| | PROPOSED CIVIL WORKS & STRUCTURES FOR KINANEI 66/11KV, 1X23 MVA TX. | | | | | CTURES FOR KINANEL 66/11KV, 1X23 MVA TX. | | | | |
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| A Allow for Temporary hoarding approximately 2.5m high for the proposed site including gates, security sentries and the like and cart away on completion of the project B Allow for material storage, working sheds, workmen shelter against adverse weather, changing rooms & Temporary swash facilities C Allow for a temporary site office (approx 100sqm)with provision for site office meeting room complete with portable seats,table, white board,washroom for Project team,including all works and fittings D Allow for a qualified safety Officer with OSHA and conversant with Kenya Power safety rules for the entire contract period E Allow for security and insurance for the proposed works, materials and personel for the entire contract period F Allow for clean water suitable for drinking for the works ITEM 1 G Allow for temporary power supply including adequate stand-by generator for lighting the works and equipment testing I Allow for all the necessary statutory approvals for the works by relevant county departments, replication of drawings to required formats, Endorsement by relevant proffesional persons; and submit a set of approved drawings before commencement to the client, including site and project registration with NCA-provisional 400,000 K Allow for entire site surveying including spot-heights and contour profiles for establising working levels and substation drainage level system L Allow for GeoTechnical Services-Provisional sum-ksh.350,000 ITEM 1 Allow for AS ABULIT DRAWINGS including stamped hard copies and Soft copies and submit the same to the Client after project commissioning P Allow for NEMA/EIA/ including EMCA (Cap. 387) enforcement implementation ITEM 1 C Allow for restrains samples testing from time to time including mill Certificates for all reinforcements and structural steel works delivered for the works. Copies to be attached at every stage of inspection for paymement and as may be requested by the Client Reference of the project. Site activities and occurances shall be handed over to the | Item | | | | | Amount (Kshs) | | | | |
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| Item | Description | Unit | Quantity | Rate | Amount |
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| | ELEMENT No 2: GENERAL SITE CLEARNCE | | | | |
| A | Clear site of all trees, bushes, shrubs, grass and the like to accommodate the | SM | 5000 | | |
| | substation, Site Offices, material storage, plant and other machinery ,working | | | | |
| | sheds for the workmen etc. Grab up their roots and burn the arising including | | | | |
| | fumigation against harmful crawling animals, snakes and the like | | | | |
| | ELEMENT No 3: 66KV LILO BAYS | | | | |
| | SWITCH - GEAR FOUNDATION PLINTHS(Substructure Works -All | | | | |
| | provisional) 66KV SWITCH-GEAR PLINTHS: (The following in 51 No. | | | | |
| | CT/CVT/SD/PI/NCT/CABLE SUPPOT/LIGHTENING MASTS & | | | | |
| | ISOLATORS Foundations type F1. 6Nos. CB Foundation Type F2 and 10No | | | | |
| | Foundation Type F3 GANTRY-Total 92Nos. | CM | 2600 | | |
| | Strip the top vegetable soil averagely 200mm deep and cart-away | SM | 3600 | | |
| | Excavate foundation pits commencing from stripped level and not exceeding 1.5m deep | CM | 400 | | |
| С | Ditto Exceeding 1.5m but not exceeding 3.0m | CM | 50 | | |
| D | Extra -Over for excavating in all classes of rocks at any depth | CM | 15 | | |
| Е | Allow for all necessary plunking and strutting | ITEM | 1 | | |
| | Allow for disposal of general water by pumping, bailing or otherwise | ITEM | 1 | | |
| G | Return, Fill and Ram Selected Excavated materials around the foundations | CM | 50 | | |
| Н | Load and Cart-Away surplus excavated materials from site to County Government Approved damping site | CM | 160 | | |
| I | Level and Compact bases of pits to receive blinding. | SM | 200 | | |
| | Blinding(Plain Concrete Class 15) | | | | |
| J | 50mm thick (1:3:6) Concrete blinding to pit bottoms | SM | 200 | | |
| | Vibrated Reinforced Concrete Class 25/20 mm Aggregates In: | | | | |
| K | Bases | CM | 60 | | |
| L | Stub columns | CM | 70 | | |
| | | | | | |
| | High yieled steel reinforcement bars including cutting, bending, tying and | | | | |
| | fixing in place, spacer blocks and tying wires to BS 4449. | | | | |
| M | D8-16mm | KG | 13000 | | |
| | Fair - Face FormWork to: | | | | |
| N | To vertical sides of bases (225-300mm) | LM | 460 | | |
| О | To vertical sides of stub-Columns | SM | 450 | | |
| | Rendering & finishes | | | | |
| | Rendering to Plinth top surface and any other suffeces exposed to weatherelements finished smooth trowelled including 50mm chamfer all round on all plinths. | SM | 310 | | |
| | Substation and Foundations Earthing: | | | | |
| Q | Excavate earth grids 300mm wide x 600mm deep average and cart-away including | SM | 2400 | | |
| | red-soil backfilling after laying the earthing materials within entire subststion yard | | | | |
| | ,including design of earthing system as per geotechnical report,seek kplc approval, | | | | |
| | supply and install all earthing materials. | | | | |
| | Chain-Link Fence (securiy area): | | | | |
| R | 2.4m high x10A gauge chainlink fence, complete with 4mm diameter 5 strands of | LM | 35 | | |
| | galvanized plain wire pass through 3.0m high 150x150x5mm thick, cranked | | | | |
| | reinforced concrete posts placed at 2.5m centers, 12 gauge barbed wire on 450mm | | | | |
| | cranks, including, excavation and erection works, 1:3:6 mix mass concrete | | | | |
| | surround at 600mm deep. | | | | |
| S | Allow for 600mm masonary wall above ground including all Material, labour, builders works and plaster finishes with 2 coats of black bituminous paint | LM | 35 | | |
| | including pec coping | | | | |
| J | Allow for kplc PM,PE and Profes Supervisor on communication and updates | ITEM | 1 | | |
| | facilitation including data processing and print a provisional Sum of Ksh. 1,200,000 Within entire project period | | | | |
| | 1.)200,000 APP MILIA OLIGO PIOJOG POLIGO | | | | |
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| Item | Description | Unit | Quantity | Rate | Amount |
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| | ELEMENT NO.4: CABLE TRENCHES | | | | |
| | Trench (600mm-1200mm wide)x(600mm-900mm deep) - length Approx. 2001M | | | | |
| | Excavate for cable trench 1.2m wide from ground level not exceeding 1.0m metres deep. | CM | 230 | | |
| В | Load and cart- away excess excavated materials from site to County Government Approved damping site | CM | 185 | | |
| С | Backfill and ram selected excavated materials around trench walls. | CM | 45 | | |
| D | 50mm plain concrete(1:4:8) blinding on cable trench base | SM | 250 | | |
| Е | Allow for all necessary plunking and stritting | ITEM | 1 | | |
| F | Allow for disposal of general water by pumping. Bailing or otherwise. | ITEM | 1 | | |
| | Vibrated reinforced concrete class 20/20 1:2:4 as described in; | | | | |
| G | 150mm thick trench base. | CM | 40 | | |
| Н | 150mm thick trench walls with fair face finish internally and external rendering | CM | 50 | | |
| | High yieled steel reinforcement bars including cutting, tying, bending and fixing in place, spacer blocks and tying wires to BS 4449. | | | | |
| I | D 8 in cable trench @ 150mm C/C Both ways | KG | 4000 | | |
| | Fair Face - Form work to: | | | | |
| J | Vertical sides of trench walls.(Internally and Externally) | SM | 600 | | |
| K | Vertical side of trench base-(75-150mm) | LM | 400 | | |
| | Allow screeding/sloping and water drainage including all outlet pipes at cable trench ends | ITEM | 1 | | |
| | Provide and put in place (900x400x50mm) thick precast concrete trench covers reinfoced with Y8 bars spaced at 100mm both ways with fair face finish on both sides, inside a 50x50 angle framing including priming and corrosion protective coat | No. | 260 | | |
| N | Ditto But 1500mm x 400mm x50mm | No. | 260 | | |
| 0 | Supply and fix for $600x600$ mm cable trench, galvanized 300 - 400 mm wide $x50$ mm deep x 2mm thick galvanized perforated steel cable trays(samples subject to kplc approval) for control cables including mounting on the trench and all joints and bends on galvanized mild steel support brackets 40 mm wide x 5mm thick with a mean girth of 1200 mm as supports to detail, secured to the trench walls using 100 mm long $x14$ mm dia. rawl bolts spaced at 1.0 m center to center (Contractor to submit details of cable tray support bracket for approval by kplc before fabrication and galvanizing including samples of rawl bolts) | LM | 150 | | |
