 11.1 Nominal 4mm thick to floors m2 276 <u>INTERNAL PLASTER</u> <u>Cement plaster on brickwork</u> 11.2 On walls m2 97 11.3 On narrow widths m2 8 | | | | |
| Total Carried Forward To Summary: Section 11 | | | | | | |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|--|------|-----|------|----------|
| | | <u>SECTION 12</u> | | | | |
| | | <u>TILING</u> | | | | |
| | | For preambles see "Model Preambles for Trades" | | | | |
| | | NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 144 for Haylett formula purposes | | | | |
| | | <u>WALL TILING</u> | | | | |
| | | <u>300 x 200mm Johnson ceramic</u> (Sample pattern to be provided for Client Approval) | | | | |
| 12.1 | | In patterns, including adhesive and grouting in coloured grout | m2 | 77 | | |
| 12.2 | | Ditto but in narrow widths, ditto | m2 | 8 | | |
| | | <u>Trim, edging, etc</u> | | | | |
| 12.3 | | uPVC Corner trim | m | 18 | | |
| 12.4 | | Natural anodised aluminium tile edge strip | m | 8 | | |
| | | <u>FLOOR TILING</u> | | | | |
| | | <u>330 x 330mm Johnson ceramic. (Sample to be provided to client for approval)</u> | | | | |
| 12.5 | | In patterns, including adhesive and grouting in coloured epoxy grout | m2 | 138 | | |
| 12.6 | | Ditto but in narrow widths including stair treads, ditto | m2 | 10 | | |
| 12.7 | | 75mm high Skirting tile | m | 5 | | |
| | | <u>Trim, edging, etc</u> | | | | |
| 12.8 | | Natural anodised aluminium tile edge strip | m | 25 | | |
| Total Carried Forward To Summary: Section 12 | | | | | | R |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| | | <u>SECTION 13</u> <u>PLUMBING AND DRAINAGE</u> For preambles see "Model Preambles for Trades" NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 146 for Haylett formula purposes <u>SOIL DRAINAGE</u> Note: Rates for piping in trenches to include for all excavation, imported bedding, compaction and carting off <u>uPVC pipes, Class 34</u> | | | | |
| 13.1 | | 110mm Pipes laid in and including trenches not exceeding 1m deep | m | 9 | | |
| 13.2 | | Ditto but exceeding 1m and not exceeding 2m deep | m | 18 | | |
| | | <u>Extra over uPVC pipes for fittings</u> | | | | |
| 13.3 | | 110mm Bend | No | 4 | | |
| 13.4 | | 110mm Junction | No | 7 | | |
| 13.5 | | 110mm Rod/Inspection eye | No | 2 | | |
| | | <u>uPVC gulleys</u> | | | | |
| 13.6 | | 250mm Gully not exceeding 600mm deep, including concrete base and half brick surround plastered | No | 2 | | |
| | | <u>Masonry Sumps, catchpits, inspection chambers, etc (gratings and covers elsewhere), including all excavation, reinforced concrete base and slabs</u> | | | | |
| | | Note: All brickwork to be hard burnt engineering brick, brought to fair face | | | | |
| 13.7 | | Inspection chamber 650 x 650mm and exceeding 1500mm and not exceeding 1750mm deep internally | No | 1 | | |
| | | <u>Gratings, covers, etc</u> | | | | |
| 13.8 | | 450 x 600mm, 68kg Cast iron single seal manhole cover and frame type 8A | No | 1 | | |
| | | <u>Sundries</u> | | | | |
| | | <u>Extra over all soil drainage for:</u> | | | | |
| 13.9 | | Breaking up hard rock, reinforced concrete and the like | m3 | 4 | | |
| 13.10 | | Search, locate, excavate for and break into existing manhole for new connection | No | 2 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | SANITARY FITTINGS | | | | |
| | | Work Group No 148 for Haylett formula purposes | | | | |
| 13.11 | | Vaal "Orchid" T1 wall hung WC pan 439100WH including brackets and "Jazz" thermoset seat | No | 4 | | |
| 13.12 | | Vaal "Hibiscus" wall hung basin 702303WP(single tap hole) including brackets | No | 4 | | |
| 13.13 | | Vaal "Lavatera" T1 wall hung urinal 705426WH, including brackets, domed grating and spreader | No | 1 | | |
| 13.14 | | Franke "Cascade" single bowl sink CDX611 925 x 500mm, including basket strainer waste | No | 1 | | |
| | | WASTE UNIONS ETC | | | | |
| 13.15 | | 40mm Basin waste union. | No | 4 | | |
| | | TRAPS ETC | | | | |
| | | <u>Flexitraps</u> | | | | |
| 13.16 | | 50mm trap | No | 1 | | |
| | | <u>Cobra Watertech</u> | | | | |
| 13.17 | | 32mm 350 CP bottle trap | No | 5 | | |
| | | TAPS, VALVES, ETC | | | | |
| 13.18 | | 15mm "Ball-o-stop valve | No | 5 | | |
| 13.19 | | 15mm Cobra "Star" pillar tap 111-15 | No | 4 | | |
| 13.20 | | Ditto but high waist, ditto 113 | No | 1 | | |
| 13.21 | | Cobra "Junior" Top entry toilet flush valve FJ2-210 | No | 4 | | |
| 13.22 | | Ditto but urinal flush valve FJ6-000 | No | 1 | | |
| 13.23 | | 20mm Combination pressure reducing valve, stop cock and screen | No | 1 | | |
| 13.24 | | 20mm Non return/ air vent valve | No | 2 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | SANITARY PLUMBING | | | | |
| | | <u>uPVC soil and vent pipe</u> | | | | |
| 13.25 | | 50mm Pipes | m | 15 | | |
| 13.26 | | 110mm Pipes | m | 11 | | |
| | | <u>Extra over uPVC pipes for fittings</u> | | | | |
| 13.27 | | 50mm BSP adaptor | No | 5 | | |
| 13.28 | | 50mm Bend | No | 2 | | |
| 13.29 | | 50mm Access bend | No | 5 | | |
| 13.30 | | 50mm Junction | No | 1 | | |
| 13.31 | | 50mm Vent Valve | No | 1 | | |
| 13.32 | | 110mm Bend | No | 2 | | |
| 13.33 | | 110mm Junction | No | 1 | | |
| 13.34 | | 110mm Pan connector | No | 4 | | |
| 13.35 | | 110mm Access bend | No | 4 | | |
| 13.36 | | 110mm vent valve | No | 1 | | |
| 13.37 | | 110mm reducer | No | 1 | | |
| | | <u>Sundries</u> | | | | |
| 13.38 | | Testing waste water system | Item | 1 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | WATER SUPPLIES | | | | |
| | | Note: pipes described as "chased" shall include for chasing into brick or block walls, wrapping with densyl tape or similar expansion protection, and patching with mesh scrim | | | | |
| | | <u>Class II copper pipes</u> | | | | |
| 13.39 | | 15mm Pipes | m | 35 | | |
| 13.40 | | 15mm Pipes, chased | m | 15 | | |
| 13.41 | | 22mm Pipes | m | 22 | | |
| 13.42 | | 22mm Pipes, chased | m | 10 | | |
| 13.43 | | 28mm Pipes, including trenches | m | 10 | | |
| | | <u>Extra over copper pipes for capillary fittings</u> | | | | |
| 13.44 | | 15mm Fittings | No | 45 | | |
| 13.45 | | 22mm Fittings | No | 22 | | |
| | | <u>Extra over pipes for compression fittings</u> | | | | |
| 13.46 | | 15mm Fittings | No | 8 | | |
| 13.47 | | 22mm Fittings | No | 4 | | |
| 13.48 | | 28mm Fittings | No | 4 | | |
| | | <u>Copper overflow and service pipes</u> | | | | |
| 13.59 | | 15mm Braided stainless service pipe not exceeding 400mm long including connections | No | 5 | | |
| | | <u>Sundries</u> | | | | |
| 13.60 | | Testing water pipe system | Item | 1 | | |
| | | ELECTRIC WATER HEATERS | | | | |
| 13.61 | | 7,5Litre Zip hydroboil 307062W, including spout | Item | 1 | | |
| | | FIRE | | | | |
| 13.62 | | Extinguisher, 4,5kg including wall mount | No | 4 | | |
| 13.63 | | Ditto but 9kg, ditto | No | 1 | | |
| | | BUILDERS WORK IN CONNECTION | | | | |
| | | <u>Coring, holes, etc</u> | | | | |
| 13.64 | | Fair cutting through reinforced concrete not exceeding 250mm thick | m | 20 | | |
| 13.65 | | Drill (diamond core bit or equal) not exceeding 50mm through 250mm reinforced concrete | No | 4 | | |
| 13.66 | | Ditto but not exceeding 150mm, ditto | No | 8 | | |
| Total Carried Forward To Summary: Section 13 | | | | | | R |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|--|------|-----|------|----------|
| | | SECTION 14 GLAZING For preambles see "Model Preambles for Trades" NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 150 for Haylett formula purposes SOLAR FILM <u>Prepare existing filmed windows by scraping and cleaning all traces of existing adhesive film and apply new "Silver solar tint"</u> | | | | |
| 14.1 | | Windows | m2 | 62 | | |
| | | <u>Remove and replace existing filmed windows and apply new "Silver solar tint" to new glazing</u> | | | | |
| 14.2 | | Windows | m2 | 62 | | |
| | | MIRRORS | | | | |
| 14.3 | | 450 x 600mm Bevel edge mirror, cap screws and grommets | No | 4 | | |
| Total Carried Forward To Summary: Section 14 | | | | | | R |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| | | SECTION 15 | | | | |
| | | PAINTWORK | | | | |
| | | For preambles see "Model Preambles for Trades" | | | | |
| | | NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 152 for Haylett formula purposes | | | | |
| | | PAINTWORK ETC TO NEW WORK | | | | |
| | | ON SMOOTH PLASTER OR CONCRETE | | | | |
| | | <u>Prepare, plaster primer and two coats Plascon "Polvin" PVA</u> | | | | |
| 15.1 | | Ceilings | m2 | 10 | | |
| | | <u>Prepare, prime with Plaster Primer and two coats eggshell pastel enamel (colour swatch to be approved by client)</u> | | | | |
| 15.2 | | Internal walls | m2 | 34 | | |
| | | <u>Prepare, prime with plaster primer and two coats Plascon "non drip" enamel</u> | | | | |
| 15.3 | | Internal walls | m2 | 10 | | |
| | | ON PLASTER BOARD | | | | |
| | | <u>Prepare, undercoat and apply two coats Super acrylic PVA</u> | | | | |
| 15.4 | | Ceilings and cornices | m2 | 16 | | |
| | | <u>Prepare, prime with Plaster Primer and two coats Plascon "double velvet"</u> | | | | |
| 15.5 | | Partition walls | m2 | 43 | | |
| | | ON STEEL | | | | |
| | | <u>Galvkleen, self etching primer and two coats Plascon "universal" enamel paint on galvanised</u> | | | | |
| 15.6 | | Door frames | m2 | 5 | | |
| | | <u>Prepare, prime with self etching primer and two coats Plascon "non-drip" enamel</u> | | | | |
| 15.7 | | Sundry angle rails, cills or pipes, not exceeding 300mm girth | m | 15 | | |
| | | ON WOOD | | | | |
| | | <u>Prepare and apply three coats of Plascon Polyurethane varnish</u> | | | | |
| 15.8 | | Doors and frames | m2 | 23 | | |
| 15.9 | | Skirtings, rails, etc not exceeding 300 mm girth | m | 196 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | PAINTWORK ETC TO PREVIOUSLY PAINTED WORK | | | | |
| | | ON PLASTERBOARD | | | | |
| | | <u>Prepare, prime with Plaster Primer and two coats Plascon "double velvet"</u> | | | | |
| 15.10 | | Drywall partitions | m2 | 8 | | |
| | | <u>Prepare and two coats Plascon "Polvin" PVA</u> | | | | |
| 15.11 | | Ceilings and cornices | m2 | 35 | | |
| | | ON FIBRE REINFORCED CEMENT | | | | |
| | | <u>Prepare and apply two coats Plascon universal enamel</u> | | | | |
| 15.12 | | Fiber cement fascias, barges, and enclosed eaves | m2 | 25 | | |
| | | ON OFF SHUTTER CONCRETE | | | | |
| | | <u>Prepare only, clean down with concrete cleaner</u> | | | | |
| 15.13 | | Fluted walls | m2 | 45 | | |
| 15.14 | | Ceilings and beams | m2 | 15 | | |
| | | ON FLOATED PLASTER | | | | |
| | | <u>Prepare, prime with Plaster Primer and two coats Plascon "double velvet"</u> | | | | |
| 15.15 | | Internal walls | m2 | 498 | | |
| | | <u>Prepare, prime with plaster primer and two coats Plascon "non drip" enamel</u> | | | | |
| 15.16 | | Internal walls | m2 | 5 | | |
| | | ON METAL | | | | |
| | | <u>Prepare and apply two coats Plascon "non-drip" enamel</u> | | | | |
| 15.17 | | Sundry angle rails, cills or pipes, not exceeding 300mm girth | m | 25 | | |
| | | ON WOOD | | | | |
| | | <u>Prepare and Two coats Plascon polyurethane varnish</u> | | | | |
| 15.18 | | Doors | m2 | 19 | | |
| 15.19 | | Skirtings, rails, cills etc not exceeding 300mm girth | m | 5 | | |
| Total Carried Forward To Summary: Section 15 | | | | | | R |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|---|------|-----|------|-----------|
| | | SECTION 16 | | | | |
| | | PROVISIONAL SUMS | | | | |
| | | All provisional sums cover supply of material and equipment and installation. Provisional sums are nett and do not include builder's discount (excluding settlement discount) and Value-Added Tax but the Tenderer may allow under "Profit" items any profit he considers necessary | | | | |
| | | SHOPFITTING AND JOINERY | | | | |
| | | <u>Built in Cupboards</u> | | | | |
| 16.1 | | Provide for built in cupboards to new tea kitchen | Item | 1 | R | 50 000.00 |
| 16.2 | | Allow for profit and attendance if required. | %IT | 4 | R | 2 000.00 |
| 16.3 | | Provide for built in shelving to new cleaners store | Item | 1 | R | 5 000.00 |
| 16.4 | | Allow for profit and attendance if required. | %IT | 4 | R | 200.00 |
| 16.5 | | Provide for built in shelving to admin store | Item | 1 | R | 15 000.00 |
| 16.6 | | Allow for profit and attendance if required | %IT | 4 | R | 600.00 |
| | | SUNDRY | | | | |
| 16.7 | | Provide for "hawk" stainless steel safety shower installation | Item | 1 | R | 10 000.00 |
| 16.8 | | Allow for profit and attendance if required | %IT | 4 | R | 400.00 |
| | | BUDGETARY ALLOWANCES | | | | |
| | | The following monetary provisions are to be omitted from the contract sum and used as directed below. | | | | |
| 16.9 | | Hot water supply | Item | 1 | R | 25 000.00 |
| 16.10 | | Moisture barrier, epoxy or polurethane paint-on barrier to floors to receive vinyl flooring | Item | 1 | R | 5 000.00 |
| Total Carried Forward To Summary: Section 16 | | | | | | |

