

SCOPE OF WORKS

Fire Truck Garage

Emergency Services

Signatures

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SCOPE OF WORK

Tender No.:

Description: Supply, Fabricate, construct, install Fire truck Garage at Emergency Services

1. PRE-QUALIFICATION

No	Pre-Qualification Requirements	Comments
1	<p>Building, steel structure and civil Works Installation of CIDB 3CE or or 3SL or higher</p> <p>Scoring:</p> <p>Yes or No</p>	Provide certificate of CIDB grading

2. INVITATION TO TENDER

This document describes the requirements for the Design, Supply, Fabrication, Installation and Commissioning of an effective dust extraction and disposal system at the Foskor Secondary West Crusher Building.

2.1 DEFINITIONS AND ABBREVIATIONS

BOQ	–	Bill of Quantities	MHSA	–	Mine Health and Safety Act
BRA	–	Baseline Risk Assessment	NDT	–	Non-destructive Test
COC	–	Certificate of Compliance	OH&S	–	Occupational Health and Safety
COP	–	Code of Practice	OHC	–	Over-Head Crane
CTD	–	Critical task Descriptions	PEE	–	Portable Electrical Equipment
DAP	–	Diammonium Phosphate	PPE	–	Personal Protective Equipment
DB	–	Distribution Boards	QA	–	Quality Assurance
DWA	–	Department of water affairs	QC	–	Quality Control
DWG	–	Drawing	QCP	–	Quality control Plan
ECO	–	Engineering Change Order	QMS	–	Quality Management System
HDG	–	Hot-Dip galvanizing	RFI	–	Request for Inspection
HIRA	–	Hazard Identification and Risk Assessment	ROPS	–	Rollover Protection System
IFC	–	Issues for Construction	SANS	–	South African National Standards
ISO	–	International Organization of Standardization	SHE	–	Safety, Health, Environment
LDV	–	Light Delivery Vehicle	SHERQ	–	Safety Health Environment Risk & Quality
MAP	–	Monoammonium phosphate	TMMS	–	Trackless Mobile Machines
MCOP	–	Mandator Code of Practice	WBS	–	Work-breakdown structure

2.2 SCOPE BACKGROUND

Foskor requires a Fire Truck garage for the Fire Truck to protect against the elements.

2.3 COMPANY BACKGROUND

Foskor is one of the world's largest producers of phosphate rock (concentrate) and phosphoric acid. It is one of the world's few vertically integrated producers of phosphoric acid and is the second-largest supplier to India, the world's largest consumer of phosphoric acid.

The Company owns and mines phosphate resources and beneficiates the mined material to produce a phosphate concentrate at Phalaborwa, in the Limpopo Province of South Africa. The phosphate concentrate is sold locally and transported to the Richards Bay plant on the coast of Kwa-Zulu Natal to produce phosphoric acid, sulfuric acid and granular fertilizers MAP and DAP from phosphoric acid and is the leading supplier of fertilizers to South Africa. In all about 95% of the phosphoric acid is exported and the granular sales are divided between exports and local markets. Since 1951 Foskor has supplied more than 95% of South Africa's fertilizer requirements.

3. **SCOPE OF WORK**

3.1 BACKGROUND DOCUMENTATION

None

3.2 SCOPE - EXTENT OF WORK OR SERVICE REQUIRED

3.2.1 General Scope Considerations:

Please allow for a competent Quality Control Officer to compile and manage the contractor's quality management. In the event of quality system failures, Foskor will request the Quality Official's experience and qualifications and if this is not acceptable, it will be expected that the contractor obtains this service at his/her own cost.

Please allow for a competent person to compile the method statement and the subsequent Microsoft Project plan. This person will manage and update this plan weekly and present it to the Foskor Project Engineer. It is expected that this planning and management is executed by the contractor. This service will be provided at the contractor's cost. If the contractor cannot execute this plan and report to management, it will be expected that the contractor will obtain this service at his/her cost.

3.2.2 Scaffolding

Foskor Shall supply all the Scaffolding needs for the Construction Period.

The contractor will manage the scaffolding by keeping records of request, construction and removal.

Request for scaffolding needs to be communicated at least 3 working days before required and planning and managing is the contractor's responsibility

Civil Works

Civil works will be included in the construction of in this works.

3.2.3 General

The scope of work shall include for the procurement, supply, manufacture, lining, corrosion protection, inspection, performance testing, certification, packaging for transport, delivery, offloading, unpacking, de-stuffing, handling, site storage, safe-keeping, site transport, assembly, erection, application of touch-up corrosion protection, and commissioning of the new Fire truck garage

All the above equipment shall be fabricated or supplied from new materials and components. No recycled, repaired, refurbished or 'made like new' materials, components or assembly of components and equipment shall be accepted.

The scope of work shall include provisions for resources, labor, services, and material, crantage, project management, QA/QC management, engineering, and hand-over of all supplied equipment including but limited to:

- Allowance for a competent Project Manager,
- Engineers for all applicable disciplines,
- Site Manager and Supervisor/s,
- Quality Assurance/Control Officer,
- Safety Officer and Safety Representative/s,
- Project Planner,
- Administration, etc.
- Competent construction team

The above-mentioned services which are not exhaustive to the list provided are required to ensure effective project management, engineering, site management, safety management, compilation and management of the Contractor's quality control and management plans, compilation of method statements, risk assessments, project plans, and other project support services that will require continuous reporting on a daily, weekly, and monthly basis. It is expected that all these services will be allowed for in the Contractor's Tender costing. If the Contractor cannot execute any of these services to the detrimental of the project, it will be expected that the Contractor obtains such services at his/her cost.

3.2.4 Project costing and expenses:

The contractor shall supply all engineering services, materials, labor, transport, supervision, and consumable materials, equipment, tools and every item of expense for the scope of work to be completed successfully unless otherwise stated taking the following into consideration.

The Contractor shall submit Turnkey cost structure for all engineering services, management services, materials, equipment, labor, transport, supervision, consumable materials, equipment, tools, and each item of expense for the scope of work to be completed successfully unless otherwise stated and declared in the Tender submission.

3.2.6 Special Requirements

None

3.2.7 Disposal of refuse

The Contractor shall be responsible for daily disposal of refuse and waste generated by the Contractor personnel on site or in a laydown area. The site is to be kept clean, neat, and tidy, by complying with the Foskor Waste Management Code of Practice (COP).

3.2.8 General requirements for commissioning

Commissioning or handover will be executed as per Foskor Procedures or as directed by the Engineer. Normally the Foskor Punch list and Hand over certificate will be used.

- Commissioning or handover will be executed as per Foskor Procedures or as directed by the Engineer.
- Normally, the Foskor punch lists, commissioning and handover certificates will be used.
- Foskor project representative/s must be invited to the final release of equipment.

3.2.9 The successful or appointed service provider shall comply with the latest revisions of the following Foskor CTD's (Critical task Descriptions) (CTD's are available on request):

i. Not Applicable

3.2.10 Sub-Contracting and joint ventures

The primary aspect of the works may not be subcontracted. For subcontracting the relevant companies supporting documentation needs to support the bidder's tender. Joint Ventures must be declared in the bidder's tender with all relevant supporting documentation.

The main contractor must pass the technical evaluation criteria.

3.2.11 PROGRESS REPORT – TO BE SUBMITTED BY THE CONTRACTOR

A progress report needs to be submitted monthly to the respective project engineer or project leader. This will form the basis for invoice certificates and invoice approvals in conjunction with the relevant Bill of Quantities. No invoice shall be approved without supporting documents to substantiate the claim and monthly report.

PROGRESS REPORT INDEX – TYPICAL

1. SHREQ

- Safety issues, Environmental, Incidents, etc
- Legal Appointees
- Work Permit Expiry date.
- Letter of Good Standing Expiry date

2. COMPLIMENT

- Trades, Qty, Hours, etc.
- Equipment on site

3. PROGRESS AND ACTIVITIES
 - Planned versus actual.
 - Activities completed or milestones.
 - Technical issues
 - Milestones achieved with photos.
4. QUALITY
 - Quality control and Quality assurance - Summary
5. DRAWINGS
 - Drawing issued.
 - Drawing issues
6. DELAYS – SUPPORTED VIA DAILY DIARIES
 - Commercial / Financial
 - General

3.2.12 Project Site Management - Focus Areas

These focus areas will be done by the Foskor project team in conjunction with relevant Foskor COP's and procedures. Any non-conformance will be treated as a serious matter and tasks will be stopped until corrective action has been implemented.

Please ensure the aspects below are considered when costing, planning, and executing a project on Foskor site:

1. HIRA
 - HIRA to be done.
 - All persons authorized in HIRA.
 - HIRA Relevant and Mitigation actions clear and documented.
 - HIRA is available at workers on site.
 - All workers participated in HIRA.
2. TMMS
 - TMM inspection done in available in TMM.
 - Driver authorized for the specific TMM.
 - TMM clean (No scrap yard on the back of the LDV).
3. COMMUNICATION
 - Proper communication on site regarding activities.
 - Who oversees what activities? – Documented and discussed.
 - Who coordinates when required? - Documented and discussed. (Rigging, different teams, top vs bottom, interlinking tasks, etc.).
 - Who does what? (Ensure persons are competent for specific task) Does the team know what they are responsible for and what they must achieve?
 - Safe work procedures, task steps are communicated, and all is informed.

4. BARRICADING - In conjunction with Housekeeping

- Are relevant places barricaded?
- Storage areas barricaded and indicated.
- Waste or scrap area barricaded and indicated.
- Unsafe places barricaded.
- Use fixed barricading when dealing with heights or other identified high risks.
- Use scaffolding barricading on last resort.

5. TOOLS

- Ensure all tools are inspected and on register.
- Not inspected tools and defect tools to be treated as a very serious matter as this indicates the 2.9.2 and 2.6.1 competence to ensure a safe environment for their workers and corrective measure will be taken.
- Ensure correct tools for the task are utilized.
- Ensure rigging equipment is inspected and correctly marked.
- Ensure that confined spaces have a CO2 meter that is calibrated – Certificate available.

6. PPE

- All persons must wear correct PPE for all the tasks to be conducted onsite.

7. HOUSEKEEPING - in conjunction with barricading.

- Keep the site clean.
- Every day or shift must have at least a dedicated cleaning/barricading time of 30min. All to participate.
- Site to be clean when work complete – invoice will not be processed.

8. SUPERVISION (2.9.2 appointment and 2.6.1 appointment)

- Keep the site clean.
- Make sure hazards are continuously identified and proper steps taken to correct or mitigate.
- Ensure tools and equipment are maintained, inspected, and operated by competent and authorized workers.
- Ensure correct PPE is used by workers and in good condition.
- Coordinate activities on site.
- Understand the risks of the site or tasks.
- Understand the method statement.
- Understand the risk of the site.
- Understand the project schedule and milestone dates.
- Know what was tendered for in the BOQ (Scope of task). BOQ forms the basis of method statement and risk mitigation.
- For shutdown tasks or where shifts will be working, a full-time 2.9.2 appointee must be on site. The 2.6.1 appointee shall visit all shifts to support the 2.9.2 appointee. Site attendance shall be verified via a clocking system. The 2.9.2 appointee shall not be shared with any other work – ONLY 8 HOUR SHIFTS IF THE PLAN IS MORE THAN 2 DAYS.

NOTE: Refer to the duties of the supervisor/2.9.2 in the MHSA. If the supervisor/2.9.2 is a worker (handling tools or working with tools) then an additional supervision /2.9.2 appointment needs to be provided, as the supervisor/2.9.2 appointee cannot be responsible for the site, ensure worker safety and a safe environment while doing other work. Supervisors will not be allowed to do tool work.

Safety - Training and Authorizations

Summarized - typical but not limited to:

1. Basic health and safety – Training,
2. First aid – Training,
3. HIRA – Training and Authorization,
4. TMM – Foskop driving license, and Authorization,
5. Working at heights – Training and Authorization,
6. Hot work - Training and Authorization,
7. Conveyors – Training and Authorization,
8. Electrical – Training and Authorization,
9. Lifting and rigging – Training and Authorization,
10. Overhead crane - Training and Authorization,
11. Fire – Training,
12. Other – as and when as per Foskop COP's.

For a basic step guide for Work Permit see Safety section.

3.3 SCOPE

Scope of Works

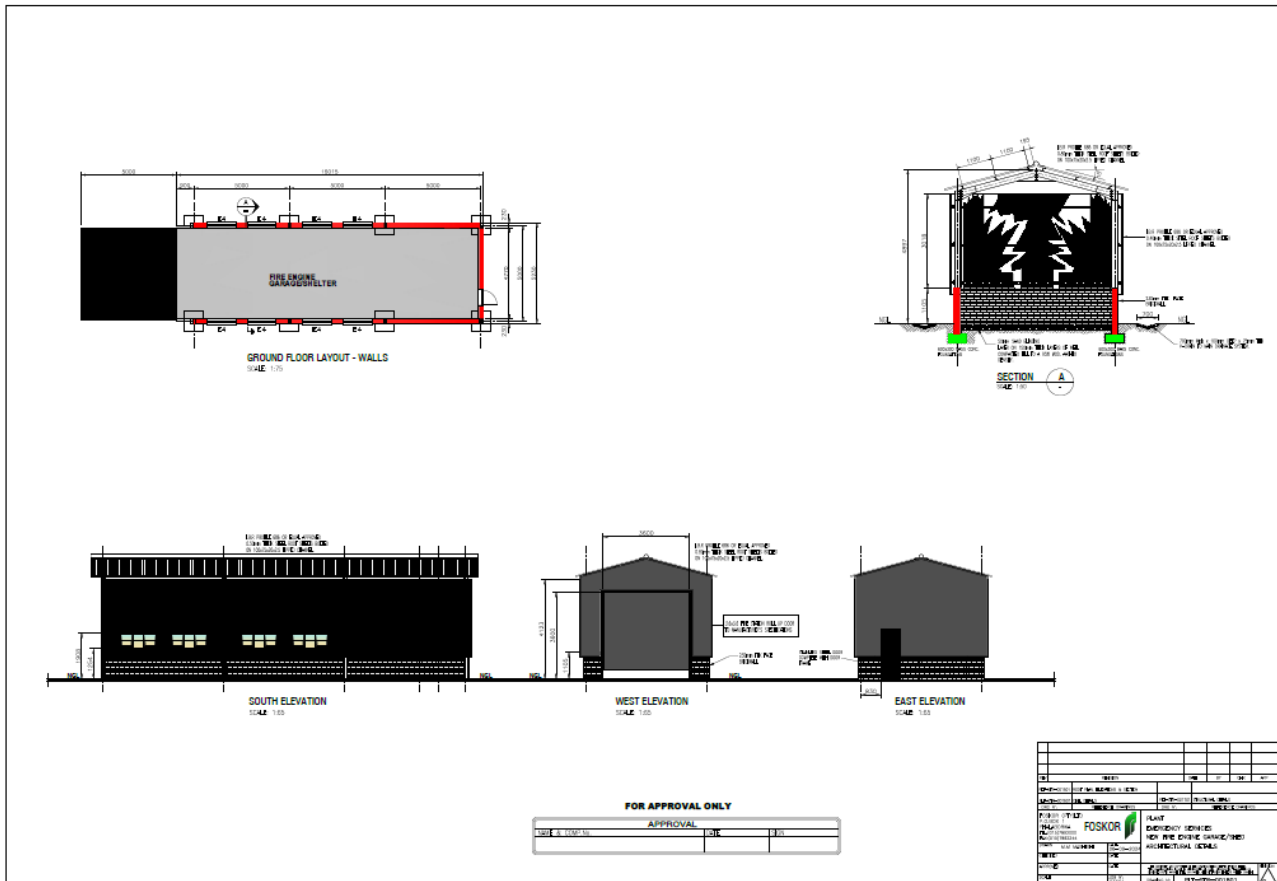
The Scope of this task is defined as per the relevant drawings and as indicated in the BOQ

The Fire truck garage needs to be constructed as per drawing with the relevant COC for the electrical works.