| | Allow concrete for bedding and thikenings (class 25 /20 mm aggregates) along the full length of trench bases | CM | 60 | | |
| Q | Supply and install 150mm diameter medium duty PVC pipes as ducts. with and including 150mm thick concrete class 20 surround and murrum compaction underlying pipe bases as per as per engineer's instructions at various places | LM | 120 | | |
| R | Ditto but terminatiing at all equipments with lengths not exceeding 3.0m per equipment | LM | 60 | | |
| S | Allow for 150mm diameter, 90 degrees medium duty PVC bends, Tees and the like not exceeding 50 nos. including all bulders work and connection from equipment to trenches and the like. | LOT | 1 | | |
| | Cable trays for 1200x900mm_power Cable trench | | | | |
| Т | Fabricate, galvanize to not less than 95microns and fix cable trays,in 50x50x5mm thick RHS main frame with 50x50x5mm RHS ties at 300mm c/c welded in the main frame and raised 200mm above the cable trench floor with same size supports. Allow for 6mm thick mild steel plates welled to all the bases of the cable tray support legs | LM | 120 | | |
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| Item | Description | Unit | Quantity | Rate | Amount |
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| | ELEMENT No. 5: 66KV KV GALVANIZED STEEL STRUCTURES | | | | |
| | Fabricate and Supply to site, Steel Structures for Bus Bars, Voltage and | | | | |
| | Current Transformers(CT's &VT's),Surge Diverters(SD's), Post Insulators | | | | |
| | (PI's), Lightning Arrestors and Lighting Masts. The structures shall be made | | | | |
| | from hot -rolled structural steel sections As per drawings & other | | | | |
| | specficifications, and GTPs neluding all connections, weldings, nuts&washers, | | | | |
| | base and top plates, Stiffener plates, gussets, bolts and the like, including | | | | |
| | transport and delivery to site in well coded manner handed over to client for | | | | |
| | erection to match bolt assembly in foundations with galvanizing minimum 95 microns. Fabricator to allow for qualified steel erectors on site during the full | | | | |
| | erections of Vertical gantries and Horizontal booms AS follows-; | | | | |
| | erections of vertical gaintries and from Zontal booms AS follows-, | | | | |
| A | CT &VT Structure-165 Kgs. | PCS | 12 | | |
| В | CVT Structure-165 Kgs. | PCS | 6 | | |
| C | Low Level Post Insulator Structure-530 Kgs | PCS | 3 | | |
| D | Isolator/Air Break Switch Structure - 450kg | PCS | 6 | | |
| E | Surge Diverter Structure-145Kgs. | PCS | 9 | | |
| F | 11kv NCT Structure - 145Kg-adopt 66kv Surge Diverter drawing | PCS | 2 | | |
| G | Cable Support/Sealing ends structure - 500kg | PCS | 1 | | |
| | LILO Gantry (4-vertical Gantries and 2-Horizontal Booms)- 4500Kg | PCS | 2 | | |
| | BUS BAR (4 vertical Gantries and 2-Horizontal Boom)-4500kg | PCS | 2 | | |
| | High Level Post Insulator -750Kg | PCS | 1 | | |
| | Lightening Mast Structure - 520kg | PCS | 4 | | |
| L | Allow for grouting after KPLC Erection of structures | ITEM | 1 | | |
| M | Allow for Assembly and Erection of All 66kv Vertical Gantries and Horizontal | ITEM | 1 | | |
| " | Booms | IILIVI | 1 | | |
| N | Allow for 2 Nos. Galvanizing/coating thickness measurement equipment including | ITEM | 1 | | |
| - | Testing & Calibration as necessary. Provide documents to supprt calibration for | TTLIVI | 1 | | |
| | client ue within project. Provisional 500,000 | | | | |
| 0 | Allow for A Provisional Sum of Ksh. 700,000.00 for Factory Visit, Inspection, and | ITEM | 1 | | |
| | Tests before, during and after in the workshop/factory fabrication and | | | | |
| | galvanization process to check then accept/reject every process, quality, | | | | |
| | workmanships, precision and the like as per specifications. Including all | | | | |
| | facilitations/transport, communication for 6no. Client Teams (Project | | | | |
| | Supervisor,IAC members,PE & PM) | | | | |
| | Foundation Bolts (Refer to drawings): | | | | |
| P | Supply and fix galvanized steel bolts M30 x 1000mm long C/W Nuts and washers | No. | 140 | | |
| | and anchor plates to detail including setting, aligning, holding in position and | | | | |
| | pouring of concrete | | | | |
| Q | Ditto but M25x700mm long | No. | 250 | | |
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| Item | Description | Unit | Quantity | Rate | Amount |
|---------------------------|---|------|----------|------|--------|
| | ELEMENT No. 6: 1X23 MVA TX. PLINTH & OIL-SUMP WALL WORKS | | | | |
| A | General excavation 0-2m | CM | 110 | | |
| | Extra Over for excavating in All Classes of rocks at any depth excavation | CM | 14 | | |
| | Allow for soil stabilization /bottom soiling with parked boulders | CM | 20 | | |
| - | Allow for 'Plum' stabilization concrete -30mm aggregates-150mm-1.3.6 | CM | 10 | | |
| - | Reinforced Concrete | | | | |
| | BASE concrete Class 25 to footings 300mm deep | CM | 12 | | |
| | Concrete Class 25 to upstand beam & walls | CM | 25 | | |
| | Concrete Class 25 to Top Cover Slab | CM | 4 | | |
| - | Steel Reinforcement | | | | |
| - | Steel -Ribbed 8-16mm dia. to base and beam and wall | Kg | 5300 | | |
| I | Allow for INSERT plates 12mm thick 300x300 Including anchors and fixing to | PC | 10 | | |
| | receive angle line framing and gratings (m.s) | | | | |
| | Allow for Harcdore filling to Tx. voids including blinding to receive Top cover slab | CM | 30 | | |
| \vdash | Formwork | | | | |
| K | Fair face Formwork to vertical sides of all bases (225-300mm) | LM | 30 | | |
| - | Fair face Formwork to vertical sides of an bases (223-300mm) | SM | 120 | | |
| | Fair face Formwork to Vertical sides of Top cover | LM | 20 | | |
| - | Allow Concrete class 25 to perimeter sump wall 150mm thick | CM | 8 | | |
| | | Civi | 0 | | |
| 0 | Transformer Gratings Allow for HEAVY duty gratings in 1 0m misses made of 75 v75 mm and a furning. | SM | 25 | | |
| $\mid $ | Allow for HEAVYduty gratings in 1.0m pieces made of 75x75mm angle framing with 25mm diameter Ribbed bars at 30mm centres along the sump perimeter | SIVI | 25 | | |
| | including fixing of Nosing edge angle to match for grating mounting ,all steel | | | | |
| | works galvaniozed to NOT less than 95 microns and allow for notching as directed | | | | |
| | by client and making good the fabricated and galvanized gratings including spray | | | | |
| | painting in-situ the affected areas after fixing to receive 300-400mm wide cable | | | | |
| | trays (m.s) at various places as directed by kplc | | | | |
| | trays (m.s) at various places as directed by kpic | | | | |
| | | | | | |
| | 23 MVA Tx. Oil Sump Chamber | | | | |
| P | Construct OIL sump chamber2m x 5m x 2m deep; perimeter 200mm thick block | ITEM | 1 | | |
| | walling; internal plaster complete with niru finish; with ring beam at every 2m | | | | |
| | interval 250x200mm with 4 nos.12mm bars and 8mm shear links at 200mm | | | | |
| | spacing; cover slab with manhole opening 150mm reinforced with 8mm steel | | | | |
| | bothways at 150mm spacing; heavy duty steel cover; including pvc pipe | | | | |
| | 4"connecting with the main transformer pit not exceeding 6m awayin two | | | | |
| | compartments and connect to soakpit | | | | |
| | Provide galvanized 125 x 75mm x 8mm U Channels welded to triangular shape | ITEM | 1 | | |
| | (1.5x1.2x1.9metres); placed in reinforced concrete size, 1.0x1.0metres (m.s), with | | | | |
| | the top portion exposed above the concrete aproximately 200mm, including 50mm | | | | |
| | diameter hole drilled on exposed section. | | | | |
| | Allow for 2 Nos. Shmidt hammer including Testing & Calibration as necessary. | ITEM | 1 | | |
| | Provide documents to supprt calibration for client ue within project.Provisional | | | | |
| | 250,000 | | | | |
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| Item | Description | Unit | Quantity | Rate | Amount |
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| | ELEMENT No. 7: SWITCHYARD EXCAVATION, LEVELLING & | | | | |
| | BALLASTING | | | | |
| A | Oversite general excavation to Reduce levels averagely 200mm deep and Cart | SM | 3600 | | |
| | Away all loose soil | | | | |
| В | Bulk excavation averagely 400mm deep and Cart Away from site to approved | CM | 1440 | | |
| | dumping site, unsuitable soil commencing from stripped level but not exceeding | | | | |
| | 1.5m deep at the proposed substation area | | | | |
| С | Fill in with approved imported marrum to make up levels and compact to 95% | CM | 1440 | | |