BILL 2 BOQ 1: ALTERATIONS & REFURBISHMENT OF ADMIN BUILDING

SUMMARY OF SECTIONS

| SECTION | DESCRIPTION | | | | AMOUNT R |
|---|--------------------------------------|--|--|--|----------|
| 1 | PRELIMINARIES | | | | |
| 2 | ALTERATIONS | | | | |
| 3 | CONCRETE, FORMWORK AND REINFORCEMENT | | | | |
| 4 | MASONRY | | | | |
| 5 | WATERPROOFING | | | | |
| 6 | FLOOR COVERINGS | | | | |
| 7 | CARPENTRY AND JOINERY | | | | |
| 8 | CEILINGS AND PARTITIONS | | | | |
| 9 | IRONMONGERY | | | | |
| 10 | METALWORK | | | | |
| 11 | PLASTERING | | | | |
| 12 | TILING | | | | |
| 13 | PLUMBING AND DRAINAGE | | | | |
| 14 | GLAZING | | | | |
| 15 | PAINTWORK | | | | |
| 16 | PROVISIONAL SUMS | | | | |
| Total Carried Forward To Summary Of Bills | | | | | R - |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|-----|------|----------|
| | | <u>THE FOLLOWING IN NO 2 GUARD HOUSES</u> <u>SECTION 1</u> <u>PRELIMINARIES</u> <p>These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors.</p> <p>Note: This document is based on preliminary Engineers Drawing 60463-9 Sheet 3 Rev A, Engineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 11 May 2021</p> <p>Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 190 for Haylett formula purposes</p> <p><u>Allow for preliminary and general items</u></p> | | | | |
| 1.1 | | Fixed | Item | | | |
| 1.2 | | Time | Item | | | |
| 1.3 | | Value | Item | | | |
| Total Carried Forward To Summary: Section 1 | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| | | <p>SECTION 2</p> <p>EARTHWORKS</p> <p>For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors</p> <p>These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors.</p> <p>Note: This document is based on preliminary Engineers Drawing 60463-9 Sheet 3 Rev A, Engineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 11 May 2021</p> <p>Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 104 for Haylett formula purposes</p> <p><u>Nature of ground</u></p> <p>The nature of the ground is assumed to be loose sandy material, therefore "earth", but possibly interspersed with "soft rock" or "hard rock"</p> <p><u>Carting away of excavated material</u></p> <p>Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site</p> <p>SITE CLEARANCE</p> <p><u>Site clearance</u></p> | | | | |
| 2.1 | | <p>Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush, etc and trees not exceeding 200mm girth</p> <p>EXCAVATION, FILLING, ETC OTHER THAN BULK</p> <p>EXCAVATIONS ETC</p> <p><u>Excavation in earth not exceeding 2m deep</u></p> | m2 | 133 | | |
| 2.2 | | <p>Trenches</p> <p><u>Extra over trench and hole excavations in earth for excavation in</u></p> | m3 | 12 | | |
| 2.3 | | Soft rock | m3 | 1 | | |
| 2.4 | | Hard rock | m3 | 0.1 | | |
| | | <u>Extra over all excavations for carting away</u> | | | | |
| 2.5 | | <p>Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor</p> <p><u>Risk of collapse of excavations</u></p> | m3 | 7 | | |
| 2.6 | | <p>Sides of trench and hole excavations not exceeding 1,5m deep</p> <p><u>Keeping excavations free of water</u></p> | m2 | 33 | | |
| 2.7 | | Keeping excavations free of all water other than subterranean water | Item | | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | FILLING ETC | | | | |
| | | <u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 95% Mod AASHTO density</u> | | | | |
| 2.7 | | Backfilling to trenches, holes, etc | m3 | 5 | | |
| 2.9 | | Under floors, steps, pavings, etc | m3 | 1 | | |
| | | <u>Coarse river sand filling supplied by the contractor</u> | | | | |
| 2.1 | | Under floors etc | m3 | 0.5 | | |
| | | <u>Compaction of ground surfaces</u> | | | | |
| 2.11 | | Compaction of natural or excavated ground surface under floors etc, including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density | m2 | 15 | | |
| | | WEED KILLERS, INSECTICIDES, ETC | | | | |
| | | <u>Soil insecticide in accordance with SANS 5859</u> | | | | |
| 2.12 | | <u>Under floors etc, including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming</u> | m2 | 15 | | |
| 2.13 | | To bottoms and sides of trenches etc | m2 | 49 | | |
| Total Carried Forward To Summary: Section 2 | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| | | SECTION 3 CONCRETE, FORMWORK AND REINFORCEMENT For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawing 60463-9 Sheet 3 Rev A, Engineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 11 May 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 110 for Haylett formula purposes SUPPLEMENTARY PREAMBLES <u>Cost of tests</u> The costs of making, storing and testing of concrete test cubes as required under clause 7 "Tests" of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the engineer. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the architect. (Test cubes are measured separately) <u>Formwork</u> Descriptions of formwork shall be deemed to include use and waste only (except where described as "left in" or "permanent"), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use Formwork to soffits of solid slabs etc shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES <u>25MPa/19mm concrete</u> 3.1 Strip footings m3 4 REINFORCED CONCRETE CAST ON/IN FORMWORK <u>30MPa/19mm concrete</u> 3.2 Surface beds on waterproofing m3 2 3.3 Slabs including beams and inverted beams m3 5 TEST CUBES 3.4 Making and testing 150 x 150 x 150mm concrete strength test cube No 6 | | | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|------|------|----------|
| Brought Forward | | | | | | |
| | | CONCRETE SUNDRIES | | | | |
| | | <u>Finishing top surfaces of concrete smooth with a wood float</u> | | | | |
| 3.5 | | Surface beds, slabs, etc | m2 | 15 | | |
| 3.6 | | Surface beds, slabs, etc to falls | m2 | 37 | | |
| | | <u>Finishing top surfaces of concrete smooth with a steel trowel</u> | | | | |
| 3.7 | | Tops of beams, walls, etc | m2 | 3 | | |
| | | FORMWORK | | | | |
| | | Haylett Formula Work Group No. 111 | | | | |
| | | SMOOTH FORMWORK (DEGREE OF ACCURACY I) | | | | |
| | | <u>Smooth formwork to sides</u> | | | | |
| 3.8 | | Inverted beams | m2 | 7 | | |
| 3.9 | | Inverted beams above concrete | m2 | 3 | | |
| 3.10 | | Edges, risers, ends and reveals not exceeding 300mm high or wide | m | 7 | | |
| | | <u>Smooth formwork to soffits</u> | | | | |
| 3.11 | | Slabs propped up exceeding 1.5m and not exceeding 3m high | m2 | 34 | | |
| | | <u>Boxing in smooth formwork to form</u> | | | | |
| 3.12 | | 20 x 20mm Chamfer along top or bottom edge | m | 85 | | |
| 3.13 | | 20 x 20mm Vertical chamfer at corner | m | 4 | | |
| 3.14 | | 15mm Diameter half round drip groove in soffit | m | 31 | | |
| | | MOVEMENT JOINTS ETC | | | | |
| | | <u>"Kilcher bearing" slip joints between horizontal concrete and brick surfaces including cement mortar bed</u> | | | | |
| 3.15 | | Not exceeding 300mm wide | m | 22 | | |
| | | REINFORCEMENT | | | | |
| | | Haylett Formula Work Group No. 114 | | | | |
| | | <u>Mild steel reinforcement to structural concrete work</u> | | | | |
| 3.16 | | 8mm Diameter bars | t | 0.02 | | |
| | | <u>High tensile steel reinforcement to structural concrete work</u> | | | | |
| 3.17 | | 10mm Diameter bars | t | 0.01 | | |
| | | <u>Fabric reinforcement</u> | | | | |
| 3.18 | | Type ref 395 fabric reinforcement in concrete surface beds, slabs, etc | m2 | 93 | | |
| Total Carried Forward To Summary: Section 3 | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| | | SECTION 4 MASONRY For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawing 60463-9 Sheet 3 Rev A, Engineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 11 May 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 116 for Haylett formula purposes SUPPLEMENTARY PREAMBLES BRICKWORK <u>Sizes in descriptions</u> Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick <u>Face bricks</u> Bricks shall be ordered timeously to obtain uniformity in size and colour FOUNDATIONS <u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar</u> 4.1 Half brick walls m2 1 4.2 One brick walls m2 13 <u>Brickwork reinforcement</u> 4.3 75mm Wide reinforcement built in horizontally m 3 4.4 150mm Wide reinforcement built in horizontally m 39 SUPERSTRUCTURE <u>Brickwork of NFP bricks in class II mortar</u> 4.5 Half brick walls m2 8 <u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar</u> 4.6 One brick walls m2 44 | | | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | BRICKWORK SUNDRIES | | | | |
| | | <u>Chip off projections, fill up crevices, cement wash with 1:6 cement and sand slurry and apply two coats 'Brixal' bitumen emulsion waterproofing coating:</u> | | | | |
| 4.7 | | On outer face of inner skin of brick walls including any additional labour required in raising wall in two separate skins and working around wire ties and/or brick reinforcing fabric. | m2 | 44 | | |
| | | <u>Brickwork reinforcement</u> | | | | |
| 4.8 | | 75mm Wide reinforcement built in horizontally | m | 22 | | |
| 4.9 | | 150mm Wide reinforcement built in horizontally | m | 169 | | |
| | | <u>Prestressed fabricated lintels</u> | | | | |
| 4.10 | | 100 x 70mm Lintels in lengths not exceeding 3m | m | 2 | | |
| | | <u>Turning pieces</u> | | | | |
| 4.11 | | 220mm Wide turning piece to lintels etc | m | 10 | | |
| | | FACE BRICKWORK | | | | |
| | | <u>"Corobrik Firelight Satin" face bricks pointed with ruled horizontal and vertical joints</u> | | | | |
| 4.12 | | Extra over brickwork for face brickwork | m2 | 51 | | |
| 4.13 | | Extra over brickwork for face brickwork in foundations | m2 | 2 | | |
| 4.14 | | Extra over brickwork for brick-on-flat header course band | m | 24 | | |
| 4.15 | | Extra over brickwork for brick-on-edge header course lintel | m | 10 | | |
| | | <u>Brick-on-edge header course copings, sills, etc of "Corobrik Firelight Satin" face bricks pointed with recessed joints on all exposed faces</u> | | | | |
| 4.16 | | 220mm Wide sill set sloping and slightly projecting | m | 8 | | |
| | | NUTEC-CEMENT/FIBRE-CEMENT WINDOW SILLS | | | | |
| | | <u>Natural grey sills in single lengths bedded in class I mortar including metal fixing lugs etc</u> | | | | |
| 4.17 | | 15 x 150mm Wide sills set flat and slightly projecting | m | 8 | | |
| Total Carried Forward To Summary: Section 4 | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| | | SECTION 5 WATERPROOFING For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawing 60463-9 Sheet 3 Rev A, Engineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 11 May 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 120 for Haylett formula purposes SUPPLEMENTARY PREAMBLES <u>Waterproofing</u> Waterproofing of roofs, basements, etc shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets etc with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs DAMP-PROOFING OF WALLS AND FLOORS <u>One layer of 375 micron "Consol Plastics Brikgrip DPC" embossed damp proof course</u> 5.1 In walls m2 12 <u>One layer 375 micron orange polyethylene waterproof sheeting (SANS 952-1985 type A) sealed at laps with PVC self-adhesive tape</u> 5.2 Under surface beds m2 15 WATERPROOFING TO ROOFS, BASEMENTS, ETC <u>4mm "Derbigum SP" fully bonded waterproofing</u> 5.3 On flat roofs m2 43 PROTECTIVE ROOFING PAINT <u>Two coats "Silvakote" bituminous aluminium paint</u> 5.4 On waterproofing to roofs m2 43 JOINT SEALANTS ETC <u>Silicone sealing compound</u> 5.5 Sealing between sanitary fitting and wall tiling m 1 <u>Approved tinted silicone sealing compound</u> 5.6 Sealing around aluminium windows / doors and face brick wall. m 44 | | | | |
| Total Carried Forward To Summary: Section 5 | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| | | <u>SECTION 6</u> <u>CARPENTRY AND JOINERY</u> For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawing 60463-9 Sheet 3 Rev A, Engineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 11 May 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 126 for Haylett formula purposes <u>DOORS ETC</u> <u>Semi-solid flush doors with commercial veneer</u> 40mm Door 813 x 2032mm high <u>FRAMED FRAMES ETC</u> <u>Wrought meranti</u> | | | | |
| 6.1 | | 40mm Door 813 x 2032mm high | No | 2 | | |
| 6.2 | | 68 x 68mm Rebated frames plugged | m | 10 | | |
| Total Carried Forward To Summary: Section 6 | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| | | <u>SECTION 7</u> <u>IRONMONGERY</u> For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawing 60463-9 Sheet 3 Rev A, Engineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 11 May 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 132 for Haylett formula purposes HINGES, BOLTS, ETC 7.1 100mm Brass hinge LOCKS "Union" 7.2 2247-78 Four lever lockset with pair of "Swallow - AL 681" handles or similar approved with striking plate fixed to timber frame BATHROOM FITTINGS 7.3 19mm Diameter chromium plated towel rail 600mm long including end brackets 7.4 Vitraflex TR3 stainless steel lockable toilet paper dispenser SUNDRIES "Union" 7.5 CZ 8731SC door stop plugged | | | | |
| Total Carried Forward To Summary: Section 7 | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|-----|------|----------|
| | | SECTION 8 METALWORK For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawing 60463-9 Sheet 3 Rev A, Engineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 11 May 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 149 for Haylett formula purposes ALUMINIUM WINDOWS, DOORS, ETC <u>"Wispeco type - 36 Casement Window System" Natural anodised aluminium windows glazed with 4mm obscure glass and plugged to brickwork or concrete</u> 8.1 Window 600 x 600mm high with one top hung opening out light No 2 <u>"Wispeco type - 36 Casement Window System" Natural anodised aluminium windows glazed with 6,38mm toughened safety glass with silver reflective solar tint and plugged to brickwork or concrete</u> 8.2 Window 640 x 1200mm high with one fixed light No 2 <u>"Wispeco type - Palace Window System" Natural anodised aluminium windows glazed with 6,38mm toughened safety glass with silver reflective solar tint and plugged to brickwork or concrete</u> 8.3 Window 1500 x 1200mm high with one horizontal sliding light and one fixed light of equal sizes No 4 <u>"Wispeco type - CLIP44 Shopfront System" Natural anodised aluminium doors, sidelights and fanlights glazed with 6,38mm toughened clear safety glass with silver reflective solar film tint and plugged to brickwork or concrete</u> 8.4 Door 900 x 2100mm high with one transome and two glazed panels, suitable approved four lever lockset and three suitable hinges No 2 | | | | |
| Total Carried Forward To Summary: Section 8 | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| | | SECTION 9 PLASTERING For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawing 60463-9 Sheet 3 Rev A, Engineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 11 May 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 142 for Haylett formula purposes SCREEDS <u>Non-shrink grout on concrete</u> 9.1 75 x 75mm Triangular fillet in angle INTERNAL PLASTER <u>Cement plaster on brickwork</u> 9.2 On walls 9.3 On narrow widths | | | | |
| | | | m | 26 | | |
| | | | m2 | 58 | | |
| | | | m2 | 2 | | |
| Total Carried Forward To Summary: Section 9 | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|--|------|-----|------|----------|
| | | <u>SECTION 10</u> <u>TILING</u> For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawing 60463-9 Sheet 3 Rev A, Engineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 11 May 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 144 for Haylett formula purposes <u>WALL TILING</u> <u>300 x 200mm Johnson ceramic</u> 10.1 On walls in isolated panels, splashbacks, etc m2 1 <u>Trim, edging, etc</u> 10.2 uPVC Corner trim m 4 <u>FLOOR TILING</u> <u>330 x 330mm "Johnson" ceramic floor tiles fixed with adhesive and flush pointed with tinted waterproof jointing compound</u> 10.3 On floors and landings m2 13 10.4 Skirting 100mm high of cut tiles m 29 <u>Trim, edging, etc</u> 10.5 Natural anodised aluminium tile edge strip m 31 | | | | |
| Total Carried Forward To Summary: Section 10 | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| | | <u>SECTION 11</u> <u>PLUMBING AND DRAINAGE</u> For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawing 60463-9 Sheet 3 Rev A, Engineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 11 May 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 148 for Haylett formula purposes <u>SUPPLEMENTARY PREAMBLES</u> <u>uPVC pipes and fittings:</u> Soil, waste and vent pipes and fittings shall be solvent weld jointed <u>Copper pipes:</u> Pipes shall be hard drawn and half-hard pipes of the class stated. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), class 2 (half-hard) and class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground <u>Fixing of pipes</u> Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls etc, casting in, building in or suspending not exceeding 1m below suspension level <u>SANITARY FITTINGS</u> Work Group No 148 for Haylett formula purposes <u>"Vaal"</u> | | | | |
| 11.1 | | 455 x 290mm "Bantam" or similar approved cloakroom basin | No | 2 | | |
| 11.2 | | Low level wc suite comprising "Afsan" low level pan (code 750100) with double flap plastic seat and "Aguasave" low level cistern (code 7120LL) with flush pipe | No | 2 | | |
| 11.3 | | <u>WASTE UNIONS ETC</u> 32mm Basin waste union <u>TRAPS ETC</u> <u>Chromium plated</u> | No | 2 | | |
| 11.4 | | 75 x 40mm Bottle trap | No | 2 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | TAPS, VALVES, ETC | | | | |
| | | <u>"Cobra Watertech"</u> | | | | |
| 11.5 | | 15mm "Ball-o-stop" valve | No | 4 | | |
| 11.6 | | 15mm Cobra "Star" pillar tap 111-15 | No | 2 | | |
| | | SANITARY PLUMBING | | | | |
| | | <u>uPVC pipes</u> | | | | |
| 11.7 | | 50mm Pipes | m | 4 | | |
| 11.8 | | 110mm Pipes | m | 6 | | |
| | | <u>Extra over uPVC pipes for fittings</u> | | | | |
| 11.9 | | 50mm BSP adaptor | No | 2 | | |
| 11.10 | | 50mm Bend | No | 2 | | |
| 11.11 | | 50mm IE bend | No | 2 | | |
| 11.12 | | 110mm Reducer | No | 2 | | |
| 11.13 | | 110mm IE junction | No | 2 | | |
| 11.14 | | 110mm Pan connector | No | 2 | | |
| 11.15 | | 110mm "GI Two-way" vent valve | No | 2 | | |
| | | <u>Sundries</u> | | | | |
| 11.16 | | Testing waste pipe system | Item | | | |
| | | WATER SUPPLIES | | | | |
| | | Note: Pipes described as "chased" shall include for chasing into brick walls, wrapping with densyl tape or similar expansion protection, and patching with mesh scrim | | | | |
| | | <u>Class II copper pipes</u> | | | | |
| 11.17 | | 15mm Pipes chased into brick walls | m | 10 | | |
| | | <u>Extra over class II copper pipes for brass compression fittings</u> | | | | |
| 11.18 | | 15mm Fittings | No | 18 | | |
| | | <u>Service pipes</u> | | | | |
| 11.19 | | 15mm Braided stainless service pipe not exceeding 400mm long including connections | No | 4 | | |
| | | <u>Sundries</u> | | | | |
| 11.20 | | Testing water pipe system | Item | | | |
| Total Carried Forward To Summary: Section 11 | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|---|------|-----|------|----------|
| | | <u>SECTION 12</u> <u>PAINTWORK</u> For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawing 60463-9 Sheet 3 Rev A, Engineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 11 May 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 152 for Haylett formula purposes PAINTWORK ETC TO NEW WORK ON FLOATED PLASTER OR CONCRETE <u>Prepare, prime with Plaster Primer and two coats Plascon "wall and all"</u> | | | | |
| 12.1 | | On internal walls | m2 | 58 | | |
| 12.2 | | On ceilings | m2 | 12 | | |
| | | <u>ON WOOD</u> <u>Two coats wood primer</u> | | | | |
| 12.3 | | On backs of frames, linings, etc not exceeding 300mm wide | m2 | 1 | | |
| | | <u>One coat wood primer, one undercoat and two coats alkyd enamel paint</u> | | | | |
| 12.4 | | On doors | m2 | 7 | | |
| 12.5 | | On door frames etc | m2 | 2 | | |
| Total Carried Forward To Summary: Section 12 | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|---|------|-----|------|----------|
| | | SECTION 13 EXTERNAL WORKS For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawing 60463-9 Sheet 3 Rev A, Engineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 11 May 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 154 for Haylett formula purposes ROADWORK, PARKING AREAS AND PAVING <u>Excavation in earth</u> 13.1 100mm Deep over site to remove top soil and dispose in prescribed stock piles on site <u>Compaction of surfaces</u> 13.2 Compaction of ground surfaces under pavings etc, including scarifying for a depth of 100mm, breaking down oversize material, adding suitable material where necessary and compacting to 95% Mod AASHTO density <u>Filling supplied by the contractor under parking areas, roadways, etc</u> 13.3 Subbase course of natural gravel material, compacted to 95% Mod AASHTO density <u>Soil insecticide in accordance with SANS 5859</u> 13.4 Under interlocking pavings <u>60mm Thick precast concrete interlocking block paving of grey or other approved colour paving blocks in accordance with SANS 1058, laid to falls on and including 20mm thick sand layer with joints filled in with sand, compacted with a vibration compactor</u> 13.5 Paving to sidewalks etc to falls, including necessary straight edge blocks <u>Precast concrete finished smooth on exposed surfaces, including bedding, jointing and pointing</u> 13.6 75 x 110mm High kerbs (SANS 927 "Bester Mini") on 20mm thick mortar bedding with 75 x 75 x 300mm unreinforced concrete haunching at front of each joint, 150 x 75mm thick 20mPa footing including excavation, backfilling, etc 13.7 125 x 230mm High kerbs (SANS 927 fig 6) on 20mm thick mortar bedding with 150 x 150 x 300mm unreinforced concrete haunching at back of each joint, 275 x 75mm thick 20 mPa footing including excavation, backfilling, etc | | | | |
| Total Carried Forward To Summary: Section 13 | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|--|------|-----|------|------------|
| | | SECTION 14 PROVISIONAL SUMS SUPPLEMENTARY PREAMBLES All provisional sums cover supply of material and equipment and installation. Provisional sums are nett and do not include builder's discount (excluding settlement discount) and Value-Added Tax but the Tenderer may allow under "Profit" items any profit he considers necessary JOINERY FITTINGS | | | | |
| 14.1 | | Post-formed desk top installation, complete | Item | | | R 3 000.00 |
| 14.2 | | Allow for profit if required | % | | | |
| 14.3 | | Allow for attendance if required | Item | | | |
| Total Carried Forward To Summary: Section 14 | | | | | | |