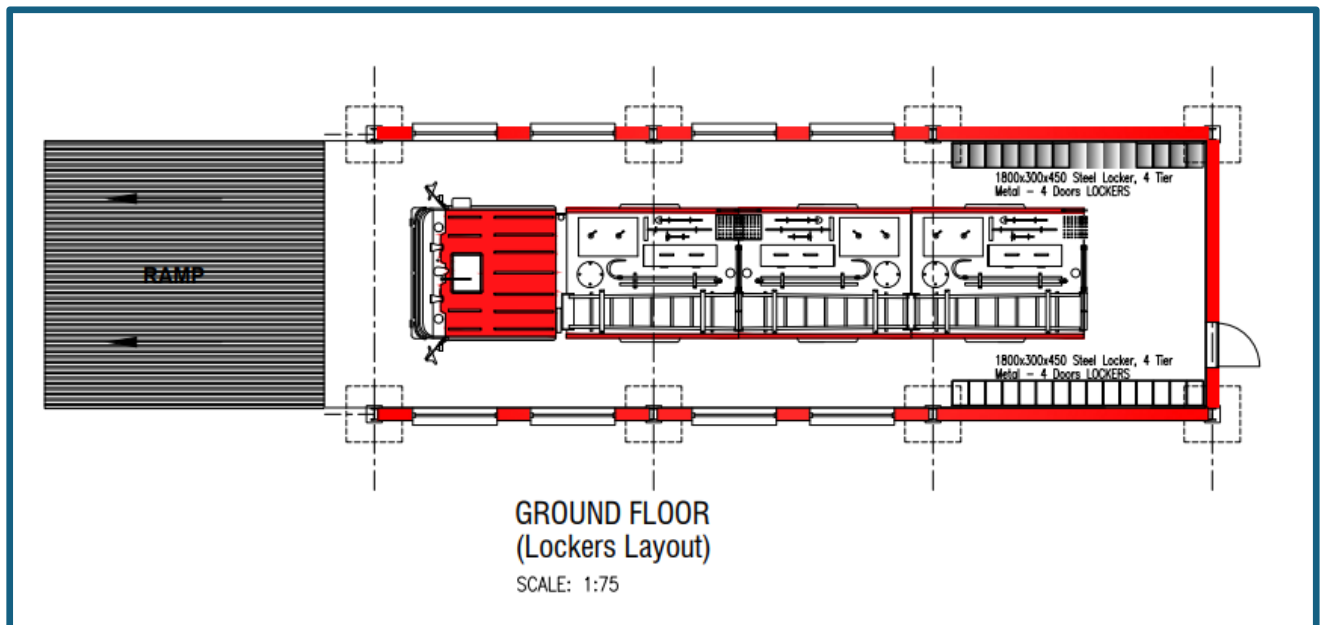
Work needs to be executed as per Foskop Engineering Spec's, Drawings and relevant Sans standards

A Short summary of the work required

- Relevant Earthworks and foundation
- Supply and construct the relevant civil bases and retaining walls and civil slabs
- Supply and construct the steel structure with relevant sheeting as per Drawings
- Install Fire garage door as indicated in the drawing
- Supply and install windows, Doors, Whirly Birds, handrailing, etc.
- Construct ramp as indicated in the drawing.
- Supply and install 25 Lockers against the wall



Locker Placement – 25 Lockers required – Single Steel Hostel - Metal locker – 180*41*52cm grey



4. PROJECT URGENCY

Project urgency is defined below:

- This is a urgent project and schedule compliance is critical.

5. DELIVERY OF MATERIALS AND EQUIPMENT

It is the responsibility of the Contractor to take delivery, off-load, store, and move into their permanent position all equipment and materials covered under this Scope. The Contractor shall, at his own expense, be responsible for the delivery to the Site of imported plant and equipment, materials and Contractor's plant and equipment in connection with the execution of the works, including but not limited to securing of permits and customs clearances, and payment of handling costs, storage costs, releasing costs, transportation costs, and duties, taxes, imposts, excise and charges of any kind that may be imposed by the South African Government, or any of its agencies and political subdivisions relating to the supply and delivery to the site of the imported plant and equipment, materials and Contractor's plant and equipment.

TAKE NOTE - Foskor pays for material delivered to Foskor site only!

NB: The contractor/ consultant must clearly state in his tender submission if there is an exclusion on the Foskor scope (As per the site meeting procurement scope and site meeting minutes) Failure to state the exclusion will mean that the full Foskor scope is still applicable.

6. BATTERY LIMITS – INCLUSIONS AND EXCLUSIONS

7. TABLE OF INCLUSIONS AND EXCLUSIONS

List the boundaries in terms of equipment (Foskor plant specific). Up to where is it Foskor's responsibility and where/what is the contractor's responsibility.

WHO WILL SUPPLY THE FOLLOWING?													
FF = FOSKOR, FREE OF CHARGE				FC = FOSKOR, AT COST TO CONTRACTOR				C = CONTRACTOR				N/A = NOT APPLICABLE	
1. Sanitary		2. Transport		3. Quality		4. Security		5. Lifting and Rigging		6. Medicals		7. Communication devices	
1.1 Water on site and toilet facilities / janitorial services	C	2.1 Labour	C	3.1 Plan, Management, QA, QC	C	4.1 Site Security	C	5.1 All rigging equipment (Slings, Chain blocks, turners, etc	C	8.1 Entry and Exit	C	7.1 All communication devices like laptops, computers, networks, radios, cellphones, etc	C
1.2 Portable connection point	C	2.2 Materials	C	3.2 All quality test Civil, Paint, Mechanical, etc	C	4.2 Foskor ID Card	C	5.2 Rigger	C	8.2 First aid box at place of work	C		
1.3 Connection to construction water supply	C	2.3 Equipment	C	3.3 Sampling and laboratory testing	C	4.3 Personal Items	C	5.3 Mobile cranes	C				
1.4 Change rooms	C	2.4 All TMMs	C										
8. PE		9. Surveying		10. Safety File		11. Training & Authorizations		12. Site Establishment		13. Waste management		14. Painting	
8.1 Supply, Issue, inspect and manage	C	9.1 Site Surveys	C	10.1 Foskor will issue template	FF	11.1 All Required Training	C	13.1 Site office/s with suitable facilities for daily "Green Area" meetings, and lunch area	C	13.1 Transport all on site to waste to Foskor designated waste sites	C	14.1 All Equipment and tools paint, labour, etc	C
				10.2 Ensure file conform/ populate to Foskor standards	C	11.2 Authorization - As per Foskor COP	FF	13.2 Site establishment space	FF				
15. Fuel		16. Mechanical		17. Labour		18. Compressed air		19. Scaffolding		20. Tools & Equipment		21. Training	
15.1 Fuel Supply	C			17.1 All labour as per Scope of Work to execute task including management	C	18.1 Sandblasting or flash blast	C	19.1 Scaffolding Supply & Erect	FF	20.1 All Portable Electrical Equipment	C	21.1 All required training and training manuals as required to ensure that Foskor can train its workforce and operate the plant / equipment safely	C
15.2 Fuel storage	C					18.2 Compressor	C	19.2 Scaffolds be managed by the Contractor with proper documentation (request, Erected, Job completed, Demolished, etc)	C	20.2 Hot Work Equip as per Foskor COP - Welding Machines, Gas Cutting, Grinding, Gauging, etc	C		
15.3 Fuel fire protection	C					18.3 Air for power tools - If available	C	19.3 Cherry Picker's – only if available by pre-booking	FF	20.3 Tools as required to execute task	C	21.2 All manuals and related documents to be supplied to	C

WHO WILL SUPPLY THE FOLLOWING?											
FF = FOSKOR, FREE OF CHARGE			FC = FOSKOR, AT COST TO CONTRACTOR			C = CONTRACTOR			N/A = NOT APPLICABLE		
15.4	R	C					19.4	Cherry Picker's Driver-Trained and authorized driver	C		project Eng. and Foskor Drawing office for safe keeping
22. Certificates		23. Consumables	24. Storage and inventory control	25. Electrical							
22.1 Supply All regulatory and other certificates as required	C	23.1 Welding rods	C	24.1 Protective coverings/tarpaulins	C	25.1 Generators	C	25.4 Temporary lighting	C	25.7 Electric panel + distributing wiring	C
		23.2 Bolts & Nuts, etc.	C	24.2 Storage area and inventory control	C	25.2 Electrical Extensions	C	25.5 Power for tools on site from existing Foskor electrical supply point (Welding plugs and 220 v plugs)	C	25.5 Electrical connection point	FF
		23.3 All other required Consumables to execute the construction	C			25.3 COC Site Establishment	C	25.6 Connection to Electrical supply	C	25.9 Electrical and Instrumentation Installation	C

8. AS BUILT DRAWINGS

As built drawing requirement is defined below:

- As-built drawings are to be compiled after completion and delivered to Foskor.

Note! – All drawings to be delivered in AutoCAD electronic format. All drawings to be detailed in engineering drawings.

9. QUALITY

- i. The service provider must provide the necessary quality management systems and plans to ensure that the quality of his work complies with the requirements of this scope of work.
- ii. The service provider shall during all phases of construction comply with the Foskor approved Quality Assurance Plan.
- iii. The service provider shall be responsible for all the resources required for executing the Quality Management System including but not limited to, developing the Quality Assurance Plan and performing the Quality Control measures to ensure that the deliverables comply with the specifications and standards mentioned in the scope of work.
- iv. Any change requests / additional work resulting due to the inadequate quality management system will be for the account of the service provider.
- v. Foskor might appoint a third party for Quality Control Inspections.
- vi. The Service provider will have to provide an approved quality system for all work executed.
- vii. This will include the following but is not limited to:
 - a. Quality plan
 - b. Quality compliance – Performance and reports
 - c. Quantity surveying
 - d. Quality Assurance
 - e. Quality Authorization matrix – part of the Quality plan
 - f. Quality control
 - g. Quality administration. – All documents, checks, measurements, reports, variances, analysis, Corrective actions, etc. needs to be properly filed and available on request at any time. The file will require an index.
 - h. Includes all test work, laboratories, Filing, etc.
 - i. Survey and survey verifications.

- j. Construction versus design - Any Deviations from the approved “Construction Drawings”

- k. Quality communication – What needs to be reported to whom and at what frequency.
 - viii. Foskor envisages a complete quality System driven by the Service provider and this system/plan will be approved by Foskor and the appointed designer (if applicable) before construction/fabrication will be started.
 - ix. Compliance with this plan will be measured and failure to adhere to the quality plan will result in the stopping of construction activities until concerns have been addressed. The cost for this delay will be for the service provider’s account.
 - x. Foskor may appoint a third party to measure and control Foskor’s interest in the terms of quality in this contract and the service provider is expected to work in conjunction with this company.
 - xi. Hold points will be discussed and finalized with the successful service provider based on the approved Quality plan

The Quality plan will only be compiled and signed off after the Method Statement and WBS* have been compiled.

Quality on Shutdown type tasks will be included in the Scope of Works, but the service provider will have to submit proof of an experienced quality assurer or relevant qualifications. IF the service provider does not have this it will be required that this service be hired in by the service provider at his cost.

- i. State any specific hold points that are not negotiable here.
- ii. State any other applicable quality that is not in the “Parameters” section.

Method statement – the service provider must list all steps and actions required to complete the work as per the scope of work – typically includes the items listed below:

- i. Key step and stages of the work required.
- ii. Tools, Equipment, TMMS, etc
- iii. Labor requirements, etc
- iv. Spares, resources,
- v. Safety requirements

***WBS** is a hierarchical and incremental decomposition of the project into phases, deliverables and work packages. It is a tree structure, which shows a subdivision of effort required to achieve an objective, for example, a program, project, and contract.

This includes arrangements, tools, equipment labor, Tasks, Purchase, Quality, Communication, etc.

QUALITY FILE INDEX

The quality file index listed below will be the minimum requirement.

This file must be kept up to date for the duration of the project and will be handed to the Foskor project Engineer on completion of the project.

QUALITY FILE INDEX

	QUALITY FILE INDEX <small>FOSKOR: TSS - PROJECTS</small>	Doc. No.:	FSK-P-GEN-IX-001
		Rev. No.:	00
		Date:	12 - July - 2019

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Quality Control Plan (QCP) Approved.....	2
Competency of People – Welder Qualifications, Trade, Authorization, Certifications, etc.....	3
Designer/Engineers Instructions, Specifications, Approvals, Concessions applied for & approved. Site instructions, Variations and ECO's	4
Method Statement of contractor– Approved	5
Material orders & Delivery notes.....	6
Certificates – Material, Data Sheets, Compliance, Certification, etc	7
Test Results – Each Discipline – Test cubes, NDT, etc.....	8
Request for inspection (RFI).....	9
As Built Drawings.....	10
Reports - Survey, etc.....	11
Punchlist/Snag list	12
Handover/ Occupations/ Taking over Certificates/Commissioning.....	13

10. PROJECT DELIVERABLES

9.1 DELIVERABLES FOR THIS PROJECT INCLUDE:

- Construction of the Fire truck garage.
- Hand over certificate
- Quality file

9.2 TRANSMITTAL OF DOCUMENTS AND MANUALS

MANUALS AND DOCUMENTATION

The following must be supplied: Where relevant

1. Three “manuals” containing detailed and step-by-step task descriptions for general maintenance, major component replacements and abnormal operating conditions.
2. Task descriptions to show identified hazards and what corrective actions must be taken. (Risk assessment and safety precautions)
3. Three “workshop maintenance manuals” to be supplied. The maintenance manuals must at least contain:
 - a. Expected life of critical components,
 - b. Comprehensive list of planned maintenance (PM) tasks (structural inspections, mechanical, electrical, and electronic),
 - c. Frequency of each PM task,
 - d. List of spares complete with part numbers, part description, year of manufacture, lead time, country of origin, quantity required, and special tools required to do each PM task,
 - e. Comprehensive task description consisting of procedures and all technical information, such as pressure settings, temperature limits, torque specification, shaft alignment tolerances and voltage- & current limits, etc. for each PM task,
 - f. Condition monitoring information: Recommended techniques, monitoring points, alarm values, etc.
 - g. Exploded view of each component,
 - h. Strip and assembly procedures,
 - i. Lubrication specifications. The manual must contain at least the following information:
 - Full specification of the required lubricant for each application / compartment,
 - Type, quantities of initial and of oil/grease fills required, as well as equivalent substitutes,
 - Recommended intervals for complete lubricant charges,
 - A list of at least 3 approved lubricant brands (different companies and their part no),
 - Acceptable ISO-contamination levels in lubricants and hydraulic fluids.
4. Three “Workshop Electrical and Electronic maintenance manuals” to be supplied. The maintenance manuals must at least contain:
 - a. Logic and wiring diagrams of all electronic systems,
 - b. Fault finding and test procedures,
 - c. Voltage and current settings and limits,
 - d. Repair procedures for electric motors and switchgear,
 - e. Technical descriptions of all components (power supplies, PLC's, transducers, instrumentation, and operation interface panels),

f. Safety features.

