

PREFABRICATED HOUSE UNITS

CLIENT: DEPARTMENT OF CORRECTIONAL SERVICES

IMPLEMENTING AGENT : INDEPENDENT DEVELOPMENT TRUST (IDT)

PROJECT NAME: OBIQUA AND HAWEQUA CORRECTIONAL FACILITY (WESTERN CAPE)

DATE:

SUMMARY OF OBIQUA AND HAWEQUA

ITEM NO	FINAL SUMMARY	OBIQUA CORRECTION FACILITY	HAWEQUA CORRECTION FACILITY	TOTAL COST
1	Preliminaries and General			
2	Demolition and Alterations			
3	8 Units Construction Cost			
4	Contingencies			
	SUBTOTAL - CONSTRUCTION COST			
5	Value Added Tax (VAT) @ 15%			
	TOTAL COST			

PREFABRICATED HOUSE 8 UNITS

CLIENT: DEPARTMENT OF CORRECTIONAL SERVICES
 IMPLEMENTING AGENT : INDEPENDENT DEVELOPMENT TRUST (IDT)
 PROJECT NAME: OBIQUA CORRECTIONAL FACILITY
 DATE:

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	<u>SECTION 1</u> <u>BILL NO 1</u> <u>PRELIMINARIES AND GENERAL</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained <u>SUPPLEMENTARY PREAMBLES</u> Any other items tenderers may wish to add of a preliminary and general nature not specifically mentioned above in order to comply with the specification and contract conditions. <u>CONDITIONS OF CONTRACT AND PRELIMINARIES</u> Provisional and General items in order to comply with the Conditions of Contract associated with the works contained in this document. <u>Contractual requirements.</u>				
1	Site Establishment	Sum	1		
2	Health and Safety File	Sum	1		
3	Insurance	Sum	1		
4	Guarantee	Sum	1		
5	Delivery and Transport Cost	Sum	1		
6	Prefab Installation	Sum	1		
7	De-Establishment	Sum	1		
	Professionals				
8	Architecture	Sum	1		
9	Structural Engineer	Sum	1		
10	Electrical Engineer	Sum	1		
11	Occupational Health and Safety Officer	Sum	1		
12	Soil testing by an engineer	Sum	1		
	Preliminaries and General				
	<u>SECTION 2</u> <u>BILL NO. 1</u> <u>DEMOLITION AND ALTERATIONS</u> <u>PREAMBLES</u>				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	Trial holes indicate that the nature of the ground is silty clay to a depth of approximately 500mm with fine to medium loose sandy material below, therefore "earth". The trial holes also indicate that the water table is at a maximum depth of approximately 1000mm. A soils investigation has been carried out on site by the engineer and the report is available at the offices of the civil engineers. Descriptions of excavations shall be deemed to include all ground conditions classifiable as "earth" described in the above report and where conditions of a more difficult character are indicated these are separately measured Carting away of excavated material 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. Filling Notwithstanding the reference to prescribed multiple handling in clause 1 page 6 of the Standard System of Measuring Building Work, prices for filling and backfilling shall include for all selection and any multiple handling of material. <u>SITE CLEARANCE</u> Site clearance 1 Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc. <u>EXCAVATION, FILLING, ETC</u> <u>TRENCH AND OTHER EXCAVATION</u> Excavation in earth not exceeding 2m deep below natural or reduced ground level for: 2 Reduced levels under floors (150mm deep) <u>EXCAVATION OF A MORE DIFFICULT CHARACTER</u> Extra over trench and hole excavations in earth for excavation in: 3 Soft rock <u>RISK OF COLLAPSE OF EXCAVATIONS</u> Allow for the risk of collapse to sides of trench and hole excavations from ground level to: 4 Sides of trench and hole excavations not exceeding 1,5m deep <u>KEEPING EXCAVATIONS FREE OF WATER</u> 5 Allow for keeping the excavations entirely free of water or mud during the execution of the contract <u>EARTH FILLING, ETC</u> Earth filling G5 compacted to 93% MOD ASHTO Density supplied by the contractor from excavations 6 Filling under Surface beds and trenches <u>COMPACTION OF SURFACES</u>	m² m³ m³ m² Item m³	130 15 2 7 1 2		