BILL 2 BOQ 3: NEW GUARDHOUSES

| SUMMARY OF SECTIONS | | | | | |
|---|--------------------------------------|--|--|--|----------|
| SECTION | DESCRIPTION | | | | AMOUNT R |
| 1 | PRELIMINARIES | | | | |
| 2 | EARTHWORKS | | | | |
| 3 | CONCRETE, FORMWORK AND REINFORCEMENT | | | | |
| 4 | MASONRY | | | | |
| 5 | WATERPROOFING | | | | |
| 6 | CARPENTRY AND JOINERY | | | | |
| 7 | IRONMONGERY | | | | |
| 8 | METALWORK | | | | |
| 9 | PLASTERING | | | | |
| 10 | TILING | | | | |
| 11 | PLUMBING AND DRAINAGE | | | | |
| 12 | PAINTWORK | | | | |
| 13 | EXTERNAL WORKS | | | | |
| 14 | PROVISIONAL SUMS | | | | |
| Total Carried Forward To Summary Of Bills | | | | | R - |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| | | <u>SECTION 1</u> <u>PRELIMINARIES</u> These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawings: 5495-ST-A-02 to 13 Rev A5495-ST-CO-01 to 16 Rev A5495 -ST-SS-01 to 02 Rev AEngineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 14 June 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 190 for Haylett formula purposes Allow for preliminary and general items | | | | |
| 1.1 | | Fixed | Item | | | |
| 1.2 | | Time | Item | | | |
| 1.3 | | Value | Item | | | |
| Total Carried Forward To Summary: Section 1 | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|------|------|----------|
| 2.1 | | <p><u>SECTION 2</u></p> <p><u>EARTHWORKS</u></p> <p>For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors</p> <p>These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors.</p> <p>Note: This document is based on preliminary Engineers Drawings: 5495-ST-A-02 to 13 Rev A5495-ST-CO-01 to 16 Rev A5495 -ST-SS-01 to 02 Rev AEngineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 14 June 2021</p> <p>Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 104 for Haylett formula purposes</p> <p><u>Nature of ground</u></p> <p>The nature of the ground is assumed to be loose sandy material, therefore "earth", but possibly interspersed with "soft rock" or "hard rock"</p> <p><u>Carting away of excavated material</u></p> <p>Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site</p> <p><u>SITE CLEARANCE</u></p> <p><u>Site clearance</u></p> <p>Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush, etc and trees not exceeding 200mm girth</p> | m2 | 1094 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | EXCAVATION, FILLING, ETC OTHER THAN BULK | | | | |
| | | EXCAVATIONS ETC | | | | |
| | | <u>Excavation in earth not exceeding 2m deep</u> | | | | |
| 2.2 | | Trenches | m3 | 62 | | |
| 2.3 | | Holes | m3 | 349 | | |
| | | <u>Excavation in earth exceeding 2m and not exceeding 4m deep</u> | | | | |
| 2.4 | | Holes | m3 | 48 | | |
| | | <u>Excavation in earth exceeding 4m and not exceeding 6m deep</u> | | | | |
| 2.5 | | Holes | m3 | 1 | | |
| | | <u>Back excavation of vertical sides of excavation in earth for working space including backfilling compacted to 95% Mod AASHTO density</u> | | | | |
| 2.6 | | Exceeding 500mm and not exceeding 1.5m deep for placing and removing formwork to walls etc 525mm away from excavated face | m2 | 14 | | |
| 2.7 | | Exceeding 1.5m and not exceeding 3m deep for placing and removing formwork to walls etc 450mm away from excavated face | m2 | 12 | | |
| 2.8 | | Exceeding 1.5m and not exceeding 3m deep for placing and removing formwork to walls etc 525mm away from excavated face | m2 | 25 | | |
| 2.9 | | Exceeding 3m and not exceeding 4.5m deep for placing and removing formwork to walls etc 450mm away from excavated face | m2 | 16 | | |
| 2.10 | | Exceeding 3m and not exceeding 4.5m deep for placing and removing formwork to walls etc 525mm away from excavated face | m2 | 32 | | |
| | | <u>Extra over trench and hole excavations in earth for excavation in</u> | | | | |
| 2.11 | | Soft rock | m3 | 42 | | |
| 2.12 | | Hard rock | m3 | 21 | | |
| | | <u>Extra over all excavations for carting away</u> | | | | |
| 2.13 | | Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor | m3 | 228 | | |
| | | <u>Risk of collapse of excavations</u> | | | | |
| 2.14 | | Sides of trench and hole excavations not exceeding 1,5m deep | m2 | 350 | | |
| 2.15 | | Sides of trench and hole excavations exceeding 1,5m deep | m2 | 459 | | |
| | | <u>Keeping excavations free of water</u> | | | | |
| 2.16 | | Keeping excavations free of all water other than subterranean water | Item | | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| 2.17 | | FILLING ETC <u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 95% Mod AASHTO density</u> Backfilling to trenches, holes, etc | m3 | 225 | | |
| 2.18 | | <u>Filling of gravel-soil material G7 supplied by the contractor, compacted to 95% Mod AASHTO density</u> Under floors, steps, pavings, etc | m3 | 83 | | |
| 2.19 | | <u>Compaction of ground surfaces</u> Compaction of natural or excavated ground surface under floors etc, including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density | m2 | 833 | | |
| 2.20 | | WEED KILLERS, INSECTICIDES, ETC <u>Soil insecticide in accordance with SANS 5859</u> Under floors etc, including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming | m2 | 833 | | |
| 2.21 | | To bottoms and sides of trenches etc | m2 | 954 | | |
| 2.22 | | SHORING Allow for shoring up deep foundation excavations and remove on completion of foundation work | Item | | | |
| Total Carried Forward To Summary: Section 2 | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| | | <p>SECTION 4</p> <p>MASONRY</p> <p>For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors</p> <p>These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors.</p> <p>Note: This document is based on preliminary Engineers Drawings: 5495-ST-A-02 to 13 Rev A5495-ST-CO-01 to 16 Rev A5495 -ST-SS-01 to 02 Rev AEngineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 14 June 2021</p> <p>Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 116 for Haylett formula purposes</p> <p>SUPPLEMENTARY PREAMBLES</p> <p>BRICKWORK</p> <p><u>Sizes in descriptions</u></p> <p>Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick</p> <p><u>Face bricks</u></p> <p>Bricks shall be ordered timeously to obtain uniformity in size and colour</p> <p>FOUNDATIONS</p> <p><u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar</u></p> | | | | |
| 3.1 | | Half brick walls in sides of floor drains | m2 | 42 | | |
| 3.2 | | One brick walls in sides of floor drains | m2 | 3 | | |
| 3.3 | | One brick walls | m2 | 56 | | |
| | | <u>Brickwork reinforcement</u> | | | | |
| 3.4 | | 75mm Wide reinforcement built in horizontally | m | 121 | | |
| 3.5 | | 150mm Wide reinforcement built in horizontally | m | 667 | | |
| | | SUPERSTRUCTURE | | | | |
| | | <u>Brickwork of NFP bricks in class II mortar</u> | | | | |
| 3.6 | | Half brick walls | m2 | 2 | | |
| 3.7 | | One brick walls | m2 | 845 | | |
| | | <u>Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar</u> | | | | |
| 3.8 | | One brick walls | m2 | 8 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|------|------|----------|
| Brought Forward | | | | | | |
| | | BRICKWORK SUNDRIES | | | | |
| 3.9 | | <u>Chip off projections, fill up crevices, cement wash with 1:6 cement and sand slurry and apply two coats 'Brixéal' bitumen emulsion waterproofing coating:</u> | | | | |
| | | On outer face of inner skin of brick walls including any additional labour required in raising wall in two separate skins and working around wire ties and/or brick reinforcing fabric. | m2 | 518 | | |
| 3.1 | | <u>Fair face to brickwork in horizontal stretcher bond pointed with flush horizontal and vertical joints</u> | | | | |
| | | Extra for fair face | m2 | 1082 | | |
| 3.11 | | <u>Joint forming material in movement joints</u> | | | | |
| | | 10mm Cross linked closed cell expanded polyethylene joint former built in vertically between brick and concrete columns | m2 | 69 | | |
| 3.12 | | <u>Brickwork reinforcement</u> | | | | |
| | | 75mm Wide reinforcement built in horizontally | m | 6 | | |
| 3.13 | | 150mm Wide reinforcement built in horizontally | m | 2621 | | |
| 3.14 | | <u>Prestressed fabricated lintels</u> | | | | |
| | | 100 x 70mm Lintels in lengths not exceeding 3m | m | 32 | | |
| 3.15 | | <u>Turning pieces</u> | | | | |
| | | 220mm Wide turning piece to lintels etc | m | 27 | | |
| 3.16 | | <u>Galvanised hoop iron cramps, ties, etc</u> | | | | |
| | | 40 x 1,5mm Wall tie 550mm long with one end shot pinned to concrete and other end built into brickwork | No | 1224 | | |
| | | FACE BRICKWORK | | | | |
| 3.17 | | <u>"Calci" face bricks pointed with ruled horizontal and vertical joints</u> | | | | |
| | | Extra over brickwork for face brickwork | m2 | 520 | | |
| 3.18 | | Extra over brickwork for face brickwork in foundations | m2 | 19 | | |
| 3.19 | | Extra over brickwork for brick-on-edge header course lintel | m | 5 | | |
| 3.2 | | Fair raking cutting | m | 32 | | |
| 3.21 | | <u>Brick-on-edge header course copings, sills, etc of "Calci" face bricks pointed with recessed joints on all exposed faces</u> | | | | |
| | | 220mm Wide sill set sloping and slightly projecting | m | 59 | | |
| Total Carried Forward To Summary: Section 3 | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| | | <p>SECTION 5</p> <p><u>WATERPROOFING</u></p> <p>For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors</p> <p>These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors.</p> <p>Note: This document is based on preliminary Engineers Drawings: 5495-ST-A-02 to 13 Rev A5495-ST-CO-01 to 16 Rev A5495 -ST-SS-01 to 02 Rev AEngineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 14 June 2021</p> <p>Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 120 for Haylett formula purposes</p> <p>SUPPLEMENTARY PREAMBLES</p> <p><u>Waterproofing</u></p> <p>Waterproofing of roofs, basements, etc shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets etc with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs</p> <p>DAMP-PROOFING OF WALLS AND FLOORS</p> <p><u>One layer of 375 micron "Consol Plastics Brikrip DPC" embossed damp proof course</u></p> | | | | |
| 4.1 | | In walls | m2 | 73 | | |
| 4.2 | | <p><u>One layer of 250 micron "Consol Plastics Gunplas USB Green" waterproof sheeting sealed at laps with "Gunplas Pressure Sensitive Tape"</u></p> <p>Under surface beds</p> | m2 | 833 | | |
| 4.3 | | <p>WATERPROOFING TO ROOFS, BASEMENTS, ETC</p> <p><u>4mm "Derbigum SP" fully bonded waterproofing</u></p> <p>On flat roofs</p> | m2 | 42 | | |
| 4.4 | | <p>PROTECTIVE ROOFING PAINT</p> <p><u>Two coats "Silvakote" bituminous aluminium paint</u></p> <p>On waterproofing to roofs</p> | m2 | 42 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | JOINT SEALANTS ETC | | | | |
| | | <u>Two-part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc</u> | | | | |
| 4.5 | | 6 x 10mm In expansion joints in floors including raking out expansion joint filler as necessary | m | 189 | | |
| 4.6 | | 10 x 10mm In vertical expansion joints including raking out expansion joint filler as necessary | m | 624 | | |
| | | <u>Silicone sealing compound</u> | | | | |
| 4.7 | | Sealing between sanitary fitting and wall tiling | m | 2 | | |
| | | <u>Approved tinted silicone sealing compound</u> | | | | |
| 4.8 | | Sealing around aluminium windows / doors and face brick wall. | m | 139 | | |
| Total Carried Forward To Summary: Section 4 | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| | | <p>SECTION 6</p> <p>ROOF COVERINGS</p> <p>For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors</p> <p>These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors.</p> <p>Note: This document is based on preliminary Engineers Drawings: 5495-ST-A-02 to 13 Rev A5495-ST-CO-01 to 16 Rev A5495 -ST-SS-01 to 02 Rev AEngineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 14 June 2021</p> <p>Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 124 for Haylett formula purposes</p> <p>PROFIED METAL SHEETING AND ACCESSORIES</p> <p><u>Global Roofing Solutions 762mm cover Nu-Rib profile roll-formed in continuous lengths from 0.8mm thick Galvanised steel, Z200 spelter ISQ550 Chromadek® approved colour finish top coat and Pebble Grey backing coat roof sheeting, fixed to steel Hex Flange Head + EPDM Seal self drilling No. 3 drill point, No. 12-14 x 65mm long fasteners. Purlin fixed to second, fourth and sixth crest of each sheet and at all crests at sheet ends, all in accordance with the manufacturer's specifications by a GRS approved contractor</u></p> | | | | |
| 5.1 | | Roof covering with pitch not exceeding 25 degrees | m2 | 520 | | |
| 5.2 | | Radius sheet ridge | m | 31 | | |
| 5.3 | | Gable trim 462mm girth once bent | m | 34 | | |
| 5.4 | | Narrow and broad flute closers | m | 61 | | |
| 5.5 | | Moulded narrow and broad rib polyethelene filler blocks | m | 61 | | |
| 5.6 | | Bullnose eaves as detailed on drawing 60325-C-SD-726 including provision of bird proofing | m | 61 | | |
| | | ROOF VENTILATORS | | | | |
| | | <u>"Windmaster"</u> | | | | |
| 5.7 | | "Tornado" 350mm diameter aluminium turbine roof ventilator fixed in accordance with the manufacturer's instructions including hole through roof sheeting and all necessary flashings, etc | No | 7 | | |
| | | ROOF AND WALL INSULATION | | | | |
| | | <u>"Sisalation FA 405" fire retardant heavy industrial grade aluminium foil based insulation</u> | | | | |
| 5.8 | | Insulation laid taut over purlins (at approximately 1500mm centres) and fixed concurrent with roof covering including galvanised steel straining wires | m2 | 510 | | |
| Total Carried Forward To Summary: Section 5 | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| | | <u>SECTION 7</u> <u>CARPENTRY AND JOINERY</u> For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawings: 5495-ST-A-02 to 13 Rev A5495-ST-CO-01 to 16 Rev A5495 -ST-SS-01 to 02 Rev AEngineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 14 June 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 126 for Haylett formula purposes <u>DOORS ETC</u> <u>Wrought meranti doors hung to steel frames</u> | | | | |
| 6.1 | | 40mm Framed and ledged and braced batten door 813 x 2 032mm high of 40 x 144mm top rail, 20 x 104mm middle ledge, braces and stiles and 40 x 220mm bottom rail filled in with 20 x 75mm tongue and groove battens V jointed one side | No | 8 | | |
| 6.2 | | 40mm Framed and ledged and braced batten double door 1 610 x 2 032mm high of 40 x 144mm top rails, 20 x 104mm middle ledges, braces and stiles and 40 x 220mm bottom rails filled in with 20 x 75mm tongue and groove battens V jointed one side in two equal leaves with rebated meeting stiles | No | 1 | | |
| 6.3 | | <u>Semi-solid flush doors with commercial veneer hung to steel frames</u> 40mm Door 813 x 2032mm high | No | 1 | | |
| Total Carried Forward To Summary: Section 6 | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| | | <p><u>SECTION 8</u></p> <p><u>CEILINGS, PARTITIONS AND ACCESS FLOORING</u></p> <p>For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors</p> <p>These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors.</p> <p>Note: This document is based on preliminary Engineers Drawings: 5495-ST-A-02 to 13 Rev A5495-ST-CO-01 to 16 Rev A5495 -ST-SS-01 to 02 Rev AEngineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 14 June 2021</p> <p>Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 129 for Haylett formula purposes</p> <p><u>SUSPENDED CEILINGS</u></p> <p><u>Proprietary suspended ceilings</u></p> <p>Note:</p> <p>Electrical light fittings, diffusers, panels, etc generally are "lay in" units of the same dimensions as the suspension grid described and allowance must be made accordingly for their support inclusive of any flexibility in setting out that may be required (ceiling panels have not been deducted and pricing is to take cognisance thereof)</p> <p><u>Glasswool vinyl faced 1195 x 595 x 25mm "Isover Soundlite" acoustic panels on "Donn" pre-painted exposed tee suspension system including main and cross tees, necessary hangers, grids, etc</u></p> | | | | |
| 7.1 | | Ceilings suspended exceeding 2m and not exceeding 3m below steel purlins at 1656mm centres (trusses at 5m centres) | m2 | 40 | | |
| 7.2 | | <u>"Donn" cornices to suspended ceilings</u> "Donn SM25" shadowline pre-painted cornices plugged | m | 26 | | |
| Total Carried Forward To Summary: Section 7 | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|-----|------|----------|
| | | <u>SECTION 9</u> <u>IRONMONGERY</u> For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawings: 5495-ST-A-02 to 13 Rev A5495-ST-CO-01 to 16 Rev A5495 -ST-SS-01 to 02 Rev AEngineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 14 June 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 132 for Haylett formula purposes HINGES, BOLTS, ETC <u>"Union"</u> 8.1 150mm Type 8052 flush bolt with keep fixed to metal 8.2 150mm Type 8052 flush bolt with keep let into concrete LOCKS <u>"Union"</u> 8.3 "Gower CZ6822495" three lever lockset with striking plate fixed to metal 8.4 "Gower CZ6833452" three lever lockset with striking plate fixed to metal 8.5 "Gower CZ6833452" three lever rebated lockset with and including rebate conversion set BATHROOM FITTINGS 8.6 Vitraflex TR3 stainless steel lockable toilet paper dispenser <u>"Franke"</u> 8.7 "Rodan RODX618" stainless steel soap dispenser plugged and screwed to wall 8.8 "Rodan RODX600" stainless steel paper towel dispenser plugged and screwed to wall 8.9 "Rodan RODX607" stainless steel wall mounted bin plugged and screwed to wall SUNDRIES <u>"Union"</u> 8.1 CZ 8731SC door stop plugged 8.11 8025SS Hat and coat hook with rubber buffer | | | | |
| Total Carried Forward To Summary: Section 8 | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|------|------|----------|
| | | <p>SECTION 10</p> <p><u>STRUCTURAL STEELWORK</u></p> <p>For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors</p> <p>These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors.</p> <p>Note: This document is based on preliminary Engineers Drawings: 5495-ST-A-02 to 13 Rev A5495-ST-CO-01 to 16 Rev A5495 -ST-SS-01 to 02 Rev AEngineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 14 June 2021</p> <p>Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 134 for Haylett formula purposes</p> <p>SUPPLEMENTARY PREAMBLES</p> <p><u>Descriptions</u></p> <p>Descriptions including bolts shall be deemed to be Grade 8.8 bolts.</p> <p>Descriptions of bolts shall be deemed to include nuts and washers</p> <p>Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete</p> <p>GALVANIZED STEEL TRUSSES, ETC</p> <p><u>Bolted roof trusses of angle section rails, struts, braces, cleats, etc and flat section bearer, gusset and connection plates bolted to steel</u></p> | | | | |
| 9.1 | | <p>7 No double pitched trusses 16.85 x 1.7m high extreme</p> <p>GALVANIZED PURLINS, GIRTS, BRACING, ETC</p> <p><u>Purlins and girts bolted to steel</u></p> | t | 7.76 | | |
| 9.2 | | <p>Lipped channel section purlins</p> <p><u>Welded bracing etc with flat section connection plates bolted to steel</u></p> | t | 2.93 | | |
| 9.3 | | <p>Angle section bracing</p> | t | 4.99 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|------|------|----------|
| Brought Forward | | | | | | |
| | | THE FOLLOWING IN STEEL CRAWL-BEAM GIRDER | | | | |
| | | <u>Welded girder with connection plates and L-section cleats bolted to concrete</u> | | | | |
| 9.4 | | Two (2No) crawl-beams of 533 x 210mm x 122kg/m I-section parallel flange girders and angle section cleats. | t | 4.99 | | |
| 9.5 | | 88kg/m Heavy crane rail | t | 3.55 | | |
| 9.6 | | 230 x 130 x 10mm Thick backing plate with two (2No) 24mm diameter holes and machined recess 100 x 80 x 2.5mm deep in face for and including 5mm thick PTFE pad of same size bonded into recess using a bonding agent approved by the PTFE supplier. | No | 10 | | |
| 9.7 | | 120 x 100 x 3mm Thick stainless steel plate welded to underside of girder, polished to semi-reflective B finish on sliding surface face, welded to underside of girder | No | 10 | | |
| | | <u>Bolts to girder beams, etc</u> | | | | |
| 9.8 | | 20mm Diameter U-shaped anchor bolt 900mm girth embedded in top of concrete. | No | 20 | | |
| 9.9 | | 100mm M20 expansion bolt | No | 40 | | |
| Total Carried Forward To Summary: Section 9 | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| | | SECTION 11 METALWORK For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawings: 5495-ST-A-02 to 13 Rev A5495-ST-CO-01 to 16 Rev A5495 -ST-SS-01 to 02 Rev AEngineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 14 June 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 149 for Haylett formula purposes GALVANIZED STEEL HANDRAILS, BALUSTRADES, ETC <u>"Matlock" patent handrailing and balustrading to concrete</u> | | | | |
| 10.1 | | Type HS two rail tubular series complete with equal sized hand, kneerails and bends to suit both | m | 12 | | |
| 10.2 | | Extra over hand & kneerail for 90 degree bend | No | 8 | | |
| 10.3 | | Type G90 stanchion 1150mm long | No | 12 | | |
| | | SUNDRY GALVANIZED STEELWORK | | | | |
| | | <u>Floor duct gratings, etc</u> | | | | |
| 10.4 | | 40 x 3mm "Rectagrid by Andrew Mentis" or similar approved fully banded duct gratings in approximately 380mm widths and suitable lengths laid loose in framing | m2 | 49 | | |
| 10.5 | | 40 x 3mm "Rectagrid by Andrew Mentis" or similar approved fully banded sump gratings in approximately 1000mm widths and suitable lengths laid loose in framing | m2 | 1 | | |
| 10.6 | | 45 x 45 x 5mm Angle section framing with 50 x 3mm flat section lugs with fishtailed end each 200mm girth welded on at 500mm centres including embedding in concrete | m | 262 | | |
| 10.7 | | Extra over 45 x 45 x 5mm angle section for mitred L-intersection | No | 54 | | |
| 10.8 | | Extra over 45 x 45 x 5mm angle section for T-intersection | No | 6 | | |
| | | GALVANIZED PRESSED STEEL DOOR FRAMES | | | | |
| | | <u>1,6mm Rebated frames suitable for one brick walls</u> | | | | |
| 10.9 | | Frame for door 813 x 2032mm high | No | 9 | | |
| 10.1 | | Frame for double door 1610 x 2032mm high | No | 1 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| 10.11 | | GALVANIZED PRESSED STEEL TRANSFORMER ROOM DOORS AND FRAMES <u>"Amdoor" or other approved doors</u> Type YV double door 1626 x 2450mm high with rebated frame suitable for one brick wall | No | 1 | | |
| 10.12 | | NATURAL ANODISED ALUMINIUM LOUVRE UNITS <u>"Trox" type AGS-T louvre units fixed through timber door including forming opening through door</u> Louvre unit size 300 x 350mm high | No | 8 | | |
| 10.13 | | <u>"Trox" weather resistant louvre units fixed into brickwork openings including all necessary fixings and sealing all round in accordance with the manufacturer's instructions</u> Louvre unit for 1200 x 1100mm high opening | No | 19 | | |
| 10.14 | | ALUMINIUM WINDOWS, DOORS, ETC <u>"Wispeco type - 36 Casement Window System" Natural anodised aluminium windows glazed with 4mm obscure glass and plugged to brickwork or concrete</u> Window 600 x 900mm high with one top hung opening out light and one fixed light | No | 1 | | |
| 10.15 | | Window 2000 x 1200mm high with two top hung opening out lights and one fixed light | No | 2 | | |
| 10.16 | | <u>"Wispeco type - 36 Casement Window System" Natural anodised aluminium windows glazed with 6,38mm toughened safety glass with silver reflective solar tint and plugged to brickwork or concrete</u> Window 4550 x 600mm high with four equal fixed lights | No | 12 | | |
| 10.17 | | STEEL ROLLER SHUTTERS ETC <u>"Xpanda" galvanised roller shutters fixed to brickwork or concrete</u> Chain operated slatted roller shutter for 3000 x 3400mm high opening | No | 1 | | |
| 10.18 | | Chain operated slatted roller shutter for 4000 x 3400mm high opening | No | 2 | | |
| Total Carried Forward To Summary: Section 10 | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| | | <u>SECTION 12</u> <u>PLASTERING</u> For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawings: 5495-ST-A-02 to 13 Rev A5495-ST-CO-01 to 16 Rev A5495 -ST-SS-01 to 02 Rev AEngineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 14 June 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 142 for Haylett formula purposes <u>SCREEDS</u> <u>Screeds wood floated on concrete</u> 11.1 30mm Thick on floors and landings m2 45 11.2 Average 60mm thick on floors to falls and currents m2 734 11.3 Average 60mm thick on roofs to falls and currents to receive waterproofing membrane (elsewhere measured) m2 42 11.4 30mm Thick on treads and risers of stairs including reedings m2 11 11.5 50 x 50mm Triangular fillet in angle with upstand m 10 11.6 50 x 50mm Triangular fillet in angle with upstand circular on plan m 29 <u>INTERNAL PLASTER</u> <u>Cement plaster on brickwork</u> 11.7 On walls m2 116 11.8 On narrow widths m2 2 11.9 On narrow widths to walls of floor drains m2 42 <u>Cement plaster on concrete</u> 11.1 On soffits of slabs m2 2 | | | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | SPECIALIST APPLIED WALL COVERINGS | | | | |
| | | <u>25mm Thick "Sewpercoat PG25" wall lining applied in accordance with the manufacturers instructions on smooth concrete</u> | | | | |
| 11.11 | | On internal circular walls of silos | m2 | 251 | | |
| 11.12 | | On concrete ceilings of silos | m2 | 33 | | |
| | | SPECIALIST SCREED FLOOR COVERINGS | | | | |
| | | All specialist screed floor coverings are to be executed in strict accordance with the manufacturer's instructions | | | | |
| | | <u>6-9mm Thick "Flowfresh RT" heavy duty chemical resistant antimicrobial treated polyurethane resin floor coating manufactured by "Flowcrete" on screed</u> | | | | |
| 11.13 | | On floors | m2 | 734 | | |
| Total Carried Forward To Summary: Section 11 | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|---|------|-----|------|----------|
| | | SECTION 13 TILING For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawings: 5495-ST-A-02 to 13 Rev A5495-ST-CO-01 to 16 Rev A5495 -ST-SS-01 to 02 Rev AEngineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 14 June 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 144 for Haylett formula purposes WALL TILING <u>300 x 200mm Johnson ceramic</u> 12.1 On walls m2 14 12.2 On narrow widths m2 1 FLOOR TILING <u>330 x 330mm "Johnson" ceramic floor tiles fixed with adhesive and flush pointed with tinted waterproof jointing compound</u> 12.3 On floors and landings m2 40 12.4 Skirting 75mm high of cut tiles m 32 <u>Trim, edging, etc</u> 12.5 Natural anodised aluminium tile edge strip m 43 | | | | |
| Total Carried Forward To Summary: Section 12 | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| | | <p><u>SECTION 14</u></p> <p><u>PLUMBING AND DRAINAGE</u></p> <p>For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors</p> <p>These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors.</p> <p>Note: This document is based on preliminary Engineers Drawings: 5495-ST-A-02 to 13 Rev A5495-ST-CO-01 to 16 Rev A5495 -ST-SS-01 to 02 Rev AEngineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 14 June 2021</p> <p>Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 148 for Haylett formula purposes</p> <p>SUPPLEMENTARY PREAMBLES</p> <p><u>uPVC pipes and fittings:</u></p> <p>Soil, waste and vent pipes and fittings shall be solvent weld jointed</p> <p><u>Copper pipes:</u></p> <p>Pipes shall be hard drawn and half-hard pipes of the class stated. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), class 2 (half-hard) and class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016. Only compression fittings shall be used in walls or in ground</p> <p><u>Fixing of pipes</u></p> <p>Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls etc, casting in, building in or suspending not exceeding 1m below suspension level</p> | | | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | <p><u>Reducing fittings</u></p> <p>Where fittings have reducing ends or branches they are described as "reducing". In the case of pipes with diameters not exceeding 60mm only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained</p> <p><u>Excavations</u></p> <p>No claim for rock excavation will be entertained unless the contractor has timeously notified the engineer/quantity surveyor thereof prior to backfilling</p> <p>"Soft rock" and "hard rock" shall be as defined in "Earthworks"</p> <p><u>Laying, backfilling, bedding, etc. of pipes</u></p> <p>Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions</p> <p>STORMWATER DRAINAGE</p> <p><u>uPVC pipes</u></p> | | | | |
| 13.1 | | 110mm Pipes laid in and including trenches not exceeding 1m deep | m | 97 | | |
| 13.2 | | 150mm Pipes laid in and including trenches not exceeding 1m deep | m | 30 | | |
| | | Extra over uPVC pipes for fittings | | | | |
| 13.3 | | 110mm Bend | No | 13 | | |
| 13.4 | | 110mm Junction | No | 13 | | |
| 13.5 | | 150mm Bend | No | 4 | | |
| 13.6 | | 150mm Junction | No | 4 | | |
| | | <u>Sumps, catchpits, inspection chambers, etc (gratings and covers elsewhere)</u> | | | | |
| 13.7 | | Rainwater sump 450 x 450mm and not exceeding 500mm deep internally | No | 16 | | |
| | | <u>Gratings, covers, etc</u> | | | | |
| 13.8 | | 300 x 300mm x 9kg Type LD cast iron dished grating and frame | No | 16 | | |
| | | <u>Sundries</u> | | | | |
| 13.9 | | 110mm Cleaning eye | No | 3 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | SOIL DRAINAGE | | | | |
| | | Work Group No 146 for Haylett formula purposes | | | | |
| | | <u>uPVC pipes</u> | | | | |
| 13.1 | | 110mm Pipes vertically or ramped to cleaning eyes etc (no excavation) | m | 2 | | |
| 13.11 | | 110mm Pipes laid in and including trenches not exceeding 1m deep | m | 17 | | |
| | | <u>Extra over uPVC pipes for fittings</u> | | | | |
| 13.12 | | 110mm Bend | No | 4 | | |
| 13.13 | | 110 mm Access bend | No | 1 | | |
| 13.14 | | 110mm Access junction | No | 1 | | |
| | | <u>Sundries</u> | | | | |
| 13.15 | | 110mm Cleaning eye | No | 1 | | |
| | | RAINWATER DISPOSAL | | | | |
| | | Work Group No 146 for Haylett formula purposes | | | | |
| | | <u>"Long Span" aluminium with baked enamel finish</u> | | | | |
| 13.16 | | 150 x 125 x 150mm VHV ogee eaves gutters | m | 61 | | |
| 13.17 | | Extra over eaves gutter for stopped end | No | 4 | | |
| 13.18 | | Extra over eaves gutter for outlet for 100 x 75mm pipe | No | 12 | | |
| 13.19 | | 100 x 75mm Rainwater pipes | m | 107 | | |
| 13.2 | | Extra over 100 x 75mm rainwater pipe for shoe | No | 12 | | |
| 13.21 | | Extra over 100 x 75mm rainwater pipe for eaves offset 500mm projection | No | 12 | | |
| 13.22 | | 75mm Diameter rainwater pipes | m | 35 | | |
| 13.23 | | Extra over 75mm diameter rainwater pipe for bend | No | 6 | | |
| 13.24 | | Extra over 75mm diameter rainwater pipe for shoe | No | 2 | | |
| | | SANITARY FITTINGS | | | | |
| | | Work Group No 148 for Haylett formula purposes | | | | |
| | | <u>"Vaal"</u> | | | | |
| 13.25 | | 455 x 290mm "Bantam 7030" or similar approved single hole cloakroom basin | No | 1 | | |
| 13.26 | | "Orchid 439100" top inlet wall hung wc pan with double flap "Jazz Thermoset 8531Z0" seat and "8082Z0" floor bracket (flushing valve elsewhere) | No | 1 | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | WASTE UNIONS ETC | | | | |
| | | <u>"Cobra Watertech"</u> | | | | |
| 13.27 | | 32mm "301" Basin waste union | No | 1 | | |
| | | TRAPS ETC | | | | |
| | | <u>"Cobra Watertech"</u> | | | | |
| 13.28 | | 32mm "345/50" CP bottle trap | No | 1 | | |
| | | TAPS, VALVES, ETC | | | | |
| | | <u>"Cobra Watertech"</u> | | | | |
| 13.29 | | 15mm "Ball-o-stop" valve | No | 1 | | |
| 13.3 | | 15mm Cobra "Star" pillar tap 111-15 | No | 1 | | |
| 13.31 | | 20mm 121RB stopcock | No | 1 | | |
| 13.32 | | FJ2.210CP "Flushmaster Junior" toilet flush valve | No | 1 | | |
| | | SANITARY PLUMBING | | | | |
| | | <u>uPVC pipes</u> | | | | |
| 13.33 | | 50mm Pipes | m | 2 | | |
| 13.34 | | 110mm Pipes | m | 8 | | |
| | | <u>Extra over uPVC pipes for fittings</u> | | | | |
| 13.35 | | 50mm BSP adaptor | No | 1 | | |
| 13.36 | | 50mm Bend | No | 1 | | |
| 13.37 | | 50mm IE bend | No | 1 | | |
| 13.38 | | 110mm Reducer | No | 1 | | |
| 13.39 | | 110mm Bend | No | 2 | | |
| 13.4 | | 110mm IE junction | No | 2 | | |
| 13.41 | | 110mm Pan connector | No | 1 | | |
| 13.42 | | 110mm "GI Two-way" vent valve | No | 1 | | |
| | | <u>Sundries</u> | | | | |
| 13.43 | | Testing waste pipe system | Item | | | |
| Total Carried Forward | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | WATER SUPPLIES | | | | |
| | | Note: Pipes described as "chased" shall include for chasing into brick walls, wrapping with densyl tape or similar expansion protection, and patching with mesh scrim | | | | |
| | | <u>Class II copper pipes</u> | | | | |
| 13.44 | | 15mm Pipes chased into brick walls | m | 8 | | |
| 13.45 | | 20mm Pipes chased into brick walls | m | 8 | | |
| 13.46 | | 20mm Pipes laid in and including trenches | m | 5 | | |
| | | <u>Extra over class II copper pipes for brass compression fittings</u> | | | | |
| 13.47 | | 15mm Fittings | No | 8 | | |
| 13.48 | | 20mm Fittings | No | 8 | | |
| | | <u>Service pipes</u> | | | | |
| 13.49 | | 15mm Braided stainless service pipe not exceeding 400mm long including connections | No | 1 | | |
| | | <u>Sundries</u> | | | | |
| 13.5 | | Testing water pipe system | Item | | | |
| | | FIRE APPLIANCES ETC | | | | |
| | | <u>"Chubb"</u> | | | | |
| 13.51 | | 9kg Foam fire extinguisher | No | 2 | | |
| 13.52 | | 4,5kg Dry carbon powder fire extinguisher | No | 9 | | |
| Total Carried Forward To Summary: Section 13 | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|--|------|-----|------|----------|
| | | SECTION 15 PAINTWORK For preambles see "Model Preambles for Trades 2008" as published by The Association of South African Quantity Surveyors These Bills of Quantities are prepared in accordance with the Standard System of Measuring Building Work 6th edition (Rev2 - 2013) as published by The Association of South African Quantity Surveyors. Note: This document is based on preliminary Engineers Drawings: 5495-ST-A-02 to 13 Rev A5495-ST-CO-01 to 16 Rev A5495 -ST-SS-01 to 02 Rev AEngineer's sketches, project specifications by engineer and query/assumption lists, being the state of all information available as at 14 June 2021 Note: Unless otherwise stated herein, all items in this Bill shall be deemed to fall into Work Group No 152 for Haylett formula purposes PAINTWORK ETC TO NEW WORK ON FLOATED PLASTER OR CONCRETE <u>Prepare, one universal undercoat and two coats Plascon acrylic PVA</u> 14.1 On ceilings m2 2 <u>Prepare, prime with Plaster Primer and two coats Plascon "Double Velvet"</u> 14.2 On internal walls m2 103 ON METAL <u>One coat universal undercoat and two coats "Plascon" non-drip enamel on galvanised steel</u> 14.3 On door frames m2 17 14.4 On transformer room doors and frames m2 10 <u>Two coats calcium plumbate chromate primer, one coat universal undercoat and two coats gloss enamel structural paint on galvanised steel</u> 14.5 On members of roof trusses m2 213 14.6 On members of roof truss bracing m2 136 14.7 On lipped channel purlins m2 231 14.8 On I-section girders m2 79 ON WOOD <u>Two coats "Plascon" clear polyurethane varnish</u> 14.9 On doors m2 35 <u>One coat wood primer, one undercoat and two coats alkylid enamel paint</u> 14.1 On doors m2 4 | | | | |
| Total Carried Forward To Summary: Section 14 | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|---|------|-----|------|------------|
| | | SECTION 16 | | | | |
| | | PROVISIONAL SUMS | | | | |
| | | SUPPLEMENTARY PREAMBLES | | | | |
| | | All provisional sums cover supply of material and equipment and installation. Provisional sums are nett and do not include builder's discount (excluding settlement discount) and Value-Added Tax but the Tenderer may allow under "Profit" items any profit he considers necessary | | | | |
| | | JOINERY FITTINGS | | | | |
| 15.1 | | Post-formed desk top installation complete | Item | | | 2 500.00 |
| 15.2 | | Allow for profit if required | % | | | |
| 15.3 | | Allow for attendance if required | Item | | | |
| | | GALVANISED STEEL CATWALK, CATLADDERS, PLATFORMS, ETC. | | | | |
| 15.4 | | Provide for supply and installation of catwalk banded gratings, platforms including support steelwork below, catladders, hand-railing, balustrades, stairs. etc installation, complete | Item | | | 560 000.00 |
| 15.5 | | Allow for profit if required | % | | | |
| 15.6 | | Allow for attendance if required | Item | | | |
| Total Carried Forward To Summary: Section 15 | | | | | | |