| | MDD (AASHTO T99) in layers of 150mm in the entire proposed substation area | | | | |
| | | | | | |
| D | Allow for oversite grading to make up levels averagely 300mm using redsoil | SM | 3600 | | |
| | compacted in layers not exceeding 150mm thick | | | | |
| Е | Apply suitable weed killer, herbicide to surfaces of blinding as per the | SM | 2540 | | |
| | Manufacture's written instructions with a guarantee of more than 5 years | | | | |
| F | 1000 gauge polythene or other equal and approved membrane laid on compacted | SM | 2540 | | |
| | and treated quarry dust with welted laps of 200mm wide. | | | | |
| G | Supply and spread uniformly 150mm thick, 1" - 2.5", singly graded and approved | SM | 2540 | | |
| | ballast in the switch - yard | | | | |
| Н | Allow for stablization of unstable areas prior to murram backfill with averagely | CM | 760 | | |
| L | 300mm thick hardcore boulders | | | | |
| | ELEMENT 8: ACCESS ROAD, DRIVEWAY & PARKING(Concrete | | | | |
| | Paving Blocks) | | | | |
| A | Mass excavation to reduce levels not exceeding 1.50m deep commencing | CM | 360 | | |
| | from stripped level average 750mm deep. | | | | |
| В | Load and cart away excavated material from site. | CM | 360 | | |
| С | Ram and compact sub-grade ready to receive sub-base | SM | 480 | | |
| | Filling | | | | |
| D | Imported filling material to make up levels | CM | 330 | | |
| Е | 300mm Thick handpacked hardcore, filling leveled, well rammed and | CM | 138 | | |
| | consolidated in 150mm thick layers | | | | |
| F | 50mm Thick quarry dust blinding | SM | 480 | | |
| | 250 x 125mm High pre-cast concrete kerb bedded and jointed in cement and sand | LM | 450 | | |
| | (1:4) mortar including 325x100mm thick mass concrete class 20/20 in foundation | | | | |
| | and haunching at the back, including all necessary formwork | | | | |
| | and excavations. | | | | |
| Н | Extra-over ditto but curved on plan to various radii | LM | 60 | | |
| | 250 x 125mm High pre-cast concrete channels | LM | 450 | | |
| | Extra-over ditto for curved on plan to various radii | LM | 60 | | |
| J | Heavy duty industrial concrete paving blocks size (210x105x80mm) minimum | SM | 480 | | |
| | strength 49N/mm square laid in herringbone pattern to slope on quarry dust (m.s) | | | | |
| | and compacted to Engineer's approval | | | | |
| K | Extra over for junction between straight and curved kerbs. | NO | 8 | | |
| | Prepare surfaces and apply three coats of approved road marking paint: to Kerb | LM | 450 | | |
| | stones and parking 75-150mm girth. | | | | |
| M | Supply and install as shall be directed by client, 150mm diameter medium gauge | LOT | 1 | | |
| | PVC pipes as ducts for cables crossing the access road including all necessry | | | | |
| | excavations, concrete bedding, haunching and surround to ducts including self- | | | | |
| | soaking access manholes minimum size 900x900x1000mm deep in masonry wall | | | | |
| | plastered internally and externally, and pcc covers. | | | | |
| | External Access Road (Murraum) | | | | |
| N | Allow for standard 5m wide external access murram road approx. 20m long, | LOT | 1 | | |
| | including all necessary excavations, base stabilization, filling, compaction, | | | | |
| | elevating and connecting to the internal paved road and external main roads. | | | | |
| | N N | | | | |
| | Mr. da | | | | |
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| Item | Description | Unit | Quantity | Rate | Amount |
|------|---|-------|----------|------|--------|
| | ELEMENT NO. 9: EXTERNAL CULVERTS | | | | |
| A | Provide, lay and joint 450mm diameter precast concrete pipes (culverts) for service ducts as directed by the Engineer. The rate to include backfilling and compaction to drain formation level. | LM | 30 | | |
| В | Provide, place and compact 150mm class 15 (1:3:6) concrete bed and surround to 450mm diameter pipes. | СМ | 3 | | |
| | | | | | |
| | ELEMENT NO. 10: INTERNAL DRAINAGE WORKS | | | | |
| | <u>OPEN PERIMETER DRAIN</u> | | | | |
| A | Excavate on site drain trench not exceeding 1.5m deep including plunking and struting, disposal of soil to receive drainage channels and forming sloping sides in well compacted murram bed. (hydraulic depth 1m, Trapezoidal area 0.9sm) | LM | 250 | | |
| В | Provide, lay and joint 600mmx450mmx225mm (300mm diameter half-round) Invert Block Drain(IBD), including 600mmx225mmx80mm PCC side slabs(m.s) with two (2) courses laid on both sloping sides on a 100mm thick well compacted murram fill | LM | 250 | | |
| С | Supply and lay on sides of sloped trench 600mmx225mmx80mm precast concrete side slabs jointed in 1:3 cement sand mortar,including proper joint treatment with waterproof Mortar | SM | 300 | | |
| D | Extra over for allowing inlet openings from collection chambers 150mm with PVC pipe;all including surface treatment and joint sealant max 40 inlet ponts | ITEM | 1 | | |
| | Drop Manholes | | | | |
| Е | Drop Manholes 600 x 600 x 450mm average deep (Internal) comprising :1000 x 1000 x 150 mm thick mass concrete Class 20 base : 150mm Solid concrete block walls : 150mm Thick VRC Class 20 top slab/or cover; with heavy duty meshed/grilled manhole cover : 12mm internal render to base and walls : including step irons : all necessary excavation, disposal and formwork. with outlet PVC pipes as per type A or B across the sitchyard terminating to the open drain max 10 no chambers; | ITEM | 1 | | |
| | BILL NO. 11: WELFARE ,ABOLUTION & SECURITY | | | | |
| | Construct Guard House & toilet block (Non executive) within the subtsation plot entrance area including plumbing works, foul water drainage to the septic tank, all electrical works and all the necessary manholes (Location to be shown by client) Max area 12 Sq.metres - To include 2 washrooms and a urinal potion, Guard sentry)-draft proposal by contractor to client for approval-unit rate per sq meter to apply as per IQSK Handbook | SM | 15 | | |
| В | Supply and fix polysynthetic manhole cover and frame size 600 x 450mm and: frame set into cement and sand (1:4) mortar: cover set in grease | NO | 3 | | |
| C | <u>Septic Tank</u> | ITEM. | 1 | | |
| | Excavate, construct in the new location as directed and dispose surplus excavated material, septic tank size 3500x2000mm; including inlet and outlet manholes as per drawing. Allow for all builders work,plumbing and like for above works and base stabilization with boulders including blinding - Bidder quote lumpsum | ITEM | 1 | | |
| D | Allow to supply substation with water from municipal water provider, AND provide traditional well min. 15m deep 1.8m dia with masonary protection at 2m from top cover slab and a provision for sump pump as standby Provisional Sum of Ksh.300,000.00 | ITEM | 1 | | |
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| BILL NO.12: CONTROL BUILDING | Item | Description | Unit | Quantity | Rate | Amount |
|--|------|---|------|----------|------|--------|
| Excavations | | BILL NO.12; CONTROL BUILDING | | | | |
| Excavations General excavations to include excavating in loam, clav. Black cotton soil, red soil or any soil which does not require rippling or use of compressor tools | | | | | | |
| General excavations to include excavating in loam, clav. Black cotton soil. Fed soil or any soil which does not require ripping or use of compressor tools A Excavate trenches for wall foundations: commencing from reduced level and not exceeding 1.5 metres deep. B Ditto over 1.5m deep but not exceeding 3.0m deep | | ELEMENT NO 1: SUBSTRUCTURES | | | | |
| General excavations to include excavating in loam, clav. Black cotton soil. Fed soil or any soil which does not require ripping or use of compressor tools A Excavate trenches for wall foundations: commencing from reduced level and not exceeding 1.5 metres deep. B Ditto over 1.5m deep but not exceeding 3.0m deep | | | | | | |
| Soil or any soil which does not require ripping or use of compressor tools | | Excavations | | | | |