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
7	Compaction of 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.	m ²	100		
	<u>SOIL POISONING</u>				
	Soil insecticide				
8	Under Surface bed, etc. including forming and poisoning shallow furrows against foundation walls, etc. filling in furrows and ramming	m ²	100		
	Earthworks and Foundation				
	<u>SECTION 2</u> <u>BILL NO. 3</u> <u>CONCRETE, FORMWORK AND REINFORCEMENT</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained <u>GENERAL</u> General items, described in Bill No. 1, shall equally apply to this Bill. <u>SUPPLEMENTARY PREAMBLES</u> Supplementary preambles, described in Bill No. 1, shall equally apply to this Bill Cost of tests The cost 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 architect. 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) Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (12:1), the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated Formwork Smooth Formwork All concrete exposed in the completed buildings is classified as "smooth off shutter finish" the finish shall be equivalent to that obtained from the use of new steel pans or high quality new steel pans or approved high quality shutter board and shall be achieved without any after treatment other than treatment of ferrule holes. The forms used shall be unblemished and the panel size regular. Forms may be reused provided the finish obtained is consistent. Construction joints may only occur at locations agreed with the architect and engineer and shall be executed such that their appearance is within the tolerance for the slab work. The contractor must take adequate measures to prevent damage such as rainwater streaking, rust streaking from projecting reinforcement, grout spillage and physical damage during subsequent construction.				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	The patterns of ferrule holes shall be neat and regular and be subject to prior approval from the architect. The ferrule holes shall be thoroughly grouted and shall match the finish of the surrounding concrete. Chamfers are required on all edges unless otherwise noted. Particular care shall be taken to prevent grout loss at shutter joints and behind inserts in the shutters such as chamfers. The contractor shall manufacture a sample panel incorporating all the above features, such samples shall be subject to approval by the engineer and architect, all the above work shall be undertaken in accordance with SABS 1200G degree of accuracy II as set out in clause 6.23, c, d and e. All other concrete work on the project shall be classified as rough in accordance with Clause 5.2.1 of SABS 1200G but the degree of accuracy shall be class II. <u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u> Unreinforced concrete 15MPa/22mm: 1 50mm concrete Blinding <u>REINFORCED CONCRETE CAST AGAINST ALL CLASSES OF EXCAVATED SURFACES</u> Reinforced concrete 25MPa/19mm: 2 Raft including Ground Beams (100mm thick) <u>TEST BLOCKS</u> 3 Making and testing 150mm x 150mm x 150mm concrete strength test <u>SURFACE TREATMENT</u> Power float top of concrete to a dead level, hard wearing, smooth and even surface in accordance with SABS 0100 Code of Practice to: 4 Surface beds, slabs etc. <u>FORMWORK</u> <u>ROUGH FORMWORK</u> Rough formwork to sides of: 5 Edges, ends, risers, reveals etc. not exceeding 300mm high or wide <u>REINFORCEMENT</u> Fabric Reinforcement 6 Type 193 fabric reinforcement in concrete surface beds, slabs, etc.	m³ m² No m² m m²	5 100 6 100 48 100		
	Concrete, Formwork and Reinforcement				
	<u>SECTION 2</u> <u>BILL NO. 4</u> <u>WATERPROOFING</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained				