BILL 2 BOQ 4: NEW SLUDGE DEWATERING BUILDING

| SUMMARY OF SECTIONS | | | | | |
|---|--|--|--|--|----------|
| SECTION | DESCRIPTION | | | | AMOUNT R |
| 1 | PRELIMINARIES | | | | |
| 2 | EARTHWORKS | | | | |
| 3 | MASONRY | | | | |
| 4 | WATERPROOFING | | | | |
| 5 | ROOF COVERINGS | | | | |
| 6 | CARPENTRY AND JOINERY | | | | |
| 7 | CEILINGS, PARTITIONS AND ACCESS FLOORING | | | | |
| 8 | IRONMONGERY | | | | |
| 9 | STRUCTURAL STEEL | | | | |
| 10 | METALWORK | | | | |
| 11 | PLASTERING | | | | |
| 12 | TILING | | | | |
| 13 | PLUMBING AND DRAINAGE | | | | |
| 14 | PAINTWORK | | | | |
| 15 | PROVISIONAL SUMS | | | | |
| Total Carried Forward To Summary Of Bills | | | | | |

BILL 3 BOQ 1: PRELIMINARY AND GENERAL

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|-----|------|----------|
| 1 | | <u>SCHEDULE NO. 1</u> <u>General Requirements and Conditions</u> <i>Allow for all costs and expenses in connection with the following:-</i> | | | | |
| 1.1 | | Providing Performance Security (Demand Guarantee under URDG 758). | Sum | 1 | | |
| 1.2 | | Providing Insurances including professional indemnity | Sum | 1 | | |
| 1.3 | | Providing advance payment guarantee's as per the contract document. | Sum | 1 | | |
| 1.4 | | Design of the Works and submission of Contractor's Documents | Sum | 1 | | |
| 1.5 | | Establishment on site (M&E) including setting up of office space, storage space, ablution/canteen facilities and any another amenities deemed fit by the Contractor. Item to include costs associated with vacating the Site at the end of the contract | Sum | 1 | | |
| 1.6 | | Chairing and minuting a HAZOP | Sum | 1 | | |
| 1.7 | | Site security including any fencing | Sum | 1 | | |
| 1.8 | | Operation and Maintenance of facilities on Site for duration of the Contract. | Sum | 1 | | |
| 1.9 | | General expenses incurred in complying with the requirements of T1.2 Tender Data, not included above. | Sum | 1 | | |
| 1.10 | | General expenses incurred in complying with the requirements of C1.2 Contract Data, not included above. | Sum | 1 | | |
| 1.11 | | All costs associated with the design, procurement, erection and maintenance of a project signboard at the entrance to the works, details as to be specified by the Engineer | Sum | 1 | | |
| 1.12 | | Other General expenses incurred in complying with the requirements of the Scope of Work not included above (Specify):- | | | | |
| 1.12.1 | | 1) | Sum | 1 | | |
| 1.12.2 | | 2) | Sum | 1 | | |
| 1.12.3 | | 3) | Sum | 1 | | |
| Total Carried Forward To Summary Of Bills | | | | | | |

BILL 3 BOQ 5: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| 5 | | SCHEDULE NO. 5 DEWATERING FACILITY P&ID Ref: W1859-45001 and W1859-45002 <i>Allow for all costs and expenses in connection with the design, manufacture, quality management, painting, testing, supply, delivery, offloading and storage of the following materials and equipment, including quality assurance, setting out of the works and checking work carried out by others:-</i> | | | | |
| 5.1 | | <u>WAS Transfer Pumps (PMP04A/B)</u> | | | | |
| 5.1.1 | M13 | Self priming centrifugal pump operating on variable speed drive (VSD) complete with motor, shaft, impeller, baseplate, cover plate, wear plate, supports and fasteners | No. | 2 | | |
| 5.1.2 | M13 | <u>Piping</u> WAS transfer and spillback piping, fittings, isolation and check valves, supports and fasteners from the existing WAS sump to the new inline macerator and heavy solids separator | Sum | 1 | | |
| 5.1.3 | | Removal of existing valve on the inlet line of the supply to the WAS sump | Sum | 1 | | |
| 5.1.4 | M13 | New WAS sump inlet knifegate valve with motorized actuator (XV33) | No. | 1 | | |
| 5.2 | | <u>WAS Macerator (MAC01A/B)</u> | | | | |
| 5.2.1 | M13 | Inline macerator and heavy solids separator complete with motor operating on variable speed drive (VSD), gearbox, inlet and outlet flange connection, shaft, cutting screen, blades, baseplate, supports and fasteners. Supplied with control panel as a package unit. | No. | 2 | | |
| 5.2.2 | M13 | <u>Spares</u> Full set of knife blades for each macerator and heavy solids separator | No. | 2 | | |
| 5.2.3 | M13 | Cutting screen <u>Piping</u> | No. | 1 | | |
| 5.2.2 | M13 | WAS transfer piping, fittings, isolation valves, supports and fasteners from the inline macerator and heavy solids separator to the centrifuge feed tank inlet | Sum | 1 | | |
| 5.3 | | <u>Centrifuge Feed Tank Mixers (MIX01/02)</u> | | | | |
| 5.3.1 | M14 | Submersible mixer complete with motor, shaft, non clogging impeller, lifting davit, cable and winch system, baseplate, supports and fasteners | No. | 2 | | |
| Total Carried Forward | | | | | | |

BILL 3 BOQ 5: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| 5.4 | | <u>Centrifuge Feed Pumps (PMP01A/B)</u> | | | | |
| 5.4.1 | M15 | Progressive cavity pump operating on variable speed drive (VSD) complete with motor, drive shaft, baseplate, supports and fasteners | No. | 2 | | |
| | | <u>Piping</u> | | | | |
| 5.4.2 | M15 | WAS feed piping, fittings, isolation, pressure safety and check valves, supports and fasteners from the centrifuge feed tank outlet to each centrifuge centrifuge unit | Sum | 1 | | |
| 5.4.3 | M15 | DN100, knife gate valve with motorized actuator (XV28, XV29) | No. | 2 | | |
| 5.4.4 | M15 | DN50, butterfly valve with motorized actuator (XV01, XV02, XV04, XV05) | No. | 4 | | |
| 5.5 | | <u>Centrifuge Feed Tank (TNK01)</u> | | | | |
| | | <u>Piping</u> | | | | |
| 5.5.1 | M14 | WAS overflow and drain piping, fittings, isolation valves, supports and fasteners from the centrifuge feed tank to new underground drain lines back to the existing detritus tank | Sum | 1 | | |
| 5.5.2 | M14 | 2nd class water supply piping, fittings, isolation valves, supports and fasteners from the bulk supply manifold up to the the supply puddle flange on the centrifuge tank | Sum | 1 | | |
| 5.5.3 | M14 | Steel cat ladders, platforms, handrailing, supports and fasteners around the centrifuge feed tank | Sum | 1 | | |
| 5.6 | | <u>Centrifuges</u> | | | | |
| 5.6.1 | M15 | High efficiency horizontal decanter centrifuge (CEN01/CEN02) complete with feed pipe, cylindrical bowl, scroll conveyor, base frame, scroll and bowl drive systems supplied as a package unit, with local control panel and PLC | No. | 2 | | |
| 5.6.2 | M15 | Discharge chute complete with compensator | No. | 2 | | |
| | | <u>Accessories</u> | | | | |
| 5.6.3 | M15 | Initial fill of scroll conveyor drive and bearings lubricant | No. | 2 | | |
| 5.6.4 | M15 | Spray can of touch up paint | No. | 2 | | |
| | | <u>Piping</u> | | | | |
| 5.6.5 | M15 | Centrate discharge piping, fittings, supports and fasteners from each centrifuge feed end to the drain sump | Sum | 1 | | |
| 5.6.6 | M15 | Sludge cake discharge piping fittings, isolation valves, supports and fasteners from each centrifuge to each centrifuge cake conveyor | Sum | 1 | | |
| Total Carried Forward | | | | | | |

BILL 3 BOQ 5: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--------------------------|----------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| 5.6.7 | M15 | 2nd class water supply piping, fittings, isolation valves, pressure regulating devices, supports and fasteners from the bulk supply manifold up to the flushing points (feed line and cake chute) and poly dilution points of each centrifuge. Include all valves and connections to hose connection points | Sum | 1 | | |
| 5.6.8 | M15 | DN600, knifgate valve with motorized actuator (XV03, XV06) | No. | 2 | | |
| 5.6.9 | M15 | DN250, knifegate valve with motorized actuator (XV10, XV11, XV12, XV13) | No. | 4 | | |
| 5.6.10 | M15 | DN50, knifegate valve with motorized actuator (XV14, XV15) | No. | 2 | | |
| 5.6.11 | M15 | DN50, butterfly valve with motorized actuator (XV16, XV17) | No. | 2 | | |
| <u>Lifting equipment</u> | | | | | | |
| 5.6.12 | M15 | Traveling gantry crane in centrifuge hall | Sum | 1 | | |
| 5.7 | | <u>Poly Make Up Systems</u> | | | | |
| 5.7.1 | M16 | Powder polyelectrolyte make-up system (PMT01/02) complete with hopper, agitators, heated metering screw, screw motor, two-chamber mixing system, all supplied as a package unit with local control panel and PLC | No. | 2 | | |
| <u>Piping</u> | | | | | | |
| 5.7.2 | M16 | Poly solution discharge piping, fittings, isolation valves, supports and fasteners from each polymer make-up system outlet to the common manifold supplying each poly dosing and lubrication pump | Sum | 1 | | |
| 5.7.3 | M16 | Poly overflow and drain piping, fittings, isolation valves, supports and fasteners from each make-up/dosing tank to contained floor drains | Sum | 1 | | |
| 5.7.4 | M16 | Potable water piping, fittings, isolation valves, pressure reducing valve, supports and fasteners from the main potable water supply point to the inlet of each polymer make up system | Sum | 1 | | |
| 5.7.5 | M16 | Poly make up system access staircase, platforms, handrailing and fasteners | Sum | 1 | | |
| 5.8 | | <u>Poly Dosing System</u> | | | | |
| 5.8.1 | M15 | Progressive cavity pump (PMP02A/B) operating on variable speed drive (VSD) complete with motor, drive shaft, baseplate, supports and fasteners | No. | 2 | | |
| <u>Piping</u> | | | | | | |
| 5.8.2 | M15, M16 | Poly dosing piping, fittings, isolation, pressure safety and check valves, supports and fasteners from the polymer make-up system outlet to the poly injection point of each centrifuge unit | Sum | 1 | | |
| Total Carried Forward | | | | | | |

BILL 3 BOQ 5: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| 5.8.3 | M15 | DN25, Diaphragm valve with modulating motorized actuator (FCV01, FCV02) | No. | 2 | | |
| 5.8.4 | M15 | Inline static mixer (MIX03, MIX04) | No. | 2 | | |
| 5.8.5 | M15 | 2nd class water supply piping, fittings, isolation valves, pressure relief devices, supports and fasteners from the bulk supply manifold up to the flushing point of each of the poly dosing pumps | Sum | 1 | | |
| 5.9 | | <u>Poly Lubrication System</u> | | | | |
| 5.9.1 | M17 | Progressive cavity pump (PMP06A/B) operating on variable speed drive (VSD) complete with motor, drive shaft, baseplate, supports and fasteners | No. | 2 | | |
| | | <u>Piping</u> | | | | |
| 5.9.2 | M16, M17 | Poly lubrication piping, fittings, isolation, pressure safety and check valves, supports and fasteners from the polymer make-up system outlet to the poly lubrication injection point at the discharge of each cake pump | Sum | 1 | | |
| 5.9.3 | M17 | 2nd class water supply piping, fittings, isolation valves, pressure regulating devices, supports and fasteners from the bulk supply manifold up to the flushing point of each of the poly lubrication pumps | Sum | 1 | | |
| 5.9.4 | M17 | DN20, diaphragm valve with solenoid actuator (XV26, XV27) | No. | 2 | | |
| 5.10 | | <u>Centrifuge Cake Conveyors</u> | | | | |
| 5.10.1 | M17 | Horizontal centreless spiral screw conveyor (SCC01A/B) complete with motor, gearbox, enclosed trough, discharge chute, supports and fasteners | No. | 2 | | |
| | | <u>Spares</u> | | | | |
| 5.10.2 | M17 | Trough liner | No. | 2 | | |
| 5.10.3 | M17 | Complete set screw bearings | No. | 2 | | |
| 5.11 | | All other plant and equipment items not included above which are | | | | |
| 5.11.1 | | Submersible domestic sewage sump pump | Sum | 1 | | |
| 5.11.2 | | 1)..... | Sum | 1 | | |
| 5.11.3 | | 2)..... | Sum | 1 | | |
| 5.11.4 | | 3)..... | Sum | 1 | | |
| Total Carried Forward | | | | | | |

BILL 3 BOQ 5: DEWATERING FACILITY

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| 5.12 | | <i>Allow for all costs and expenses, including double handling (if stored) and final painting (if applicable), in connection with the Site installation, testing, relocation, commissioning and upholding during the Trial Operation Period and Defects Notification Period of the following :-</i> | | | | |
| 5.12.1 | | All WAS Transfer Pumps equipment and ancillaries as described under items 5.1 and 5.11 | Sum | 1 | | |
| 5.12.2 | | All Macerator and Heavy Solids Separators equipment and ancillaries as described under items 5.2 and 5.11 | Sum | 1 | | |
| 5.12.3 | | All Centrifuge Feed Tank Mixers equipment and ancillaries as described under items 5.3 and 5.11 | Sum | 1 | | |
| 5.12.4 | | All Centrifuge Feed Pumps equipment and ancillaries as described under items 5.4 and 5.11 | Sum | 1 | | |
| 5.12.5 | | All Centrifuge Feed Tank equipment and ancillaries as described under items 5.5 and 5.11 | Sum | 1 | | |
| 5.12.6 | | All Centrifuge equipment and ancillaries as described under items 5.6 and 5.11 | Sum | 1 | | |
| 5.12.7 | | All Poly Make-up Systems equipment and ancillaries as described under items 5.7 and 5.11 | Sum | 1 | | |
| 5.12.8 | | All Poly Dosing Pumps equipment and ancillaries as described under items 5.8 and 5.11 | Sum | 1 | | |
| 5.12.9 | | All Poly Lubrication Pump equipment and ancillaries as described under items 5.9 and 5.11 | | | | |
| 5.12.10 | | All Centrifuge Cake Conveyors equipment and ancillaries as described under items 5.10 and 5.11 | Sum | 1 | | |
| 5.12.11 | | Carrying out and documenting the results of performance tests on the installed equipment | Sum | 1 | | |
| 5.13 | | All other site installation and general items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify):- | | | | |
| 5.13.1 | | 1)..... | Sum | 1 | | |
| 5.13.2 | | 2)..... | Sum | 1 | | |
| 5.13.3 | | 3)..... | Sum | 1 | | |
| 5.13.4 | | 4)..... | Sum | 1 | | |
| Total Carried Forward To Summary Of Bills | | | | | | |

BILL 3 BOQ 6: CAKE TRANSFER AND STORAGE

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| 6 | | SCHEDULE NO. 6 CAKE TRANSFER AND STORAGE P&ID Ref: W1859-45002 <i>Allow for all costs and expenses in connection with the design, manufacture, quality management, painting, testing, supply, delivery, offloading and storage of the following materials and equipment, including quality assurance, setting out of the works and checking work carried out by others:-</i> | | | | |
| 6.1 | | <u>Cake Hopper</u> Common hopper (HP01) complete with manual diverting flap, motorized bridge breaker, supports and fasteners, two-compartment system each flanged directly onto each cake pump feed screw | | | | |
| 6.1.1 | M17 | <u>Piping</u> 2nd class water supply piping, fittings, isolation valves, pressure regulating devices, supports and fasteners from the bulk supply manifold up to the flushing point of each compartment of the cake hopper. Include all valves and connections to hose connection points | Sum | 1 | | |
| 6.1.2 | M17 | | Sum | 1 | | |
| 6.2 | | <u>Cake Pumps</u> Progressive cavity cake pump (PMP03A/B) operating on variable speed drive (VSD) complete with motor, gearbox, feed screw, baseplate, supports and fasteners | No. | 2 | | |
| 6.2.1 | M17 | <u>Piping</u> Cake discharge piping, fittings, isolation valves, pressure safety devices, supports and fasteners from each cake pump to the inlet of each sludge cake silo. Including water drain/dumping piping | Sum | 1 | | |
| 6.2.2 | M17 | | | | | |
| 6.3 | | <u>Cake Silos</u> 2nd class water supply piping, fittings, isolation, pressure regulating devices, supports and fasteners from the bulk supply manifold up to each cake silo | Sum | 1 | | |
| 6.3.1 | M18 | | | | | |
| 6.3.2 | M18 | DN350, Knifegate valve with modulating motorized actuator (FCV04, FCV05) | No. | 2 | | |
| 6.3.3 | M18 | DN250, Knifegate valve with motorized actuator (XV10, XV11, XV12, XV13) | No. | 4 | | |
| 6.3.4 | M18 | DN50, Knifegate valve with motorized actuator (XV14, XV15) | No. | 2 | | |
| Total Carried Forward | | | | | | |

BILL 3 BOQ 6: CAKE TRANSFER AND STORAGE

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| 6.3.5 | M18 | DN50, butterfly valves with motorized actuator (XV16, XV17) | No. | 2 | | |
| 6.4 | | All other plant and equipment items not included above which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify): - | | | | |
| 6.4.1 | | 1)..... | Sum | 1 | | |
| 6.4.2 | | 2)..... | Sum | 1 | | |
| 6.4.3 | | 3)..... | Sum | 1 | | |
| 6.4.4 | | 4)..... | Sum | 1 | | |
| 6.5 | | <i>Allow for all costs and expenses, including double handling (if stored) and final painting (if applicable), in connection with the Site installation, testing, relocation, commissioning and upholding during the Trial Operation Period and Defects Notification Period of the following :-</i> | | | | |
| 6.5.1 | | All Cake Hopper equipment and ancillaries as described under items 6.1 and 6.4 | Sum | 1 | | |
| 6.5.2 | | All Cake Pumps equipment and ancillaries as described under items 6.2 and 6.4 | Sum | 1 | | |
| 6.5.3 | | All cake silo equipment and ancillaries as described under items 6.3 and 6.4 | Sum | 1 | | |
| 6.5.5 | | Carrying out and documenting the results of performance tests on the installed equipment | Sum | 1 | | |
| 6.6 | | All other site installation and general items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify):- | | | | |
| 6.6.1 | | 1)..... | Sum | 1 | | |
| 6.6.2 | | 2)..... | Sum | 1 | | |
| 6.6.3 | | 3)..... | Sum | 1 | | |
| 6.6.4 | | 4)..... | Sum | 1 | | |
| Total Carried Forward To Summary Of Bills | | | | | | |

BILL 3 BOQ 9: MECHANICAL SUNDRIES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|-----------------|-----|------|----------------|
| 9 | | <u>SCHEDULE NO. 9</u> <u>SUNDRIES</u> <i>Allow for all costs and expenses in connection with the following:-</i> | | | | |
| 9.1 | | Providing "as built" drawings | Sum | 1 | | |
| 9.2 | | Providing 3 draft copies of the Installation, Operation and Maintenance Manual prior to commissioning of the Works | Sum | 1 | | |
| 9.3 | | Providing 3 final hard copies & 1 soft copy (in Ebook format) of the Installation, Operation and Maintenance Manual prior to the issue of the Taking -Over Certificate. | Sum | 1 | | |
| 9.4 | | Standard Operating Procedures, Signage and training manuals as stated in contract document and specifications | Sum | 1 | | |
| 9.5 | M23 | Witnessing of Inspections, tests, FAT etc. of equipment by the employers representatives and engineering team representatives outside of the eThekweni Metropolitan Area but within the Republic of South Africa as specified in the particular specifications | Sum | 1 | | |
| 9.6 | M23 | Witnessing of Inspections, tests, FAT etc. of equipment by the employers representatives and engineering team representatives outside of the eThekweni Metropolitan Area and outside Republic of South Africa as specified in the detailed specifications | Sum | 1 | | |
| 9.7 | | Trial Operation Period obligations. Allow for all costs, including labour, chemicals, all consumables, spare parts and the like for running the operations 24/7 for 28 days as defined in the particular specification | Sum | 1 | | |
| 9.8 | M24 | Operational and maintenance training of the Employer's staff as defined in the particular specification. (Training over multiple shifts for running the operations 24/7) | Sum | 1 | | |
| 9.9 | M26 | Contractor's obligations to O&M during the defects notification period. | Provisional Sum | | | R 2 500 000.00 |
| 9.10 | | Sufficient provision to cover all costs associated with extending the manufacturer's warranty, for all equipment, until the end of the Defects Notification Period. | Sum | 1 | | |
| Total Carried Forward | | | | | | |

BILL 3 BOQ 9: MECHANICAL SUNDRIES

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| | | All other items required for the completion of the Contract as specified but not specifically mentioned above. Specify:- | | | | |
| 9.11 | | 1)..... | Sum | 1 | | |
| 9.12 | | 2)..... | Sum | 1 | | |
| 9.13 | | 3)..... | Sum | 1 | | |
| 9.14 | | 4)..... | Sum | 1 | | |
| Total Carried Forward To Summary Of Bills | | | | | | |

BILL 3 BOQ 10: SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|-----|------|----------|
| 1 | | <p><u>SCHEDULE NO. 10.1</u></p> <p><u>NEW SECOND CLASS WATER FILTER SYSTEM</u></p> <p><u>Allow for all costs and expenses in connection with the design, manufacture, corrosion protection, testing, supply, delivery, offloading and storage of the following materials and equipment:-</u></p> | | | |
| 1.1 | M22 | 150mm NB self cleaning filter with 250micron diameter filtration | 2 | | |
| 1.2 | | Pressure vessel | 1 | | |
| 1.3 | M22 | Associated Pipework | 1 | | |
| 1.4 | | Design & Drawings | 1 | | |
| 1.5 | | Quality Management | 1 | | |
| 1.6 | | <p>All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<u>Specify</u>):-</p> <p><u>Allow for all costs and expenses in connection with the Site installation of the following:-</u></p> | | | |
| 1.10 | | Self-cleaning filter system | 2 | | |
| 1.11 | | Pressure vessel | 1 | | |
| | | <u>Allow for all costs and expenses in connection with checking, starting up, testing and commissioning of the following:-</u> | | | |
| 1.12 | | Self-cleaning filter system | 2 | | |
| 1.13 | | Pressure vessel | 1 | | |
| Total Carried Forward | | | | | |

BILL 3 BOQ 10: SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|------|----------|
| Brought Forward | | | | | |
| 2 | | <u>SCHEDULE NO. 10.2</u> <u>FLOWMETER AND MISCELLANEOUS ITEMS</u> <u>Allow for all costs and expenses in connection with the design, manufacture, corrosion protection, testing, supply, delivery, offloading and storage of the following materials and equipment:-</u> | | | |
| 2.1 | | Electromagnetic flowmeter DN 65mm | 1 | | |
| 2.2 | | Electromagnetic flowmeter DN 150mm | 1 | | |
| 2.3 | | Design & Drawings | 1 | | |
| 2.4 | | Quality Management | 1 | | |
| 2.5 | | All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<u>Specify</u>):- <u>Allow for all costs and expenses in connection with the Site installation of the following:-</u> | Item | | |
| 2.6 | | Electromagnetic flowmeter DN 65mm | 1 | | |
| 2.7 | | Electromagnetic flowmeter DN 150mm | 1 | | |
| | | <u>Allow for all costs and expenses in connection with checking, starting up, testing and commissioning of the following:-</u> | | | |
| 2.8 | | Electromagnetic flowmeter DN 65mm | 1 | | |
| 2.9 | | Electromagnetic flowmeter DN 150mm | 1 | | |
| Total Carried Forward | | | | | |