5. 3-off Spare Parts Manuals to be supplied. The parts manual must at least contain:
 - a. A list of the top 50 moving parts,
 - b. List of all spare parts,
 - c. Index reflecting all part numbers in numerical sequence with page numbers on which the part numbers appear,
 - d. Special tools and their replaceable components,
 - e. All accessories and their replaceable components,
 - f. Exploded view illustration of each item identified by Contractor/OEM part number,
 - g. Identification of service exchangeable items,
 - h. Vendor brand names and vendor part numbers of all non-Contractor/OEM manufactured items that are approved by the Contractor/OEM.

6. 3-off Maintenance Schedules to be supplied, specifying the equipment, component location, type of maintenance and frequency of maintenance required on the equipment.

9.3 FORMAT OF DOCUMENTS AND MANUALS

Note! - All Manuals must be in English.

Documents and Manuals to be submitted in the flowing formats:

Type of Document	Hard Copy	Electronic Format
Manuals		
Drawings	X	X
Reports		
Data Books	X	X

Hard Copy: Book or binding arch file format and must be durable and of high quality.

Soft Copy: Manuals, Reports and Data Books – Word, Excel, PDF, etc.

Storage – Compact Disk or Data traveler

Language: English

9.4 PROJECT COMPLETION

On project completion, the contractor will issue Foskop with a Handover certificate.

The handover certificate will be accompanied by the following documents:

1. Quality file,
2. Safety file,

10 DOCUMENTS / DRAWINGS ISSUED BY FOSKOR

Drawing or Document No	Title	Revision
PLT-STR-001601	Plant Emergency Services New Fire Engine garage plinth layout and Civil Details	
PLT-STR-001701	Plant Emergency Services New Fire Engine garage - Details	
PLT-STR-001701	Plant Emergency Services New Fire Engine garage – Architectural Details	
Note	Please read your Scope of Work	

11 ON-SITE SUPERVISION REQUIREMENT

- A Foskop work permit before commencement of site work.
- For shift work a 2.9.2 legal appointee will be on site full time
- A 2.6.1 appointed site manager for overall site management
- Appointed SHE Rep for the entire duration of site work.

12 TENDER DELIVERABLES

The deliverables will include: -

- Completed Foskop pricing schedule (BOQ),
- Preliminary project schedule,
- Tax clearance certificate,
- Letter of good standing (Workman compensation),
- BEE certificate,
- Commercial documents requested by the Procurement department,

Failing to submit the required documentation or failing to complete the Pricing Schedule correctly will lead to the disregard of the tender.

13 SAFETY

Service provider to refer to the full and updated Foskor COP's available:

- i. The service provider and sub-service providers need to always comply with the Mine Health and Safety act. All Foskor COP's Policies and procedures need to be adhered to.
- ii. A service provider 2.9.2 to be permanently on-site.
- iii. Medical, Induction, Foskor ID Card, etc. is approximately R800 per person. Exit medicals need to be done on termination of the contract.
- iv. The successful tenderer will be required to compile a Foskor Work permit and at least 2 weeks should be allocated for this. The service provider must provide the following appointed persons in terms of the MHSA: 2.6.1; 2.9.2 and Section 29(1) – SHE REP for the duration of the contract.
- v. All vehicles and cranes as well as other TMM's to be inspected before entering Foskor Premises.
- vi. All person competencies to be verified before being allowed to work on Foskor premises for a specific task.
- vii. The service provider must compile a Safety File as per Foskor standard for all service providers and sub-service providers.
- viii. Site access will need to be controlled, and all persons must receive site-specific induction before entering the site.
- ix. Conduct inspections as per Foskor Safety System. Analyze data and trends and recommend preventative measures where required.
- x. Ensure all authorizations are in place as per the Foskor Safety System. Arrangement with Foskor training to be done by the service provider to ensure that authorization and training are conducted. Arrange timeously.
- xi. Ensure all workers' competencies are available and have been validated.
- xii. Ensure proper security, signboards, fencing, and barricading is in place on-site where applicable.
- xiii. The service provider shall in general comply with the FOSKOR General Engineering Specifications, COP's, latest revisions, and all relevant regulations.
- xiv. The service provider must complete a Baseline Risk Assessment (COP 01) before a work permit can be issued for the installation.
- xv. All service providers not in possession of a valid Foskor ID card must complete the Foskor induction course and must undergo a medical examination at the Foskor clinic on the service provider's account.
- xvi. The service provider shall be responsible for coordinating and integrating his schedule and responsibilities with other FOSKOR appointed contract manager on-site for this Scope of Work.
- xvii. All personnel operating with mobile equipment, including LDV's, must have a Foskor driver's permit.
- xviii. An open Pit License is required for driving in the mining areas.
- xix. All the required PPE and Safety Equipment are for the service provider's account.
- xx. All service providers must ensure that:
 - a. Their workers are issued with the correct personal protective equipment free of charge.

- b. That the workers wear the PPE per the project area's requirements or as given by the service provider Supervisor.
 - c. Training is provided in the correct use of PPE to workers.
 - d. Daily inspections are done on PPE.
 - e. The registers will be complete at least monthly on findings on PPE. (All PPE must be kept in good condition)
- xxi. All providers of services need to be informed of the following minimum training applies to all service providers (irrespective of the tasks or scope of work) that will enter the Foskor Phalaborwa site with effect from 1 April 2014. This training is not presented by the Foskor Training section and service providers must ensure that the training is sourced through accredited external training companies:
 - a. Basic health and safety principles
 - b. HIRA
 - c. First Aid Training
- xxii. All other training requirements must be aligned with the baseline risk assessment. Risks identified in the baseline risk assessment will provide guidance on training requirements. A summary of the training must be completed as well as status on required authorization as per Foskor COP's.
- xxiii. Training certificates will be accepted when complying with the following:
 - a. Unit Standard Title
 - b. Learner Full name
 - c. Learner ID number
 - d. Competency achieved
 - e. Date of Assessment
 - f. Assessors' signature
 - g. Training provider logo
 - h. Training provider registration number and accreditation number.
 - i. SETA logo

14 LEGISLATIVE REQUIREMENTS SUMMARY

14.1 MINIMUM LEGISLATIVE REQUIREMENTS:

The successful or appointed service provider shall comply with:

- Occupational Health and Safety Act (Act 85 of 1993)
- Mine Health and Safety Acts and regulations (Act 29 of 1996)
- Explosive Acts and Regulations - South Africa
- Foskor COP's and applicable General SHEQ Requirements
- Foskor Engineering Specifications

- The latest revisions of the SANS standardized specifications and Foskor Specifications as applicable at the time of quotation shall apply to this contract.

Environmental

The successful or appointed service provider shall comply with the following Environmental Specifications, Policies and Procedures:

- COP 41 Housekeeping and workplace organisation
- COP 49 Waste Management
- COP 51 Resource conservation, energy, and materials
- COP 70 Storage of petroleum products and other hazardous material
- National Environmental Management Act 107 of 1998 (NEMA) and its Regulations
- National Environmental Management Waste Act 59 of 2008 (NEMWA) as amended.

The successful service provider shall include in his/her SAFETY FILE, and comply with, the following documents:

- Environmental Aspect and Impact Register (Applicable to this contract).
- Environmental Objectives and Targets (Applicable to this contract).
- Waste Management Plan (Applicable to this contract).

FOSKOR Atmospheric Emissions License (Copy available on request – to be discussed with Mine Official responsible for the Services required)

FOSKOR Waste Management Licence (Copy available on request – to be discussed with Mine Official responsible for the Services required)

FOSKOR Water Use Licence (Copy available on request – to be discussed with Mine Official responsible for the Services required)

14.2 SUMMARISED REQUIREMENTS/EXTRACTS FROM FOSKOR COP'S

14.2.1 Before entering and operating a service vehicle (Own vehicle) on Foskor site, the appointed service providers shall:

- Ensure that their driver/s have a valid national driver's license for the specific class of vehicle, have been tested by the Foskor mobile equipment training center and authorized by a Foskor MHSA (Mines Health and Safety Act) regulation 2.13.1 appointee for the class of vehicle to be used on site.

(Contact the Foskor mobile equipment training center on 015 789 2840 to make an appointment for competence testing and authorizations).
- The appointed service provides shall, before entering and operating a vehicle or trailer on the Foskor premises:

- a. Obtain permission from the Foskor Safety and Security manager to operate their nominated service vehicle/s or trailers on the Foskor site. (Forms will be provided)
 - b. Obtain a certificate of fitness from the Foskor Light Vehicle maintenance workshop supervisor or appointed Fokor inspector for their nominated service vehicle/s. Inspections conducted daily between 08:00 and 08:30 and between 13:30 and 14:00 (Excl. Fridays) at the Light Vehicle Maintenance workshop.
 - c. Submit the above permission and COF at the main security office for the issue of a vehicle access disk.
- iii. Ensure that their service vehicles/trailers have been inspected (Daily) by the Fokor standard (COP 59) to ensure that they are safe and fit for use. (Forms will be provided)
- See Fokor COP 59, Trackless Mobile Machinery for details.

14.2.2 Before entering and working on Fokor site the appointed service providers shall ensure that their workmen are:

- i. Briefed on the required task and have been informed of any abnormal conditions/situations.
- ii. Physically, emotionally, and mentally fit to perform their duty.
- iii. Issued with the necessary PPE (Personal Protective Equipment) to safely operate their service vehicles and perform the duty of maintaining, servicing, inspecting, and testing earthmoving and mobile equipment.
- iv. Before commencement of work:
 - a. All tools and equipment shall have been inspected and tested to be in good and safe working order.
 - b. All workmen have participated in the completion of a standard Fokor site risk assessment (Commonly known as a HIRA or Hazard Identification and Risk Assessment) and taken appropriate actions to mitigate any identified hazards.

14.2.3 Before entering and working on the Fokor site the appointed service provider shall:

- i. Ensure that their portable electrical equipment has been tested and declared safe for use by the Fokor electrical services workshop.

15) PERMIT TO WORK

Before any on-site work under this contract may commence, the appointed or successful service provider shall obtain a PERMIT TO WORK from Foskor. The following guidelines are provided to assist the appointed service provider in obtaining a PERMIT TO WORK. (See Foskor COP 28 Permit to work and COP 25 Control of Externally Provided Processes, Products and Services (Service provider Control) for details):

- i. The PERMIT TO WORK can be obtained from Safety, and on completion returned to the Legal Administrator, Foskor Safety department.
- ii. Obtain a contract number from the Foskor Procurement or Projects department.
- iii. Appoint a subordinate manager under Regulation 2.6.1 and an on-site supervisor under Regulation 2.9.2 of the Mines Health and Safety Act.

The appointed subordinate manager and supervisor shall be required to write and pass the Foskor 2.6.1 and 2.9.2 legal examinations within 30 days after the contract has been awarded.

Attend an hour-long legal exam briefing any Thursday between 08:00 and 09:00 at the Security training hall.

Write legal examination any Friday between 07:30 and 10:30 at the Security training hall. (Please book)
- iv. Appoint an on-site SHE-Rep under section 29(1) of the MHSA to assist Regulation 2.6.1 and 2.9.2 on the daily on-site management of health, safety and environmental issues.

The designated SHE Rep must have the ability to read, write and express him/herself.

The appointed SHE-Rep shall be required to attend a five-day SHE-Rep training course within 30 days after being awarded this contract (Training free of charge). Make booking on 015 789 2531

A pre-requisite for attending the SHE-Rep training course is successful completion of Basic Health and Safety Principles and HIRA training.

See Foskor's COP 5 Health and Safety Representatives for details.
- v. Provide a name list, including ID numbers, residential and postal addresses, and telephone numbers of all of the appointed service providers' on-site employees.
- vi. All the appointed service providers' on-site employees shall undergo a full medical examination at the Foskor on-site CLINIX Clinic. The clinic can be contacted at 015 789 2427 for an appointment. Please note:

All NEW- and employees LEAVING the service of the appointed service provider must undergo a full entry or exit medical examination.

Women who are pregnant or suspect that they may be pregnant must notify the examining medical practitioner.
- vii. The appointed service providers designated on-site drivers shall receive competence testing and authorization to operate vehicles on Foskor site.

- viii. All the appointed service providers' employees shall receive/have received the following training:

First Aid Level 1 (Provide own training)

Working at heights (Provide own training)

Basic Health & Safety Principles (Provide own training)

HIRA (Provide own training)

Basic Firefighting. (Provide own- or receive Foskor training, contact 015 789 2531 for bookings)

Lock-out. (Provide own or receive Foskor training, contact 015 789 2531 for bookings)

All training not provided by Foskor must be verified by the Foskor training superintendent, Mr. Johan Fouche. Please contact him at 015 7789 2525 to make an appointment or email proof of training and certificates to johanfo@foskor.co.za to confirm compliance before requesting his approval on the PERMIT TO WORK.

- ix. All the appointed service providers' on-site employees shall receive the basic Foskor site induction training at the Foskor Security office.
- x. All the appointed service providers' on-site employees shall receive site-specific induction training provided by the Foskor area Regulation 2.6.1 appointee/s.
- xi. A BRA (Baseline Risk Assessment) shall be completed for ALL "typical" tasks that will be completed under this contract. The BRA is to be approved by the responsible Foskor MHSA 2.13.1 appointed and signed by all the service providers' employees. Make use of Foskor's BRA document, Annexure 1.2, contained in COP 1, Risk and Opportunities Management (Available on request)
- xii. Attach a detailed SCOPE OF WORK describing the required task and -outcome of this contract.
- xiii. All Foskor's appointed MHSA Regulation 2.9.2, 2.6.1, 2.13.1 and 3.1. A manager must undersign/approve the PERMIT TO WORK.
- xiv. Registration and proof of payment under the Compensation for Occupational Injuries and Diseases Act, no. 130 of 1993. The registration number must be provided.
- xv. SARS issued a tax clearance certificate.
- xvi. All relevant documentation and/or evidence of compliance must be attached to the PERMIT TO WORK.
- xvii. Upon successful completion and approval of the PERMIT TO WORK the Security department will issue the appointed service providers' employees with access ID cards.
- xviii. Any other documents, certificates or records as requested by a Foskor official deemed necessary to ensure that all safety, legislative and administrative requirements have been met must be attached to the PERMIT TO WORK.
- xix. The appointed service provider must allow at least three to ten working days to complete all the PERMIT TO WORK requirements.