| A Excavate trenches for wall foundations: commencing from reduced level and not exceeding 1.5 metres deep. B Ditto over 1.5m deep but not exceeding 3.0m deep CM 13 CExcavate pits for column bases CM 38 D Ditto over 1.5m deep but not exceeding 3.0m deep CM 15 Ditto over 1.5m deep but not exceeding 3.0m deep CM 15 CExcavate pits for column bases CM 77 Extra over excavation for excavating in hardrock all classes. CM 77 Extra over excavation for excavating in hardrock all classes. CM 5 Allow for stabilization of all bases using hardcore Backfilline around Foundations I Backfill around loundation: selected excavated material: placed 'n 200mm thick layers: well watered and compacted to 98% MDD Disposal of Excavated Material Surplus excavated Material: remove and deposit in spoil heaps on site CM 203 Disposal of Excavated Material Surplus excavated material: remove and deposit in spoil heaps on site Disposal of excavated Material Flanking and strutting Flanking and strutting Flanking and strutting Flanking and strutting to sides of all excavations: keep excavation free from all fallen materials Inported Hardcore Approved quarry stone hardcore: 450mm thick (overall): hand packed and well compacted in 150mm thick layers M Somm Murram Blinding S Disposal of provide 10 year guarantee Insite Concrete: Class 15/2mm D Somm Blinding layer: under wall foundations. SM 40 D Somm Blinding layer: under wall foundations. SM 40 D Disto: under column bases. SM 40 D District value of the provided provided of the provided p | | General excavations to include excavating in loam, clay. Black cotton soil, red | | | | |
| exceeding 1.5 metres deep. | | soil or any soil which does not require ripping or use of compressor tools | | | | |
| exceeding 1.5 metres deep. | | | | | | |
| B Ditto over 1.5m deep but not exceeding 3.0m deep CM 13 | A | Excavate trenches for wall foundations: commencing from reduced level and not | CM | 55 | | |
| C Exercate pits for column bases | | | | | | |
| District over L5m deep but not exceeding 3.0m deep | В | Ditto over 1.5m deep but not exceeding 3.0m deep | CM | 13 | | |
| E Ditto but cable trenches F Extra over excavation for excavating in hardrock all classes. CM 5 G Allow for stabilization of all bases using hardcore Backfilling around Foundations H Backfilling around Foundations H Backfilling around Foundations S Backfilling around Foundations H Backfilling around Foundations S Backfilling around Foundations CM 59 Backfilling around Foundations Backfilling around Foundations CM 59 Backfilling around Foundations CM 59 Backfill around foundation selected excavated material : placed 'n 200mm thick layers : well watered and compacted to 98% MDD Disposal of Excavated Material Surplus excavated material : remove and deposit in spoil heaps on site CM 203 Disposal of Water J Keep excavations free from all water by baling, pumping or otherwise TIEM 1 Planking and strutting Planking and strutting to sides of all excavations : keep excavation free from all fallen materials Imported Hardcore L Approved quarry stone hardcore : 450mm thick (overall) : hand packed and well compacted in 150mm thick layers Murram Blinding M 50mm Murram blinding to surface of hardcore SM 185 Antitermite Treatment N Chemical antitermite treatment to murram filling ; Dragnet 30% EC or equal and approved : provide 10 year guarantee Insitu Concrete : Class 151/25mm Ditto : under cable trenches/channel; Ditto : under cable trenches/channel; SM 62 Insitu concrete : Class 25/20 : vibrated : reinforced SM 50 mm Blinding layer: under wall foundations. SM 62 Insitu concrete : Class 25/20 : vibrated : reinforced SM 62 Insitu concrete : Class 25/20 : vibrated : reinforced SM 63 SColumn bases. CM 7 U Cable trenches CM 7 U Bed to cable channel/trenches ; laid to falls CM 7 U Slomm thick floor bed CM 45 U Cable trenches CM 2 U Cable trenches CM | C | Excavate pits for column bases | CM | 38 | | |
| Extra over exeavation for excavating in hardrock all classes. CM 5 | | | CM | 15 | | |
| G Allow for stabilization of all bases using hardcore Backfilling around Foundations Backfilling around Foundation : selected excavated material : placed 'n 200mm thick layers : well watered and compacted to 98% MDD | Е | Ditto but cable trenches | CM | 77 | | |
| Backfilling around Foundations Backfill around foundation : selected excavated material : placed 'n 200mm thick CM 59 layers : well watered and compacted to 98% MDD | F | Extra over excavation for excavating in hardrock all classes. | CM | 5 | | |
| H Backfill around foundation : selected excavated material : placed 'n 200mm thick layers : well watered and compacted to 98% MDD | G | Allow for stabilization of all bases using hardcore | CM | 5 | | |
| layers : well watered and compacted to 98% MDD | | Backfilling around Foundations | | | | |
| Disposal of Excavated Material Surplus excavated material : remove and deposit in spoil heaps on site | Н | Backfill around foundation: selected excavated material: placed 'n 200mm thick | CM | 59 | | |
| Surplus excavated material: remove and deposit in spoil heaps on site CM Disposal of water Seep excavations free from all water by baling, pumping or otherwise ITEM 1 | | layers: well watered and compacted to 98% MDD | | | | |
| Disposal of water | | Disposal of Excavated Material | | | | |
| J Keep excavations free from all water by baling, pumping or otherwise ITEM Planking and strutting | I | Surplus excavated material: remove and deposit in spoil heaps on site | CM | 203 | | |
| Planking and strutting R Planking and strutting to sides of all excavations: keep excavation free from all fallen materials Imported Hardcore L Approved quarry stone hardcore: 450mm thick (overall): hand packed and well compacted in 150mm thick layers Murram Blinding M S0mm Murram Blinding S0mm Murram Blinding S0mm Murram Blinding S0mm Murram Blinding S0mm Murram Blinding to surface of hardcore SM 185 S0mm Murram Blinding to surface of hardcore SM 185 S0mm Murram Blinding to surface of hardcore SM 185 S0mm Blinding antitermite treatment to murram filling; Dragnet 30% EC or equal and approved: provide 10 year guarantee Insitu Concrete: Class 15/25mm S0mm Blinding layer: under wall foundations. SM 40 S0mm Blinding layer: under wall foundations. SM 40 S0mm Blinding layer: under wall foundations. SM 62 S0mm Blinding layer: under wall foundations. SM 40 SM 62 S0mm Blinding layer: under wall foundations. SM 62 S0mm Blinding layer: under wall foundations. SM 40 SM 62 S0mm Blinding layer: under wall foundations. SM 40 SM 62 S0mm Blinding layer: under wall foundations. SM 40 SM 62 S0mm Blinding layer: under wall foundations. SM 40 SM 62 S0mm Blinding layer: under wall foundations. SM 40 SM | | Disposal of water | | | | |
| R Planking and strutting to sides of all excavations: keep excavation free from all fallen materials Imported Hardcore | J | Keep excavations free from all water by baling, pumping or otherwise | ITEM | 1 | | |
| fallen materials Imported Hardcore L Approved quarry stone hardcore: 450mm thick (overall): hand packed and well compacted in 150mm thick layers Murram Blinding M 50mm Murram blinding to surface of hardcore Antitermite Treatment N Chemical antitermite treatment to murram filling; Dragnet 30% EC or equal and approved: provide 10 year guarantee Insitu Concrete: Class 15/25mm O 50 mm Blinding layer: under wall foundations. P Ditto: under column bases. Q Ditto: under column bases. SM 62 Insitu concrete: class 25/20: vibrated: reinforced R Strip foundations trenches CM 8 Column bases. CM 8 T Column stubs. CM 3 U Cable trenches CM 15 W 150mm thick floor bed X Ramp CM 2 Y 11kv switchboard panel pad supports Mesh fabric reinforcement to BS 4483: 200mm laps Fabric mesh reference A142 weighing 2.22kg per square metre: in floor beds High yield steel bar reinforcement to BS 44461 Al D 8 BI D 10 KG 202 CI D 12 KG 202 CI D 12 KG 201 KG 202 CI D 12 KG 207 | | Planking and strutting | | | | |
| Imported Hardcore L Approved quarry stone hardcore : 450mm thick (overall) : hand packed and well CM 93 compacted in 150mm thick layers | K | Planking and strutting to sides of all excavations: keep excavation free from all | ITEM | 1 | | |
| L Approved quarry stone hardcore : 450mm thick (overall) : hand packed and well compacted in 150mm thick layers Murram Blinding M 50mm Murram blinding to surface of hardcore Antitermite Treatment N Chemical antitermite treatment to murram filling ; Dragnet 30% EC or equal and approved : provide 10 year guarantee Insitu Concrete : Class 15/25mm O 50 mm Blinding layer: under wall foundations. P Ditto : under column bases. Q Ditto : under cable trenches/channel; Insitu concrete : class 25/20 : vibrated : reinforced R Strip foundations trenches . CM 8 S Column bases. CM 8 COM 15 Column stubs. CM 3 U Cable trenches CM 15 W Bed to cable channel/trenches ; laid to falls CM 7 W 150mm thick floor bed CM 45 X Ramp CM 2 Y 11kv switchboard panel pad supports Mesh fabric reinforcement to BS 44481 : 200mm laps F Fabric mesh reference A142 weighing 2.22kg per square metre : in floor beds High yield steel bar reinforcement to BS 44461 At D 8 Bi D 10 KG 202 CI D 12 KG 261 DI D 16 KG 1207 | | fallen materials | | | | |
| Murram Blinding | | Imported Hardcore | | | | |