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	<u>SUPPLEMENTARY PREAMBLES</u> Supplementary preambles, described in Bill No. 1, shall equally apply to this Bill Waterproofing 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 <u>GENERAL</u> General items, described in Bill No. 1, shall equally apply to this Bill. <u>DAMP PROOFING OF WALLS AND FLOORS</u> One layer of 25 micron embossed damp proof membrane laid flat or stepped as required:				
1	Under surface beds	m ²	100		
	Waterproofing				
	<u>SECTION 2</u> <u>BILL NO. 5</u> <u>ROOF COVERINGS AND STRUCTURE.ETC</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained <u>SUPPLEMENTARY PREAMBLES</u> Descriptions of all roof coverings are deemed to include for all straight cutting <u>CORREGATED IBR SHEETING, ROOF TRUSS AND INSULATION</u> 0,5mm Thick Chromadek IBR roof sheeting with pre-painted finish and accessories fixed to timber purlins or rails in strict accordance with manufacturer's specifications.				
1	Roof covering with pitch not exceeding 25 degrees including light steel roof trusses and insulation	m ²	100		
	<u>FIBRE CEMENT FLASHINGS, LININGS, COPINGS, ETC</u> Everite medium density plain ungrooved Nutec fascia boards (Code: 40-904), size 225 x 10mm or similar approved, fixed to timber rafters twice screwed with 12 x 40mm countersunk brass screws with PVC H-profile fascia joiner between boards and at board ends				
2	Barge boards not exceeding 300mm high	m	48		
	<u>DOWNPIPE AND GUTTER</u>				
3	85mm PVC Gutter	m	40		
4	80mm PVC Down pipe	m	14		
	Roof Covering and Structures				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	<u>SECTION 2</u> <u>BILL NO. 6</u> <u>CARPENTRY AND JOINERY</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained NOTE : All doors, windows, curtain walling, shopfronts etc. are to be priced in strict accordance with the architects drawings and schedules <u>GENERAL</u> General items, described in Bill No. 1, shall equally apply to this Bill. <u>SUPPLEMENTARY PREAMBLES</u> Supplementary preambles, described in Bill No. 1, shall equally apply to this Bill Joinery: Descriptions of frames shall be deemed to include frames, transomes, mullions, rails, etc Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes Fixing Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete Treatment against insect pests Rates for all timber shall be deemed to include for treatment against insect pests All softwood for this job shall be treated to combat and prevent the spread of certain insect pests in accordance with Government Gazette Notice No R451 of 28 March 1969 and any amendments thereto. Proof of treatment shall be lodged with the Employer prior to the use of any timber in the works. Mitres, intersections, etc Descriptions of timber which is given linear, angles, rebates, grooves, chamfers, moulded edges, etc . are to be deemed to include for mitres, intersections, splay cut ends, stops, etc Descriptions of timber, etc shall be deemed to include for straight cutting and notching Fixing Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete Items described as "plugged" shall be deemed to include for screwing to fibre, plastic or metal plugs at not exceeding 600mm centres or shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete. Descriptions are to be deemed to include for nails, screws, plugs, adhesives, holes, sin- kings, pelleting, etc Structural timber				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	Descriptions of structural timber are to be deemed to include for joints in the length, holes, splay cut ends and mitres All softwood structural timber shall be of stress grade V5 or M5 in accordance with SWABS specification 563 unless otherwise stated Fascias, etc. Descriptions of fibre cement fascias and barge boards shall be deemed to include for mitres, end junctions, screws, bolts, wall anchors, holes, etc. <u>DOORS ETC</u> Solid flush door with hardwood concealed edge and 3mm thick Masonite panels to both sides suitable 1 40 x 813x 2032mm Door (External Doors) No 4 Sliding semi solid flush door with concealed hardwood edges faced both sides hung to steel frames including the sliding accessories 2 40 x 813x 2032mm Sliding Door (Bathroom) No 4 External Door Canopy 3 1000mm Door Canopy No 4 <u>KITCHEN CABINET</u> 4 900mm two doors kitchen cabinet with stainless steel single sink bowl No 4				
	Carpentry and Joinery				
	<u>SECTION NO. 2</u> <u>BILL NO. 7</u> <u>FLOOR COVERING, PLASTIC LINING, ETC.</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained <u>SUPPLEMENTARY PREAMBLES</u> General Floors and skirtings shall be protected from damage during the progress of any remaining work and shall be cleaned and handed over in a perfect condition upon completion. Descriptions Descriptions of floor coverings and wall linings shall be deemed to include dressing around and into corners. Floor coverings, etc. shall be fixed to perfectly dry and clean screeded surfaces with an emulsion type adhesive such as bitumen, rubber bitumen or latex-resin, all as described in SANS Code of Practice 070. Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. Items, materials or methods of similar quality may be used with prior approval from the Principal Agent.				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	<u>FLOOR COVERINGS</u>				
1	300 x 300 x 2,5mm Semi-flexible vinyl floor tiles in selected colours Vinyl tiles	m ²	100		
	Floor Finishes				
	<u>SECTION NO. 2</u> <u>BILL NO. 8</u> <u>CEILINGS, PARTITIONS AND ACCESS FLOORING</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained <u>SUPPLEMENTARY PREAMBLES</u> Descriptions Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins or shot pinned to brickwork or concrete Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres, and where described as "bolted", the bolts are measured elsewhere Proprietary suspended ceilings Electric light fittings, diffusers, panels, etc generally are "lay in" units of the same dimensions as the suspension grid described and allowance shall 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 shall take cognisance thereof) <u>CEILINGS</u> 1 6,4mm thick Fibre cement ceiling boards mounted on the roof trusses including painting <u>PREFABRICATED PANELS</u> 2 50mm EPS sandwich panels prefabricated insulated external wall panel including steel frame or corner post 3 50mm EPS sandwich internal wall including light steel frame 4 Internal Painting of the internal walls and timber door				
	Ceiling, Partitions and Access flooring				
	<u>SECTION NO. 2</u> <u>BILL NO. 9</u> <u>METALWORK</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained				