16) SAFET FILE

The appointed contractor must compile a SAFETY FILE specifically for this contract. The SAFETY FILE must always be available for inspection by a Foskor official: The following guidelines are provided to assist the appointed contractor in compiling a SAFETY FILE:

Before any work may commence, the appointed service provider must IN CONJUNCTION WITH THE FOSKOR SAFETY DEPARTMENT, compile a SAFETY FILE specifically for THIS contract. (Contact the relevant area responsible Safety Representative as indicated by Foskor at the Kick-off meeting.

The SAFETY FILE must always be available for inspection by a Foskor official.

16.1 FOSKOR SAFETY FILE INDEX - TYPICAL

Template SHE FILE INDEX: - TYPICAL

<u>ISO clause / Description of item</u>	<u>File divider</u>
1. Integrated Management System. Clause 5.1 & 5.2	1
2. Policies Clause 5.2: OH&S Policies	2
3. COP 1: Foskor risk management Clause 6.1.2.1 & 6.1.2.2: Hazard identification, risk assessment and determining controls.	3
4. COP 88: Objectives, targets and management programmes Clause 6.2: Objectives and programs	4
5. COP 2: Compliance obligations and appointments COP 5: Health and safety representatives, Clause 5.3: Legal and other requirements Clause 5.3 / 7.1: Resources, roles, responsibility, accountability and authority Clause 6.1.3: compliance obligations/ legal and other requirements	5
6. COP 15: SHERQ Competency and awareness training Clause 7.2 / 7.3: Competence, training and awareness	6
7. COP 17: Mobile, technical and process training Clause 7.2 / 7.3: Competence, training and awareness	7
8. COP 6: SHERQ Committees COP 7: Communication Clause 7.4: Communication, participation, and consultation	8

9. OCCUPATIONAL HYGIENE

- COP 42: Lighting: natural and artificial.
- COP 43: MCOP Occupational health programme on thermal stress
- COP 44: Sanitation plant hygiene amenities
- COP 45: MCOP occupational health program on personal Exposure to Air borne Pollutants.
- COP 64: Ergonomics
- COP 86: MCOP for Occupation Health Program for noise
- Clause 8.1.2 Eliminating hazards and reducing OH&S risks 9

10. COP 49: Waste management

- COP 58: Hazardous chemical substances and control Hazchem and waste management
- Clause 8.1.2 Eliminating hazards and reducing OH&S risks 10

11. COP 53: Lock out system and usage.

- Clause 8.1.1 General
- Clause 8.1.2 Eliminating hazards and reducing OH&S risks 11

12. COP 55: Stair's walkways handrails and Ladders

- Clause 8.1 Operational planning and control,
- Clause 8.1.2 Eliminating hazards and reducing OH&S Risk 12

13. COP 56: Lifting machinery and lifting Tackle.

- Clause 8.1 Operational planning and control,
- Clause 8.1.2 Eliminating hazards and reducing OH&S Risk 13

14. COP 57: Boilers and vessels under pressure work forms

- Clause 8.1 Operational planning and control,
- Clause 8.1.2 Eliminating hazards and reducing OH&S Risk 14

15. COP 59: MCOP for the operation of TMM's

- Clause 8.1 Operational planning and control,
- Clause 8.1.2 Eliminating hazards and reducing OH&S Risk 15

16. COP 60: Portable electrical equipment checks and registers

- Clause 8.1 Operational planning and control,
- Clause 8.1.2 Eliminating hazards and reducing OH&S Risk 16

17. COP 61: Earth leakage Relays and checks

- Clause 8.1 Operational planning and control,
- Clause 8.1.2 Eliminating hazards and reducing OH&S Risk 17

18. COP 62: General Electric installations and machinery in hazardous locations

- Clause 8.1 Operational planning and control,
- Clause 8.1.2 Eliminating hazards and reducing OH&S Risk 18

19. COP 63: Hand tools	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	19
20. COP 65: Personal Protective Equipment	
COP 67: MCOP Women in mining PPE	
Clause 8.1 Operational planning and control	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	20
21. COP 69: Maintenance of fire equipment.	
Clause 8.1 Emergency preparedness and response,	
Clause 8.1.2 Eliminating hazards and reducing OH&S	21
22. COP 72: Firefighting emergency drill and instructions	
COP 74 Emergency preparedness and response	
Clause 8.1 Operational planning and control,	
Clause 8.2 Emergency Preparedness and response	22
23. COP 93: MCOP for the safe use of conveyors installation for the transportation of minerals,	
material or personnel	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	23
24. COP 94: Hot work	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	24
25. COP 95: Confined space entry	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	25
26. COP 96: Working on Heights	
Clause 8.1 Operational planning and control	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	26
27. COP 97: Erection and use of scaffolding	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	27
28. COP 98: Water safety	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	28

29. COP 101: MCOP: The right to refuse dangerous work and withdraw from dangerous workplace.	
Clause 8.1 Operational planning and control	
Clause 6.1: Actions to address risks and opportunities/Hazard identification, risk assessment and determining controls.	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	29
30. COP 102: MCOP: Risk based emergency care on mine	
Clause 8.1 Operational planning and control	
Clause 8.2 Emergency preparedness and response	30
31. COP 103: Use of mobile devices on the mine premises	
Clause 6.1: Actions to address risks and opportunities/Hazard identification, risk assessment and determining controls.	
Clause 8.1 Operational planning and control	
Clause 8.2 Emergency preparedness and response	31
32. COP 22: SHEQ Inspection	
Clause 8.1 Operational planning and control	
Clause 8.2 Emergency preparedness and response	32
33. COP 23: Internal and external audit.	
Clause 9.2 Internal audit	
Clause 9.2.1 general and 9.2.2 internal audit programme.	33

Notes:

1. If a COP is not applicable to your section, please complete and attach the "Not Applicable" form in the space of the COP.
2. Always keep your file neat and clean.
3. A Foscok Representative may add or remove any other Foscok safety, health, quality and environmental policies and/or procedures deemed applicable.
4. If a COP is not applicable to this contract/project, please complete and attach the "Not applicable" form in the space of the COP.

16.2 TYPICAL CONTENTS OF SAFETY FILE:

- i. Title and index cover page
- ii. A copy of the PERMIT TO WORK.
- iii. A copy of the MHSA Regulation 2.6.1 and -2.9.2 and SHE Rep appointment letters.
- iv. A copy of Foscok COP 25, Service provider control.
- v. Baseline risk assessment of ALL and ANY POTENTIAL tasks that may be performed on site under this contract. See Foscok COP 26, Critical Task Descriptions for details.
- vi. Copies of critical task descriptions and standard operating/maintenance procedures.

- vii. Copies of the appointed service providers safety, health, environmental, HIV and AIDS, smoking and waste management policies.
- viii. Training records of all on-site employees.
- ix. Employee records of actual time worked (Normal and overtime).
- x. Copy of on-site induction training.
- xi. Records of inspections of TMM (Trackless Mobile Machinery) and trailers. See Foskop COP 59, Trackless Mobile Machinery for details.
- xii. Records of issues and inspections of PPE (Personal Protective Equipment) and safety equipment. See Foskop COP 65, Personal Protection Equipment for details.
- xiii. Records of issues and inspections of PEE (Portable Electrical Equipment). See Foskop COP 60, Portable electrical Equipment for details.
- xiv. Records of issues and inspections of tools and equipment. See Foskop COP 63, hand tools for details.
- xv. Records of daily, weekly and monthly 2.6.1 / SHE Rep safety inspections. See Foskop COP 22, SHE Inspections for details.
- xvi. Records of daily green area and safety talks. See Foskop COP 7, Communication for details.
- xvii. Any other documents, certificates or records as requested by a Foskop official deemed necessary to ensure that all safety, legislative and administrative requirements have been met.

Note:

The bidder / Service provider can obtain updated Foskop COP's and Engineering Specification on request.

16.3 REMINDER OF RISK IDENTIFICATION – LIFE SAVING RULES

- Risk Assessments and clearance certificates
- Lifting operations
- Working at heights
- Confined space entry
- Positive energy Isolation and lockout
- Moving Machinery
- Personal Protective Equipment

Risk assessment is applicable to all jobs and training applies to all that will do physical work!

17) PARAMETERS

17.1 DESIGN PARAMETERS

All plant and equipment will be designed to:

- Operate satisfactorily under atmospheric, ambient, and other conditions present at the site location.

Ensure interchangeability of units and/or sub-parts throughout the plant to reduce spare holding requirements – take old plant equipment into account.

- Ensure reliability and maintainability. Minimum availability of 98% is required.
- Operate without undue vibration, stresses (temperature and built-in) and excessive noise.
- Comply with legal requirements in terms of the water license and DWA.

17.2 SPECIFICATIONS, CODES, STANDARDS AND REGULATIONS

The latest edition of the South African National Standards in effect at the date of projects design shall establish the minimum requirements for design, materials, and construction. This should be referenced with the Foskor General Engineering specifications and requirements of the Foskor SHERQ system (COP's). No work shall be contemplated which is in breach of any legislation in South Africa – Typically but not limited to:

- Occupational Health and Safety Act (Act 85 of 1993)
- Mine Health and Safety Acts and regulations (Act 29 of 1996)
- Explosive Acts and Regulations - South Africa
- Foskor COP's and applicable General SHEQ Requirements
- Foskor Engineering Specifications
- Chamber of Mines / Mine Council SHEQ Requirements (Milestones)
- The latest revisions of the SANS standardized specifications and Foskor Specifications as applicable at the time of quotation shall apply to this contract.

Note! The equipment to be capable of continuous operation 24 hrs/day, 365 days/year with operating availability equal to 100%.

Environmental

The successful or appointed service provider shall comply with the following Environmental Specifications, Policies and Procedures:

- COP 41 Housekeeping and workplace organisation
- COP 49 Waste Management
- COP 51 Resource conservation, energy, and materials
- COP 70 Storage of petroleum products and other hazardous material
- National Environmental Management Act 107 of 1998 (NEMA) and its Regulations

- National Environmental Management Waste Act 59 of 2008 (NEMWA) as amended.

The successful service provider shall include in his/her SAFETY FILE, and comply with, the following documents:

- Environmental Aspect and Impact Register (Applicable to this contract).
- Environmental Objectives and Targets (Applicable to this contract).
- Waste Management Plan (Applicable to this contract).

FOSKOR Atmospheric Emissions License (Copy available on request – to be discussed with Mine Official responsible for the Services required)

FOSKOR Waste Management Licence (Copy available on request – to be discussed with Mine Official responsible for the Services required)

FOSKOR Water Use Licence (Copy available on request – to be discussed with Mine Official responsible for the Services required)

17.3 SITE GEOGRAPHY

The plant is located at Phalaborwa, Limpopo, South Africa























17.4 AMBIENT CONDITIONS

- Ambient temperature

Summer	35 °C Avg.	50 °C Max
Winter	17 °C Avg.	2 °C Min

- Site Altitude: 380 m
- Prevailing wind direction: Generally South Easterly - Maximum design velocity 40 m/s (144 km/h)
- Very dusty conditions
- Average annual rainfall = 540 mm

17.5 FOSKOR GENERAL ENGINEERING SPECIFICATIONS (SHOULD BE CONSULTED BEFORE FINALIZATION OF ANY DESIGN OR SPECIFICATION)

 Name	Modified	Modified By
 Engineering Specification Index	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS001 - General Design Information - Rev 1	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS002 - Engineering Drawings - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS003 - Quality Control Procedures - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS005 - Concrete and Formwork - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS007 - Plate work - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS008 - Welding procedures - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS009 - Structural fabrication and erection - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS011 - Piping - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS012 - Pressure vessels - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS013M - Painting and Protective Coatings	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS014 - Rubberlining - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS015 - Fencing - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS016 - Roofing and side cladding - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS017 - Fuel - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS018 - Lubrication - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS019 - Liquid containemt bund walls - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS020 - General purpose valves - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS021 - Gearboxes - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GS022 - Chainblocks and lever hoists - Rev 0	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu
 GSI-004 - Field Instrumentation Standards	... 15 April, 2016	<input type="checkbox"/> Khayelihle Pepu

17.6 SPECIFICATION

ELECTRICAL SPECIFICATIONS		
NUMBER	REVISION	TITLE
EE-1	Latest Revision	Motor Control Centre & Switchgear
EE-2	Latest Revision	Squirrel Cage Induction & Wound Rotor Motors
EE-11	Latest Revision	Power Factor Correction Equipment
GE-1	Latest Revision	Design Criteria for Electrical Installations
GA-1	Latest Revision	Procedures for Enquiries & Tenders
GD-1	Latest Revision	General Requirements for Design, Project Management & Tenders
GD-2	Latest Revision	Engineering Change Order (E.C.O) Procedure
GM-1	Latest Revision	Mechanical Equipment
GM-5	Latest Revision	Pipe Standards
GM-6	Latest Revision	Engineering Drawing & Document Requirements
GM-8	Latest Revision	Surface Protection
GM-3	Latest Revision	Painting & Surface Protection of Steel
GS-1	Latest Revision	Structural Steel work & Plate work Fabrication & Erection
GQ-1	Latest Revision	Quality Control
GI-1	Latest Revision	General specifications & Procedures
GI-2	Latest Revision	Installation & Commissioning
GI-3	Latest Revision	General Equipment Specification
GI-4	Latest Revision	Field Instrumentation Specification

17.7 PROJECT SPECIFIC SPECIFICATION FROM DESIGNER

N/A

18 PROJECT MANAGEMENT – CONTRACTOR

- Nominate a single window of communication to Foskor – Typically the appointed contractor 2.6.1
- Attend meetings as agreed during the project kick-off meeting.
- Submit Progress reports (Format & interval) as defined in the Kick-off Meeting (Invoicing, Labour, Performance against the plan, Contractor purchases, Quality Management, Safety, Etc.
- Manage and participate in the “Daily Journal” as part of executing the project.

- e) All meetings will be held at FOSKOR offices unless otherwise stated.
- f) The contractor to provide updated project management plans on progress as defined by the FOSKOR Project Engineer.
- g) **Project progress updates** - If the contractor cannot produce proper updates on a WBS then the contractor will be required to subcontract this function to produce the WBS updates for the duration of the project. This cost must be included in the contractor's price.

The Service provider is responsible for managing the project and this is graphically displayed below indicating where what functions lie. Graphical presentation only covers some basic aspects.