| Murram Blinding M Somm Murram blinding to surface of hardcore SM 185 | L | Approved quarry stone hardcore: 450mm thick (overall): hand packed and well | CM | 93 | | |
| M 50mm Murram blinding to surface of hardcore SM 185 | | compacted in 150mm thick layers | | | | |
| Antitermite Treatment N Chemical antitermite treatment to murram filling; Dragnet 30% EC or equal and approved: provide 10 year guarantee Insitu Concrete: Class 15/25mm O 50 mm Blinding layer: under wall foundations. P Ditto: under column bases. Q Ditto: under cable trenches/channel; Insitu concrete: class 25/20: vibrated: reinforced R Strip foundations trenches. CM 8 S Column bases. CM 8 T Column stubs. CM 3 U Cable trenches CM 15 V Bed to cable channel/trenches; laid to falls CM 7 W 150mm thick floor bed CM 2 Y 11kv switchboard panel pad supports Mesh fabric reinforcement to BS 4483: 200mm laps Z Fabric mesh reference A142 weighing 2.22kg per square metre: in floor beds MG 202 CH D12 MG 2 KG 202 CC D12 KG 261 D1 D16 KG 2027 | | | | | | |
| N Chemical antitermite treatment to murram filling; Dragnet 30% EC or equal and approved: provide 10 year guarantee Insitu Concrete: Class 15/25mm | M | 50mm Murram blinding to surface of hardcore | SM | 185 | | |
| approved : provide 10 year guarantee | | | | | | |
| Insitu Concrete : Class 15/25mm | N | Chemical antitermite treatment to murram filling; Dragnet 30% EC or equal and | SM | 185 | | |
| O 50 mm Blinding layer: under wall foundations. | | approved: provide 10 year guarantee | | | | |
| P Ditto : under column bases. SM 25 Q Ditto : under cable trenches/channel; SM 62 Insitu concrete : class 25/20 : vibrated : reinforced R Strip foundations trenches . CM 8 S Column bases. CM 8 T Column stubs. CM 3 U Cable trenches CM 15 V Bed to cable channel/trenches : laid to falls CM 7 W 150mm thick floor bed CM 45 X Ramp CM 2 Y 11kv switchboard panel pad supports CM 2 Y Mesh fabric reinforcement to BS 4483 : 200mm laps Z Fabric mesh reference A142 weighing 2.22kg per square metre : in floor beds M2 185 High yield steel bar reinforcement to BS 44461 KG 202 C1 D12 KG 201 D1 D16 KG 201 KG 1207 CM 2 KG 1207 CM 2 KG 1207 CM 2 KG 1207 CM 2 C1 D12 KG 261 C2 C3 C4 C3 C4 C4 C4 C4 C4 C5 C6 C6 C6 C7 C7 C7 D12 KG 261 C8 C8 C9 C9 C9 C9 C9 C9 C9 | | Insitu Concrete: Class 15/25mm | | | | |
| Q Ditto : under cable trenches/channel; SM 62 | | | SM | 40 | | |
| Insitu concrete : class 25/20 : vibrated : reinforced | P | Ditto: under column bases. | SM | 25 | | |
| R Strip foundations trenches CM 8 S Column bases. CM 8 T Column stubs. CM 3 U Cable trenches CM 15 V Bed to cable channel/trenches; laid to falls CM 7 W 150mm thick floor bed CM 45 X Ramp CM 2 Y 11kv switchboard panel pad supports CM 2 Mesh fabric reinforcement to BS 4483 : 200mm laps CM 2 Z Fabric mesh reference A142 weighing 2.22kg per square metre : in floor beds M2 185 High yield steel bar reinforcement to BS 44461 KG 1198 B1 D 10 KG 202 C1 D 12 KG 261 D1 D 16 KG 1207 | Q | Ditto: under cable trenches/channel; | SM | 62 | | |
| S Column bases. CM 8 T Column stubs. CM 3 U Cable trenches CM 15 V Bed to cable channel/trenches; laid to falls CM 7 W 150mm thick floor bed CM 45 X Ramp CM 2 Y 11kv switchboard panel pad supports CM 2 Mesh fabric reinforcement to BS 4483 : 200mm laps Z Fabric mesh reference A142 weighing 2.22kg per square metre : in floor beds M2 185 High yield steel bar reinforcement to BS 44461 KG 1198 B1 D 10 KG 202 C1 D 12 KG 261 D1 D 16 KG 1207 CM 150 | | | | | | |
| T Column stubs. | R | ^ | CM | 8 | | |
| U Cable trenches | S | | CM | 8 | | |
| V Bed to cable channel/trenches; laid to falls | | | CM | | | |
| W 150mm thick floor bed CM 45 X Ramp CM 2 Y 11kv switchboard panel pad supports CM 2 Mesh fabric reinforcement to BS 4483 : 200mm laps Z Fabric mesh reference A142 weighing 2.22kg per square metre : in floor beds M2 185 High yield steel bar reinforcement to BS 44461 | U | Cable trenches | CM | 15 | | |
| X Ramp CM 2 Y 11kv switchboard panel pad supports CM 2 Mesh fabric reinforcement to BS 4483 : 200mm laps CM 2 Z Fabric mesh reference A142 weighing 2.22kg per square metre : in floor beds M2 185 High yield steel bar reinforcement to BS 44461 KG 1198 B1 D 10 KG 202 C1 D 12 KG 261 D1 D 16 KG 1207 | V | Bed to cable channel/trenches; laid to falls | CM | 7 | | |
| Y 11kv switchboard panel pad supports CM 2 | W | 150mm thick floor bed | CM | 45 | | |
| Y 11kv switchboard panel pad supports CM 2 | X | Ramp | CM | 2 | | |
| Mesh fabric reinforcement to BS 4483 : 200mm laps Z Fabric mesh reference A142 weighing 2.22kg per square metre : in floor beds M2 185 | | | CM | 2 | | |
| Z Fabric mesh reference A142 weighing 2.22kg per square metre : in floor beds M2 185 High yield steel bar reinforcement to BS 44461 | | | | | | |
| High yield steel bar reinforcement to BS 44461 KG 1198 KG 1198 KG 202 C1 D 12 KG 261 KG 1207 KG | Z | • | M2 | 185 | | |
| A1 D 8 B1 D 10 C1 D 12 D1 D 16 KG 1198 KG 202 KG 261 KG 1207 | | | | | | |
| B1 D 10 KG 202 C1 D 12 KG 261 D1 D 16 KG 1207 | A1 | | KG | 1198 | | |
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| D1 D 16 KG 1207 | | | | | | |
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| Item | Description | Unit | Quantity | Rate | Amount |
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| | Wrot formwork: to | | | | |
| A | Vertical sides : column bases | M2 | 40 | | |
| В | Vertical sides : column stubs | M2 | 65 | | |
| | Ditto : strip foundations | M2 | 21 | | |
| D | Ditto: sides of channel/trench walls | M2 | 191 | | |
| Е | Vertical edge of floor bed | LM | 65 | | |
| F | Extra-over for boxing size 400 x 400x600mm deep to form control panel grooves | No | 8 | | |
| | on 150mm thick concrete slab. | | | | |
| | Vertical sides of ground beam | M2 | 40 | | |
| Н | Allow for water Proofing for floor and trench areas provisional-ksh.1,000,000 | ITEM | 1 | | |
| | Quarry /natural stone bedded and iointed in cement and sand (1:3)mortar: | | | | |
| | 20 gauge x 25mm hoop iron in every alternate course | | 120 | | |
| | 200mm thick Walling | M2 | 120 | | |
| | One layer 1000 gauge polythene sheet damp proof membrane : under beds : 300mm laps. | M2 | 185 | | |
| | Makes 200mm diameter holes on walling | No | 30 | | |
| | Ditto but concrete 200mm on cable trench | No | 30 | | |
| | Supply and lay 200mm diameter heavy duty PVC ducts as cable sleeves | LM | 90 | | |
| M | 100mm Thick concrete (1:3:6) bed and surround to; 200mm diameter pipes, including all necessary formwork. | LM | 90 | | |
| N | 6mm thick Chequered plate trench cover to 600x600mm trench of average size 700x800mm: comprising 25 x 25 x 3mm RHS cross members: welded to and including 25 x 25 x 3mm RHS as edge frame: in 750mm lengths, and allow for collapsible handles | SM | 40 | | |
| О | Ditto but 1000x1200mm trench of average size, 700x800mm | SM | 9 | | |
| P | Ditto but 1000x1200mm trench of average size,400x800mm | SM | 5 | | |
| | | | | | |
| Q | Ditto but 400x400mm control panel groove of average size,450x400mm | SM | 2 | | |
| R | 40x40x 3mm Angle frame set in fillet in concrete sides of open channel : 50x3mm | LM | 144 | | |
| | lugs at 1000mm centres with fish tail ends cast into concrete | | | | |
| S | Prepare and apply undercoat of zinc chromate primer to all general metal surfaces. | SM | 160 | | |
| T | Ditto but two coats of gloss aluminium paint. | SM | 160 | | |
| | Cable trays | | | | |
| U | Fabricate and fix steel cable trays frame for 900 x900mm cable trench, comprising of 50x50x4mm thick SHS frame, weld together with 900mm wide 50x50x4mm struts, spaced at 400mm C/C to horizontal; to form cable tray and rised 200mm above the trench floor. | LM | 15 | | |
| V | Ditto but for 600 x 600mm cable trench. | LM | 53 | | |
| W | Supply and fix 150x50x6mm thick RHS anchored on concrete pads (measured separately) to client satisfactory | LM | 15 | | |
| | ELEMENT NO.2: CONCRETE SUPERSTRUCTURE | 1 | | | |
| | Insitu concrete: class 25/20 : vibrated reinforced in; | | | | |
| X | Columns | CM | 6 | | |
| | Ring beams | CM | 5 | | |
| | Ditto : intermediate beams | CM | 8 | | |
| | Ditto: Lintels | CM | 1 | | |
| | Ditto but 150 mm thick suspended slab | SM | 229 | | |
| | High yield deformed bar reinforcement in beams and suspended slab to BS 44461, including, cutting, bending, tying wire and spacer blocks; | | | | |
| C1 | D 8 | KG | 429 | | |
| | D 10 | KG | 2451 | | |
| | D 12 | KG | 270 | | |
| | D 16 | KG | 501 | | |
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| Item | Description | Unit | Quantity | Rate | Amount |
|----------|---|------|--|------|--------------|
| | Wrought formwork: to | | | | |