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	<u>GENERAL</u> General items, described in Bill No. 1, shall equally apply to this Bill. <u>ALUMINIUM WINDOWS AND DOORS</u> Purpose made aluminium windows with 6.38mm thick GSA Soundproofed Clear laminated glazing, colour to be Matt White code LA 251P , complete with all ironmongery, furniture, rails , etc 1 600x600mm window (W1) No 4 2 1200x1200mm window (W2) No 4 <u>PRESSED STEEL DOOR FRAMES</u> 1,2mm standard steel single rebated frames suitable 50mm EPS sandwich panel 3 813 x 2032mm high No 8				
	Metalwork				
	<u>SECTION 2</u> <u>BILL NO. 10</u> <u>PLUMBING AND DRAINAGE (PROVISIONAL)</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained <u>SUPPLEMENTARY PREAMBLES</u> "Polycop" polypropylene pipes: Polypropylene pipes 54mm diameter and under shall be seamless copper coloured class 16 pipes jointed with "Fast-fuse" heat welded thermoplastic or brass compression fittings as designed for use with copper pipes as stated Pipes shall be firmly fixed to walls etc with coloured nylon snap-in pipe clips with provision for accommodating thermal movement and jointed and fixed strictly in accordance with the manufacturer's instructions All pipe diameters are nominal external "Polylink" polypropylene pipes: Polypropylene pipes 63mm diameter and over shall be class 12 pipes jointed with cast iron "Supraclamp" running joints Fusion welded bends, once or twice mitred as necessary, and tees shall be factory manufactured Fusion welded bends and tees shall include jointing to pipes with PVC rubber ring double Z joint couplers Branch tees shall include flanged and bolted joints to "Polycop" branch pipes in addition and for brass compression male iron to copper straight couplers				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	Reducers shall include jointing to pipes with PVC rubber ring double Z joint couplers and reducers shall be of sufficient overall length to accommodate same All pipes shall be jointed and fixed strictly in accordance with the manufacturer's instructions All pipe diameters are nominal external uPVC pipes and fittings: Soil, waste and vent pipes and fittings shall be solvent weld jointed uPVC pressure pipes and fittings: Pipes for water supply shall be of the class stated Pipes of 40mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings Pipes of 50mm diameter and greater shall have sockets and spigots with push in type integral rubber ring joints. Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints Copper pipes: 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 Fixing of pipes 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 Lead pipes and fittings All soldered joints shall be wiped and brass unions shall be used for jointing lead to steel Reducing fittings 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 Wire gratings Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings Septic tanks Descriptions of septic tanks shall be deemed to include excavation, bedding and jointing, concrete base slabs, jointing to drains and backfilling, compaction, etc. all in accordance with the manufacturer's instructions Exposed concrete surfaces				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	Exposed surfaces of concrete stormwater channels, cover slabs, inspection eye marker slabs, gulley tops, cleaning eye tops, catch pits, inspection chambers, etc shall be finished smooth with plaster Excavations No claim for rock excavation will be entertained unless the contractor has timeously notified the quantity surveyor thereof prior to backfilling "Soft rock" and "hard rock" shall be as defined in "Earthworks" Laying, backfilling, bedding, etc. of pipes Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following: SABS 1200 L : Medium-pressure pipelines LD : Sewers LE : Stormwater drainage Pipe trenches etc shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB : Earthworks (Pipe trenches) Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200 LB : Bedding (Pipes). Unless otherwise described bedding of rigid pipes shall be class B bedding Flush pans Flush pans shall have straight or side outlets and "P" or "S" traps as necessary Stainless steel basins, sinks, wash troughs, urinals, etc. Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable Waste unions Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings <u>SANITARY FITTINGS</u> 1 100 Front Flush Toilet Including Seat White Close Coupled including pipe fittings or similar approved No 4 2 Coral White Wall Mounted Basin & Floor Pedestal Set - 812 x 465 x 570mm or similar approved No 4 3 900mm wide Prefab Shower No 4 4 200L Geyser mounted on the roof No 1 <u>PIPE RETICULATION</u> 5 Pipe reticulation and pipe fittings Item 1				
	Plumbing and Drainage				
	<u>SECTION 2</u> <u>BILL NO. 11</u> <u>ELECTRICAL INSTALLATION</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	Plugs, Conduits and Light Fittings				
1	Light points including light bulbs	No	12		
2	Light Switches	No	8		
3	Double Plug points	No	8		
4	Distribution board and wiring	Item	1		
5	Conduits, fittings & trunking	PS	1		
6	COC Certification	Item	1		
	Electrical Installation				
	<u>SUMMARY OF NEW PREFABS</u>				
1	Earthworks and Foundation				
2	Concrete, Formwork and Reinforcement				
3	Waterproofing				
4	Roof Covering and Structures				
5	Carpentry and Joinery				
6	Floor Finishes				
7	Ceiling, Partitions and Access flooring				
8	Metalwork				
9	Plumbing and Drainage				
10	Electrical Installation				
	<u>SUBTOTAL OF NEW PREFAB</u>				
	1 Block (4 Units)	SUM	1		
	2 Blocks (8 Units)	SUM	2		
	Subtotal of 8 New Prefab Units				
	<u>FINAL SUMMARY</u>				
1	Preliminaries and General				
2	Demolition and Alterations				
3	Contingencies	Item			
	SUBTOTAL - CONSTRUCTION COST				
	Value Added Tax (VAT) @ 15%	Item	15%		
	TOTAL COST				