BILL 3 BOQ 10: SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|-----|------|----------|
| Brought Forward | | | | | |
| 3 | | <u>SCHEDULE NO. 10.3</u> | | | |
| | | <u>VALVES</u> | | | |
| | | <u>Allow for all costs and expenses in connection with the design, manufacture, corrosion protection, testing, supply, delivery, offloading and storage of the following materials and equipment:-</u> | | | |
| 3.1 | | 65mm DN 304 S/S Resilient Seal Gate valve flanged | 2 | | |
| 3.2 | | 65mm DN Ball valve flanged | 2 | | |
| 3.3 | | 65mm Swing check valve flanged | 1 | | |
| 3.4 | | 150mm Swing check valve flanged | 6 | | |
| 3.5 | | PN16 Flanged Air release Valve | 4 | | |
| 3.6 | | 150mm DN 304 S/S Resilient Seal Gate valve flanged | 15 | | |
| 3.7 | | All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<u>Specify</u>):- | 1 | | |
| 3.8 | | Design & Drawings | 1 | | |
| 3.9 | | Quality Management | 1 | | |
| | | <u>Allow for all costs and expenses in connection with the Site installation of the following:-</u> | | | |
| 3.10 | | 65mm DN 304 S/S Resilient Seal Gate valve flanged | 2 | | |
| 3.11 | | 65mm DN Ball valve flanged | 2 | | |
| 3.12 | | 65mm Swing check valve flanged | 1 | | |
| 3.13 | | 150mm Swing check valve flanged | 6 | | |
| 3.14 | | PN16 Flanged Air release Valve | 4 | | |
| 3.15 | | 150mm DN 304 S/S Resilient Seal Gate valve flanged | 15 | | |
| Total Carried Forward | | | | | |

BILL 3 BOQ 10: SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|-----|------|----------|
| Brought Forward | | | | | |
| 3 | | Brought forward | | | |
| | | <u>Allow for all costs and expenses in connection with checking, starting up, testing and commissioning of the following:-</u> | | | |
| 3.16 | | 65mm DN 304 S/S Resilient Seal Gate valve flanged | 2 | | |
| 3.17 | | 65mm DN Ball valve flanged | 2 | | |
| 3.18 | | 65mm Swing check valve flanged | 1 | | |
| 3.19 | | 150mm Swing check valve flanged | 6 | | |
| 3.20 | | PN16 Flanged Air release Valve | 4 | | |
| 3.21 | | 150mm DN 304 S/S Resilient Seal Gate valve flanged | 15 | | |
| Total Carried Forward | | | | | |

BILL 3 BOQ 10: SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|------|----------|
| Brought Forward | | | | | |
| 4 | | <u>SCHEDULE NO. 10.4</u> | | | |
| | | <u>PUMPS</u> | | | |
| 4.1 | M22 | Second class water Centrifugal Pumps 22kW | 4 | | |
| 4.2 | | Quality Management | 1 | | |
| 4.3 | | Design & Drawings | 1 | | |
| 4.4 | | All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify):- | Item | | |
| | | <u>Allow for all costs and expenses in connection with the site installation of the following:-</u> | | | |
| 4.5 | | Second class water Centrifugal Pumps 22kW | 4 | | |
| | | <u>Allow for all costs and expenses in connection with checking, starting up, testing and commissioning of the following:-</u> | | | |
| 4.6 | | Second class water Centrifugal Pumps 22kW | 4 | | |
| Total Carried Forward | | | | | |

BILL 3 BOQ 10: SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|------|----------|
| Brought Forward | | | | | |
| 5 | | <u>SCHEDULE NO. 10.5</u> | | | |
| | | <u>MISCELLANEOUS WORK</u> | | | |
| | | <u>Allow for all costs and expenses in connection with the design, manufacture, corrosion protection, testing, supply, delivery, offloading and storage of the following materials and equipment:-</u> | | | |
| 5.1 | | New PN16 65mm Y Strainer | 1 | | |
| 5.2 | | Reducers: 150mm- 80mm (stainless steel to HDPE) | 2 | | |
| 5.3 | | Associated 150mm ss 304 pipe in the second water pump station | 1 | | |
| 5.4 | | Design & Drawings | 1 | | |
| 5.5 | | Quality Management | 1 | | |
| 5.6 | | All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<u>Specify</u>):- | Item | | |
| | | <u>Allow for all costs and expenses in connection with the Site installation of the following:-</u> | | | |
| 5.7 | | New PN16 65mm Y Strainer | 1 | | |
| 5.8 | | Reducers: 150mm- 80mm (stainless steel to HDPE) | 2 | | |
| 5.10 | | Associated 150mm ss 304 pipe in the second water pump station | 1 | | |
| | | <u>Allow for all costs and expenses in connection with checking, starting up, testing and commissioning of the following:-</u> | | | |
| 5.11 | | New PN16 65mm Y Strainer | 1 | | |
| 5.12 | | Reducers: 150mm- 80mm (stainless steel to HDPE) | 2 | | |
| 5.13 | | Associated 150mm ss 304 pipe in the second water pump station | 1 | | |
| Total Carried Forward | | | | | |

BILL 3 BOQ 10: SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|------|----------|
| Brought Forward | | | | | |
| 6 | | <u>SCHEDULE NO. 10.6</u> | | | |
| | | <u>HEALTH AND SAFETY</u> | | | |
| | | <u>Allow for all costs and expenses in connection with the following:-</u> | | | |
| 6.1 | | Compliance with the requirements of the Occupational Health and Safety Act 1993 and Construction Regulations 2014, including appointment of all Competent Persons required by the Construction Regulations (for Health and Safety Plan see separate Item). | Item | | |
| 6.2 | | Carrying out of Hazard Identification and provision of and adherence to a Health and Safety Plan | Item | | |
| 6.3 | | Compliance with the Health and Safety Specification in the Works Information, complete. | Item | | |
| | | Liaison, co-ordination and chairing of meetings in respect of Health and Safety requirements. | Item | | |
| 6.4 | | Other expenses incurred in complying with the requirements of the Scope of Work not included above (<u>Specify</u>):- | Item | | |
| Total Carried Forward | | | | | |

BILL 3 BOQ 10: SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|------|----------|
| Brought Forward | | | | | |
| 7 | | <u>SCHEDULE NO. 10.7</u> | | | |
| | | <u>ENVIRONMENTAL MANAGEMENT</u> | | | |
| | | <u>Allow for all costs and expenses in connection with the following:-</u> | | | |
| 7.1 | | Compliance with the Environmental Management Specification in the Works Information. | Item | | |
| Total Carried Forward | | | | | |

BILL 3 BOQ 10: SECOND CLASS WATER

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | QTY | RATE | AMOUNT R |
|---|---------|--|------|------|----------|
| Brought Forward | | | | | |
| 8 | | <u>SCHEDULE NO. 10.8</u> <u>SUNDRIES</u> <u>Allow for all costs and expenses in connection with the following:-</u> | | | |
| 8.1 | | Providing "as built" drawings. | Item | | |
| 8.2 | | Providing 2 draft copies of the Installation, Operation and Maintenance Manual prior to commissioning of the Works. | Item | | |
| 8.3 | | Providing 6 final copies of the Installation, Operation and Maintenance Manual prior to the issue of the Defects Certificate. | Item | | |
| 8.4 | | Operating Instructions and Signage, as per OHSA. | Item | | |
| 8.5 | | Inspections, tests, etc. of equipment outside of Cape Town | Item | | |
| 8.6 | | Provision of all Test Certificates and Certificate of Compliance in terms of the Code of Practice for Wiring of Premises. | Item | | |
| 8.7 | | Checking, starting up, testing and commissioning of the complete Works. | Item | | |
| 8.8 | | Operational Acceptance Testing. | Item | | |
| 8.9 | | Operational and Maintenance Training as per Particular Mechanical Specification and Particular Electrical Specification | Item | | |
| 8.10 | | Trial Operation Period. | Item | | |
| 8.11 | | Maintaining the Works until the Defects Date and issues of Defects Certificate | Item | | |
| 8.12 | | Maintenance inspection in accordance with Particular Mechanical Specification | Item | | |
| Total Carried Forward To Summary Of Bills | | | | | |

BILL 4 BOQ 1: PRELIMINARY AND GENERAL

PACKAGE B : SECTION 1: PRELIMINARIES

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|-----|------|----------|
| | | <u>SECTION 1</u> | | | | |
| | | <u>PRELIMINARIES</u> | | | | |
| | | Allow for preliminary and general items | | | | |
| 1.1 | | Fixed | Item | 1 | | |
| 1.2 | | Time | Item | 1 | | |
| 1.3 | | Value | Item | 1 | | |
| Total Carried Forward To Summary of Bills | | | | | | |

BILL 4 BOQ 2: EMERGENCY GENERATOR SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|---|------|------|------|----------|
| 1 | PI. 1.1. | <i>(Refer to Electrical Specification: Annexure E)</i> COPPER XLPE/SWA/PVC CABLES Supply and installation of copper XLPE/SWA/PVC/ECC cables laid in ducts, trenches, horizontal racks or vertical ducts. Rates shall include the supply and fixing of supports with regard to installation of cables. Rates shall include the PVC cable ties as required. All cables are Copper XLPE/SWA/PVC/ECC cables per SANS 1507. | | | | |
| 1.1 | | 185sq mm 4-C XLPE/SWA/PVC/ECC | | | | |
| 1.1.1 | | Supply | m | 1800 | | |
| 1.1.2 | | Install | m | 1800 | | |
| 1.2 | | 25sq mm 4-C XLPE/SWA/PVC/ECC | | | | |
| 1.2.1 | | Supply | m | 15 | | |
| 1.2.2 | | Install | m | 15 | | |
| 1.3 | | 6sq mm 4-C XLPE/SWA/PVC/ECC | | | | |
| 1.3.1 | | Supply | m | 80 | | |
| 1.3.2 | | Install | m | 80 | | |
| 1.4 | | 4sq mm 2-C XLPE/SWA/PVC/ECC | | | | |
| 1.4.1 | | Supply | m | 100 | | |
| 1.4.2 | | Install | m | 100 | | |
| 1.5 | | 4 mm ² 12-C + Earth (Generator Control Cabling) | | | | |
| 1.5.1 | | Supply | m | 100 | | |
| 1.5.2 | | Install | m | 100 | | |
| | PI. 1.2. | Termination of copper XLPE/SWA/PVC/ECC cables in DB's, Kiosks and metering panel. Rates shall include the supply and installation of glands, shrouds, lugs, nuts, bolts and washers as required. | | | | |
| 1.6 | | 185sq mm 4-C XLPE/SWA/PVC/ECC | | | | |
| 1.6.1 | | Supply | No | 36 | | |
| 1.6.2 | | Install | No | 36 | | |
| 1.7 | | 25sq mm 4-C XLPE/SWA/PVC/ECC | | | | |
| 1.7.1 | | Supply | No | 2 | | |
| 1.7.2 | | Install | No | 2 | | |
| 1.8 | | 6sq mm 4-C XLPE/SWA/PVC/ECC | | | | |
| 1.8.1 | | Supply | No | 4 | | |
| 1.8.2 | | Install | No | 4 | | |
| 1.9 | | 4sq mm 2-C XLPE/SWA/PVC/ECC | | | | |
| 1.9.1 | | Supply | No | 4 | | |
| 1.9.2 | | Install | No | 4 | | |
| 1.10 | | 4 mm ² 12-C + Earth (Generator Control Cabling) | | | | |
| 1.10.1 | | Supply | No | 12 | | |
| 1.10.2 | | Install | No | 12 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 2: EMERGENCY GENERATOR SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| 2 | Pl. 2.1. | DISTRIBUTION BOARDS <i>(Refer to Schematic for layout and equipment requirements)</i> Supply and Install Distribution boards complete with doors, frames, sub-frames, chassis fixtures, switchgear, terminations, bus-bars and wiring, labelling and line diagrams as specified. Minimum 30% spare space to be allowed in each DB. | | | | |
| 2.1 | | GENERATOR SYNC PANEL Local floor standing Distribution board complete with all wiring and circuit breakers per specifications and Generator schematic | | | | |
| 2.1.1 | | Supply | No | 1 | | |
| 2.1.2 | | Install | No | 1 | | |
| 2.2 | | EMERGENCY DISTRIBUTION PANEL Local floor standing Distribution board complete with all wiring and circuit breakers per specifications and Generator schematic | | | | |
| 2.2.1 | | Supply | No | 1 | | |
| 2.2.2 | | Install | No | 1 | | |
| 2.3 | | Change over Panels - Pump Station 1 C/O 1, Pump Station 1 C/O 2, Pump Station 2 C/O Panel, Dewatering Building C/O Panel, Head of Works C/O Panel. Local surface mounted change-over panels complete with all wiring and circuit breakers per specifications and Generator schematic | | | | |
| 2.3.1 | | Supply | No | 5 | | |
| 2.3.2 | | Install | No | 5 | | |
| 2.4 | | Generator Auxillary Main DB. Local surface mounted distribution panel complete with all wiring and circuit breakers per specifications and Generator schematic | | | | |
| 2.4.1 | | Supply | No | 1 | | |
| 2.4.2 | | Install | No | 1 | | |
| 2.5 | | BULK TANK CONTROL PANEL. Local surface mounted distribution panel complete with all wiring and circuit breakers per specifications and Generator schematic | | | | |
| 2.5.1 | | Supply | No | 1 | | |
| 2.5.2 | | Install | No | 1 | | |
| 2.6 | | MANUAL BULK FILL CONTROL PANEL. Local surface mounted distribution panel complete with all wiring and circuit breakers per specifications and Generator schematic | | | | |
| 2.6.1 | | Supply | No | 1 | | |
| 2.6.2 | | Install | No | 1 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 2: EMERGENCY GENERATOR SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|--|------|-------|------|----------|
| Brought Forward | | | | | | |
| 3 | Pl. 5.1. | STANDBY GENERATOR SYSTEM Supply and install outdoor generator set including all equipment and materials as specified and as indicated on the drawings. | | | | |
| 3.1 | | OUTDOOR STANDBY GENERATOR 1100 kVA Outdoor standby generator in sound proof enclosure, complete with smart controller, exhaust, 1000L day fuel tank and accessories. <i>As per technical data sheet EB1, included in the Volume C3.6.1 - Annex 1.</i> | | | | |
| 3.1.1 | | | | | | |
| 3.1.1.1 | | Supply | No | 2 | | |
| 3.1.1.2 | | Install | No | 2 | | |
| 3.1.2 | | 3000L Bulk Diesel Self-Bunded Tank <i>As per technical data sheet EB2, included in the Volume C3.6.1 - Annex 1.</i> | | | | |
| 3.1.2.1 | | Supply | No | 1 | | |
| 3.1.2.2 | | Install | No | 1 | | |
| 3.1.3 | | Pump System for Bulk Diesel Tank | | | | |
| 3.1.3.1 | | Supply | No | 1 | | |
| 3.1.3.2 | | Install | No | 1 | | |
| 3.2 | | GENERAL: | | | | |
| 3.2.1 | | Supply & Fill Diesel Fuel for full tank at time of handover: | Ltrs | 5000 | | |
| 3.2.2 | | Rate of diesel fuel at time of closing of tender: _____ | Ltrs | 5000 | | |
| 3.2.3 | | Supply & Fill Diesel Fuel for maintenance period: | Ltrs | 20000 | | |
| 3.2.4 | | Rate of diesel fuel at time of closing of tender: _____ | Ltrs | 20000 | | |
| | | Note: Based on fuel rate at the time that fuel is required, Litres will be adjusted to suite total cost amount tendered. | | | | |
| 3.2.5 | | Site acceptance tests (SAT's) of full system. Attendance by Contract, Client and Engineering team | Item | 1 | | |
| 3.2.6 | | Generator load test be conducted over a 6 hour period on site using the correct load bank and results documented. All diesel and load bank costs to be included. | Item | 1 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 2: EMERGENCY GENERATOR SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| 4 | Pl. 6.1. | SLEEVES Supply and installation of HDPE sleeves buried in ground as specified for Electrical, & data services, including couplings in accordance with non-metallic sleeves and accessories as per SANS 61386-24. Tenderers to note that all sleeves under buildings will be encased in concrete by the building contractor. | | | | |
| 4.1 | | 110mm Flexible double walled black corrugated sleeves including 6mm pilot string as draw wire in each sleeve | | | | |
| 4.1.1 | | Supply | m | 878 | | |
| 4.1.2 | | Install | m | 878 | | |
| 4.2 | | 50mm Flexible double walled black corrugated sleeves including 6mm pilot string as draw wire in each sleeve | | | | |
| 4.2.1 | | Supply | m | 100 | | |
| 4.2.2 | | Install | m | 100 | | |
| 5 | Pl. 6.2. | MANHOLES Construction of watertight manholes in ground as specified for Electrical & data services, including, lockable cover, seals, bushes, sleeve entries and end caps. Inclusive of cover and frame (Cover and frame - colour: GREY) including engraving on cover to read : "DATA" for data manholes and "ELECTRICAL" for electrical manholes To include: - 300 x 300mm bidem bag with 19mm stone for soak away. - Plinth, brickwork, frame cover, waterproofing, drainage, sleeve stubs and end caps for spare pipes. - All sleeves to be foam sealed after cable installation to prevent water ingress into manholes. | | | | |
| 5.1 | | 800mm x800 x 800mm deep (Internal dimensions) manhole - Electrical / (15kg) - Lockable | | | | |
| 5.1.1 | | Supply | No | 14 | | |
| 5.1.2 | | Install | No | 14 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 2: EMERGENCY GENERATOR SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|----------|--|----------------|-----|------|----------|
| Brought Forward | | | | | | |
| 6 | Pl. 6.3. | EXCAVATIONS & BACKFILL | | | | |
| | | Excavate for cables and sleeves including temporary support of sides, keeping excavation dry, bedding material, backfilling, compacting and testing as specified. All backfill material to be suitable as per SANS codes and engineers approval. Backfill material to be imported if necessary. | | | | |
| 6.1 | | In soft or pickable soil (60%) | | | | |
| 6.1.1 | | Supply | m ³ | 327 | | |
| 6.1.2 | | Install | m ³ | 327 | | |
| 6.2 | | In medium rock (20%) | | | | |
| 6.2.1 | | Supply | m ³ | 115 | | |
| 6.2.2 | | Install | m ³ | 115 | | |
| 6.3 | | In hard rock (20%) | | | | |
| 6.3.1 | | Supply | m ³ | 115 | | |
| 6.3.2 | | Install | m ³ | 115 | | |
| Total Carried Forward To Summary Of Bills | | | | | | |