| A | Vertical sides of columns | SM | 100 | | |
| В | Sides and soffits of Ring beams | SM | 93 | | |
| С | Ditto : intermediate beams | SM | 71 | | |
| D | Ditto: lintels | SM | 14 | | |
| Е | Ditto: soffits suspended slab | SM | 204 | | |
| F | Ditto: sides of suspended slab | LM | 65 | | |
| | Ditto. Sides of Suspended Side | Livi | 0.5 | | |
| | ELEMENT NO.3: WALLING | | | | |
| | ELEMENT NO.J. WALLING | | | | |
| | Machine cut natural stone blocks or other equal and approved building | | | | |
| | blocks: minimum compressive strength 7N/mM2: regular coursed walling of | | | | |
| | uniform colour: bedded and jointed in cement and sand (1:3) mortar: 20 | | | | |
| | gauge x 25mm hoop iron in every alternate course | | | | |
| F | 200mm Walling - external | SM | 171 | | |
| | 200mm Walling - internal | SM | 315 | | |
| H | Damp proof courses; bituminous felt: bedded in cement mortar (1:4): | SIVI | 313 | | |
| | 300mm laps | | | | |
| Н | Horizontal: 200mm wide | M | 73 | | |
| | | IVI | /3 | | |
| | Precast concrete units: Class 20/20; reinforced as necessary | | | | |
| I | for handling; fair face finished on all exposed faces 250 x 75mm window Cill: once weathered and throated: bedded in cement | | 25 | | |
| 1 | | M | 25 | | |
| | mortar 1:4) | | | | |
| | ELEMENT NO 4. WINDOWG | | | | |
| | ELEMENT NO 4: WINDOWS | | | | |
| | Aluminium | | | | |
| | Mediam duty anodized aluminium windows complete | | | | |
| | with all necessary framing, million, transome, mosquito | | | | |
| | proofed hooded permanent vents, all necessary pegs, | | | | |
| | prime, quality handle, pointing with approved mastic | | | | |
| Ļ | sealant all round, 6mm thick laminated glass | | | | |
| J | Window overall size 1800 x 1500 mm high; 2No. Sliding leaves | NO | 14 | | |
| | Ditto but size 1.0 x 1.5m high | NO | 2 | | |
| L | Ditto but size, 1.0 x 1.0m high | No | 1 | | |
| M | Ditto but size, 0.5 x1.0.m high | NO | 2 | | |
| | Burglar proofing | | | | |
| N | 12mm Diameter round mild bars welded to each other at 150mm centres both | SM | 30 | | |
| | ways with every alternate bars welded to window frames (m.s) | | | | |
| | Window Cills | | | | |
| 0 | 200 x 150 x 30 mm thick concrete window cill with one curved edge including | LM | 25 | | |
| | bedding and pointing in cement and sand mortar (1:3) | | | | |
| P | Prepare and apply two coats of brick red paint | SM | 6 | | |
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| S S O C C C C C C C C C | Steel Doors Steel Doors | | | |
|---|--|------|------|--|
| S O O C C P P P P P P P P | | | | 1 |
| S O O C C P P P P P P P P | | | | |
| 0 C C C C C C C C C | | | | |
| C D D D D D D D D D | Supply and fix the following purpose -made steel doors, including fixing lugs, | | | |
| P P P P P P P P P P | once shop primed with one coat red oxide primer before delivery to site, | | | |
| E N 1 1 1 1 1 1 1 1 1 | complete with frames and including all ironmongery to Client approval and as | | | |
| Q II R I | per Door drawing: SK NO. 06449 | | | |
| Q [R [| BAT AND INSECT PROOFING | | | |
| Q [I R [I | Mild steel Bat and insect proofing screens panels in lourver opening, including | | | |
| Q [| 13 x13 x 3mm flat frame in panels; welded one face with and including coffee | | | |
| R [| tray gauge wire mesh: one shop coat red oxide primer : to | | | |
| | Double leaf door overall size 2000 x 3000mm high | NO | 2 | |
| A N | Ditto but Single leaf door overall size, 1500 x 2500mm high | NO | 6 | |
| | Medium duty aluminium door overall size 1000 x 2500mm high complete with | No | 7 | |
| 10 | ocking devices and housing on top all to Client's approval. | | | |
| | Supply and fix first grade emergency panic lock on the 1500mm wide doors to client approval. | NO | 3 | |
| C P | Prepare and apply gloss paint to general surfaces; steel doors; both sides measured | M2 | 66 | |
| -F | ELEMENT NO.6: FLOOR FINISHES | | | |
| | Cement and sand (1:4) trowelled screeds : on concrete : to | | | |
| | 25mm Floor screed to receive terazzo including plastic diving strips | M2 | 185 | |
| | Polished Terrazzo Floor Finishes on concrete | | | |
| | 30mm thick terrazzo floor finish | SM | 185 | |
| | Ditto 25mm thick Skirting 150mm high: | LM | 115 | |
| _ | Non-Slip Ceramic Tiles | | | |
| G 3 | 300 x 300 x 6mm thick ceramic floor tiles approved bedded and jointed in cement | SM | 8 | |
| u 1 | and sand (1:4) mortar and pointed with neat coloured cement. 100 x 6mm thick ceramic tiles skirting bedded and jointed in cement and sand | LM | 12 | |
| | | LIVI | 12 | |
| | mortar (1:4) and pointed with neat coloured cement | | | |
| | Skirting | 114 | 12 | |
| | 20 x 100mm High cement and sand skirting with rounded top and curved junction with floor finish | LM | 12 | |
| - - | CLEMENTENO E WALL DINIGHEO | | | |
| | ELEMENT NO.7: WALL FINISHES | | | |
| | 12mm thick lime plaster in two coats : steel trowelled finish : on | | | |
| | concrete or blockwork : to | ~ | 710 | |
| | Walls and columns | SM | 510 | |
| | Ditto but to soffit of suspended slab | SM | 220 | |
| | Prepare and apply three coats PVA matt vinyl emulsion paint : on | C3.f | 1000 | |
| | Plastered walls, columns and beams,External wall faces | SM | 1000 | |
| | Ditto but soffit of suspended slab | SM | 220 | |
| | 200 x 300 x 4mm Thick glazed ceramic wall tiles : fixed with approved quality | SM | 15 | |
| | adhesive in accordance with the manufacturers instructions : on and including | | | |
| | 12mm thick cement and sand screed backing: jointed, pointed and grouted in | | | |
| | matching colour coloured cement grout and Plastic corner strips to edges of tiled | | | |
| | surfaces | CM | 171 | |
| | Key pointing in cement sand (1:3) in horizontal joints. | SM | 171 | |
| | Plinth walls and edges of floor bed | SM | 26 | |
| | Prepare and apply three coats first grade external quality | | | - |
| | | CM | 120 | |
| | Columns of ocares | SM | 128 | |
| | Prepare and apply three coats bituminous paint : to | CM | 20 | |
| | Plinth area and edges of floor bed TOTAL CARRIED TO SUMMARY PAGE | SM | 26 | |

| Item | Description | Unit | Quantity | Rate | Amount |
|------|--|----------|----------|------|--------|
| | ELEMENT NO.8: KITCHEN | | | | |
| | 100mm thick 1:2:4 concrete in kitchen work top | SM | 2 | | |
| S | Y 10 reinforcement bars at 150 centres | KG | 17 | | |
| T | 150mm block wall | SM | 2 | | |
| U | 12mm thick mix 1:3 cement sand plaster | SM | 5 | | |
| V | Single drain single bowl stainless approved kitchen sink | NO | 1 | | |
| W | Bricon or any approved kitchen mixer tap | NO | 1 | | |
| X | 900x600mm wide 20mm thick MDF board bottom cabinets comprising of 2No. | ITEM | 1 | | |
| | Cabinents, 4No. Drawers including fixing, mouver hinges, rails, handles and | | | | |
| | approved finishes. | | | | |
| - | Ditto in locable overhead cabinets but with 3No. open shelves | ITEM | 1 | | |
| Z | 10mm thick granito tiles finishes on the kitchen work top fixed with approved | SM | 2 | | |
| | quality adhesive in accordance with the manufacturers instructions : on and | | | | |
| | including 12mm thick cement and sand screed backing: jointed, pointed and | | | | |
| | grouted in matching colour, coloured cement grout and alluminium corner strips to | | | | |
| | edges of tiled surfaces | | | | |
| | ELEMENT NO.9: INTERNAL DRAINAGE AND PLUMBING WORKS | ļ | | | |
| | To supply and install the following Sanitary fittings including all the | | | | |
| | necessary joints to service overflow and waste pipes, jointings and mortices, | | | | |
| | plugs, screws bolts and making good. Sanitary Fittings will be to Client's approval of the relevant samples | | | | |
| Δ | Approved Standard white countertop wash hand basin size: 585x430mm on with | NO | 2 | | |
| 11 | one center tap hole and a 2 nd RHS tap hole for Basin top mounted under counter | 110 | | | |
| | soap dispenser. Cobra single lever mixer tap with pop up waste: and plastic bottle | | | | |
| | trap 32mm dia with seal. | | | | |
| В | Approved standard WC white wall concealed cistern white seat & cover unit to | NO | 2 | | |
| | have short siphon internal overflow and wide mouth WC P-trap waste outlet. | 110 | | | |
| С | Stainless steel toilet roll holder with top flap cover. | NO | 2 | | |
| - | Stainless Steel basket soap dish size 200x150mm. | NO | 1 | | |
| Е | Approved standard hand drier with infrared sensor and DP Switch with wiring | NO | 1 | | |
| F | Aluminium coat/towel hook complete with screw to wall fixtures and rubber door | NO | 2 | | |
| | stopper | | | | |
| G | Approved standard basin mounted push action stainless steel liquid soap dispenser | NO | 2 | | |