PREFABRICATED HOUSE 8 UNITS

CLIENT: DEPARTMENT OF CORRECTIONAL SERVICES (DCS)
 IMPLEMENTING AGENT : INDEPENDENT DEVELOPMENT TRUST (IDT)
 PROJECT NAME: HAWEQUA CORRECTIONAL FACILITY
 DATE:

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	<u>SECTION 1</u> <u>BILL NO 1</u> <u>PRELIMINARIES AND GENERAL</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained <u>SUPPLEMENTARY PREAMBLES</u> Any other items tenderers may wish to add of a preliminary and general nature not specifically mentioned above in order to comply with the specification and contract conditions. <u>CONDITIONS OF CONTRACT AND PRELIMINARIES</u> Provisional and General items in order to comply with the Conditions of Contract associated with the works contained in this document. <u>Contractual requirements.</u>				
1	Site Establishment	Sum	1		
2	Health and Safety File	Sum	1		
3	Insurance	Sum	1		
4	Guarantee	Sum	1		
5	Delivery and Transport Cost	Sum	1		
6	Prefab Installation	Sum	1		
7	De-Establishment	Sum	1		
	Professionals				
8	Architecture	Sum	1		
9	Structural Engineer	Sum	1		
10	Electrical Engineer	Sum	1		
11	Occupational Health and Safety Officer	Sum	1		
12	Soil testing by an engineer	Sum	1		
	Preliminaries and General				
	<u>SECTION 2</u> <u>BILL NO. 1</u> <u>DEMOLITION AND ALTERATIONS</u> <u>PREAMBLES</u>				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
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1	Remove existing paving blocks and cart away	No	3		
2	Remove existing paving blocks and cart away	m2	25,0		
Demolition and Alterations					
<u>SECTION 2</u> <u>BILL NO. 2</u> <u>EARTHWORKS AND FOUNDATION</u> <u>PREAMBLES</u> For preambles see "Model Preambles for Trades" The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained <u>SUPPLEMENTARY PREAMBLES</u> Nature of ground The nature of the ground is assumed to be loose sandy material, therefore "earth", but possibly interspersed with "hard rock" or "soft rock". The nature of the ground is assumed to be gravel, therefore "earth", but possibly interspersed with "soft rock". The nature of the ground is assumed to be silty clay with loose river boulders varying in size up to approximately 450mm diameter, therefore "earth", but possibly interspersed with "hard rock".					

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	Trial holes indicate that the nature of the ground is silty clay to a depth of approximately 500mm with fine to medium loose sandy material below, therefore "earth". The trial holes also indicate that the water table is at a maximum depth of approximately 1000mm. A soils investigation has been carried out on site by the engineer and the report is available at the offices of the civil engineers. Descriptions of excavations shall be deemed to include all ground conditions classifiable as "earth" described in the above report and where conditions of a more difficult character are indicated these are separately measured Carting away of excavated material 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. Filling Notwithstanding the reference to prescribed multiple handling in clause 1 page 6 of the Standard System of Measuring Building Work, prices for filling and backfilling shall include for all selection and any multiple handling of material. <u>SITE CLEARANCE</u> Site clearance 1 Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees not exceeding 200mm girth, bush, etc. <u>EXCAVATION, FILLING, ETC</u> <u>TRENCH AND OTHER EXCAVATION</u> Excavation in earth not exceeding 2m deep below natural or reduced ground level for: 2 Reduced levels under floors (150mm deep) <u>EXCAVATION OF A MORE DIFFICULT CHARACTER</u> Extra over trench and hole excavations in earth for excavation in: 3 Soft rock <u>RISK OF COLLAPSE OF EXCAVATIONS</u> Allow for the risk of collapse to sides of trench and hole excavations from ground level to: 4 Sides of trench and hole excavations not exceeding 1,5m deep <u>KEEPING EXCAVATIONS FREE OF WATER</u> 5 Allow for keeping the excavations entirely free of water or mud during the execution of the contract <u>EARTH FILLING, ETC</u> Earth filling G5 compacted to 93% MOD ASHTO Density supplied by the contractor from excavations 6 Filling under Surface beds and trenches <u>COMPACTION OF SURFACES</u> 7 Compaction of 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 m³ m³ m² Item m³ m²	130 15 2 7 1 2 100		