BILL 4 BOQ 3: DOMESTIC POWER & LIGHTING
PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|---|------|-----------|------|----------|
| 1 | PI. 1.1. | <p><i>(Refer to Electrical Specification: Annexure E)</i></p> <p>COPPER XLPE/SWA/PVC CABLES</p> <p>Supply and installation of copper XLPE/SWA/PVC/ECC cables laid in ducts, trenches, horizontal racks or vertical ducts. Rates shall include the supply and fixing of supports with regard to installation of cables. Rates shall include the PVC cable ties as required. All cables are Copper XLPE/SWA/PVC/ECC cables per SANS 1507.</p> | | | | |
| 1.1 | | 25sq mm 4-C XLPE/SWA/PVC/ECC | | | | |
| 1.1.1 | | Supply | m | 60 | | |
| 1.1.2 | | Install | m | 60 | | |
| 1.2 | | 10sq mm 4-C XLPE/SWA/PVC/ECC | | | | |
| 1.2.1 | | Supply | m | 270 | | |
| 1.2.2 | | Install | m | 270 | | |
| 1.3 | | 16sq mm 2-C XLPE/SWA/PVC/ECC | | | | |
| 1.3.1 | | Supply | m | Rate Only | | |
| 1.3.2 | | Install | m | Rate Only | | |
| 1.4 | | 4sq mm 2-C XLPE/SWA/PVC/ECC | | | | |
| 1.4.1 | | Supply | m | 110 | | |
| 1.4.2 | | Install | m | 110 | | |
| | PI. 1.2. | <p>Termination of copper XLPE/SWA/PVC/ECC cables in DB's, Kiosks and metering panel. Rates shall include the supply and installation of glands, shrouds, lugs, nuts, bolts and washers as required.</p> | | | | |
| 1.5 | | 25sq mm 4-C XLPE/SWA/PVC/ECC | | | | |
| 1.5.1 | | Supply | No | 4 | | |
| 1.5.2 | | Install | No | 4 | | |
| 1.6 | | 10sq mm 4-C XLPE/SWA/PVC/ECC | | | | |
| 1.6.1 | | Supply | No | 20 | | |
| 1.6.2 | | Install | No | 20 | | |
| 1.7 | | 16sq mm 2-C XLPE/SWA/PVC/ECC | | | | |
| 1.7.1 | | Supply | No | 1 | | |
| 1.7.2 | | Install | No | 1 | | |
| 1.8 | | 4sq mm 2-C XLPE/SWA/PVC/ECC | | | | |
| 1.8.1 | | Supply | No | 10 | | |
| 1.8.2 | | Install | No | 10 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 3: DOMESTIC POWER & LIGHTING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|---|------|-----------|------|----------|
| Brought Forward | | | | | | |
| 2 | Pl. 2.1. | DISTRIBUTION BOARDS <i>(Refer to Schematic for layout and equipment requirements)</i> | | | | |
| | | Supply and Install Distribution boards complete with doors, frames, sub-frames, chassis fixtures, switchgear, terminations, bus-bars and wiring, labelling and line diagrams as specified. Minimum 30% spare space to be allowed in each DB. | | | | |
| 2.1 | | DB-10 Local flush mounted Distribution board complete with all wiring and circuit breakers per specifications and Admin Building schematic | | | | |
| 2.1.1 | | Supply | No | 1 | | |
| 2.1.2 | | Install | No | 1 | | |
| 2.2 | | DB-DW Local flush mounted Distribution board complete with all wiring and circuit breakers per specifications and DEWATERING LOCAL DB schematic | | | | |
| 2.2.1 | | Supply | No | 1 | | |
| 2.2.2 | | Install | No | 1 | | |
| 2.3 | | DB-HOW Local Surface mounted Distribution board complete with all wiring and circuit breakers per specifications and HEAD OF WORKS LOCAL DB schematic | | | | |
| 2.3.1 | | Supply | No | Rate Only | | |
| 2.3.2 | | Install | No | Rate Only | | |
| 2.40 | | DB-O. Local Surface mounted Distribution board complete with all wiring and circuit breakers per specifications and HEAD OF WORKS LOCAL DB schematic | | | | |
| 2.4.1 | | Supply | No | Rate Only | | |
| 2.4.2 | | Install | No | Rate Only | | |
| 2.5 | | DB-SCPS. Local Surface mounted Distribution board complete with all wiring and circuit breakers per specifications and SECOND CLASS WATER PUMP STATION ELECTRICAL LAYOUT | | | | |
| 2.5.1 | | Supply | No | 1 | | |
| 2.5.2 | | Install | No | 1 | | |
| 2.6 | | DB-GH. Local Surface mounted Distribution board complete with all wiring and circuit breakers per specifications and GUARD HOUSE ELECTRICAL LAYOUT | | | | |
| 2.6.1 | | Supply | No | Rate Only | | |
| 2.6.2 | | Install | No | Rate Only | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 3: DOMESTIC POWER & LIGHTING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|---|------|------|------|----------|
| Brought Forward | | | | | | |
| 3 | Pl. 2.2. | CONDUITS & CONDUIT BOXES | | | | |
| | | Supply and installation of conduit and boxes as specified for lighting, power and auxiliary outlets, including couplings, bushes, locknuts, bending, drawboxes and fixing, etc in accordance with metallic conduit and accessories as per SANS 60614 and non-metallic conduit and accessories as per SANS 950 | | | | |
| 3.1 | | PLAIN ENDED METALLIC GALVANISED BOSAL CONDUIT | | | | |
| 3.1.1 | | 20 mm on surface of brickwork or concrete | | | | |
| 3.1.1.1 | | Supply | m | 70 | | |
| 3.1.1.2 | | Install | m | 70 | | |
| 3.1.2 | | 20mm Round boxes surface mounted. | | | | |
| 3.1.2.1 | | Supply | No | 20 | | |
| 3.1.2.2 | | Install | No | 20 | | |
| 3.2 | | NON-METALLIC PVC CONDUIT | | | | |
| | | Built into brickwork or laid in concrete | | | | |
| 3.2.1 | | 20mm | | | | |
| 3.2.1.1 | | Supply | m | 1030 | | |
| 3.2.1.2 | | Install | m | 1030 | | |
| 3.2.2 | | 25mm | | | | |
| 3.2.2.1 | | Supply | m | 1270 | | |
| 3.2.2.2 | | Install | m | 1270 | | |
| 3.2.3 | | 50mm Diam x 20mm Round boxes | | | | |
| 3.2.3.1 | | Supply | No | 100 | | |
| 3.2.3.2 | | Install | No | 100 | | |
| 3.2.4 | | 50mm Diam x 25mm Round boxes | | | | |
| 3.2.4.1 | | Supply | No | 105 | | |
| 3.2.4.2 | | Install | No | 105 | | |
| 3.3 | | PRESSED GALVANISED STEEL BOX | | | | |
| 3.3.1 | | 100 x 50 x 50mm deep galvanised boxes built into brick or concrete | | | | |
| 3.3.1.1 | | Supply | No | 32 | | |
| 3.3.1.2 | | Install | No | 32 | | |
| 3.3.2 | | 100 x 100 x 50mm deep galvanised boxes built into brick or concrete | | | | |
| 3.3.2.1 | | Supply | No | 55 | | |
| 3.3.2.2 | | Install | No | 55 | | |
| 3.3.3 | | 100 x 100 PVC blank covers for data/telephone outlets | | | | |
| 3.3.3.1 | | Supply | No | 12 | | |
| 3.3.3.2 | | Install | No | 12 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 3: DOMESTIC POWER & LIGHTING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|---|------|------|------|----------|
| Brought Forward | | | | | | |
| 4 | PI. 2.3. | POWER SKIRTING Power skirting - Supply and installation of surface mounted power skirting as specified in the detail specification, complete with cover plates - plug assemblies not included. | | | | |
| 4.1 | | 2-Compartment power skirting (PVC, grey) | | | | |
| 4.1.1 | | Supply | m | 70 | | |
| 4.1.2 | | Install | m | 70 | | |
| 4.2 | | Supply and installation power skirting end caps | | | | |
| 4.2.1 | | Supply | No | 26 | | |
| 4.2.2 | | Install | No | 26 | | |
| 5 | PI. 2.3. | Trunking Trunking - Supply and installation of surface mounted Trunking as specified in the detail specification. | | | | |
| 5.1 | | 40mm X 16mm Cable Trunking (PVC, WHITE) | | | | |
| 5.1.1 | | Supply | m | 150 | | |
| 5.1.2 | | Install | m | 150 | | |
| 6 | | CIRCUIT WIRING & OUTLET POINTS | | | | |
| 6.1 | PI. 2.4. | PVC CONDUCTORS Supply and drawn in of copper PVC insulated conductors in conduit or trunking system in floor or in roof space for lights, plugs and power points, including connection to switches and equipment. For Live, Neutral and Earth. | | | | |
| 6.1.1 | | 1,5 mm ² Live | | | | |
| 6.1.1.1 | | Supply | m | 1030 | | |
| 6.1.1.2 | | Install | m | 1030 | | |
| 6.1.2 | | 1,5 mm ² Neutral | | | | |
| 6.1.2.1 | | Supply | m | 1030 | | |
| 6.1.2.2 | | Install | m | 1030 | | |
| 6.1.3 | | 2,5 mm ² Live | | | | |
| 6.1.3.1 | | Supply | m | 1370 | | |
| 6.1.3.2 | | Install | m | 1370 | | |
| 6.1.4 | | 2,5 mm ² Neutral | | | | |
| 6.1.4.1 | | Supply | m | 1370 | | |
| 6.1.4.2 | | Install | m | 1370 | | |
| 6.1.5 | | 2,5 mm ² Earth | | | | |
| 6.1.5.1 | | Supply | m | 2400 | | |
| 6.1.5.2 | | Install | m | 2400 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 3: DOMESTIC POWER & LIGHTING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|--|------|-----------|------|----------|
| Brought Forward | | | | | | |
| 6.2 | PI. 2.5. | LIGHT SWITCHES | | | | |
| | | Supply, installation and connection of 16 Amp light switches in flush 50 x 100 x 50mm boxes, including white coloured cover plates. | | | | |
| 6.2.1 | | Single lever | | | | |
| 6.2.1.1 | | Supply | No | 24 | | |
| 6.2.1.2 | | Install | No | 24 | | |
| 6.2.2 | | Two lever | | | | |
| 6.2.2.1 | | Supply | No | Rate Only | | |
| 6.2.2.2 | | Install | No | Rate Only | | |
| 6.2.3 | | Single lever, Two-way | | | | |
| 6.2.3.1 | | Supply | No | 6 | | |
| 6.2.3.2 | | Install | No | 6 | | |
| 6.2.4 | | Single lever, in IP65 Weather- Proof Enclosure | | | | |
| 6.2.4.1 | | Supply | No | 2 | | |
| 6.2.4.2 | | Install | No | 2 | | |
| 6.2.5 | | Occpancy Sensor | | | | |
| 6.2.5.1 | | Supply | No | 2 | | |
| 6.2.5.2 | | Install | No | 2 | | |
| 6.3 | PI. 2.6. | SWITCHED SOCKET OUTLETS | | | | |
| | | Supply, installation and connection of 16Amp switched socket outlets in 100 x 100 x 50mm boxes with white coloured cover plates | | | | |
| 6.3.1 | | 16A, 3-pin double SSO, with two type M wall mounted at 300mm AFFL Unless otherwise stated. (Type A) | | | | |
| 6.3.1.1 | | Supply | No | 10 | | |
| 6.3.1.2 | | Install | No | 10 | | |
| 6.3.2 | | 16A, 3-pin double SSO with one type M and two Type N Sockets (ZA plug) wall mounted at 300mm AFFL Unless otherwise stated (Type B) | | | | |
| 6.3.2.1 | | Supply | No | 7 | | |
| 6.3.2.2 | | Install | No | 7 | | |
| 6.3.3 | | 16A, 3-pin single SSO with one Type M and two Type N sockets (ZA Plug) and two USB outlets. Mounted ON WALL 300mm AFFL (Type E) | | | | |
| 6.3.3.1 | | Supply | No | 17 | | |
| 6.3.3.2 | | Install | No | 17 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 3: DOMESTIC POWER & LIGHTING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| 6.3.4 | | 16A, 3-pin single SSO in IP65 rated weather proof yolk box. Mounted ON WALL 1200mm AFFL. (Type F) | | | | |
| 6.3.4.1 | | Supply | No | 17 | | |
| 6.3.4.2 | | Install | No | 17 | | |
| 6.3.5 | | 63A, 5-pin single industrial socket in IP65 rated weatherproof enclosure. Mounted ON WALL 1200mm AFFL. (Type G) | | | | |
| 6.3.5.1 | | Supply | No | 12 | | |
| 6.3.5.2 | | Install | No | 12 | | |
| 6.3.6 | | 16A, 3-pin single SSO with one type M and one Type N sockets (ZA plug). Mounted in power skirting. | | | | |
| 6.3.6.1 | | Supply | No | 37 | | |
| 6.3.6.2 | | Install | No | 37 | | |
| 6.3.7 | | Telephone RJ45 outlet points | | | | |
| 6.3.7.1 | | Supply | No | 7 | | |
| 6.3.7.2 | | Install | No | 7 | | |
| 6.3.8 | | Data RJ11 outlet points | | | | |
| 6.3.8.1 | | Supply | No | 26 | | |
| 6.3.8.2 | | Install | No | 26 | | |
| 6.3.9 | | Cradles and Blank covers for telephone / data outlet points | | | | |
| 6.3.9.1 | | Supply | No | 10 | | |
| 6.3.9.2 | | Install | No | 10 | | |
| 6.3.10 | | 5 Amp plugs in round boxes in ceilings or roof spaces | | | | |
| 6.3.10.1 | | Supply | No | 134 | | |
| 6.3.10.2 | | Install | No | 134 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 3: DOMESTIC POWER & LIGHTING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| 6.4 | PI. 2.7. | ISOLATORS Supply, installation and connection of isolator in Polypropylene extension box | | | | |
| 6.4.1 | | 15 Amp, 2 Pole Isolator | | | | |
| 6.4.1.1 | | Supply | No | 8 | | |
| 6.4.1.2 | | Install | No | 8 | | |
| 6.4.2 | | 20 Amp, 2 Pole Isolator | | | | |
| 6.4.2.1 | | Supply | No | 17 | | |
| | | Install | No | 17 | | |
| 6.4.3 | | 30 Amp, 2 Pole Isolator | | | | |
| 6.4.3.1 | | Supply | No | 3 | | |
| 6.4.3.2 | | Install | No | 3 | | |
| 6.5 | PI. 3.1. | LIGHTING Supply, Installation and Commissioning of Luminaires. Note that all luminaires are subject to approval by the Engineer prior to purchase. <i>(Refer to Luminaire Schedule for Details)</i> To provide specified, similar or equivalent fittings subject to approval by the Engineer. Alternate fittings proposed will only be considered if cost saving, better quality and longer guarantee is provided and subject to approval by the engineer, architect and client. | | | | |
| 6.5.1 | | Type L1 - 2x28W 1200mm Open channel Fluorescent Luminaires | | | | |
| 6.5.1.1 | | Supply | No | 7 | | |
| 6.5.1.2 | | Install | No | 7 | | |
| 6.5.2 | | Type L1 Emergency- 2x28W 1200mm Open channel Fluorescent Luminaires with 30 minutes emergency back-up battery | | | | |
| 6.5.2.1 | | Supply | No | 2 | | |
| 6.5.2.2 | | Install | No | 2 | | |
| 6.5.3 | | Type L2 - 2x28W 1200mm Fluorescent tube luminaires in IP65 rated Enclosure | | | | |
| 6.5.3.1 | | Supply | No | 6 | | |
| 6.5.3.2 | | Install | No | 6 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 3: DOMESTIC POWER & LIGHTING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| 6.5.4 | | Type L2 Emergency- 2x28W 1200mm Flourescent tube luminaires in IP65 rated Enclosure with 30 minutes emergency back-up battery | | | | |
| 6.5.4.1 | | Supply | No | 3 | | |
| 6.5.4.2 | | Install | No | 3 | | |
| 6.5.5 | | Type L3 - 3 x 36W 1200x600mm recessed Flourescent tube panel Luminaire | | | | |
| 6.5.5.1 | | Supply | No | 21 | | |
| 6.5.5.2 | | Install | No | 21 | | |
| 6.5.6 | | Type L3 Emergency - 3 x 36W 1200x600mm recessed Flourescent tube panel Luminaire with 30 minutes emergency back-up battery | | | | |
| 6.5.6.1 | | Supply | No | 10 | | |
| 6.5.6.2 | | Install | No | 10 | | |
| 6.5.7 | | Type L4 2x26W CFL Round Recessed downlight luminaires | | | | |
| 6.5.7.1 | | Supply | No | 11 | | |
| 6.5.7.2 | | Install | No | 11 | | |
| 6.5.8 | | Type L4 Emergency - 2x26W CFL Round Recessed downlight luminaires with 30 minutes emergency back-up battery | | | | |
| 6.5.8.1 | | Supply | No | 8 | | |
| 6.5.8.2 | | Install | No | 8 | | |
| 6.5.9 | | Type L5 - 15W, IP65, wall mounted, bulkhead Flourescent Luminaire | | | | |
| 6.5.9.1 | | Supply | No | 16 | | |
| 6.5.9.2 | | Install | No | 16 | | |
| 6.5.10 | | Type L5 Emergency - 15W, IP65, wall mounted, bulkhead Flourescent Luminaire with 30 minutes emergency back-up battery | | | | |
| 6.5.10.1 | | Supply | No | 2 | | |
| 6.5.10.2 | | Install | No | 2 | | |
| 6.5.11 | | Type L6 - 2x36W 1200mm Flourescent tube luminaires in IP65 rated Enclosure | | | | |
| 6.5.11.1 | | Supply | No | 66 | | |
| 6.5.11.2 | | Install | No | 66 | | |
| 6.5.12 | | Type L6 Emergency- 2x36W 1200mm Flourescent tube luminaires in IP65 rated Enclosure with 30 minutes emergency back-up battery | | | | |
| 6.5.12.1 | | Supply | No | 12 | | |
| 6.5.12.2 | | Install | No | 12 | | |
| 6.5.13 | | 1.2m Galvanised steel poles - for mounting of Type L7 to include all brackets as neccessary | | | | |
| 6.5.13.1 | | Supply | No | 10 | | |
| 6.5.13.2 | | Install | No | 10 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 3: DOMESTIC POWER & LIGHTING

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|----------|--|------|-----------|------|----------|
| Brought Forward | | | | | | |
| 7 | PI. 6.1. | SLEEVES Supply and installation of HDPE sleeves buried in ground as specified for Electrical,& data services, including couplings in accordance with non-metallic sleeves and accessories as per SANS 61386-24. Tenderers to note that all sleeves under buildings will be encased in concrete by the building contractor. | | | | |
| 7.1 | | 50mm Flexible double walled black corrugated sleeves including 6mm pilot string as draw wire in each sleeve | | | | |
| 7.1.1 | | Supply | m | Rate Only | | |
| 7.1.2 | | Install | m | Rate Only | | |
| 8 | PI. 6.3. | EXCAVATIONS & BACKFILL Excavate for cables and sleeves including temporary support of sides, keeping excavation dry, bedding material, backfilling, compacting and testing as specified. All backfill material to be suitable as per SANS codes and engineers approval. Backfill material to be imported if necessary. | | | | |
| 8.1 | | In soft or pickable soil (60%) | | | | |
| 8.1.1 | | Supply | m³ | Rate Only | | |
| 8.1.2 | | Install | m³ | Rate Only | | |
| 8.2 | | In medium rock (20%) | | | | |
| 8.2.1 | | Supply | m³ | Rate Only | | |
| 8.2.2 | | Install | m³ | Rate Only | | |
| 8.3 | | In hard rock (20%) | | | | |
| 8.3.1 | | Supply | m³ | Rate Only | | |
| 8.3.2 | | Install | m³ | Rate Only | | |
| 9.1 | PI. 8.1. | Removal of Existing Equipment | | | | |
| 9.1.1 | | Disconnect and removal of existing infrastructure in the Administration Building as indicated on Demolishment Plan | Sum | 1 | | |
| 9.1.2 | | Disconnect and removal of existing infrastructure in the Generator Room, Existing , Distribution Panel and Manual Change-over Panels. | Sum | 1 | | |
| 9.2 | PI. 8.2 | Air-conditioning | | | | |
| 9.2.1 | | Provisional sum for Specialist Condition Assessment of all split-unit Air-conditioners in Administration Building | Sum | 1 | | |
| 9.2.2 | | Provisional sum for replacement or repair of all existing Split-units in Administration Building. | | | | |
| 9.2.2.1 | | Supply | No. | 11 | | |
| 9.2.2.2 | | Install | No. | 11 | | |
| 9.2.3 | | Provisional sum for new Split-units to be installed. | | | | |
| 9.2.3.1 | | Supply | No. | 4 | | |
| 9.2.3.2 | | Install | No. | 4 | | |
| Total Carried Forward To Summary Of Bills | | | | | | |

BILL 4 BOQ 4: EARTHING AND LIGHTNING PROTECTION

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|--|------|-----------|------|----------|
| | | <i>(Refer to Electrical Specification: Annexure E)</i> | | | | |
| 1 | | EARTHING AND LIGHTNING PROTECTION <i>(Refer to Electrical Specification: Annexure Q)</i> | | | | |
| | | Supply and Installation of Earthing & Lightning Protection per SANS 10313, 62305 and 10142. To be undertaken by specialist earthing and lightning contractor. | | | | |
| 1.1 | PI. 4.1. | SOIL RESISTIVITY TESTS | | | | |
| 1.1.1 | | Conduct a complete soil resistivity survey for the Hammarsdale Waste Water Treatment Works area. Resistivity measurements shall be taken at, at least 5 locations and at the supply points. It shall include a certificate and recommendation regarding the soil conditions. | Sum | 1 | | |
| 1.2 | PI. 4.2. | EARTH CONDUCTORS | | | | |
| | | Copper earth conductors installed in trenches, sleeves and in earth trench. Terminations to include drilling, bolting, connections, sealing and testing. Only cadweld joints will be allowed. | | | | |
| 1.2.1 | | 70 mm ² bare Copper Earth Wire (BCEW) | | | | |
| 1.2.1.1 | | Supply | m | 215 | | |
| 1.2.1.2 | | Install | m | 215 | | |
| 1.2.2 | | 70 mm ² PVC covered Copper Earth Wire (CEW) | | | | |
| 1.2.2.1 | | Supply | m | Rate Only | | |
| 1.2.2.2 | | Install | m | Rate Only | | |
| 1.2.3 | | 50 mm ² bare Copper Earth Wire (BCEW) for bonding of re-bar | | | | |
| 1.2.3.1 | | Supply | m | 50 | | |
| 1.2.3.2 | | Install | m | 50 | | |
| 1.2.4 | | 50 mm ² covered Copper Earth Wire (CEW) for bond to columns, metal downpipes and roof sheeting | | | | |
| 1.2.4.1 | | Supply | m | Rate Only | | |
| 1.2.4.2 | | Install | m | Rate Only | | |
| 1.2.5 | | Terminate Earth Wire in test joint box using lugs and brass bolt. | | | | |
| 1.2.5.1 | | Supply | No | 9 | | |
| 1.2.5.2 | | Install | No | 9 | | |
| 1.2.6 | | Terminate steel reinforcing using purpose made stainless steel terminals | | | | |
| 1.2.6.1 | | Supply | No | 9 | | |
| 1.2.6.2 | | Install | No | 9 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 4: EARTHING AND LIGHTNING PROTECTION

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|---|------|-----------|------|----------|
| Brought Forward | | | | | | |
| 1.2.7 | | Terminate steel roof structure to flush terminals at top of columns using 50mm ² PVC conductor, including lugs and fixings | No | 6 | | |
| 1.2.8 | | Bond metal roof and down pipes down with 50mm ² insulated to earth loop in ground. | | | | |
| 1.2.8.1 | | Supply | No | 4 | | |
| 1.2.8.2 | | Install | No | 4 | | |
| 1.2.9 | | 8mm Aerial conductor on roof for lightning protection. To include all holding down clamps, down conductors, bonding conductors and lightning Rods | | | | |
| 1.2.9.1 | | Supply | m | 130 | | |
| 1.2.9.2 | | Install | m | 130 | | |
| 1.3 | PI. 4.3. | EARTH BARS | | | | |
| 1.3.1 | | Provide Copper earth bars as per drawings and specifications. | | | | |
| 1.3.1.1 | | Supply | No | 4 | | |
| 1.3.1.2 | | Install | No | 4 | | |
| 1.4 | PI. 4.4. | ENCLOSURES | | | | |
| 1.4.1 | | 173(w)x130(h)x88mm(d) PVC Allbro surface extension box (PSO-2). To be installed on surface in front of flush terminal. | | | | |
| 1.4.1.1 | | Supply | No | 5 | | |
| 1.4.1.2 | | Install | No | 5 | | |
| 1.4.2 | | Labels for test joint box | | | | |
| 1.4.2.1 | | Supply | No | 5 | | |
| 1.4.2.2 | | Install | No | 5 | | |
| 1.5 | PI. 4.5. | EARTH ELECTRODES | | | | |
| | | Supply and install 'Cadweld' 16 mm diameter copper earth electrodes driven in ground, including 'Cadweld' joining sleeves as required | | | | |
| 1.5.1 | | 1000 mm long electrodes | | | | |
| 1.5.1.1 | | Supply | No | 24 | | |
| 1.5.1.2 | | Install | No | 24 | | |
| 1.5.2 | | Bond 70mm ² bare copper to earth rod | | | | |
| 1.5.2.1 | | Supply | No | Rate Only | | |
| 1.5.2.2 | | Install | No | Rate Only | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 4: EARTHING AND LIGHTNING PROTECTION

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|----------|---|----------------|-----|------|----------|
| Brought Forward | | | | | | |
| 1.6 | PI. 4.6. | EARTHING OF EQUIPMENT Earth equipment as per drawings and specification to achieve earth resistivity values as per SANS and NRS requirements | | | | |
| 1.6.1 | | Earthing of indoor equipment (DB's, Server Racks) | | | | |
| 1.6.1.1 | | Supply | No | 3 | | |
| 1.6.1.2 | | Install | No | 3 | | |
| 1.7 | PI. 4.7. | TRENCH EXCAVATIONS: Excavate for Earthing including temporary support of sides, keeping excavation dry, bedding material, backfilling, compacting and testing as specified. All backfill material to be suitable as per SANS codes and engineers approval. Backfill material to be imported if necessary. | | | | |
| 1.7.1 | | In soft or pickable soil (60%) | | | | |
| 1.7.1.1 | | Supply | m ³ | 100 | | |
| 1.7.1.2 | | Install | m ³ | 100 | | |
| 1.7.2 | | In soft rock (40%) | | | | |
| 1.7.2.1 | | Supply | m ³ | 65 | | |
| 1.7.2.2 | | Install | m ³ | 65 | | |
| 1.7.3 | | PVC warning tape installed in cable trench | | | | |
| 1.7.3.1 | | Supply | m | 235 | | |
| 1.7.3.2 | | Install | m | 235 | | |
| Total Carried Forward To Summary Of Bills | | | | | | |

BILL 4 BOQ 5: MV WORKS
PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|------|-----|------|----------|
| | | <i>(Refer to Electrical Specification: Annexure E)</i> | | | | |
| 1 | | MAIN SUBSTATION UPGRADE | | | | |
| 1.1 | | Manufacture, supply, off loading, installation, testing and commissioning of 12kV Metal-clad MV Switchgear Boards. 1 x Incomers, 2 Txf Feeder, 25kA, 400A, as detailed in the specifications. <i>As per technical data sheet EB3, included in the Volume C3.6.1 - Annex 1.</i> | | | | |
| 1.1.1 | | Supply | Sum | 1 | | |
| 1.1.2 | | Install | Sum | 1 | | |
| 1.2 | | Manufacture, supply, off loading, installation, testing and commissioning of 110VDC Battery Tripping unit as detailed in specifications. Includes the LV cabling required for the power supply and connection to the MV switchgear. <i>As per technical data sheet EB5, included in the Volume C3.6.1 - Annex 1</i> | | | | |
| 1.2.1 | | Supply | No | 1 | | |
| 1.2.2 | | Install | No | 1 | | |
| 1.3 | | Supply of Tools as required for Switchgear Operation | Set | 1 | | |
| 1.4 | | Tool storage rack, mounted on substation wall | No | 1 | | |
| 1.5 | | Disconnection and removal of the existing oil filled MV switchgear, transport to site laydown area. | Sum | 1 | | |
| 1.6 | | Disconnection and removal of the existing MV Supply cable installed from the Eskom metering point to the incomer, transport to site laydown area. | Sum | 1 | | |
| 1.7 | | MV Cabling MV Cable | | | | |
| 1.7.1 | | Supply and installation of copper XLPE/PVC/SWA/PVC 6.35/11kV Type A cable as per SANS 1339, laid in ducts, trenches, horizontal racks or vertical ducts. Rates shall include the supply and fixing of supports with regard to installation of cables. Rates shall include the stainless steel cable strapping as required. 3 Core 50mm ² | | | | |
| 1.7.1.1 | | Supply | m | 20 | | |
| 1.7.1.2 | | Install | m | 20 | | |
| 1.7.2 | | Termination of copper XLPE/PVC/SWA/PVC 6.35/11kV Type A cable. 3 Core 50mm ² | | | | |
| 1.7.2.1 | | Supply | No | 2 | | |
| 1.7.2.2 | | Install | No | 2 | | |
| 1.7.3 | | Jointing of copper XLPE/PVC/SWA/PVC 6.35/11kV Type A cable. 3 Core 50mm ² | | | | |
| 1.7.2.1 | | Supply | No | 1 | | |
| 1.7.2.2 | | Install | No | 1 | | |
| Total Carried Forward To Summary Of Bills | | | | | | |