19 PLANNING AND SCHEDULING

- The Project Section has a planning standard that needs to be adhered to during the execution as per the relevant order placed.
- The FOSKOR scheduler can be contacted to provide schedule details input and guidelines if needed.
- Schedule must be compiled within one week after kick-off meeting conducted by the FOSKOR Project Leader
- The Contractor schedule needs to be signed off by contractor 2.6.1 before approval by FOSKOR.
- The FOSKOR scheduler will issue the Templates to be used - This template must be adhered to, and no changes should be made.
- Progress Update is needed every once a week a day before the weekly progress meeting or as requested.
- The progress Updates to be submitted to FOSKOR Scheduler/Planner via email.
- It is the contractor's responsibility to appoint the competent person to manage the contractors schedule which that person will directly communicate with FOSKOR Scheduler - If the contractor's responsibility to add the cost of a competent person on the project. Commercial action to be taken if the performance in planning is lacking.
- FOSKOR requires all contractors to use MS Project software which it will be fully implemented latest 01 February 2022.

19.1 Typical aspects to be adhered to:

- It is the subcontractor's responsibility to produce a detailed schedule which ties up to the FOSKOR standards of requirements.
- The Schedule must not have open ended activity task.
- The schedule must be fully resourced.
- The schedule must not have constraints.
- The calendar must be created and assigned in the schedule. Confirm the templates with the FOSKOR Scheduler
- It is FOSKOR responsibility to review the schedule before it's been approved.
- A schedule must be approved by Project Scheduler/Project Manager and Project Engineer.
- The approved baseline schedule must be updated by the contractor to show Planned vs Actual.

- The contractor must show S-Curve which will be constructed from the schedule.
- Project updates must be submitted to the Project Planner/Scheduler for review.

20 LIAISON AND CO-OPERATION WITH OTHERS

- The CONTRACTOR/ SERVICE PROVIDER shall be required to co-operate and liaise with Foskor appointed Project Manager.
- The CONTRACTOR/ SERVICE PROVIDER must note that construction is within an operational plant.
- The CONTRACTOR/ SERVICE PROVIDER may appoint a Foskor approved sub-contractor
- The CONTRACTOR/ SERVICE PROVIDER shall be required to work in conjunction with the Foskor appointed structural-, electrical-, equipment- and instrumentation installation contractor – if applicable.

21 GENERAL CONDITIONS – COMMERCIAL

A. EXTENSIONS, PENALTIES AND RETENTIONS

- Extension on the promised completion or milestone date may be requested but needs to be approved by Foskor. The contractor should be in possession of a formal document issued via Foskor Procurement indicating that this request was approved.
- Any additional work not defined in the order needs to be approved by Foskor in writing before any work commences.

Description	Condition	Duration
Penalties	0.5% per week	Late Delivery after promised completion date
Performance Bond	0% of Contract Value	0 Year after completion
Retention	10 % of Contract value	Release after 3 months
Type of Contract	Foskor standard terms and Conditions	
Tender price validity	3 months	
Escalation	None	None

All delays must be immediately brought under the attention of the section engineer and the party responsible agreed upon immediately.

B. AFTER SALES SERVICE OR REQUIREMENTS

After sales service requirements are listed below:

1. Full description of guarantee and guarantee period to be attached to the official tender.
2. Full description of planned support during AND after the guarantee period to be attached to the official tender.

C. INVOICES DUE DATES

The due dates for claiming the certificate are the 12th of every month. invoices are due at the latest 17th of every month.

A FOSKOR QS will be responsible for claim certificate verification and claim certificates that need to be submitted at the latest on the 7th of each month to the QS

D. MANDATORY DOCUMENTS

MANDATORY DOCUMENTS

	MANDATORY ADMINISTRATIVE DOCUMENT	Required	
		Yes or No	
1	Completed and signed tender document – Tender Invitation	Yes	Foskor document
2	Initialized Scope of Work document	Yes	Foskor document
3	Signed Ethics Policy document	Yes	Foskor document
4	ISO 45001 Introduction	Yes	Foskor document
5	Foskor Standard term and Conditions – will be used	Will be applied	No need to submit
	MANDATORY COMMERCIAL DOCUMENTS		Attach as:
1	Valid SARS Pin	Yes	Annexure 1 A
2	Company/Trust or CC registration documents (CIPC)	Yes	Annexure 1 B
3	Directors Identity Document (certified copies)	Yes	Annexure 1 C
4	BBBEE certificate/ or Affidavit for the below R10million revenue p.a. companies	Yes	Annexure 1 D
5	Shareholding Structure (showing all shareholders in the entity)	Yes	Annexure 1 E
6	Shareholder or trust beneficiary information -Id numbers of shareholders or -Registration documents, where a shareholder is also legal entity/company or trust -Id numbers of the trustees and beneficiaries, where the shareholding is by a Trust	Yes	Annexure 1 F
7	Shareholder Certificates (where not reflected on CIPC documents)	Yes	

8	Letter of Good Standing (COIDA) for companies that render service on Foskor site or deliver on site	Yes	Annexure 1 G
9	Two year's Financial Statements – for bids above R 5 million. The financial statements must not be older than two years. -Provide any additional information if available on credit lines/ accounts that your company has with its own suppliers to show financial strength or -Bank letter of good standing or support on the project	Yes	Annexure 1 H
10	CIDB Grading per advert	Yes	Annexure 1 I
11	ISO certification for bidder – ideal but not required	No	Annexure 1 K

22 TENDER EVALUATION CRITERIA

- As part of the process to assist with the evaluation of the bidder's proposal/quotation and to make an informed decision in the awarding of this tender, the following information is required.
- The following tender evaluation criteria will be used for adjudicating the Contractor submitted tender.
- Only submitted documents will be used for adjudication purposes.
- Please provide the required documentation as requested in the "Proof/documents to be submitted" column. Please be specific when submitting documents by ensuring that they answer the specified item.
- Please use the annexure number as indicated to identify the proof submitted.
- Failure to submit the relevant documentation as requested in the Evaluation criteria document may lead to a disregard of the submitted tender.
- A Site or verification audit on submitted documents may be conducted based on Foskor's requirement and the tender may be disregarded base on the audit.

A. MANDATORY REQUIREMENTS

Bid submission not meeting the mandatory requirement will result in the bid being disqualified.

No	Pre-Qualification Requirements	Comments
1	Building, steel structure and civil Works Installation of 3CE or 3SL or higher	Provide certificate of CIDB grading

23 EVALUATION CRITERIA (TECHNICAL)

Evaluation Criteria (Technical)				
T- FIRE TRUCK GARAGE				
No	Technical Criteria Description	% Contribution	Proof / documents to be submitted	Notes
1	Experience & Team competence -			
a)	<p>Company - Previous Building and roofing structure experience</p> <p>Scoring:</p> <ul style="list-style-type: none"> • No Experience = 0% • Company experiences 0 to 1 year = 5% • Company experience >1 to <3 years = 10% • Company experience >3 years = 20% 	20%	<p>Please provide an order list with values</p> <p>The list to contain the following.</p> <p>Order no, Order description, Brief explanation of what the work entailed, Order value, Reference name and Tel no</p> <p>Please attach at least 3 orders with the list</p>	<u>Annexure A</u>
c)	<p>Provide Company organogram indicating management, fabrication and installation team compilation.</p> <ul style="list-style-type: none"> • Scoring: Organogram not submitted = 0% • Partial organogram or not sufficient or not relevant. Note all roles/disciplines for the project indicated = 10% • Organogram submitted and accepted = 20% 	20%	<p>Submit an organogram indicating management, supervisors and teams foreseen during construction. Complete organogram of all teams and who will be the legal appointee's as per the MHSA. Include all roles and subcontractors.</p> <p>Indicate 2.61 and 2.9.2 appointees</p>	<u>Annexure C</u>
d)	<p><u>List of equipment to be used</u></p> <p>Company to submit a list of equipment and assets as the required to execute the supply, fabrication and construction of a garage, shelter for the fire truck</p> <p>Scoring:</p> <ul style="list-style-type: none"> • Company does not have required assets related to relevant work = 0% • The company does not own equipment or Partial assets or not sufficient = 10% 	20%	<p>List assets – Provide an asset list on a letter head signed off by the relevant authorized company person. Alternatively provide confirmation of where the assets will be hired, incl. letter and contact details of such a lessor of the equipment.</p> <p>The focus is construction assets for this project.</p>	<u>Annexure D</u>

Evaluation Criteria (Technical)				
T- FIRE TRUCK GARAGE				
No	Technical Criteria Description	% Contribution	Proof / documents to be submitted	Notes
	<ul style="list-style-type: none"> Company has required assets relevant to this scope=20% 		<ul style="list-style-type: none"> Welding and gas cutting equipment. Fabrication equipment Workshops Cranes LDV's and other transport Lifting and rigging tools Civil construction equipment 	
e)	<p>Provide extracts of Quality Control Plans (QCP's) -</p> <p>Scoring:</p> <ul style="list-style-type: none"> No quality control plans or inspections submitted or not accepted = 0% Unsigned acceptable quality plans = 5% Partial Quality Control plans or inspections signed = 15% Quality Control plans and inspections provided and accepted signed =20% 	20%	<ul style="list-style-type: none"> Quality Control Plans - Give extract of Signed off Quality Control Plans (QCP's) with relevant inspector and client signatures of similar projects. Provide at least 2 QCP's with client signatures Quality inspections done - with relevant inspector and client signatures of similar projects. Provide at least 2 Inspections with client signatures 	<u>Annexure E</u>
f)	<p>Detailed project plan for the work indicating enough detail to establish the approach and relevant tasks/activities.</p> <p>Scoring:</p> <ul style="list-style-type: none"> Project plan reviewed and not accepted - Not relevant or not submitted=0% Provided but does not clarify all issues or tasks for this project. Non relevant portions for this project= 10% Provided and accepted for this project= 20% 	20%	<p>Provide detailed project plan (Gantt Chart) for the construction of a fire truck garage with relevant tasks and durations for the work until hand over</p>	<u>Annexure F</u>

Evaluation Criteria (Technical)				
T- FIRE TRUCK GARAGE				
No	Technical Criteria Description	% Contribution	Proof / documents to be submitted	Notes
	Total Technical Score	100.00 %		
	Note: In order for the bid to be considered the bidder needs to score 70% and above, and comply to all mandatory requirements - This is still dependant on an audit or verification of submitted document that can lead to a bid not being accepted			

24 PRICING SCHEDULE

Description: Fire Truck Garage

Specifications shall be deemed to form part of and included in the pricing instructions.

A. PRICING SCHEDULE / SCHEDULE OF QUANTITIES OR BOQ

- The units of measurement described in the Bill of Quantities are metric units. Abbreviations used in the Bill of Quantities are as follows:

%	=	percent	m ² .pass	=	square metre-pass
h	=	hour	m ³	=	cubic meter
ha	=	hectare	m ³ .km	=	cubic metre-kilometer
kg	=	kilogram	MN	=	meganewton
kl	=	kiloliter	MN.m	=	meganewton-meter
km	=	kilometer	MPa	=	megapascal
km-pass	=	kilometer-pass	No.	=	number
kPa	=	kilopascals	Prov sum	=	Provisional sum
kW	=	kilowatt	P C sum	=	Prime Cost sum
l	=	liter	sum	=	lump sum
m	=	meter	t	=	ton (1 000 kg)
mm	=	millimeter	W/day	=	Workday
m ²	=	Square meter			

- No allowance is made for waste.

3. Foskor pays for material on site unless special approval has been obtained prior.

PRICING SCHEDULE

L023-21-020

Foskor - Fire Truck Garage

SECT	BILL	PAGE	ITEM	DESCRIPTION	UNIT	Q'TY	RATE	AMOUNT
				SECTION 1				
				BILL NO 1				
				PRELIMINARIES AND GENERAL				
1	1	1		NOTE				
1	1	1		a) All prices/rates to be net, including labor, delivery to site, offloading, handling and site storage, etc. excluding Value Added Tax				
1	1	1		b) Rates shall include all fabrication work, welding, marking, drilling, bolts, nuts, washers, steel plates riveted work, counter sinking and tapping for bolts or machine work.				
1	1	1		c) Rates shall include all painting and finished as per Foskor standard				
1	1	1		d) Rates shall include all assembly, erection, touch-up paint, temporary supporting and fixing into position				
1	1	1		e) Invoices for material on site are payable once material is delivered to site. Delivery notes, and suppliers' invoices will be required.				
1	1	1		PRELIMINARIES				
1	1	1		Time Related P&G's				

1	1	1	1	Inclusive of all construction, construction management and supervision, administration. legal, insurance management, travelling, accommodation, transport, licenses, safety, and project management, etc.	Item	1		
1	1	1		Fixed P&G's				
1	1	1	2	Site Establishment - Work permit, infrastructure set up, etc.	Item	1		
1	1	1	3	Site De-Establishment	Item	1		
1	1	1	4	Other (Tenderer to specify)	Item	1		
				SECTION 2				
				BILL NO 1				
				EARTHWORKS				
2	1	2		PREAMBLES				
2	1	2		All work to be in accordance with Foskor and SABS specification. Latest revision.				
2	1	2		NOTE				
2	1	2		All prices/rates to be net, including labor, delivery to site, offloading, handling and site storage, etc. excluding Value Added Tax				
2	1	2		SUPPLEMENTARY PREAMBLES				
2	1	2		Nature of ground				
2	1	2		For nature of ground see "Notes to Tenderers"				
2	1	2		Filling (General)				
2	1	2		It will be, at all times, required from the Contractor to apply and execute strict quality				

				control on all filling material used				
2	1	2		Samples of potential filling material obtained from excavations, trench excavations, etc. are to be submitted to and approved by the Project Engineer prior the re-use thereof as "filling"				
2	1	2		All filling obtained from a commercial source should comply to minimum G6 standard				
2	1	2		Should any material be found unsuitable and the use thereof be disapproved, such material shall be disposed and approved material must be sourced and imported from an approved commercial source				
2	1	3		Filling in general shall be compacted to the prescribed percentage Mod AASHTO density				
2	1	3		Back filling described as: - "filling in pipe trenches, etc.", all backfilling shall be done with approved backfilling compacted to 95% Mod. AASHTO density, unless otherwise described - "filling behind retaining walls, etc.", all backfilling shall be done with approved backfilling compacted to 95% Mod. AASHTO density, unless otherwise described				
2	1	3		Filling in sub-layers, under floors, etc.				
2	1	3		All filling in layers under surface beds, in sub-layers, to form earth mattresses, etc. shall be done with materials specified and according to				

				methods prescribed by the SABS 1200ME Sub-base Specification				
2	1	3		The aforesaid specification was drawn up to cover activities normally encountered on civil engineering work, which is equally applicable on the filling details and requirements prescribed for this project				
2	1	3		The said specification, although not issued with, shall be regarded to form part of these Bills of Quantities. The Contractor shall obtain a copy of the said specification from the South African Bureau of Standards and be kept on site at all times				
2	1	3		CBR and indicator tests				
2	1	3		Density tests for monitoring filling shall be done at the minimum prescribed frequencies per each 150mm thick layer of filling placed				
2	1	3		The Contractor is to note that all necessary tests (i.e. CBR and indicator tests, etc.) are to be conducted for all filling material, whether obtained from the excavations or to be imported from an approved commercial source				
2	1	4		Results of these tests are to be submitted to and approved by the Project Engineer prior commencement of any placement thereof and/or filling done therewith				
2	1	4		Density tests				