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	<u>SOIL POISONING</u>				
	Soil insecticide				
8	Under Surface bed, etc. including forming and poisoning shallow furrows against foundation walls, etc. filling in furrows and ramming	m ²	100		
	Earthworks and Foundation				
	<u>SECTION 2</u> <u>BILL NO. 3</u> <u>CONCRETE, FORMWORK AND REINFORCEMENT</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained <u>GENERAL</u> General items, described in Bill No. 1, shall equally apply to this Bill. <u>SUPPLEMENTARY PREAMBLES</u> Supplementary preambles, described in Bill No. 1, shall equally apply to this Bill Cost of tests The cost 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 architect. 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) Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (12:1), the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated Formwork Smooth Formwork All concrete exposed in the completed buildings is classified as "smooth off shutter finish" the finish shall be equivalent to that obtained from the use of new steel pans or high quality new steel pans or approved high quality shutter board and shall be achieved without any after treatment other than treatment of ferrule holes. The forms used shall be unblemished and the panel size regular. Forms may be reused provided the finish obtained is consistent. Construction joints may only occur at locations agreed with the architect and engineer and shall be executed such that their appearance is within the tolerance for the slab work. The contractor must take adequate measures to prevent damage such as rainwater streaking, rust streaking from projecting reinforcement, grout spillage and physical damage during subsequent construction.				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	The patterns of ferrule holes shall be neat and regular and be subject to prior approval from the architect. The ferrule holes shall be thoroughly grouted and shall match the finish of the surrounding concrete. Chamfers are required on all edges unless otherwise noted. Particular care shall be taken to prevent grout loss at shutter joints and behind inserts in the shutters such as chamfers. The contractor shall manufacture a sample panel incorporating all the above features, such samples shall be subject to approval by the engineer and architect, all the above work shall be undertaken in accordance with SABS 1200G degree of accuracy II as set out in clause 6.23, c, d and e. All other concrete work on the project shall be classified as rough in accordance with Clause 5.2.1 of SABS 1200G but the degree of accuracy shall be class II. <u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u> Unreinforced concrete 15MPa/22mm: 1 50mm concrete Blinding <u>REINFORCED CONCRETE CAST AGAINST ALL CLASSES OF EXCAVATED SURFACES</u> Reinforced concrete 25MPa/19mm: 2 Raft including Ground Beams (100mm thick) <u>TEST BLOCKS</u> 3 Making and testing 150mm x 150mm x 150mm concrete strength test <u>SURFACE TREATMENT</u> Power float top of concrete to a dead level, hard wearing, smooth and even surface in accordance with SABS 0100 Code of Practice to: 4 Surface beds, slabs etc. <u>FORMWORK</u> <u>ROUGH FORMWORK</u> Rough formwork to sides of: 5 Edges, ends, risers, reveals etc. not exceeding 300mm high or wide <u>REINFORCEMENT</u> Fabric Reinforcement 6 Type 193 fabric reinforcement in concrete surface beds, slabs, etc.	m³ m² No m² m m²	5 100 6 100 48 100		
	Concrete, Formwork and Reinforcement				
	<u>SECTION 2</u> <u>BILL NO. 4</u> <u>WATERPROOFING</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	<u>SUPPLEMENTARY PREAMBLES</u> Supplementary preambles, described in Bill No. 1, shall equally apply to this Bill Waterproofing 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 <u>GENERAL</u> General items, described in Bill No. 1, shall equally apply to this Bill. <u>DAMP PROOFING OF WALLS AND FLOORS</u> One layer of 25 micron embossed damp proof membrane laid flat or stepped as required:				
1	Under surface beds	m ²	100		
	Waterproofing				
	<u>SECTION 2</u> <u>BILL NO. 5</u> <u>ROOF COVERINGS AND STRUCTURE, ETC</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained <u>SUPPLEMENTARY PREAMBLES</u> Descriptions of all roof coverings are deemed to include for all straight cutting <u>CORREGATED IBR SHEETING, ROOF TRUSS AND INSULATION</u> 0,5mm Thick Chromadek IBR roof sheeting with pre-painted finish and accessories fixed to timber purlins or rails in strict accordance with manufacturer's specifications. 1 Roof covering with pitch not exceeding 25 degrees including light steel roof trusses and insulation	m ²	100		