| | with 0.5 litre under counter soap holder. | | | | |
| Н | "Bevelled" Mirror to Client's approval fixed on wall with chrome plated dome | NO | 1 | | |
| | headed screws. Mirror size 600 x 800mm high | | | | |
| | ELEMENT NO.8: PAVING SLABS | | | | |
| K | 150mm thick Hardcore bed: deposited, spread, levelled and compacted: to | SM | 82 | | |
| Ļ | receive sand bed | | | | |
| | 50mm Sand bed : levelled and compacted to receive paving | SM | 82 | | |
| M | 50x 600 x 600mm precast concrete (class 20) paving slabs: laid on sand bed | SM | 82 | | |
| | (measured separately): jointed and pointed in cement mortar (1:4) | <u> </u> | | | |
| | ELEMENT NO. 9: FIRE FIGHTING EQUIPMENT | | | | |
| | Supply and fix controlled fire extinguisher manufactured to BS EN 3-9:2006, Bs 7863:2009, BS 5306-4:2001and the cylinder manufactured to BS 5045 | [| | | |
| | complete with the following: Charge and fixing bracket, Pictorial instructions, | [| | | |
| | Colour code, Servicable on site, Brass hot stamping and Operating valve as | | | | |
| | described | | | | |
| | | <u> </u> | | | |
| N | 9 litre carbon dioxide fire extinguisher complete with re-fills, discharge horn and | No. | 4 | | |
| | fittings to wall bracket, as manufactured by Angus or equal and approved. | | | | |
| О | 9Kg dry powder multi-purposed fire class A'B and C as manufactured by Angus | No. | 4 | | |
| | Fire Armour ABC multipurpose model AP 9 K or equal and approved. | | | | |
| P | 1200x 200 nm we'ven glass fire blanket with 0.025 wink thermal conductivity. | No. | 2 | | |
| | 4.5Kg (62 Powder Eige Extinguisher as Angus Fire Armour. | No. | 4 | | |
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| Item | Description | Unit | Quantity | Rate | Amount |
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| | ELEMENT NO. 10. CMOVE DETECTORS | | | | |
| A | ELEMENT NO. 10: SMOKE DETECTORS | ITEM | 1 | | |
| A | Allow for Hardwired Smoke detectors installations; including a battery back up; to be carried out by a nominated sub-contractor | ITEM | 1 | | |
| В | Allow for general attendance on specialist contractor | ITEM | 1 | | |
| | Builder's work in connection with Smoke detector installations; cut away for and | ITEM | 1 | | |
| | attend in all trades on the sub-contractor installing the following points in a mainly | 112111 | 1 | | |
| | concealed system; including chases, holes and recess notching in timber etc; and | | | | |
| | making good all finishes for cut in boxes, electrical wiring, mounting brackets, | | | | |
| | smoke detector feeds, fire alarm points etc | | | | |
| | | | | | |
| | ELEMENT NO.11: ELECTRICAL INSTALLATIONS WORKS | | | | |
| D | Allow for electrical installations to be carried out by a nominated sub-contractor as | ITEM | 1 | | |
| | per electrical Drawing No SK No. 08280/B Sheet 1C - lumpsum and comprising | | | | |
| | the following ,1No. 12 way 3-phase 415V distribution board rated 100Amps | | | | |
| | complete with 3-phase MCBS, 32Amps -2set and six 1-Phase way MCBS | | | | |
| | 16Amps | TEN 1 | 1 | | |
| Е | Ditto 1No. Consumer unit rated 60Amps, 6 ways each MCBS rated 32Amps and | ITEM | 1 | | |
| | 16Amps. ELEMENT NO.12: SUBSTATION LIGHTING | | | | |
| F | Supply 10No. approved standard street light steel posts,100W, LED Floodlights | Item | 1 | | |
| 1 | fittings complete with control gear and lamps complete with wiring in twin with | Helli | 1 | | |
| | earth 1.5mm sq. wiring to each lamp including post foundations, 1No. 6 ways | | | | |
| | consumer unit, 1No. 1No. 40A doublr pole contactor, 3No.15A miniature circuit | | | | |
| | breakers, 1No, 40A current operated earth leakage circuit breaker with rated | | | | |
| | leakage current of 0.5A, 2No. dawn to dusk timer switch with manual overriding | | | | |
| | switch for the street lights | | | | |
| G | Earthing comprising of 6.0mm sq. earth lead and 1800mm long by 15mm diameter | No. | 2 | | |
| | copper earth electrode with driving tip and clamp in a 300mm by 300mm concrete | | | | |
| | manhole with removable cover, 1No. 63A MCB with enclosure, | | | | |
| | | | | | |
| Н | 10.0mM2 x 2core PVC/SWA/PVC copper cable to connect power from the gate | LM | 150 | | |
| | house to the respective lighting posts including cable glands to terminate the | | | | |
| | underground cable | 114 | 150 | | |
| 1 | Trenching, cable laying, ducting and back filling | LM | 150 | | |
| K | Ditto but at the gate pillars approved standard. Supply and fix emergency chargeable lights in the control room to client approval. | NO NO | 4 | | |
| `` | Supply and the emergency chargeable rights in the control foom to cheft approval. | NO | | | |
| L | Allow for CCTV provision ,ethernet to controllers room- Wiring only | ITEM | 1 | | |
| | Allow for laserjet printer 3 in 1 complete with scanner blue tooth,A3 Printing and | Item | 1 | | |
| | servuice warranty to DLP for PM/PE office-Provisional 150,000 | | | | |
| | Fumes Extractor Fan | | | | |
| M | Supply and fix 600x600mm extractor fan in the battery room including the wiring | NO | 1 | | |
| | accessories.for Not less than 50ubic meter volume | | | | |
| | Door Bell | | | | |
| N | Supply, install, test and commission door bell between the controller room and | ITEM | 1 | | |
| | gate house including all the necessary wiring accessories. | | | | |
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| Item | Description | Unit | Quantity | Rate | Amount |
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| | ELEMENT NO 13 | | | | |
| | ROOFING & RAINWATER DISPOSAL | | | | |
| | ROOFING & RAINWATER DISTOSAL | | | | |
| | Structural Steel work | | | | |
| | The following in framed structural steelwork : complete with and including all | | | | |
| | welded and bolted connections: delivery to site and erection with and | | | | |
| | including one shop coat of zinc plumbate primer | | | | |
| Α | 7 No. structural steel roof trusses spanning 10750 mm girth : hoisting and fixing | | | | |
| | approximate 4.5 M above ground level : | | | | |
| В | 100 x 50 x 4 mm thick RHS rafters | LM | 85 | | |
| С | 50 x 50 x 3 mm SHS struts and ties | LM | 145 | | |
| D | 50 x 50 x 3 mm SHS tie beam | LM | 55 | | |
| Е | 100 x 100 x 6 mm thick base plate welded to truss : drilled with 4No. holes for 12 | No | 14 | | |
| | mm diameter bolts | | | | |
| F | Supply and fix 150x50x2mm 'Z' - purlins with welded cleats and bolted to rafters primed | LM | 224 | | |
| G | Fabricate steel framework comprising of SHS 40x40x4mm thick to form vertical | LM | 70 | | |
| | facsia cladding, comprising of vertical and horicontal members, bracings, struts | | | | |
| | runners all adequately and including fixing into position in, to client satisfaction. | | | | |
| Н | Supply and fix BP760 or equivalent box profile factory pre-painted 28-gauge full | SM | 270 | | |
| | length roofing sheets to an approved colour laid with 94mm side laps and fixed to | | | | |
| | steel 'Z' purlin (m/s) including self tapping screws/bolts as necessary. | | | | |
| I | Ditto but vertical sides of fascia cladding framework and gable sides | SM | 85 | | |
| J | Ditto but eave covering | SM | 40 | | |
| K | Supply and fix 28Gx320mm with stiffed ridge caps | LM | 23 | | |
| | Rainwater Goods | | | | |
| L | Supply and fix 14 gauge Mild steel sheet purpose made box water gutter, | LM | 46 | | |
| | 1200mm girth; to sit and fixed on eaves cover framework as described (ms) and to | | | | |
| | rafters | | | | |
| | Extra over for stopped ends. | N0 | 4 | | |
| N | Ditto 110mm diameter holes in gutter | N0 | 2 | | |
| 0 | 110mm diameter down pipe | LM | 12 | | |
| P | Extra-over down pipe for 900mm girth swaneck including, tightly securing with sandle clips at 750mm centres. | NO | 2 | | |
| Q | Extra over downpipe for 300m shoe | NO | 2 | | |
| | Painting generally. | | | | |
| R | Prepare and apply 2 coats of red oxide primer and apply 2 coats of alluminium finish on rainwater goods | SM | 1 | | |
| | Prepare and apply two coats black bituminous paint in rainwater gutters internally. | SM | 55 | | |
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| Item | Description | Unit | Quantity | Rate | Amount |
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| | EXTERNAL WORKS | | | | |
| | BILL NO.13 GROUND MOUNTED TANK PLINTH | | | | |
| A | Excavate Pit for water tank not exceeding 1.50 m deep | CM | 8 | | |
| | Remove surplus excavated material from site | CM | 7 | | |
| С | Return fill and well ram selected excavated materials around foundations | CM | 1 | | |
| | Concrete work:- | | | | |
| | 50mm thick plain blinding concrete mix (1:4:8) class 10-15mm aggregates in:- | | | | |