2	1	4	It will be required from the Contractor to execute density tests for monitoring filling at the following minimum frequencies per each filling layer placed:				
2	1	4	- Filling under surface beds, aprons, channels, etc.: 1 Test per 125m ² plan area per each 150mm thick layer				
2	1	4	- Filling behind retaining walls: 1 Tests per each 150mm thick layer per each 15m length of retaining wall				
2	1	4	Results of density tests executed are to be submitted to and approval obtained from the Principal Agent prior commencement of any subsequent fill layers and/or other work				
2	1	4	Tendered rates for all filling in this Bill are to cater for these tests as no separate provision has been made for measurement and payment thereof				
2	1	4	No additional claims in this regard will afterwards be entertained				
2	1	4	Carting away of excessive and/or unsuitable excavated material				
2	1	4	Descriptions for "carting away excessive or unsuitable excavated material from site" shall, unless specifically otherwise described, be deemed to include the loading and hauling of excessive or unsuitable excavated material to a suitable dumping site, which has to be located by the Contractor, off the construction site				

2	1	4		The location of the intended dumping site will be subjected to the prior written approval of the Principal Agent				
2	1	5		The Contractor will also be liable to, upon completion, rehabilitate all those areas of the dumping site used dumping/spoiling by grading the area to follow the adjacent ground contours and afterwards compacted to 80% Mod AASHTO density, all to the full satisfaction of the Principal Agent				
2	1	5		Tendered rates must make provision for the above-mentioned as no additional claims in this regard will afterwards be entertained				
2	1	5		Soil poisoning and insecticide				
2	1	5		All soil poisoning and insecticide to be applied under a five-year guarantee by an approved firm of Specialists				
2	1	5		Measurement and payment				
2	1	5		Measurement and payment clauses as described in the above-mentioned specification, Standardized Specification for Civil Engineering Construction, shall not apply to the work as set out in this Bill				
2	1	5		-----				
2	1	5		EXCAVATIONS ETC				
2	1	5		Excavation in earth not exceeding 2m deep:				
2	1	5	1	Trenches	m3	14		

2	1	5	2	Holes for pits, bases etc.	m3	6		
2	1	5		Extra over trench and hole excavations in earth for excavation in:				
2	1	5	3	Soft rock	m3	2		
2	1	5	4	Hard rock	m3	1		
2	1	5		Earth filling obtained from the excavations (not compacted):				
2	1	5	5	In prescribed stockpiles on site	m3	21		
2	1	6		Extra over all excavations for carting away:				
2	1	6	6	Surplus material from excavations and/or stockpiles on site to a dumping site to be located by the contractor	m3	7		
2	1	6		Risk of collapse of excavations:				
2	1	6	7	Sides of trench and hole excavations not exceeding 1,5m deep	m2	145		
2	1	6		Keeping excavations free of water:				
2	1	6	8	Keeping excavations free of water other than subterranean water	Item	1		
2	1	6		FILLING ETC				
2	1	6		Earth filling obtained from the excavations and/or prescribed stockpiles on site, compacted to 93% Mod AASHTO density:				
2	1	6	9	Backfilling to trenches, holes, etc.	m3	2		
2	1	6		Earth filling (G5) supplied by the contractor, compacted to 95% Mod AASHTO density:				

2	1	6	10	Backfilling to trenches, holes, etc.	m3	11		
2	1	6	11	Under floors, steps, paving's, etc.	m3	26		
2	1	6		Filling of coarse river sand supplied by the contractor, consolidated				
2	1	6	12	Under floors etc.	m3	5		
2	1	6		Compaction of surfaces:				
2	1	6	13	Compaction of ground surface in trenches including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	33		
2	1	7	14	Compaction of ground surface under floors etc. including scarifying for a depth of 150mm, breaking down oversized material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	79		
2	1	7		Prescribed density tests on filling:				
2	1	7	15	"Modified AASHTO Density" test	No	2		
2	1	7		WEED KILLERS, INSECTICIDES, ETC				
2	1	7		Soil insecticide in accordance with SANS 5859				
2	1	7	16	Under floors etc., including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m2	76		
2	1	7	17	To bottoms and sides of trenches etc.	m2	108		

				SECTION 2				
				BILL NO 2				
				CONCRETE, FORMWORK AND REINFORCEMENT				
2	2	9		PREAMBLES				
2	2	9		All work to be in accordance with Foskor and SABS specification. Latest revision.				
2	2	9		NOTE				
2	2	9		All prices/rates to be net, including labor, delivery to site, offloading, handling and site storage, etc. excluding Value Added Tax				
2	2	9		SUPPLEMENTARY PREAMBLES				
2	2	9		Concrete general				
2	2	9		Surface beds cast in panels shall be cast in panels not exceeding 20m ² All reinforced concrete is to be compacted with a mechanical vibrator				
2	2	9		Concrete test cubes				
2	2	9		Descriptions and tendered rates for concrete strength test cubes, as required under clause 7, "Tests" of SABS 1200 G, shall be deemed to cater for all the costs of providing cube moulds necessary for the purpose, making, storing and sending thereof to an approved accredited laboratory for testing, paying all charges in connection therewith and for submitting test result reports to Project Engineer				

2	2	10	All concrete strength test cubes, each size 150 x 150 x 150mm, shall be prepared in a set of three				
2	2	10	It will be required from the Contractor to prepare concrete strength test cube sets for each building at the following minimum frequencies: - One set of three cubes for every 15m ³ , or part thereof, of concrete cast per day, or: - One set of three cubes for each batch of concrete cast per event				
2	2	10	All concrete strength test cubes shall be labelled and the identity thereof (i.e. date, concrete strength type, position where batch was cast relative to the building and building identity) shall be properly recorded for future reference				
2	2	10	Formwork				
2	2	10	Descriptions of formwork shall be deemed to include use and waste only (except where described as "left in" or "permanent"), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use				
2	2	10	The vertical strutting shall be carried down to such construction as it is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself				

2	2	10		Formwork to soffits of solid slabs etc. shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described				
2	2	10		Formwork to soffits of slabs, beams, etc. shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high unless otherwise described				
2	2	11		Formwork to sides of bases, pile caps, ground beams, etc. will only be measured where it is prescribed by the Project Engineer for design reasons. Formwork necessitated by irregularities or collapse of excavated faces will not be measured and the cost thereof shall be deemed to be included in the allowance for taking the risk of collapse of the sides of the excavations, provision which is made for in "Earthworks"				
2	2	11		Fabric reinforcement				
2	2	11		Standard welded steel fabric reinforcement shall be as included in Table 1 of SANS 1024 and shall have 300mm wide laps				
2	2	11		-----				
2	2	11		CONCRETE, ETC				
2	2	11		UNREINFORCED CONCRETE				
2	2	11		10Mpa/19mm concrete:				
2	2	11	1	Surface blinding under footings and bases	m3	4		
2	2	11		30MPa/19mm concrete:				
2	2	11	2	Surface beds cast in panels on waterproofing	m3	14		

2	2	11		REINFORCED CONCRETE				
2	2	11		30MPa/19mm concrete:				
2	2	11	3	Strip footings, bases, etc.	m3	11		
2	2	11		TEST CUBES				
2	2	11	4	Allow for all necessary concrete test cubes size 150 x 150 x 150mm, cast from batches of concrete required for the entire contract as specified, made, stored, cured and tested in accordance with SANS Methods 861 and 863, including use of approved cube molds, transporting to an approved testing laboratory for testing, paying all charges and submitting reports to the Representative/ Agent	No	6		
2	2	12		CONCRETE SUNDRIES				
2	2	12		Finishing top surfaces of concrete smooth with a power float:				
2	2	12	5	Surface beds, slabs, etc.	m2	112		
2	2	12		Sika 212 non-shrink grout				
2	2	12	6	The bedding is approximately 25mm thick under 280 x 280mm base plate (elsewhere)	No	8		
2	2	12		FORMWORK, ETC. TO CONCRETE				
2	2	12		ROUGH FORMWORK (DEGREE OF ACCURACY II)				
2	2	12		SMOOTH FORMWORK (DEGREE OF ACCURACY II)				
2	2	12		Smooth formwork to sides:				

2	2	12	7	Square-shaped stub columns in foundations (Provisional)	m2	8		
2	2	12		MOVEMENT, EXPANSION JOINTS ETC				
2	2	12		Saw cut joints:				
2	2	12	8	3 x 40mm Deep saw cut joint cut in top of concrete surface bed	m	9		
2	2	12		Expansion joints with bitumen impregnated softboard between vertical concrete and brick surfaces:				
2	2	12	9	10mm Thick Bitumen impregnated softboard vertical expansion joint not exceeding 300mm high or wide, including all cutting and waste	m	40		
2	2	12		REINFORCEMENT				
2	2	12		High tensile steel reinforcement to structural concrete work:				
2	2	12	10	12mm Diameter bars	t	0.05		
2	2	12	11	16mm Diameter bars	t	0.01		
2	2	13	12	20mm Diameter bars	t	0.01		
2	2	13		Fabric reinforcement:				
2	2	13	13	Type 617 fabric reinforcement in concrete surface beds, slabs, etc. with 300mm overlaps	m2	76		
				SECTION 2				
				BILL NO 3				
				MASONRY				
2	3	15		PREAMBLES				

2	3	15	All work to be in accordance with Foskor and SABS specification. Latest revision.				
2	3	15	NOTE				
2	3	15	All prices/rates to be net, including labor, delivery to site, offloading, handling and site storage, etc. excluding Value Added Tax				
2	3	15	SUPPLEMENTARY PREAMBLES				
2	3	15	Sizes in descriptions				
2	3	15	Where sizes in descriptions are given in brick units, "one-brick" shall represent the length and "half brick" the width of a brick				
2	3	15	Face bricks				
2	3	15	Bricks shall be ordered timeously to obtain uniformity in size and color				
2	3	15	Pointing				
2	3	15	Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc. as described				
2	3	16	Proprietary items or materials				
2	3	16	Proprietary items or materials where specified are to be of the brand specified - or other approved - by the client or the client's agent				
2	3	16	Sizes in descriptions				
2	3	16	Where sizes in descriptions are given in brick units, "one brick"				

				shall represent the length and "half brick" the width of a brick				
2	3	16		Cement mortar				
2	3	16		Unless otherwise described, all brickwork shall be built in 1:5 cement mortar				
2	3	16		Face bricks				
2	3	16		Bricks shall be ordered timeously to obtain uniformity in size and color				
2	3	16		Pointing				
2	3	16		Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.				
2	3	16		Samples, etc.				
2	3	16		Rates for brickwork, faced brickwork, etc. shall include for all required samples				
2	3	16		-----				
2	3	16		BRICKWORK				
2	3	16		FOUNDATIONS				
2	3	16		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class 1 mortar:				
2	3	16	1	One (230mm) brick wall	m2	17		
2	3	17		BRICKWORK SUNDRIES				
2	3	17		Brickwork reinforcement:				
2	3	17	2	150mm Wide reinforcement built in horizontally in foundations	m	199		

2	3	17	3	150mm Wide reinforcement built in horizontally	m	114		
2	3	17		FACE BRICKWORK				
2	3	17		"Autumn Wheat Satin" face bricks pointed with recessed horizontal and vertical joints:				
2	3	17	4	Double skin brick walls faced both sides in foundations	m2	17		
2	3	17	5	Double skin brick walls faced both sides in super structure	m2	47		
2	3	17	6	Extra over one-brick wide brick-on-edge coping	m	35		
				SECTION 2				
				BILL NO 4				
				WATERPROOFING				
2	4	19		PREAMBLES				
2	4	19		All work to be in accordance with Foskor and SABS specification. Latest revision.				
2	4	19		NOTE				
2	4	19		All prices/rates to be net, including labor, delivery to site, offloading, handling and site storage, etc. excluding Value Added Tax				
2	4	19		SUPPLEMENTARY PREAMBLES				
2	4	19		General				
2	4	19		Damp-proofing and waterproofing are measured net and descriptions shall be deemed to include for laps, cutting and waste, dressing in and sealing with a suitable sealant where necessary				

2	4	19		Waterproofing to flat concrete roofs				
2	4	19		Waterproofing to flat concrete roofs shall be laid under a ten-year guarantee by an approved firm of Specialists, all in accordance with the materials supplied and methods employed by the Manufacturer				
2	4	19		-----				
2	4	20		DAMPPROOFING OF WALLS AND FLOORS				
2	4	20		One layer of 375 micron "Consol Plastics Brik grip DPC" embossed damp proof course:				
2	4	20	1	In walls	m2	9		
2	4	20		One layer of 250 micron "Consol Plastics Gunplas USB Green" waterproof sheeting sealed at laps with "Gunplas Pressure Sensitive Tape":				
2	4	20	2	Under surface beds	m2	76		
2	4	20		JOINT SEALANTS ETC				
2	4	20		"Sikaflex-35SL" polyurethane elastomer joint sealing compound, bond breaker, primer, etc., in:				
2	4	20	3	3 x 40mm Horizontal saw-cut joint in floors	m	10		
2	4	20	4	12 x 15mm Horizontal expansion joint in floors, including raking out softboard for a depth of 15mm (Softboard elsewhere)	m	40		
				SECTION 2				
				BILL NO 5				

				ROOF COVERINGS, CLADDINGS, ETC				
2	5	22		PREAMBLES				
2	5	22		All work to be in accordance with Foskor and SABS specification. Latest revision.				
2	5	22		NOTE				
2	5	22		All prices/rates to be net, including labor, delivery to site, offloading, handling and site storage, etc. excluding Value Added Tax				
2	5	22		SUPPLEMENTARY PREAMBLES				
2	5	22		General				
2	5	22		All roof coverings, etc., to be with a covering of Z275 galvanizing. All holes to be drilled and not punched				
2	5	22		Certificate for Roof Covering				
2	5	22		The Contractor is to submit a certificate signed by the merchant, stating that the roof covering supplied, complies with the required thickness specified.				
2	5	22		Guarantee				
2	5	22		The Manufacturer shall comply with ISO9001 Quality Management System. The sheeting shall be laid in strict accordance with the manufacturer's specifications by an approved contractor. A written and approved five-year guarantee for site-workmanship and watertightness shall be issued after the final inspection of roofs by the manufacturer.				