	<u>FIBRE CEMENT FLASHINGS, LININGS, COPINGS, ETC</u> Everite medium density plain ungrooved Nutec fascia boards (Code: 40-904), size 225 x 10mm or similar approved, fixed to timber rafters twice screwed with 12 x 40mm countersunk brass screws with PVC H-profile fascia joiner between boards and at board ends 2 Barge boards not exceeding 300mm high	m	48		
	<u>DOWNPIPE AND GUTTER</u>				
3	85mm PVC Gutter	m	40		
4	80mm PVC Down pipe	m	14		
	Roof Covering and Structures				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	<u>SECTION 2</u> <u>BILL NO. 6</u> <u>CARPENTRY AND JOINERY</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained NOTE : All doors, windows, curtain walling, shopfronts etc. are to be priced in strict accordance with the architects drawings and schedules <u>GENERAL</u> General items, described in Bill No. 1, shall equally apply to this Bill. <u>SUPPLEMENTARY PREAMBLES</u> Supplementary preambles, described in Bill No. 1, shall equally apply to this Bill Joinery: Descriptions of frames shall be deemed to include frames, transomes, mullions, rails, etc Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes Fixing Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete Treatment against insect pests Rates for all timber shall be deemed to include for treatment against insect pests All softwood for this job shall be treated to combat and prevent the spread of certain insect pests in accordance with Government Gazette Notice No R451 of 28 March 1969 and any amendments thereto. Proof of treatment shall be lodged with the Employer prior to the use of any timber in the works. Mitres, intersections, etc Descriptions of timber which is given linear, angles, rebates, grooves, chamfers, moulded edges, etc . are to be deemed to include for mitres, intersections, splay cut ends, stops, etc Descriptions of timber, etc shall be deemed to include for straight cutting and notching Fixing Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete Items described as "plugged" shall be deemed to include for screwing to fibre, plastic or metal plugs at not exceeding 600mm centres or shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete. Descriptions are to be deemed to include for nails, screws, plugs, adhesives, holes, sin- kings, pelleting, etc Structural timber				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	Descriptions of structural timber are to be deemed to include for joints in the length, holes, splay cut ends and mitres All softwood structural timber shall be of stress grade V5 or M5 in accordance with SWABS specification 563 unless otherwise stated Fascias, etc. Descriptions of fibre cement fascias and barge boards shall be deemed to include for mitres, end junctions, screws, bolts, wall anchors, holes, etc. <u>DOORS ETC</u> Solid flush door with hardwood concealed edge and 3mm thick Masonite panels to both sides suitable 1 40 x 813x 2032mm Door (External Doors) No 4 Sliding semi solid flush door with concealed hardwood edges faced both sides hung to steel frames including the sliding accessories 2 40 x 813x 2032mm Sliding Door (Bathroom) No 4 External Door Canopy 3 1000mm Door Canopy No 4 <u>KITCHEN CABINET</u> 4 900mm two doors kitchen cabinet with stainless steel single sink bowl No 4				
	Carpentry and Joinery				
	<u>SECTION NO. 2</u> <u>BILL NO. 7</u> <u>FLOOR COVERING, PLASTIC LINING, ETC.</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained <u>SUPPLEMENTARY PREAMBLES</u> General Floors and skirtings shall be protected from damage during the progress of any remaining work and shall be cleaned and handed over in a perfect condition upon completion. Descriptions Descriptions of floor coverings and wall linings shall be deemed to include dressing around and into corners. Floor coverings, etc. shall be fixed to perfectly dry and clean screeded surfaces with an emulsion type adhesive such as bitumen, rubber bitumen or latex-resin, all as described in SANS Code of Practice 070. Items, materials or methods to be used specified by trade names or catalogue numbers are only an indication of the quality required. Items, materials or methods of similar quality may be used with prior approval from the Principal Agent.				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	<u>FLOOR COVERINGS</u>				
1	300 x 300 x 2,5mm Semi-flexible vinyl floor tiles in selected colours Vinyl tiles	m ²	100		
	Floor Finishes				
	<u>SECTION NO. 2</u> <u>BILL NO. 8</u> <u>CEILINGS, PARTITIONS AND ACCESS FLOORING</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained <u>SUPPLEMENTARY PREAMBLES</u> Descriptions Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins or shot pinned to brickwork or concrete Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres, and where described as "bolted", the bolts are measured elsewhere Proprietary suspended ceilings Electric light fittings, diffusers, panels, etc generally are "lay in" units of the same dimensions as the suspension grid described and allowance shall 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 shall take cognisance thereof) <u>CEILINGS</u> 1 6,4mm thick Fibre cement ceiling boards mounted on the roof trusses including painting m ² 100 <u>PREFABRICATED PANELS</u> 2 50mm EPS sandwich panels prefabricated insulated external wall panel including steel frame or corner post m ² 144 3 50mm EPS sandwich internal wall including light steel frame m ² 79 4 Internal Painting of the internal walls and timber door m ² 194				