BILL 4 BOQ 6: DE-WATERING ELECTRICAL SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----|------|----------|
| 1 | | <i>(Refer to Electrical Specification: Annexure E)</i> De-watering Electrical System | | | | |
| 1.1 | | Manufacture, supply, off loading, installation, testing and commissioning of 500kVA Mini-Substation Units, as detailed in the specifications. <i>As per technical data sheet EB4, included in the Volume C3.6.1 - Annex 1.</i> | | | | |
| 1.1.1 | | Supply | No | 1 | | |
| 1.1.2 | | Install | No | 1 | | |
| 1.2 | | Manufacture, supply, off loading and installation of precast concrete plinth for the Mini-substation installation. Preparation of the ground including excavation and compaction to be included. | | | | |
| 1.2.1 | | Supply | No | 1 | | |
| 1.2.2 | | Install | No | 1 | | |
| 1.3 | | MV Cabling | | | | |
| | | Supply and installation of copper XLPE/PVC/SWA/PVC 6.35/11kV Type A cable as per SANS 1339, laid in ducts, trenches, horizontal racks or vertical ducts. Rates shall include the supply and fixing of supports with regard to installation of cables. Rates shall include the stainless steel cable strapping as required. 3 Core 35mm ² | | | | |
| 1.3.1 | | Supply | m | 185 | | |
| 1.3.2 | | Install | m | 185 | | |
| 1.4 | | Termination of copper XLPE/PVC/SWA/PVC 6.35/11kV Type A cable. 3 Core 35mm ² | | | | |
| 1.4.1 | | Supply | No | 2 | | |
| 1.4.2 | | Install | No | 2 | | |
| | | MCC panels | | | | |
| 1.5 | | Manufacture, supply, off loading and installation of the De-watering MCC, and commissioning as detailed in the specifications and drawings. <i>60325-E-SD-700: Single line diagram</i> <i>60325-E-SD-702: GA</i> | No | 1 | | |
| 1.5.1 | | Supply | No | 1 | | |
| 1.5.2 | | Install | No | 1 | | |
| 1.6 | | Manufacture, supply, off loading and installation of the Sludge Transfer MCC, and commissioning as detailed in the specifications and drawings. <i>60325-E-SD-701: Single line diagram</i> <i>60325-E-SD-703: GA</i> | | | | |
| 1.6.1 | | Supply | No | 1 | | |
| 1.6.2 | | Install | No | 1 | | |
| 1.7 | | Local Control Stations | | | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 6: DE-WATERING ELECTRICAL SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|--|---------|---|------|------|------|----------|
| Brought Forward | | | | | | |
| 1.7.1 | | Surface mounted IP65 emergency stop push buttons. | | | | |
| 1.7.1.1 | | Supply | No | 21 | | |
| 1.7.1.2 | | Install | No | 21 | | |
| 1.7.2 | | 3CR12 support stands for the above item. | | | | |
| 1.7.2.1 | | Supply | No | 21 | | |
| 1.7.2.2 | | Install | No | 21 | | |
| LV CABLE | | | | | | |
| Supply and installation of copper PVC/PVC/SWA/PVC cables laid in ducts, trenches, horizontal racks or vertical ducts. Rates shall include the supply and fixing of supports with regard to installation of cables. Rates shall include the PVC cable ties as required. All cables are Copper PVC/PVC/SWA/PVC cables per SANS 1507. | | | | | | |
| 1.8 | | | | | | |
| 1.8.1 | | 120 mm ² x 4 core | | | | |
| 1.8.1.1 | | Supply | m | 100 | | |
| 1.8.1.2 | | Install | m | 100 | | |
| 1.8.2 | | 50 mm ² x 4 core | | | | |
| 1.8.2.1 | | Supply | m | 126 | | |
| 1.8.2.2 | | Install | m | 126 | | |
| 1.8.3 | | 25 mm ² x 4 core | | | | |
| 1.8.3.1 | | Supply | m | 11 | | |
| 1.8.3.2 | | Install | m | 11 | | |
| 1.8.4 | | 16 mm ² x 4 core | | | | |
| 1.8.4.1 | | Supply | m | 98 | | |
| 1.8.4.2 | | Install | m | 98 | | |
| 1.8.5 | | 10 mm ² x 4 core | | | | |
| 1.8.5.1 | | Supply | m | 40 | | |
| 1.8.5.2 | | Install | m | 40 | | |
| 1.8.6 | | 2.5 mm ² x 4 core | | | | |
| 1.8.6.1 | | Supply | m | 85 | | |
| 1.8.6.2 | | Install | m | 85 | | |
| 1.8.7 | | 1.5 mm ² x 4 core | | | | |
| 1.8.7.1 | | Supply | m | 1143 | | |
| 1.8.7.2 | | Install | m | 1143 | | |
| 1.8.8 | | 70 mm ² BCEW | | | | |
| 1.8.8.1 | | Supply | m | 50 | | |
| 1.8.8.2 | | Install | m | 50 | | |
| 1.8.9 | | 50 mm ² x 3 core (VFD Cable) | | | | |
| 1.8.9.1 | | Supply | m | 72 | | |
| 1.8.9.2 | | Install | m | 72 | | |
| 1.8.10 | | 10 mm ² x 3 core (VFD Cable) | | | | |
| 1.8.10.1 | | Supply | m | 132 | | |
| 1.8.10.2 | | Install | m | 132 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 6: DE-WATERING ELECTRICAL SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----------|------|----------|
| Brought Forward | | | | | | |
| 1.8.11 | | 2.5 mm ² x 3 core (VFD Cable) | | | | |
| 1.8.11.1 | | Supply | m | 50 | | |
| 1.8.11.2 | | Install | m | 50 | | |
| 1.8.12 | | 1.5 mm ² x 3 core (VFD Cable) | | | | |
| 1.8.12.1 | | Supply | m | 96 | | |
| 1.8.12.2 | | Install | m | 96 | | |
| 1.8.13 | | 50 mm ² ICEW | | | | |
| 1.8.13.1 | | Supply | m | Rate Only | | |
| 1.8.13.2 | | Install | m | Rate Only | | |
| 1.8.14 | | 10 mm ² ICEW | | | | |
| 1.8.14.1 | | Supply | m | Rate Only | | |
| 1.8.14.2 | | Install | m | Rate Only | | |
| 1.8.15 | | 2.5 mm ² ICEW | | | | |
| 1.8.15.1 | | Supply | m | Rate Only | | |
| 1.8.15.2 | | Install | m | Rate Only | | |
| 1.8.16 | | 1.5 mm ² ICEW | | | | |
| 1.8.16.1 | | Supply | m | Rate Only | | |
| 1.8.16.2 | | Install | m | Rate Only | | |
| 1.9 | | Termination of copper PVC/PVC/SWA/PVC cables in MCC's, Field Isolators, Mini-substations, Motors and Junction Boxes. Rates shall include the supply and installation of glands, shrouds, lugs, nuts, bolts and washers as required. | | | | |
| 1.9.1 | | 120 mm ² x 4 core | | | | |
| 1.9.1.1 | | Supply | No | 4 | | |
| 1.9.1.2 | | Install | No | 4 | | |
| 1.9.2 | | 50 mm ² x 4 core | | | | |
| 1.9.2.1 | | Supply | No | 4 | | |
| 1.9.2.2 | | Install | No | 4 | | |
| 1.9.3 | | 25 mm ² x 4 core | | | | |
| 1.9.3.1 | | Supply | No | 2 | | |
| 1.9.3.2 | | Install | No | 2 | | |
| 1.9.4 | | 16 mm ² x 4 core | | | | |
| 1.9.4.1 | | Supply | No | 6 | | |
| 1.9.4.2 | | Install | No | 6 | | |
| 1.9.5 | | 10 mm ² x 4 core | | | | |
| 1.9.5.1 | | Supply | No | 2 | | |
| 1.9.5.2 | | Install | No | 2 | | |
| 1.9.6 | | 2.5 mm ² x 4 core | | | | |
| 1.9.6.1 | | Supply | No | 10 | | |
| 1.9.6.2 | | Install | No | 10 | | |
| 1.9.7 | | 1.5 mm ² x 4 core | | | | |
| 1.9.7.1 | | Supply | No | 76 | | |
| 1.9.7.2 | | Install | No | 76 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 6: DE-WATERING ELECTRICAL SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|------------------------------|---------|--|------|-----------|------|----------|
| Brought Forward | | | | | | |
| 1.9.8 | | 70 mm ² BCEW | | | | |
| 1.9.8.1 | | Supply | No | 2 | | |
| 1.9.8.2 | | Install | No | 2 | | |
| 1.9.9 | | 50 mm ² x 3 core (VFD Cable) | | | | |
| 1.9.9.1 | | Supply | No | 4 | | |
| 1.9.9.2 | | Install | No | 4 | | |
| 1.9.10 | | 10 mm ² x 3 core (VFD Cable) | | | | |
| 1.9.10.1 | | Supply | No | 8 | | |
| 1.9.10.2 | | Install | No | 8 | | |
| 1.9.11 | | 2.5 mm ² x 3 core (VFD Cable) | | | | |
| 1.9.11.1 | | Supply | No | 2 | | |
| 1.9.11.1 | | Install | No | 2 | | |
| 1.9.12 | | 1.5 mm ² x 3 core (VFD Cable) | | | | |
| 1.9.12.1 | | Supply | No | 8 | | |
| 1.9.12.2 | | Install | No | 8 | | |
| 1.9.13 | | 50 mm ² ICEW | | | | |
| 1.9.13.1 | | Supply | No | Rate Only | | |
| 1.9.13.2 | | Install | No | Rate Only | | |
| 1.9.14 | | 10 mm ² ICEW | | | | |
| 1.9.14.1 | | Supply | No | Rate Only | | |
| 1.9.14.2 | | Install | No | Rate Only | | |
| 1.9.15 | | 1.2 mm ² ICEW | | | | |
| 1.9.15.1 | | Supply | No | Rate Only | | |
| 1.9.15.2 | | Install | No | Rate Only | | |
| 1.9.16 | | 1.5 mm ² ICEW | | | | |
| 1.9.16.1 | | Supply | No | Rate Only | | |
| 1.9.16.2 | | Install | No | Rate Only | | |
| CABLE LADDER AND TRAY | | | | | | |
| 1.10 | | 3CR12 cable ladder including all accessories (Earth continuity jumpers 16mm ² , 10mm ² , P1000 3CR12 Unistrut, splice kits) mounted to concrete slabs / walls. | | | | |
| 1.10.1 | | 1000 mm cable ladder | | | | |
| 1.10.1.1 | | Supply | m | 18 | | |
| 1.10.1.2 | | Install | m | 18 | | |
| 1.10.2 | | 1000mm 90° bends | | | | |
| 1.10.2.1 | | Supply | No | 1 | | |
| 1.10.2.2 | | Install | No | 1 | | |
| 1.10.3 | | 1000mm Riser/Dropper | | | | |
| 1.10.3.1 | | Supply | No | 3 | | |
| 1.10.3.2 | | Install | No | 3 | | |
| 1.10.4 | | 1000mm Tee Piece | | | | |
| 1.10.4.1 | | Supply | No | Rate Only | | |
| 1.10.4.2 | | Install | No | Rate Only | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 6: DE-WATERING ELECTRICAL SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|------------------------|------|-----------|------|----------|
| Brought Forward | | | | | | |
| 1.10.5 | | 1000mm - 800mm Reducer | | | | |
| 1.10.5.1 | | Supply | No | 2 | | |
| 1.10.5.1 | | Install | No | 2 | | |
| 1.10.6 | | 800 mm cable ladder | | | | |
| 1.10.6.1 | | Supply | m | 12 | | |
| 1.10.6.2 | | Install | m | 12 | | |
| 1.10.7 | | 800mm 90° bends | | | | |
| 1.10.7.1 | | Supply | No | Rate Only | | |
| 1.10.7.2 | | Install | No | Rate Only | | |
| 1.10.8 | | 800mm Riser/Dropper | | | | |
| 1.10.8.1 | | Supply | No | 2 | | |
| 1.10.8.2 | | Install | No | 2 | | |
| 1.10.9 | | 800mm Tee Piece | | | | |
| 1.10.9.1 | | Supply | No | Rate Only | | |
| 1.10.9.2 | | Install | No | Rate Only | | |
| 1.10.10 | | 800mm - 500mm Reducer | | | | |
| 1.10.10.1 | | Supply | No | 1 | | |
| 1.10.10.2 | | Install | No | 1 | | |
| 1.10.11 | | 500 mm cable ladder | | | | |
| 1.10.11.1 | | Supply | m | 14 | | |
| 1.10.11.2 | | Install | m | 14 | | |
| 1.10.12 | | 500mm 90° bends | | | | |
| 1.10.12.1 | | Supply | No | 1 | | |
| 1.10.12.2 | | Install | No | 1 | | |
| 1.10.13 | | 500mm Riser/Dropper | | | | |
| 1.10.13.1 | | Supply | No | 2 | | |
| 1.10.13.2 | | Install | No | 2 | | |
| 1.10.14 | | 500mm Tee Piece | | | | |
| 1.10.14.1 | | Supply | No | Rate Only | | |
| 1.10.14.2 | | Install | No | Rate Only | | |
| 1.10.15 | | 500mm - 300mm Reducer | | | | |
| 1.10.15.1 | | Supply | No | Rate Only | | |
| 1.10.15.2 | | Install | No | Rate Only | | |
| 1.10.16 | | 300 mm cable ladder | | | | |
| 1.10.16.1 | | Supply | m | 20 | | |
| 1.10.16.2 | | Install | m | 20 | | |
| 1.10.17 | | 300mm 90° bends | | | | |
| 1.10.17.1 | | Supply | No | 2 | | |
| 1.10.17.2 | | Install | No | 2 | | |
| 1.10.18 | | 300mm Riser/Dropper | | | | |
| 1.10.18.1 | | Supply | No | 2 | | |
| 1.10.18.2 | | Install | No | 2 | | |
| 1.10.19 | | 300mm Tee Piece | | | | |
| 1.10.19.1 | | Supply | No | Rate Only | | |
| 1.10.19.2 | | Install | No | Rate Only | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 6: DE-WATERING ELECTRICAL SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|------------------------------------|------|-----------|------|----------|
| Brought Forward | | | | | | |
| 1.10.20 | | 200 mm cable ladder | | | | |
| 1.10.20.1 | | Supply | m | 70 | | |
| 1.10.20.2 | | Install | m | 70 | | |
| 1.10.21 | | 200mm 90° bends | | | | |
| 1.10.21.1 | | Supply | No | 6 | | |
| 1.10.21.2 | | Install | No | 6 | | |
| 1.10.22 | | 200mm Riser/Dropper | | | | |
| 1.10.22.1 | | Supply | No | 6 | | |
| 1.10.22.2 | | Install | No | 6 | | |
| 1.10.23 | | 200mm Tee Piece | | | | |
| 1.10.23.1 | | Supply | No | Rate Only | | |
| 1.10.23.2 | | Install | No | Rate Only | | |
| 1.10.24 | | 100 mm cable ladder | | | | |
| 1.10.24.1 | | Supply | No | 100 | | |
| 1.10.24.2 | | Install | No | 100 | | |
| 1.10.25 | | 100mm 90° bends | | | | |
| 1.10.25.1 | | Supply | No | 12 | | |
| 1.10.25.2 | | Install | No | 12 | | |
| 1.10.26 | | 100mm Riser/Dropper | | | | |
| 1.10.26.1 | | Supply | No | 10 | | |
| 1.10.26.2 | | Install | No | 10 | | |
| 1.10.27 | | 100mm Tee Piece | | | | |
| 1.10.27.1 | | Supply | No | Rate Only | | |
| | | Install | No | Rate Only | | |
| 1.11 | | Installation Accessories | | | | |
| 1.11.1 | | P1000 - 3CR12 Unistrut | | | | |
| 1.11.1.1 | | Supply | m | 35 | | |
| 1.11.1.2 | | Install | m | 35 | | |
| 1.11.2 | | Angle Steel 3CR12 30mmx30mmx3mm | | | | |
| 1.11.2.1 | | Supply | m | 40 | | |
| 1.11.2.2 | | Install | m | 40 | | |
| 1.11.3 | | Channel Steel 3CR12 100mmx50mmx6mm | | | | |
| 1.11.3.1 | | Supply | m | 30 | | |
| 1.11.3.2 | | Install | m | 30 | | |
| 1.11.4 | | Welding Plug Socket | | | | |
| 1.11.4.1 | | Supply | No | 2 | | |
| 1.11.4.2 | | Install | No | 2 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 6: DE-WATERING ELECTRICAL SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|----------|--|----------------|-----|------|----------|
| Brought Forward | | | | | | |
| 2 | Pl. 6.1. | SLEEVES Supply and installation of HDPE sleeves buried in ground as specified for Electrical,& data services, including couplings in accordance with non-metallic sleeves and accessories as per SANS 61386-24. Tenderers to note that all sleeves under buildings will be encased in concrete by the building contractor. | | | | |
| 2.1 | | 110mm Flexible double walled black corrugated sleeves including 6mm pilot string as draw wire in each sleeve | | | | |
| 2.1.1 | | Supply | m | 200 | | |
| 2.1.2 | | Install | m | 200 | | |
| 3 | Pl. 6.3. | EXCAVATIONS & BACKFILL Excavate for cables and sleeves including temporary support of sides, keeping excavation dry, bedding material, backfilling, compacting and testing as specified. All backfill material to be suitable as per SANS codes and engineers approval. Backfill material to be imported if necessary. | | | | |
| 3.1 | | In soft or pickable soil (60%) | | | | |
| 3.1.1 | | Supply | m ³ | 80 | | |
| 3.1.2 | | Install | m ³ | 80 | | |
| 3.2 | | In medium rock (20%) | | | | |
| 3.2.1 | | Supply | m ³ | 25 | | |
| 3.2.2 | | Install | m ³ | 25 | | |
| 3.3 | | In hard rock (20%) | | | | |
| 3.3.1 | | Supply | m ³ | 25 | | |
| 3.3.2 | | Install | m ³ | 25 | | |
| Total Carried Forward To Summary Of Bills | | | | | | |

BILL 4 BOQ 7: OHS, TESTING, COMMISSIONING, TRAINING, GENERAL - ELECTRICAL
PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|--|------|-----|------|----------|
| | | <i>(Refer to Electrical Specification: Annexure E)</i> | | | | |
| 1 | PI. 7.2. | OHS Signage & Labelling | | | | |
| 1.1 | | Supply and install all signage as per OHS Act and Ethekwini Electricity requirements. | Sum | 4 | | |
| 1.2 | | Labelling of all cables, switches, and equipment as specified. | Sum | 4 | | |
| 2 | | TESTING COMISSIONING & HANDOVER | | | | |
| 2.1 | PI. 9.1. | TESTING AND COMMISSIONING: | | | | |
| 2.1.1 | | Test and commission complete installation per SANS 10142-1 and as specified. | Sum | 4 | | |
| 2.2 | PI. 9.2. | DOCUMENTATION | | | | |
| 2.2.1 | | Submit As-built drawings to the Engineers satisfaction. 1 x full set "red line" drawings (hard copy) | Sum | 4 | | |
| 2.2.2 | | Submit Operation & Maintenance Manuals to the Engineers satisfaction 3 x sets manufacturers and supplier schedules, operation and maintenance manuals and drawings (hard copy + CD) | Sum | 4 | | |
| 2.2.3 | | Issue Certificate of Compliance (CoC): - 1 for each DB - 1 overall CoC | Sum | 4 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 7: OHS, TESTING, COMMISSIONING, TRAINING, GENERAL - ELECTRICAL

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| 2.2.4 | Pl. 9.3. | Issue Earth certificate for the complete earth installation | Sum | 4 | | |
| 2.3 | | TRAINING | | | | |
| 2.3.1 | | MV Switchgear, RMU's & Mini-substations (Training to cater for 5 operational and 5 engineering staff, unless noted otherwise) | | | | |
| 2.3.1.1 | | Detailed training on MV switchgear, operation to component level | Sum | 1 | | |
| 2.3.1.2 | | Overview training on 11kV protection and switchgear settings, including RTU. | Sum | 1 | | |
| 2.3.1.3 | | Comprehensive training on 11kV protection and switchgear settings (For 2 x engineers. 2 x technicians. All costs to be borne by the tenderer if training is offered out of Durban) | Sum | 1 | | |
| 2.3.1.4 | | MV switchgear maintenance requirements | Sum | 1 | | |
| 2.3.1.5 | | MV switchgear safety in operation and maintenance | Sum | 1 | | |
| 2.3.2 | | Generator Systems (Training to cater for 5 operational and 5 engineering staff, unless noted otherwise) | | | | |
| 2.3.2.1 | | Detailed training on generator and critical components | Sum | 1 | | |
| 2.3.2.2 | | Detailed training on generator operation, including engine management systems and electrical control | Sum | 1 | | |
| 2.3.2.3 | | Simple overview of protection systems | Sum | 1 | | |
| 2.3.3 | | Motor Control Centres (Training to cater for 5 operational and 5 engineering staff, unless noted otherwise) | | | | |
| 2.3.3.1 | | Detailed training on MCC and critical components | Sum | 1 | | |
| 2.3.3.2 | | Detailed training on operational systems, including interlocks, control system interface and intelligent relay/VFD/ softstarter configuration | Sum | 1 | | |
| 2.3.3.3 | | Safety in operations and maintenance | Sum | 1 | | |
| 2.3.4 | | Provide Training Manuals for critical operation and maintenance of the complete system. | Sum | 1 | | |
| Total Carried Forward | | | | | | |

BILL 4 BOQ 7: OHS, TESTING, COMMISSIONING, TRAINING, GENERAL - ELECTRICAL

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|----------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| 2.4 | | FACTORY ACCEPTANCE TESTS | | | | |
| 2.4.1 | | Witnessing of Inspections, tests, FAT etc. of equipment by the employers representatives and engineering team representatives outside of the eThekweni Metropolitan Area but within the Republic of South Africa as specified in the detailed specifications. Provision of 4 Pax. | Sum | 1 | | |
| 2.4.2 | | Witnessing of Inspections, tests, FAT etc. of equipment by the employers representatives and engineering team representatives outside of the eThekweni Metropolitan Area but outside the borders of the Republic of South Africa as specified in the detailed specifications. Provision for 4 Pax. | Sum | 1 | | |
| 2.5 | PI. 9.4. | GENERAL | | | | |
| 2.5.1 | | Guarantee and full maintenance of the complete electrical system for 12 months after handover to the client. Full list of material and maintenance plan to be provided | Mnts | 12 | | |
| 2.5.2 | | Guarantee and full maintenance of the complete Generator system for 12 months after handover to the client. To include all spares and replacement items for generator. Based on running time of 20Hrs per month. Full list of material and maintenance plan to be provided | Mnts | 12 | | |
| 2.5.3 | | Seal all cable entries in buildings and kiosks with foam seal to prevent ingress of water. | Sum | 1 | | |
| 2.5.4 | | Detection and re-loaction of existing services for electrical and ICT. All detection to be by hand excavations only. | Sum | 1 | | |
| Total Carried Forward To Summary Of Bills | | | | | | |

BILL 5 BOQ 1: PRELIMINARY AND GENERAL

PACKAGE B : SECTION 1: PRELIMINARIES

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|---|------|-----|------|----------|
| | | <u>SECTION 1</u> | | | | |
| | | <u>PRELIMINARIES</u> | | | | |
| | | Allow for preliminary and general items | | | | |
| 1.1 | | Fixed | Item | 1 | | |
| 1.2 | | Time | Item | 1 | | |
| 1.3 | | Value | Item | 1 | | |
| Total Carried Forward To Summary Of Bills | | | | | | |

BILL 5 BOQ 2: DE-WATERING C&I SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| 1 | | <i>(Refer to Control & Instrumentation Specification: Annexure F)</i> DE-WATERING PLANT C&I SYSTEM | | | | |
| | | PLC System | | | | |
| 1.1 | | Manufacture, supply, off loading and installation of the De-watering Plant PLC system (panel integral to the MCC panel), and commissioning as detailed in the specifications and drawings. <i>60325-I-GW-904: Typical PLC GA</i> | | | | |
| 1.1.1 | | Supply | No | 1 | | |
| 1.1.2 | | Install | No | 1 | | |
| 1.2 | | Manufacture, supply, off loading and installation of the Sludge Transfer PLC system (panel integral to the MCC panel), and commissioning as detailed in the specifications and drawings. | | | | |
| 1.2.1 | | Supply | No | 1 | | |
| 1.2.2 | | Install | No | 1 | | |
| 1.3 | | Field Junction Boxes | | | | |
| 1.3.1 | PI.2.2. | Manufacture, supply, off loading and installation of 304 SS Instrument Junction Boxes as detailed in the specifications and drawings. (Drawing Number 60325-I-GW-905) | | | | |
| 1.3.1.1 | | Supply | No | 15 | | |
| 1.3.1.2 | | Install | No | 15 | | |
| 1.3.2 | | 3CR12 support stands for the above item. | | | | |
| 1.3.2.1 | | Supply | No | 15 | | |
| 1.3.2.2 | | Install | No | 15 | | |
| 1.3.3 | PI2.1. | Manufacture, supply, off loading and installation of 304 SS Junction Boxes Type A, as detailed in the specifications and drawings. (Drawing Number 60325-I-GW-902) | | | | |
| 1.3.3.1 | | Supply | No | 3 | | |
| 1.3.3.2 | | Install | No | 3 | | |
| Total Carried Forward | | | | | | |