2	5	23	Erection				
			Every precaution shall be taken to prevent damage to roof sheets during all stages of construction. Duck boards should be used when necessary to protect the sheeting from damage. Sheeting which has become deformed or damaged in any way, shall be replaced.				
2	5	23					
2	5	23	Proprietary items or materials				
			Proprietary items or materials where specified are to be of the brand specified - or other approved - by the client or the client's agent				
2	5	23					
2	5	23	Fixing				
			Fixing shall be done according to SABS 1200HB with minimum 225mm end laps				
2	5	23					
2	5	23	Sizes				
			All items are measured net unless otherwise described				
2	5	23					
2	5	23	Flashings, trimming plates, etc.				
			Prices to include for all cutting and waste and relevant fixing material, unless otherwise described				
2	5	23					
			All rates for flashings, trimmings, etc., to include for forming drips and closed ends to troughs of sheet steel roof covering where applicable				
2	5	23					
			All items are unless otherwise described measured net				
2	5	23					

2	5	24		PROFILED METAL SHEETING AND ACCESSORIES				
2	5	24		0,8mm "Global Roofing Solutions IBR 686" spelter galvanized troughed steel sheets in single lengths with "Chromadek" finish of approved standard color on one side and standard grey backing finish on reverse side, fixed to steel purlins and rails:				
2	5	24	1	Roof covering with pitch not exceeding 25° fixed to steel purlins	m2	112		
2	5	24		0,5mm "Global Roofing Solutions IBR 686" Z275 (Light Industrial) galvanized troughed sheet steel complying with ISQ 550 (3T) (A653) with a "Chromadek" finish to one side and standard backing coat, Pebble Grey to other, fixed to steel purlins or rails, all in accordance with the manufacturer's specifications by a GRS approved contractor:				
2	5	24	2	Side Cladding	m2	140		
2	5	24		0,5mm "Global Roofing Solutions" Z275 spelter galvanized steel sheet accessories iron with "Chromadek" finish to one side with a Pebble Grey backing coat to preceding roof covering, fixed in accordance with manufacturer's specifications, in:				
2	5	24	3	Ridge capping 550mm girth, three times bent along girth	m	20		
2	5	24	4	Standard type D-FL drip flashing	m	52		
2	5	24		Sundries				

2	5	24	5	Moulded narrow and broad rib polyethylene filler blocks	m	35		
2	5	24		ROOF VENTILATORS				
2	5	24		Manufactured by "Whirly Bird"				
2	5	24	6	Ridge type ventilator 500mm in 0.5mm chromadek material fixed through troughed roof sheeting to steel purlins including flashings, closers, sealing strips, etc.	No	4		
2	5	25		ROOF INSULATION				
2	5	25		"Sisalation GR420" heavy industrial grade aluminum foil-based insulation				
2	5	25	7	Insulation laid taut over steel or timber purlins complying with SANS 428, and fixed concurrently with roof covering, all in accordance to the manufacturer's recommendations	m2	80		
				SECTION 2				
				BILL NO 6				
				IRONMONGERY				
2	6	27		PREAMBLES				
2	6	27		All work to be in accordance with Foskor and SABS specification. Latest revision.				
2	6	27		NOTE				
2	6	27		All prices/rates to be net, including labour, delivery to site, offloading, handling and site storage, etc. excluding Value Added Tax				
2	6	27		SUPPLEMENTARY PREAMBLES				
2	6	27		Preparation of door frames				

2	6	27		Descriptions for flush bolts, door closers, floor springs, etc. shall be deemed to include all necessary preparations to door frames to accommodate same				
2	6	27		Tendered rates must make provision for this as no additional claims in this regard will afterwards be entertained				
2	6	27		Fixing of door locks, handles, flush bolts, etc.				
2	6	27		Fixing of all door locks, handles, flush bolts, etc. shall be regarded as fixed to timber door leaves, unless specifically otherwise indicated				
2	6	28		Proprietary items				
2	6	28		Where applicable the manufacturers' names or product catalogue titles are given in sub-headings preceding the items Prices are to be based on the specific products/articles specified				
2	6	28		-----				
2	6	28		DOOR FURNITURE				
2	6	28		"Assa Abloy" or similar approved:				
2	6	28	1	4 Lever Lockset Code: CZ6822461-CH	No	1		
2	6	28		LETTERS, NAME PLATES, ETC.				
2	6	28		"Dormakaba":				
2	6	28	2	DSS-136 Engraved "Electrical" information sign, plugged	No	1		
2	6	28	3	DSS-140RH Engraved "Running man" escape sign, plugged	No	2		

2	6	28	4	DSS-143 Engraved "Arrow" sign, plugged	No	4		
2	6	28	5	DSS-146 Engraved "Fire extinguisher" fire sign, plugged	No	2		
				SECTION 2				
				BILL NO 7				
				STRUCTURAL STEELWORK				
2	7	30		PREAMBLES				
2	7	30		All work to be in accordance with Foskor and SABS specification. Latest revision.				
2	7	30		NOTE				
2	7	30		All prices/rates to be net, including labor, delivery to site, offloading, handling and site storage, etc. excluding Value Added Tax				
2	7	30		SUPPLEMENTARY PREAMBLES				
2	7	30		Specifications				
2	7	30		Specification - The project engineer is and notwithstanding what is contained elsewhere in this documentation, the structural steelwork is to be in accordance with the specification, notes and annotation on their drawings. Where there is conflict in specification, the aforesaid engineer's specification prevails.				
2	7	30		Descriptions				
2	7	30		Descriptions of bolts shall be deemed to include nuts and washers				

2	7	30	Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete				
2	7	31	Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete				
2	7	31	Structural steelwork shall be cleaned and prepared by wire brushing in accordance with SANS 10064 and all surfaces shall be primed as specified to a minimum dry film thickness of 30 micrometers before leaving the workshop. Upon delivery to the site and again after erection all bared surfaces shall be made good with similar primer				
2	7	31	GENERAL				
2	7	31	The descriptions contained in these Bills of Quantities are to be read in conjunction with the drawings and schedule of finishes as prepared by the Project Engineers and are intended as a means of identifying the various facets of the work. Tenderers shall allow for all costs in connection with the various items taking full cognizance of drawings, schedule of finishes and the Bills of Quantities descriptions.				
2	7	31	Sizes are approximate only and site measurements must be taken prior to fabrication				
2	7	31	Mild steel unless otherwise stated				
2	7	31	-----				

2	7	31		SHOP DRAWINGS				
				The contractor shall timeously prepare and submit two sets of "shop drawings" of the proposed works which depict all the required design information, assumed loadings, applied finishes, cladding, etc., to the required scale. Such shop drawings shall be verified as being to his approval by the appended signature of a currently registered structural engineer				
2	7	31	1		Item	1		
2	7	32		THE FOLLOWING IN BUILDING STRUCTURAL				
2	7	32		STEEL COLUMNS AND BEAMS				
				Welded columns in single lengths with flat base, cap, bearer and connection plates, bolted to concrete				
2	7	32						
2	7	32	2	203 x 133 x 25.1 kg/m I-Section columns	t	1		
				Welded beams in single lengths with flat bearer and connection plates, bolted to steel				
2	7	32						
2	7	32	3	203 x 133 x 25.1 kg/m I-Section beam	t	0.8		
2	7	32	4	Extra over for mitred and welded T-intersection	No	12		
2	7	32		Sundries:				
				539 x 560 x 140mm High haunch cut from 203 x 133 x 25.1kg/m I-Section welded	No	8		
2	7	32	5					
				597 x 570 x 169mm High haunch cut from 203 x 133 x 25.1kg/m I-Section welded	No	8		
2	7	32	6					

2	7	32	7	350 x 134 x 12mm Thick connection plate welded to ends of I-Section and eight times holed through plate for 22mm diameter bolts (bolts elsewhere measured)	No	8		
2	7	32	8	400 x 134 x 12mm Thick connection plate welded to ends of I-Section and eight times holed through plate for 22mm diameter bolts (bolts elsewhere measured)	No	8		
2	7	32	9	241 x 199 x 6mm Thick connection plate welded to ends of I-Section and two times holed through plate for 14mm diameter bolts (bolts elsewhere measured)	No	8		
2	7	32	10	190 x 134 x 6mm Thick connection plate welded to ends of I-Section and two times holed through plate for 14mm diameter bolts (bolts elsewhere measured)	No	8		
2	7	32	11	329 x 207 x 6mm Thick connection plate welded to ends of I-Section and four times holed through plate for 14mm diameter bolts (bolts elsewhere measured)	No	4		
2	7	33	12	280 x 280 x 12mm Thick base plate welded to end of column and four times holed through plate for M20 bolts (bolts elsewhere measured)	No	8		
2	7	33	13	75 x 100 x 12mm Thick stiffener butt-welded to web and flange	No	16		
2	7	33		STEEL PURLINS, GIRTS, BRACING, ETC				
2	7	33		Purlins and girts, bolted/welded to steel				

2	7	33	14	100 x 50 x 20 x 2.5mm Thick cold-formed lipped channel girts	t	0.7		
2	7	33	15	100 x 75 x 20 x 2.5mm Thick cold-formed lipped channel purlins	t	0.8		
2	7	33	16	70 x 70 x 6mm Thick x 203mm Long Angle section cleats welded to truss and two times holed through plate for 14mm diameter bolts (bolts elsewhere measured) to purlins	No	48		
2	7	33		Welded bracing, anti-sag rails, etc. with flat connection plates, welded to steel				
2	7	33	17	70 x 70 x 6mm Angle sections four times holed through plate for 14mm diameter bolts (bolts elsewhere) to both ends	t	0.35		
2	7	33	18	25 x 25 x 3mm Angle sections welded to channels	t	0.02		
2	7	33		SUNDRY STRUCTURAL STEELWORK				
2	7	33		Structural modifications to steelwork:				
2	7	33	19	Allow for structural steelwork to be used as per instruction from Project Engineer.	t	1.5		
2	7	33		BOLTS, FASTENERS, ETC				
2	7	33	20	M20 HD Bolts 300mm long, including bolts, washers, etc. (Grade 8.8)	No	32		
2	7	34	21	M20 HD Bolts 100mm long, including bolts, washers, etc. (Grade 8.8)	No	96		
2	7	34	22	M12 HD Bolts 50mm long, including bolts, washers, etc. (Grade 8.8)	No	48		

2	7	34	23	M12 HD Bolts 30mm long, including bolts, washers, etc. (Grade 8.8)	No	128		
				SECTION 2				
				BILL NO 8				
				METALWORK				
2	8	36		PREAMBLES				
2	8	36		All work to be in accordance with Foskor and SABS specification. Latest revision.				
2	8	36		NOTE				
2	8	36		All prices/rates to be net, including labor, delivery to site, offloading, handling and site storage, etc. excluding Value Added Tax				
2	8	36		SUPPLEMENTARY PREAMBLES				
2	8	36		Primer				
2	8	36		All surfaces of steelwork to be painted with one coat approved factory etch primer before leaving the workshop of the Manufacturer and all scratches, chips or blemishes to be made good on site after erection. All rates tendered must make provision for this as no claim will afterwards be entertained.				
2	8	36		Bolts, etc.				
2	8	36		Descriptions of bolts shall be deemed to include nuts and washers. Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork and concrete				

2	8	36		Metalwork described as "holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described				
2	8	37		Stainless steel cabinets, worktops, etc.				
2	8	37		Stainless steel used for the manufacturing of cabinets, worktops, etc. shall be type 304 (18/8)				
2	8	37		Door frames				
2	8	37		Unless otherwise described, the following shall be applicable on all door frames: - Frames shall be double rebated suitable for 40mm thick doors				
2	8	37		- One jamb of all frames for single doors shall be factory prepared for striking plate of mortice lock				
2	8	37		Striking plates for door frames				
2	8	37		Striking plates pressed steel door frames are to be of adjustable chromium-plated type and prepared for mortice locks, unless otherwise described.				
2	8	37		Burglar bars to steel windows				
2	8	37		Unless otherwise described, all sashes of all windows shall be fitted with 12 x 12mm mild steel square burglar bars to line up with vertical and horizontal sections of frame				
2	8	37		Furniture to steel windows				
2	8	37		All steel type windows shall be fitted with chromium-plated furniture				

2	8	37		Glazing beads to steel windows				
2	8	37		Where described, windows are to be fitted with 10 x 10mm aluminum glazing beads, mitred around and screwed to window frame with chromium-plated countersunk screws at maximum 150mm centers				
2	8	37		-----				
2	8	38		METALWORK				
2	8	38		STAINLESS STEEL PRESSED STEEL DOORS AND FRAMES				
2	8	38		1,6mm Double rebated frame with 3 x 100mm stainless steel butt hinges suitable for one-brick walls, for:				
2	8	38	1	Frame, including door size 813 x 2032mm high	No	1		
2	8	38		STEEL ROLLER SHUTTER DOORS				
2	8	38		"Roll-Up Seranda" steel roller shutter doors with epoxy powder coated finish, complete with canopy covers, center locks, end locks fitted on every alternative slat on either side of the roller shutter curtain, flexible molded rubber weather astragal to bottom rail, etc., side fixed to brickwork or concrete:				
2	8	38	2	Gear operated roller shutter door suitable for opening 3600 x 3600mm high overall	No	1		
2	8	38		STEEL WINDOWS, ETC				
2	8	38		"NTY" galvanized steel or similar approved windows welded to channels				

2	8	38	3	Window type NE4, 1511 x 654mm high including	No	8		
				SECTION 2				
				BILL NO 9				
				PLASTERING				
2	9	40		PREAMBLES				
2	9	40		All work to be in accordance with Foskor and SABS specification. Latest revision.				
2	9	40		NOTE				
2	9	40		All prices/rates to be net, including labor, delivery to site, offloading, handling and site storage, etc. excluding Value Added Tax				
2	9	40		SUPPLEMENTARY PREAMBLES				
2	9	40		Granolithic				
2	9	40		Method				
2	9	40		The method to be used shall be either the monolithic method or the bonded method				
2	9	40		Preparation				
2	9	40		For granolithic applied monolithically, the concrete floor shall be swept clean after bleeding of the concrete has ceased and the slab has begun to stiffen; any remaining bleeding water shall be removed and the granolithic applied immediately thereafter. For granolithic to be bonded to the floor slab after it has hardened, the slab surface shall be hacked (preferably by mechanical means) until all laitance, dirt, oil, etc. is dislodged and swept clean of all loose matter. The slab shall				

				then be wetted and kept damp for at least six hours before applying the granolithic				
2	9	41		Mix				
2	9	41		Granolithic shall attain a compressive strength of at least 41MPa. The coarse aggregate shall comply with SANS 1083 and shall generally be capable of passing a 10mm mesh sieve. Where the thickness of the granolithic exceeds 25mm, the size of the coarse aggregate shall be increased to the maximum size compatible with the thickness of the granolithic				
2	9	41		Panels				
2	9	41		Granolithic shall be laid in panels not exceeding 14m ² for monolithic finishes, not exceeding 9,5m ² for bonded finishes and not exceeding 6m ² for all external granolithic. Wherever possible, panels shall be square but at no time should the length of the panel exceed 1,5 times its width				
2	9	41		Where possible joints between panels shall be positioned over joints in the floor slab and shall be at least 3mm wide through the full thickness of the finish, separated by strips of wood or				

				fiber board and finished with V-joints				
2	9	41		Laying				
2	9	41		Monolithic granolithic shall be applied to the partially set slab and thoroughly compacted and lightly wood floated to the required levels				
2	9	41		Bonded granolithic shall be applied to the slab after applying a 1:1 sand-and-cement slurry brushed over the surface and allowed to partially set before applying the granolithic. The granolithic shall be thoroughly compacted and lightly wood floated to the required levels				
2	9	41		After the wood floating, the monolithic and bonded granolithic shall remain undisturbed until bleeding has ceased, and the surface has stiffened. Any remaining bleed water and laitance shall then be removed and the surface steel trowelled or power floated				
2	9	42		Curing, seasoning and protection				
2	9	42		Granolithic shall be covered with clean hessian with waterproof building foil over and kept wet for at least seven days after laying				
2	9	42		-----				
2	9	42		SCREEDS				