	Ceiling, Partitions and Access flooring				
	<u>SECTION NO. 2</u> <u>BILL NO. 9</u> <u>METALWORK</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	<u>GENERAL</u> General items, described in Bill No. 1, shall equally apply to this Bill. <u>ALUMINIUM WINDOWS AND DOORS</u> Purpose made aluminium windows with 6.38mm thick GSA Soundproofed Clear laminated glazing, colour to be Matt White code LA 251P , complete with all ironmongery, furniture, rails , etc 1 600x600mm window (W1) 2 1200x1200mm window (W2) <u>PRESSED STEEL DOOR FRAMES</u> 1,2mm standard steel single rebated frames suitable 50mm EPS sandwich panel 3 813 x 2032mm high	No No No	4 4 8		
	Metalwork				
	<u>SECTION 2</u> <u>BILL NO. 10</u> <u>PLUMBING AND DRAINAGE (PROVISIONAL)</u> <u>PREAMBLES</u> The Model Preambles for Trades (2017 edition) as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained <u>SUPPLEMENTARY PREAMBLES</u> "Polycop" polypropylene pipes: Polypropylene pipes 54mm diameter and under shall be seamless copper coloured class 16 pipes jointed with "Fast-fuse" heat welded thermoplastic or brass compression fittings as designed for use with copper pipes as stated Pipes shall be firmly fixed to walls etc with coloured nylon snap-in pipe clips with provision for accommodating thermal movement and jointed and fixed strictly in accordance with the manufacturer's instructions All pipe diameters are nominal external "Polylink" polypropylene pipes: Polypropylene pipes 63mm diameter and over shall be class 12 pipes jointed with cast iron "Supraclamp" running joints Fusion welded bends, once or twice mitred as necessary, and tees shall be factory manufactured Fusion welded bends and tees shall include jointing to pipes with PVC rubber ring double Z joint couplers Branch tees shall include flanged and bolted joints to "Polycop" branch pipes in addition and for brass compression male iron to copper straight couplers				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	Reducers shall include jointing to pipes with PVC rubber ring double Z joint couplers and reducers shall be of sufficient overall length to accommodate same All pipes shall be jointed and fixed strictly in accordance with the manufacturer's instructions All pipe diameters are nominal external uPVC pipes and fittings: Soil, waste and vent pipes and fittings shall be solvent weld jointed uPVC pressure pipes and fittings: Pipes for water supply shall be of the class stated Pipes of 40mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings Pipes of 50mm diameter and greater shall have sockets and spigots with push in type integral rubber ring joints. Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints Copper pipes: 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 Fixing of pipes 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 Lead pipes and fittings All soldered joints shall be wiped and brass unions shall be used for jointing lead to steel Reducing fittings 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 Wire gratings Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings Septic tanks Descriptions of septic tanks shall be deemed to include excavation, bedding and jointing, concrete base slabs, jointing to drains and backfilling, compaction, etc. all in accordance with the manufacturer's instructions Exposed concrete surfaces				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATES	AMOUNT
	Plugs, Conduits and Light Fittings				
1	Light points including light bulbs	No	12		
2	Light Switches	No	8		
3	Double Plug points	No	8		
4	Distribution board and wiring	Item	1		
5	Conduits, fittings & trunking	PS	1		
6	COC Certification	Item	1		
	Electrical Installation				
	<u>SUMMARY OF NEW PREFABS</u>				
1	Earthworks and Foundation				
2	Concrete, Formwork and Reinforcement				
3	Waterproofing				
4	Roof Covering and Structures				
5	Carpentry and Joinery				
6	Floor Finishes				
7	Ceiling, Partitions and Access flooring				
8	Metalwork				
9	Plumbing and Drainage				
10	Electrical Installation				
	<u>SUBTOTAL OF NEW PREFAB</u>				
	1 Block (4 Units)	SUM	1		
	2 Blocks (8 Units)	SUM	2		
	Subtotal of 8 New Prefab Units				
	<u>FINAL SUMMARY</u>				
1	Preliminaries and General				
2	Demolition and Alterations				
3	Contingencies	Item			
	SUBTOTAL - CONSTRUCTION COST				
	Value Added Tax (VAT) @ 15%	Item	15%		
	TOTAL COST				