| D | Foundations | SM | 10 | | |
| | Guaranteed strength vibrated reinforced concrete mix (1:11/2:3) class 25- | | | | |
| | 20mm aggregate in:- | | | | |
| Е | Base. | CM | 3 | | |
| F | Ditto but curved 250mm thick walling | CM | 2 | | |
| G | Ditto but curved 300mm thick top cover | CM | 2 | | |
| | | | | | |
| | Reinforcements | | | | |
| | High yield deformed bars to B.S. 4461 | | | | |
| Н | D 8 | KG. | 31 | | |
| | D 12 | KG. | 635 | | |
| | Wrot Formwork to:- | | | | |
| I | Curved base 225-300mm high | SM | 11 | | |
| J | Curved edges of walling | SM | 18 | | |
| | Fillings | | | | |
| K | Approved hardcore of 100-200mm diameter fillings | CM | 4 | | |
| <u> </u> | BILL NO.14 ELEVATED WATER STORAGE TANK STEEL TOWER | | | | |
| A | Excavate for column pits 1.5m deep commencing from stripped level but not | CM | 6 | | |
| | exceeding 1.5 m deep. | Civi | | | |
| В | Extra over excavation in rock of all classes. | CM | 2 | | |
| С | Remove surplus excavated material from site | CM | 4 | | |
| D | Return fill and well ram selected excavated materials around foundations | CM | 2 | | |
| Е | 50mm thick 1:4:8 blinding to column bases | SM | 4 | | |
| | Vibrated reinforced concrete class 20/20 1:2:4 as described in; | | | | |
| F | Colomn bases | CM | 1 | | |
| G | Stubs | CM | 1 | | |
| | High Steel reinforcement bars including tying bending spacer blocks tying | | | | |
| | wires and fixing high tensile bars to BS 44461 | | | | |
| Н | D 12 | KG | 104 | | |
| I | D 8 | KG | 18 | | |
| J | Allow for accurately setting 16 No. 20mm diameter galvanised steel foundation bolts at 250mm centres on foundation column plinths. | ITEM | 1 | | |
| K | Wrought formwork to sides of columns | SM | 2 | | |
| L | Ditto but to Bases | SM | 5 | | |
| M | Ditto but to Vertical sides of stub | SM | 7 | | |
| N | 10mm thick top finish of cement/sand screed | SM | 4 | | |
| | | | | | |
| | The following in steel work tower 2000x2000mm wide x6000m high fixed | | | | |
| | 1500mm deep in ground including cutting and welding or bolting as necessary | | | | |
| 0 | finished, with 3 coats of red oxide primer | NO | 1 | | |
| | 300 x 300 x 10mm thick base plate with 4no. 18mm diameter holes spaced at | NO | 4 | | |
| P | 250mm centres and welded to the bottom of tower column 100x100x6mm mill steel SHS in main framework, welded to base plates and | LM | 24 | | - |
| | reinforced with 32Nd. Cleats | LIVI | Z4 | | |
| Q | Ditto decking 100x50 6mm RHS | LM | 11 | | |
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| Item | Description | Unit | Quantity | Rate | Amount |
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| D | Div. 1.11, 100 50 4 DVG | | 22 | | |
| | Ditto decking 100x50x4mm RHS | LM | 22 | | |
| S | Ditto (50x50x4mm) in bracing and struts | LM | 68 | | |
| Т | Class A 42mm diameter x1.5mm thick balustradings | LM | 12 | | |
| U | Ditto but handrail and cross member | LM | 22 | | |
| V | 4mm thick galvanized chequered plate welded on decking | SM | 8 | | |
| W | Allow for water storage tank 6.0m high access ladder with 50x50x4mm main | ITEM | 1 | | |
| | frame with 16mm rods spaced at 300mm c/c | | | | |
| | Apply two coats of gloss paint to tower | Item | 1 | | |
| Y | Supply and install 3500 litres capacity APPROVED PLASTIC TANK including | NO | 1 | | |
| | hoisting to position and applying two coats of brilliant white gloss paint on its | | | | |
| | outer surface and allow for Stell roof shed for selected tank dimensions | | | | |
| Z | Ditto but 6000 litres placed on concrete water tank plinth (separately measured) | NO | 1 | | |
| A1 | Allow for connecting piped water to both elevated storage and ground mounted | ITEM | 1 | | |
| 711 | water tanks using 25mm PN20 pipes including accessories, gate valves, foot | TILIVI | 1 | | |
| | | | | | |
| D1 | valves, non-return valves | ITED 1 | | | |
| BI | Supply and connect water control fittings including fully installed 0.5hp booster | ITEM | 1 | | |
| | pump. | | | | |
| C1 | Prepare apply two coats of zinc chromate paint to general sufaces of metal | ITEM | 1 | | |
| | GATES | | | | |
| D1 | Double Leaf heavy gauge Weld Mesh Metal Gate5m widex 2.4m high able to | Item | 2 | | |
| | open 180 degress, complete with 1no. Wicket/pedestal gate including stop and | | | | |
| | drop bolts,tamper-proof hinges and metal spikes welded on top. Framing as per | | | | |
| | drawing and all painting | | | | |
| | | | | | |
| | Gate Columns: | | | | |
| E1 | Excavate for column pits 1.5m deep commencing from stripped level but not | CM | 15 | | |
| | exceeding 1.5 m deep and cart-away | | | | |
| F1 | Extra over excavation in all classes of rock. | CM | 3 | | |
| | Allow for well compacted murram backfill round the foundations | CM | 12 | | |
| | 50mm thick 1:4:8 blinding to column bases | SM | 4 | | |
| 111 | | SIVI | - | | |
| 77 | Vibrated reinforced concrete class 20/20 1:2:4 as described in; | 63.6 | | | |
| JI | Colomn bases and Stubs | CM | 2 | | |
| | High Steel reinforcement bars including tying bending spacer blocks tying | | | | |
| | wires and fixing high tensile bars to BS 44461 | | | | |
| L1 | D8-12 | KG | 360 | | |
| | Fair -Face Formwork to: | | | | |
| M1 | Vertical edges of bases (225-300mm) | LM | 15 | | |
| N1 | Vertical sides of Stubs | SM | 15 | | |
| | Precast concrete class 20/20 copings:- | | | | |
| O1 | 450 x 450 x 50mm. Thick coping weathered and throated all round bedded on top | NO. | 4 | | |
| | of Gate columns with cement sand motar (1:4) | 1,0, | | | |
| | or same volumnia with content same mount (111) | | | | |
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| Item | Description | Unit | Quantity | Rate | Amount |
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| | ELEMENT NO. 15: REINFORCED CONCRETE RETAINING WALL - | | | | |
| | 200MMWIDE X1200MM HIGH X 250M LONG | | | | |
| A | Bulk excavation averagely 1.5m deep including carting away and backfilling | CM | 720 | | |
| В | Allow for all necessary plunking and strutting | ITEM | 1 | | |
| С | Allow for disposal of general water by pumping, bailing or otherwise | ITEM | 1 | | |
| D | Vibrated Reinforced Concrete class 30/20mm aggregates in all locations | CM | 215 | | |
| <u> </u> | High yieled steel reinforcement bars including cutting, bending, tying and | | | | |
| Е | D8-10mm | KG | 12000 | | |
| | Fair - Face FormWork to: | Ro | 12000 | | |
| F | To vertical sides of bases | LM | 500 | | |
| G | To vertical sides of retaining wall | SM | 1000 | | |
| Н | Allow for water proof cements on all concrete works | ITEM | 1 | | |
| I | Apply 2 coats of black bituminous water-proof paint on the concrete surface | SM | 1000 | | |
| - | internally and externally prior to backfilling to the plinth area | Sivi | 1000 | | |
| J | Allow for slots/notches 250x250mm x 600mm deep at 2.5m intervals, during wall | NO | 510 | | |
| | casting for grouting of galvanized steel posts (m.s with chainlink) tonclude | 110 | 310 | | |
| | making good after use | | | | |
| K | Provide all materials, prepare and construct minimum 200mm thick grouted stone | LOT | 1 | | |
| | pitching, maximum 600mm wide in 1:3 cement sand motar laid on 100mm well | 201 | _ | | |
| | compacted murram bed to the full perimeter of the retaining wall externally | | | | |
| L | Allow for stabilization of retaining wall base with hardcore boulders to | CM | 150 | | |
| | satisfaction averagely 450mm deep | Civi | 130 | | |
| | Expansion Joint | | | | |
| M | 20mm thick construction joint in flex cell or equall and approved expansion joint | SM | 20 | | |
| | and (25x25)mm expedite sealer at 30m interval | 21.1 | | | |
| | Chainlink Fencing: | | | | |
| 0 | 2.4m high x10A gauge chainlink fence, complete with 4mm diameter 5 strands of | LM | 250 | | |
| | galvanized plain wire passing through 3.0m high 150x150 - cranked reinforced | | | | |
| | concrete posts placed at 2.5m centers, 12 gauge barbed wire on 450mm cranks, | | | | |
| | including 600mm deep grouting on to R.C retaining wall(m.s), erection works. | | | | |
| | Allow for double concrete struts at all corners and gates and as shall be directed | | | | |
| | by the Engineer | | | | |
| | Razor Wire | | | | |
| P | Supply and fix Razor Wire at the cranked portion of the Chainlink fence, Coil | LM | 250 | | |
| | size; 450mm diameter, Blade profile-ripper razor wire, Stretch factor-maximum of | | | | |
| | 10m per coil and secured to concrete posts with galvanised steel wire 600mm long | | | | |
| | anchored on the wall at 1.5m centers. | | | | |
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