BILL 5 BOQ 2: DE-WATERING C&I SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R | |
|-----------------------------------|---------|--|------|-----------|------|----------|--|
| Brought Forward | | | | | | | |
| 1.3.4 | PI.1.3. | 3CR12 support stands for the above item. | | | | | |
| 1.3.4.1 | | Supply | No | 3 | | | |
| 1.3.4.2 | | Install | No | 3 | | | |
| 1.3.5 | | Industrial 4 -way junction boxes, glass reinforced polyester | | | | | |
| 1.3.5.1 | | Supply | No | 12 | | | |
| 1.3.5.2 | | Install | No | 12 | | | |
| Control & Instrumentation Cabling | | | | | | | |
| 1.4 | | Supply and installation of copper Dekabon armoured individual & overall screened 1.0mm ² cables laid in ducts, trenches, horizontal racks or vertical ducts. Rates shall include the supply and fixing of supports with regard to installation of cables. Rates shall include the PVC cable ties as required. | | | | | |
| 1.4.1 | | 2 Pair 1.0mm ² IAOS/PVC/Dekabon/PVC | | | | | |
| 1.4.1.1 | | Supply | m | 660 | | | |
| 1.4.1.2 | | Install | m | 660 | | | |
| 1.4.2 | | 4 Triad 1.0mm ² IAOS/PVC/Dekabon/PVC | | | | | |
| 1.4.2.1 | | Supply | m | Rate Only | | | |
| 1.4.2.2 | | Install | m | Rate Only | | | |
| 1.4.3 | | 4 Pair 1.0mm ² IAOS/PVC/Dekabon/PVC | | | | | |
| 1.4.3.1 | | Supply | m | Rate Only | | | |
| 1.4.3.2 | | Install | m | Rate Only | | | |
| 1.4.4 | | 8 Pair 1.0mm ² IAOS/PVC/Dekabon/PVC | | | | | |
| 1.4.4.1 | | Supply | m | 119 | | | |
| 1.4.4.2 | | Install | m | 119 | | | |
| 1.4.5 | | 12 Pair 1.0mm ² IAOS/PVC/Dekabon/PVC | | | | | |
| 1.4.5.1 | | Supply | m | 62 | | | |
| 1.4.5.2 | | Install | m | 62 | | | |
| 1.4.6 | | 16 Pair 1.0mm ² IAOS/PVC/Dekabon/PVC | | | | | |
| 1.4.6.1 | | Supply | m | 19 | | | |
| 1.4.6.2 | | Install | m | 19 | | | |
| 1.5 | PI.1.4. | Termination of copper copper Dekabon armoured individual & overall screened 1.0mm ² cables. Rates shall include the supply and installation of glands, shrouds, lugs, nuts, bolts and washers as required. | | | | | |
| 1.5.1 | | 2 Pair 1.0mm ² IAOS/PVC/Dekabon/PVC | | | | | |
| 1.5.1.1 | | Supply | No | 84 | | | |
| 1.5.1.2 | | Install | No | 84 | | | |
| 1.5.2 | | 4 Triad 1.0mm ² IAOS/PVC/Dekabon/PVC | | | | | |
| 1.5.2.1 | | Supply | No | Rate Only | | | |
| 1.5.2.2 | | Install | No | Rate Only | | | |
| Total Carried Forward | | | | | | | |

BILL 5 BOQ 2: DE-WATERING C&I SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----------|------|----------|
| Brought Forward | | | | | | |
| 1.5.3 | | 4 Pair 1.0mm ² IAOS/PVC/Dekabon/PVC | | | | |
| 1.5.3.1 | | Supply | No | Rate Only | | |
| 1.5.3.2 | | Install | No | Rate Only | | |
| 1.5.4 | | 8 Pair 1.0mm ² IAOS/PVC/Dekabon/PVC | | | | |
| 1.5.4.1 | | Supply | No | 6 | | |
| 1.5.4.2 | | Install | No | 6 | | |
| 1.5.5 | | 12 Pair 1.0mm ² IAOS/PVC/Dekabon/PVC | | | | |
| 1.5.5.1 | | Supply | No | 4 | | |
| 1.5.5.2 | | Install | No | 4 | | |
| 1.5.6 | | 16 Pair 1.0mm ² IAOS/PVC/Dekabon/PVC | | | | |
| 1.5.6.1 | | Supply | No | 2 | | |
| 1.5.6.2 | | Install | No | 2 | | |
| | | LV Cable | | | | |
| 1.6 | PI.1.1. | Supply and installation of copper PVC/PVC/SWA/PVC cables laid in ducts, trenches, horizontal racks or vertical ducts. Rates shall include the supply and fixing of supports with regard to installation of cables. Rates shall include the PVC cable ties as required. All cables are Copper PVC/PVC/SWA/PVC cables per SANS 1507. | | | | |
| 1.6.1 | | 4 mm ² x 4 core | | | | |
| 1.6.1.1 | | Supply | m | 100 | | |
| 1.6.1.2 | | Install | m | 100 | | |
| 1.6.2 | | 2.5 mm ² x 3 core | | | | |
| 1.6.2.1 | | Supply | m | 100 | | |
| 1.6.2.1 | | Install | m | 100 | | |
| 1.6.3 | | 1.5 mm ² x 4 core | | | | |
| 1.6.3.1 | | Supply | m | 405 | | |
| 1.6.3.2 | | Install | m | 405 | | |
| 1.6.4 | | 1.5 mm ² x 3 core | | | | |
| 1.6.4.1 | | Supply | m | 315 | | |
| 1.6.4.2 | | Install | m | 315 | | |
| 1.7 | PI.1.2. | Termination of copper PVC/PVC/SWA/PVC cables. Rates shall include the supply and installation of glands, shrouds, lugs, nuts, bolts and washers as required. | | | | |
| 1.7.1 | | 4 mm ² x 4 core | | | | |
| 1.7.1.1 | | Supply | No | 6 | | |
| 1.7.1.2 | | Install | No | 6 | | |
| 1.7.2 | | 2.5 mm ² x 3 core | | | | |
| 1.7.2.1 | | Supply | No | 6 | | |
| 1.7.2.2 | | Install | No | 6 | | |
| 1.7.3 | | 1.5 mm ² x 4 core | | | | |
| 1.7.3.1 | | Supply | No | 42 | | |
| 1.7.3.2 | | Install | No | 42 | | |
| Total Carried Forward | | | | | | |

BILL 5 BOQ 2: DE-WATERING C&I SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| 1.7.4 | | 1.5 mm ² x 3 core | | | | |
| 1.7.4.1 | | Supply | No | 38 | | |
| 1.7.4.2 | | Install | No | 38 | | |
| | | Communication Cable | | | | |
| 1.8 | | Supply and installation of Communication cables laid in ducts, trenches, horizontal racks or vertical ducts. Rates shall include the supply and fixing of supports with regard to installation of cables. Rates shall include the PVC cable ties as required. | | | | |
| 1.8.1 | | CAT6 STP - SWA | | | | |
| 1.8.1.1 | | Supply | m | 405 | | |
| 1.8.1.2 | | Install | m | 405 | | |
| 1.8.2 | | 8 Core Multimode Fibre Optic Cabling, SWA | | | | |
| 1.8.2.1 | | Supply | m | 100 | | |
| 1.8.2.2 | | Install | m | 100 | | |
| 1.9 | | Termination of Communication cables. Rates shall include the supply and installation of glands, shrouds, lugs, nuts, bolts and washers as required. | | | | |
| 1.9.1 | | CAT6 STP - SWA | | | | |
| 1.9.1.1 | | Supply | No | 42 | | |
| 1.9.1.2 | | Install | No | 42 | | |
| 1.9.2 | | 8 Core Multimode Fibre Optic Cabling, SWA | | | | |
| 1.9.2.1 | | Supply | No | 6 | | |
| 1.9.2.2 | | Install | No | 6 | | |
| 1.1 | | Splicing and OTDR Testing of the Fibre Cabling | | | | |
| 1.10.1 | | Splicing - Per 8 FO End - Supply | No | 6 | | |
| 1.10.2 | | OTDR Testing - Per 8 FO End - Supply | No | 6 | | |
| | | Field Instrumentation | | | | |
| 1.11 | PI.3.1. | Field Instrumentation: Includes the supply and installation of the field instrumentation as detailed in the specification and data sheets, including all installation accessories and mounting brackets. | | | | |
| 1.12 | | Feed Solids Transmitter - (Data Sheet B7.7.13-1) | | | | |
| 1.12.1 | | Supply | No | 2 | | |
| 1.12.2 | | Install | No | 2 | | |
| 1.13.1 | | Centrifuge Feed Magflo Transmitter - (Data Sheet B7.7.11-1) | | | | |
| 1.13.1.1 | | Supply | No | 2 | | |
| 1.13.1.2 | | Install | No | 2 | | |
| Total Carried Forward | | | | | | |

BILL 5 BOQ 2: DE-WATERING C&I SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----|------|----------|
| Brought Forward | | | | | | |
| 1.14 | | Centrifuge Dilution Water Magflo Transmitter - (Data Sheet B7.7.11-2) | | | | |
| 1.14.1 | | Supply | No | 2 | | |
| 1.14.2 | | Install | No | 2 | | |
| 1.15 | | Polyelectrolyte Magflo Transmitter - (Data Sheet B7.7.11-3) | | | | |
| 1.15.1 | | Supply | No | 2 | | |
| 1.15.2 | | Install | No | 2 | | |
| 1.16 | | Polyelectrolyte Lubrication Magflo Transmitter - (Data Sheet B7.7.11-4) | | | | |
| 1.16.1 | | Supply | No | 1 | | |
| 1.16.2 | | Install | No | 1 | | |
| 1.17 | | Poly Make-up Water Magflo Transmitter - (Data Sheet B7.7.11-5) | | | | |
| 1.17.1 | | Supply | No | 1 | | |
| 1.17.2 | | Install | No | 1 | | |
| 1.18 | | Centrifuge Feed Pump Pressure Transmitter - (Data Sheet B7.7.4-6) | | | | |
| 1.18.1 | | Supply | No | 2 | | |
| 1.18.2 | | Install | No | 2 | | |
| 1.19 | | Centrifuge Feed Tank Level Transmitter - (Data Sheet B7.7.4-5) | | | | |
| 1.19.1 | | Supply | No | 1 | | |
| 1.19.2 | | Install | No | 1 | | |
| 1.20 | | Centrifuge Feed Tank Level Switch - (Data Sheet B7.7.10-3) | | | | |
| 1.20.1 | | Supply | No | 2 | | |
| 1.20.2 | | Install | No | 2 | | |
| 1.21 | | Poly Dosing Pump Pressure Transmitter - (Data Sheet B7.7.4-7) | | | | |
| 1.21.1 | | Supply | No | 2 | | |
| 1.21.2 | | Install | No | 2 | | |
| 1.22 | | Poly Lubrication Pump Pressure Transmitter - (Data Sheet B7.7.4-9) | | | | |
| 1.22.1 | | Supply | No | 2 | | |
| 1.22.2 | | Install | No | 2 | | |
| 1.23 | | Cake Pump Pressure Transmitter - (Data Sheet B7.7.4-8) | | | | |
| 1.23.1 | | Supply | No | 2 | | |
| 1.23.2 | | Install | No | 2 | | |
| 1.24 | | Cake Pump Hopper Level - (Data Sheet B7.7.5-2) | | | | |
| 1.24.1 | | Supply | No | 2 | | |
| 1.24.2 | | Install | No | 2 | | |
| Total Carried Forward | | | | | | |

BILL 5 BOQ 2: DE-WATERING C&I SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|------|-----------|------|----------|
| Brought Forward | | | | | | |
| 1.25 | | Sludge Cake Silo Level -(Data Sheet B7.7.5-3) | | | | |
| 1.25.1 | | Supply | No | 2 | | |
| 1.25.2 | | Install | No | 2 | | |
| 1.26 | | Hopper Flap Proximity Switch - (Data Sheet B7.7.3-2) | | | | |
| 1.26.1 | | Supply | No | 2 | | |
| 1.26.2 | | Install | No | 2 | | |
| 1.27 | | Sludge Conveyor Cover Proximity Switch - (Data Sheet B7.7.3-2) | | | | |
| 1.27.1 | | Supply | No | 2 | | |
| 1.27.2 | | Install | No | 2 | | |
| 1.28 | | Existing WAS Sump Level Transmitter - (Data Sheet B7.7.5-4) | | | | |
| 1.28.1 | | Supply | No | 1 | | |
| 1.28.2 | | Install | No | 1 | | |
| 1.29 | | WAS Transfer Pump Flow Switch - (Data Sheet B7.7.6-4) | | | | |
| 1.29.1 | | Supply | No | 2 | | |
| 1.29.2 | | Install | No | 2 | | |
| | | Cable Ladder and Tray | | | | |
| 1.30 | PI.4.1. | 3CR12 cable ladder including all accessories (Earth continuity jumpers 16mm ² , 10mm ² , P1000 3CR12 Unistrut, splice kits) mounted to concrete slabs / walls. | | | | |
| 1.30.1 | | 300 mm cable ladder | | | | |
| 1.30.1.1 | | Supply | m | 50 | | |
| 1.30.1.2 | | Install | m | 50 | | |
| 1.30.2 | | 300mm 90° bends | | | | |
| 1.30.2.1 | | Supply | No | 3 | | |
| 1.30.2.2 | | Install | No | 3 | | |
| 1.30.3 | | 300mm Riser/Dropper | | | | |
| 1.30.3.1 | | Supply | No | 3 | | |
| 1.30.3.2 | | Install | No | 3 | | |
| 1.30.4 | | 300mm Tee Piece | | | | |
| 1.30.4.1 | | Supply | No | Rate Only | | |
| 1.30.4.2 | | Install | No | Rate Only | | |
| 1.30.5 | | 100 mm cable ladder | | | | |
| 1.30.5.1 | | Supply | m | 60 | | |
| 1.30.5.2 | | Install | m | 60 | | |
| 1.30.6 | | 100mm 90° bends | | | | |
| 1.30.6.1 | | Supply | No | 6 | | |
| 1.30.6.2 | | Install | No | 6 | | |
| 1.30.7 | | 100mm Riser/Dropper | | | | |
| 1.30.7.1 | | Supply | No | 4 | | |
| 1.30.7.2 | | Install | No | 4 | | |
| Total Carried Forward | | | | | | |

BILL 5 BOQ 2: DE-WATERING C&I SYSTEM

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|------------------------------------|------|-----|------|----------|
| Brought Forward | | | | | | |
| 1.30.8 | | 100mm Tee Piece | | | | |
| 1.30.8.1 | | Supply | No | 1 | | |
| 1.30.8.2 | | Install | No | 1 | | |
| 1.30.9 | | Installation Accessories | | | | |
| 1.30.9.1 | | P1000 - 3CR12 Unistrut | | | | |
| 1.30.9.1.1 | | Supply | m | 25 | | |
| 1.30.9.1.2 | | Install | m | 25 | | |
| 1.30.9.2 | | Angle Steel 3CR12 30mmx30mmx3mm | | | | |
| 1.30.9.2.1 | | Supply | m | 30 | | |
| 1.30.9.2.2 | | Install | m | 30 | | |
| 1.30.9.3 | | Channel Steel 3CR12 100mmx50mmx6mm | | | | |
| 1.30.9.3.1 | | Supply | m | 20 | | |
| 1.30.9.3.2 | | Install | m | 20 | | |
| Total Carried Forward To Summary Of Bills | | | | | | |

BILL 5 BOQ 3: NETWORK SYSTEMS

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|---|------|-----------|------|----------|
| | | <i>(Refer to Control & Instrumentation Specification: Annexure F)</i> | | | | |
| 1 | | NETWORK SYSTEM | | | | |
| | | Fibre Cable | | | | |
| 1.1 | | Supply and installation of 8 Core Multi-Mode cables laid in ducts, trenches, horizontal racks or vertical ducts. Rates shall include the supply and fixing of supports with regard to installation of cables. Rates shall include the PVC cable ties as required. | | | | |
| 1.1.1 | | 8 Core Multimode Fibre Optic Cabling, SWA | | | | |
| 1.1.1.1 | | Supply | m | 800 | | |
| 1.1.1.2 | | Install | m | 800 | | |
| 1.2 | | Termination of Fibre Optic cables. Rates shall include the supply and installation of glands, shrouds, lugs, nuts, bolts and washers as required. | | | | |
| 1.2.1 | | 8 Core Multimode Fibre Optic Cabling, SWA | | | | |
| 1.2.1.1 | | Supply | No | 24 | | |
| 1.2.1.2 | | Install | No | 24 | | |
| 1.3 | | Splicing and OTDR Testing of the Fibre Cabling | | | | |
| 1.3.1 | | Splicing - Per 8 FO End - Supply | No | 24 | | |
| 1.3.2 | | OTDR Testing - Per 8 FO End - Supply | No | 24 | | |
| | | NETWORK EQUIPMENT | | | | |
| 1.4 | | Network Equipment: Includes the supply and installation of the network hardware as detailed in the specification and data sheets, including all installation accessories and mounting brackets. | | | | |
| 1.4.1 | | Control room network panel, Ethernet Switch, Hardware Firewall, 32 way patch panel, patch leads and all required accessories. | | | | |
| 1.4.1.1 | | Supply | Sum | 1 | | |
| 1.4.1.2 | | Install | Sum | 1 | | |
| 1.4.2 | | Minisubstation Unit - Network Equipment. Includes Ethernet Switch, 2 x 8 way patch panels, patch leads and all required accessories. | | | | |
| 1.4.2.1 | | Supply | Sum | Rate Only | | |
| 1.4.2.2 | | Install | Sum | Rate Only | | |
| Total Carried Forward | | | | | | |

BILL 5 BOQ 3: NETWORK SYSTEMS

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|--|------|-----|------|----------|
| Brought Forward | | | | | | |
| 1.4.3 | | Generator - Network Equipment. Includes Ethernet Switch, 2 x 8 way patch panels, patch leads and all required accessories. | | | | |
| 1.4.3.1 | | Supply | Sum | 1 | | |
| 1.4.3.2 | | Install | Sum | 1 | | |
| 1.4.4 | | Main Substation - Network Equipment. Includes Ethernet Switch, 2 x 8 way patch panels, patch leads and all required accessories. | | | | |
| 1.4.4.1 | | Supply | Sum | 1 | | |
| 1.4.4.2 | | Install | Sum | 1 | | |
| 2 | PI. 5.1. | SLEEVES | | | | |
| | | Supply and installation of HDPE sleeves buried in ground as specified for C&I services, including couplings in accordance with non-metallic sleeves and accessories as per SANS 61386-24. Tenderers to note that all sleeves under buildings will be encased in concrete by the building contractor. | | | | |
| 2.1 | | 110mm Flexible double walled black corrugated sleeves including 6mm pilot string as draw wire in each sleeve | | | | |
| 2.1.1 | | Supply | m | 400 | | |
| 2.1.2 | | Install | m | 400 | | |
| 3 | PI. 5.2. | MANHOLES | | | | |
| | | Construction of watertight manholes in ground as specified for Electrical & data services, including, lockable cover, seals ,bushes, sleeve entries and end caps. Inclusive of cover and frame (Cover and frame - colour: GREY) including engraving on cover to read : "DATA" for data manholes and "ELECTRICAL" for electrical manholes To include: - 300 x 300mm bidem bag with 19mm stone for soak away. - Plinth, brickwork, frame cover, waterproofing, drainage, sleeve stubs and end caps for spare pipes. - All sleeves to be foam sealed after cable installation to prevent water ingress into manholes. | | | | |
| 3.1 | | 800mm x800 x 800mm deep (Internal dimensions) manhole - Electrical / (15kg) - Lockable | | | | |
| 3.1.1 | | Supply | No | 6 | | |
| 3.1.2 | | Install | No | 6 | | |
| Total Carried Forward | | | | | | |

BILL 5 BOQ 3: NETWORK SYSTEMS

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|---------|--|----------------|-----|------|----------|
| Brought Forward | | | | | | |
| 4 | PI.5.3. | EXCAVATIONS & BACKFILL | | | | |
| | | Excavate for cables and sleeves including temporary support of sides, keeping excavation dry, bedding material, backfilling, compacting and testing as specified. All backfill material to be suitable as per SANS codes and engineers approval. Backfill material to be imported if necessary. | | | | |
| 4.1 | | In soft or pickable soil (60%) | | | | |
| 4.1.1 | | Supply | m ³ | 231 | | |
| 4.1.2 | | Install | m ³ | 231 | | |
| 4.2 | | In medium rock (20%) | | | | |
| 4.2.1 | | Supply | m ³ | 77 | | |
| 4.2.2 | | Install | m ³ | 77 | | |
| 4.3 | | In hard rock (20%) | | | | |
| 4.3.1 | | Supply | m ³ | 77 | | |
| 4.3.2 | | Install | m ³ | 77 | | |
| Total Carried Forward To Summary Of Bills | | | | | | |

BILL 5 BOQ 4: SYSTEM INTEGRATION, TESTING, TRAINING, GENERAL CONTROL & INSTRUMENTATION

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|---------|--|----------|-----|-----------|----------------|
| 1 | | <p><i>(Refer to Control & Instrumentation Specification: Annexure F)</i></p> <p>SYSTEM INTEGRATION</p> <p>A provsional sum has been included for a specialist company to perform the system integration of the site control system, which includes; system design, software development, factory acceptance testing, site acceptance testing, commissioning, supply and installation of the required SCADA and reporting hardware, provision of the required licenses. This will include the following:</p> | | | | |
| 1.1 | | <p>Software Development</p> <p>PLC Software Development</p> <p>SCADA System Software Development</p> <p>HMI Screens Development</p> | Prov Sum | 1 | 600 000 | R 600 000.00 |
| 1.2 | | <p>Software Licenses</p> <p>SCADA Runtime License</p> <p>Historian License</p> <p>Reporting License</p> <p>PLC Engineering License</p> <p>SCADA Development Lincense</p> <p>Network Monitoring Software</p> | Prov Sum | 1 | 500 000 | R 500 000.00 |
| 1.3 | | <p>PC Hardware Requirements</p> <p>Redundant Servers</p> <p>- Historian</p> <p>- Reporting</p> <p>- SCADA</p> <p>Operator Stations</p> <p>Engineering Station</p> | Prov Sum | 1 | 1 250 000 | R 1 250 000.00 |
| 1.4 | | <p>Testing and Commissioning</p> <p>Factory Acceptance Testing</p> <p>Site Acceptance Testing</p> <p>Cold Commissioning</p> <p>Hot Commissioning</p> | Prov Sum | 1 | 500 000 | R 500 000.00 |
| Total Carried Forward | | | | | | 2850 000.00 |

BILL 5 BOQ 4: SYSTEM INTEGRATION, TESTING, TRAINING, GENERAL CONTROL & INSTRUMENTATION

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|-----------------------|----------|---|------|-----|------|-------------|
| Brought Forward | | | | | | 2850 000.00 |
| 2 | | TESTING COMMISSIONING & HANDOVER | | | | |
| 2.1 | Pl. 6.1. | TESTING AND COMMISSIONING: | | | | |
| 2.1.1 | | Test and commission complete installation per SANS 10142-1 and as specified. | Sum | 1 | | |
| 2.2 | Pl. 6.2. | DOCUMENTATION | | | | |
| 2.2.1 | | Submit As-built drawings to the Engineers satisfaction. 1 x full set "red line" drawings (hard copy) | Sum | 1 | | |
| 2.2.2 | | Submit Operation & Maintenance Manuals to the Engineers satisfaction | Sum | 1 | | |
| | | 3 x sets manufacturers and supplier schedules, operation and maintenance manuals and drawings (hard copy + CD) | | | | |
| 2.3 | Pl. 6.3. | TRAINING | | | | |
| | | Control, Instrumentation and SCADA Equipment (Training to cater for 5 operational and 5 engineering staff, unless noted otherwise) | | | | |
| 2.3.1 | | Detailed training on the specific PLC, Instrumentation, control and SCADA equipment supplied. | Sum | 1 | | |
| 2.3.2 | | Detailed training on process operations with regards to control philosophy understanding. Common PLC, Instrumentation, control and SCADA faults and what action is needed | Sum | 1 | | |
| 2.3.3 | | Detailed training on PLC, Instrumentation, control and SCADA settings, programming - (For 2 x engineers. 2 x technicians. All costs to be borne by the tenderer if training is offered out of Durban) | Sum | 1 | | |
| 2.3.4 | | Maintenance training, installation of common spare parts | Sum | 1 | | |
| 2.3.5 | | Safety in operations and maintenance | Sum | 1 | | |
| 2.3.6 | | Provision of Training Manuals for critical operation and maintenance of the complete system. | Sum | 1 | | |
| Total Carried Forward | | | | | | 2850 000.00 |

BILL 5 BOQ 4: SYSTEM INTEGRATION, TESTING, TRAINING, GENERAL CONTROL & INSTRUMENTATION

PACKAGE B

| ITEM NO | PAYMENT | DESCRIPTION | UNIT | QTY | RATE | AMOUNT R |
|---|----------|---|------|-----|------|-------------|
| Brought Forward | | | | | | 2850 000.00 |
| 2.4 | Pl. 6.4. | FACTORY ACCEPTANCE TESTS | | | | |
| 2.4.1 | | Witnessing of Inspections, tests, FAT etc. of equipment by the employers representatives and engineering team representatives outside of the eThekweni Metropolitan Area but within the Republic of South Africa as specified in the detailed specifications. | Sum | 1 | | |
| 2.4.2 | | Witnessing of Inspections, tests, FAT etc. of equipment by the employers representatives and engineering team representatives outside of the eThekweni Metropolitan Area but within the Republic of South Africa as specified in the detailed specifications. | Sum | 1 | | |
| 2.5 | | GENERAL | | | | |
| 2.5.1 | | Guarantee and full maintenance of the complete C&I system for 12 months after handover to the client. | Mnts | 12 | | |
| | | Full list of material and maintenance plan to be provided | | | | |
| 2.5.2 | | Seal all cable entries in buildings and kiosks with foam seal to prevent ingress of water. | Sum | 1 | | |
| 2.5.3 | | Detection and re-loaction of existing services for electrical and ICT. All detection to be by hand excavations only. | Sum | 1 | | |
| Total Carried Forward To Summary Of Bills | | | | | | 2850 000.00 |