2	9	42		Cement plaster screed steel trowelled on concrete:				
2	9	42	1	30mm Thick on floors and landings	m2	76		
2	9	42	2	30mm Thick to floors in door openings	m2	0.2		
2	9	42		SPECIALIST FLOOR AND WALL COATINGS				
2	9	42		All specialist floor and wall coatings are to be executed in strict accordance with the manufacturer's instructions. Floor coating to be pond-tested for 48 hours, check for leaks and smooth run off (no puddles)				
2	9	42		Prepare and apply "Ultra-Hybrid - 801 HI" light grey epoxy floor coating by "NUI" (3mm thickness) (Preparation and application strictly as per manufacturer's specification):				
2	9	42	3	On screeded floors	m2	76		
2	9	42	4	Extra over screeded floors for demarcation	m2	10		
				SECTION 2				
				BILL NO.10				
				GLAZING				
2	10	44		PREAMBLES				
2	10	44		All work to be in accordance with Foskor and SABS specification. Latest revision.				
2	10	44		NOTE				
2	10	44		All prices/rates to be net, including labor, delivery to site, offloading, handling and site				

				storage, etc. excluding Value Added Tax				
2	10	44		SUPPLEMENTARY PREAMBLES				
2	10	44		Float glass				
2	10	44		The term "float glass" is used for monolithic annealed glass				
2	10	44		Laminated glass				
2	10	44		Laminated glass to have polyvinyl butyral (PVB) interlayer(s)				
2	10	44		-----				
2	10	44		GLAZING TO STEEL WITH PUTTY				
2	10	44		6,38mm Clear laminated safety glass to steel with putty:				
2	10	44	1	Panes exceeding 0,1m ² and not exceeding 0,5m ²	m2	8		
				SECTION 2				
				BILL NO 11				
				PAINTWORK				
2	11	45		PREAMBLES				
2	11	45		All work to be in accordance with Foskor and SABS specification. Latest revision.				
2	11	45		NOTE				
2	11	45		All prices/rates to be net, including labour, delivery to site, offloading, handling and site storage, etc. excluding Value Added Tax				
2	11	45		SUPPLEMENTARY PREAMBLES				

2	11	45		Paint				
2	11	45		All paint, complete with undercoat, primer, etc., to be used strictly in accordance with Foskor's Specification GM-3 latest revision. Only paint which bears the described trade names will be permitted on site				
2	11	45		Any substitution will be subject to the prior written approval of the Project Engineer				
2	11	45		All steelwork should be treated for corrosion.				
2	11	45		Colors				
2	11	45		All colors to be as per Project Engineer's instructions.				
2	11	45		-----				
2	11	46		PAINTWORK, ETC. TO NEW WORK				
2	11	46		ON METAL SURFACES				
2	11	46		Spot priming defects in pre-primed surfaces, prime and apply two finishing coats, as per Foskor's latest Specification on:				
2	11	46	1	Doors, door frames, etc.	m2	5		
2	11	46	2	Members of roof trusses	m2	186		
2	11	46	3	Columns, rails, bars, pipes, etc.	m2	30		
SECTION SUMMARY								
2	12	48	1	EARTHWORKS				

2	12	48	2	CONCRETE, FORMWORK AND REINFORCEMENT				
2	12	48	3	MASONRY				
2	12	48	4	WATERPROOFING				
2	12	48	5	ROOF COVERINGS, CLADDINGS, ETC				
2	12	48	6	IRONMONGERY				
2	12	48	7	STRUCTURAL STEELWORK				
2	12	48	8	METALWORK				
2	12	48	9	PLASTERING				
2	12	48	10	GLAZING				
2	12	48	11	PAINTWORK				
				SECTION 3				
				BILL NO 1				
				EXTERNAL WORKS				
3	1	49		PREAMBLES				
3	1	49		All work to be in accordance with Foskor and SABS specification. Latest revision.				
3	1	49		NOTE				
3	1	49		All prices/rates to be net, including labor, delivery to site, offloading, handling and site storage, etc. excluding Value Added Tax				
3	1	49		SUPPLEMENTARY PREAMBLES				
3	1	49		Supplementary preambles and full descriptions of materials, items, work, etc.				

3	1	49		The Contractor is referred to the previous Section 2 for supplementary preambles and full descriptions of materials, items, work, etc. which shall be regarded to be equally applicable for work described in this Bill, unless specifically otherwise described				
3	1	49		Aprons				
3	1	49		Aprons to be cast into alternate sections of 1.5m to form construction joint between panels				
3	1	49		-----				
3	1	50		THE FOLLOWING IN EARTHWORKS				
3	1	50		Site works:				
3	1	50	1	Allow for digging up and removing all rubble, rubbish, vegetable soil, shrubs, bush, etc. not exceeding 200m girth from the whole area of the site to be built upon	m2	200		
3	1	50		Excavations in earth over sloping site:				
3	1	50	2	Stripping of topsoil 150 mm deep extreme	m3	20		
3	1	50	3	Ditto, but cart to a position on site as indicated by the Project Engineer, stockpile, later retrieve same, spread and level over the general site	m3	20		
3	1	50	4	Reduce levels to open face extreme depth 1105mm below natural ground level	m3	70		
3	1	50	5	Ditto, but cart to a position on site as indicated by the Project Engineer, stockpile and maintain	m3	70		

3	1	50		Extra over excavations in earth for excavation in:				
3	1	50	6	Extra over excavations in earth "in bulk" for excavations in "soft rock"	m3	8		
3	1	50	7	Ditto, but in "hard rock"	m3	4		
3	1	50		Extra over all excavations for carting away:				
3	1	50	8	Extra over all excavations for carting away excessive or unsuitable excavated material from the site	m3	60		
3	1	50		(End of earthworks)				
3	1	50		THE FOLLOWING IN V-DRAIN APRONS				
3	1	50		Excavation in earth not exceeding 2m deep:				
3	1	50	9	Reduced levels under floors	m3	7		
3	1	51		Extra over all excavations for carting away:				
3	1	51	10	Surplus material from excavations and/or stockpiles on site to a dumping site to be located by the contractor	m3	4		
3	1	51		Earth filling obtained from the excavations and/or prescribed stockpiles on site, compacted to 93% Mod AASHTO density:				
3	1	51	11	Backfilling to trenches, holes, etc.	m3	4		
3	1	51		Earth filling (G5) supplied by the contractor, compacted to 98% Mod AASHTO density:				
3	1	51	12	Under floors, steps, paving's, etc.	m3	5		

3	1	51		Compaction of surfaces:				
3	1	51	13	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	37		
3	1	51		Prescribed density tests on filling:				
3	1	51	14	"Modified AASHTO Density" test	No	2		
3	1	51		Soil insecticide in accordance with SANS 5859:				
3	1	51	15	Under floors etc., including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m2	37		
3	1	51		30MPa/19mm concrete:				
3	1	51	16	Mass concrete in aprons V-drains cast in alternating panels	m3	3		
3	1	51	17	Thickening down edges of aprons 85mm deep (net) x average 125mm wide, including preparing ground or earth filling, necessary formwork, etc.	m	37		
3	1	52		Test Cubes				

3	1	52	18	Allow for all necessary concrete test cubes size 150 x 150 x 150mm, cast from batches of concrete required for the entire contract as specified, made, stored, cured and tested in accordance with SANS Methods 861 and 863, including use of approved cube molds, transporting to an approved testing laboratory for testing, paying all charges and submitting reports to the Representative/ Agent	No	2		
3	1	52		Finishing the top surfaces of concrete smooth with a wooden float whilst concrete is still green:				
3	1	52	19	Finishing off top of aprons to fall with wooden float whilst concrete is still green	m2	37		
3	1	52		Joint forming material in movement joints:				
3	1	52	20	10mm Bitumen impregnated fibre board built in vertically between brick skins	m2	3		
3	1	52		6mm Thick joint formed using rigid member while concrete is poured and removed after concrete is set:				
3	1	52	21	Joints not exceeding 300mm high	m	15		
3	1	52		Rough formwork to sides:				
3	1	52	22	Edges, risers, etc. not exceeding 300mm wide or high	m	37		
3	1	52		Fabric reinforcement:				
3	1	52	23	Type 193 fabric reinforcement laid in surface beds, etc. lapped minimum 300mm along edges and ends (Measured net)	m2	37		

3	1	52		Polysulphide sealant as per engineers' drawings "Sikaflex Facade AT" universal polyurethane joint sealant applied in accordance with the manufacturer's instructions:				
3	1	52	24	12 x 12mm In expansion joints in floors and walls	m	37		
3	1	52		(End of Aprons)				
3	1	53		THE FOLLOWING IN RETAINING WALL				
3	1	53		Earthworks:				
3	1	53	25	Excavations not exceeding 2m deep for trenches	m3	7		
3	1	53	26	Surplus material from excavations on site to a dumping site to be located by the Contractor	m3	3		
3	1	53	27	Risk of collapse to sides of trench and hole excavations not exceeding 1,5m deep	m2	22		
3	1	53	28	Backfilling obtained from excavations to trenches, holes, etc.	m3	5		
3	1	53	29	In-situ compaction of ground or reduced formation levels, including scarifying for a depth of 150mm and compacting to 93% Mod AASHTO density	m2	11		
3	1	53	30	"Modified AASHTO Density" test	No	1		
3	1	53	31	Soil insecticide to bottoms and sides of trenches etc.	m2	34		
3	1	53		Unreinforced concrete, in:				
3	1	53	32	10 Mpa surface blinding under footings and bases	m3	1		

3	1	53	33	30Mpa Concrete to strip footings	m3	3		
3	1	53		Test cubes:				
3	1	53	34	Making and testing 150 x 150 x 150mm concrete strength test cube	No	1		
3	1	53		Brickwork:				
3	1	53	35	One-brick (230mm) walls	m2	21		
3	1	53	36	Extra over for "Autumn Wheat Satin" face bricks	m2	21		
3	1	53	37	Extra over one-brick wide brick-on-edge coping	m	19		
3	1	53		Sundries				
3	1	53	38	50 x 230mm PVC spout build into brickwork	No	15		
3	1	54		Brickwork reinforcement:				
3	1	54	39	150mm Wide reinforcement built in horizontally	m	242		
3	1	54		One layer of 375 micron embossed black polyethylene damp proof course:				
3	1	54	40	On walls	m2	4		
3	1	54		Cement plaster steel trowelled on brickwork, on:				
3	1	54	41	Walls	m2	21		
3	1	54		Steps, etc.				
3	1	54	42	Allow the budgetary amount of R 30,000.00 (Thirty Thousand Rand) for steps	Item	1		
3	1	54		(End of retaining wall)				
3	1	54		BALUSTRADING				

3	1	54		Welded balustrading to stairs and retaining wall:				
3	1	54	43	Horizontal balustrading 1000mm high, of 50mm external diameter x 1,6mm thick continuous pipe handrail, 38mm external diameter x 1,6mm thick hollow section posts at approximately 1000mm centers with 90mm diameter x 5mm thick footplates bolted to concrete/brickwork (bolts elsewhere) and 16mm intermediate horizontal balusters at 100mm centers between top and bottom rails	m	19		
3	1	54	44	75mm Expansion anchor with loose bolt	No	24		
3	1	54	45	Columns, rails, bars, pipes, etc.	m2	37		
3	1	54		(End of balustrading)				
3	1	54		THE FOLLOWING IN RAMPS, ETC.				
3	1	54		Excavations in earth over sloping site:				
3	1	54	46	Reduce levels to open face extreme depth 450mm below natural ground level	m3	19		
3	1	55	47	Ditto, but cart to a position on site as indicated by the Project Engineer, stockpile and maintain	m3	19		
3	1	55		Extra over trench and hole excavations in earth for excavation, in:				
3	1	55	48	Soft rock	m3	2		
3	1	55	49	Hard rock	m3	1		

3	1	55		Extra over all excavations for carting away:				
3	1	55	50	Surplus material from excavations and/or prescribed stockpiles on site to a dumping site to be located by the contractor	m3	17		
3	1	55		Selected earth filling obtained from the excavations and /or prescribed stockpiles on site, including haulage approximately 100m from perimeter of excavations or stockpiles, compacted to 95% Mod AASHTO density:				
3	1	55		Earth filling (G5) supplied by the contractor, compacted to 98% Mod AASHTO density:				
3	1	55	51	Under floors, steps, paving's, etc.	m3	17		
3	1	55		Soil insecticide in accordance with SANS 5859:				
3	1	55	52	Under floors etc., including forming and poisoning shallow furrows against foundation walls etc., filling in furrows and ramming	m2	26		
3	1	55		30MPa/19mm concrete cast against formwork slope, in:				
3	1	55	53	Surface beds on waterproofing	m3	5		
3	1	55		Test cubes:				
3	1	55	54	Making and testing a set of three concrete strength test cubes, each 150 x 150mm, sending them to an approved laboratory for testing and paying all charges in connection therewith (Provisional)	No	1		

3	1	56		Finishing top surfaces of concrete smooth with a wooden float whilst concrete is still green:				
3	1	56	55	Surface beds, slabs, etc. (Provisional)	m2	26		
3	1	56		Rough formwork to sides:				
3	1	56	56	Edges, risers, etc. not exceeding 300mm wide or high	m	15		
3	1	56		Fabric reinforcement:				
3	1	56	57	Type 617 fabric reinforcement in concrete surface beds, slabs, etc. with 300mm overlaps	m2	26		
3	1	56		One layer 250-micron green polyethylene waterproof sheeting (SANS 952-1985 type C) sealed at laps with PVC self-adhesive tape:				
3	1	56	58	Under surface beds	m2	26		
3	1	56		(End of ramps, etc.)				
				SECTION 4				
				BILL NO 1				
				ELECTRICAL INSTALLATION				
4	1	58		PREAMBLES				
4	1	58		All work to be in accordance with Foskor and SABS specification. Latest revision.				
4	1	58		NOTE				
4	1	58		All prices/rates to be net, excluding Value Added Tax				
4	1	58		SUPPLEMENTARY PREAMBLES				
4	1	58		Specifications, drawings, etc.				

4	1	58		Tenderers are referred to the project specifications and supplementary preambles for full descriptions of materials, etc., to be used. All work shall be done strictly in accordance with specifications and Manufacturer's instructions and left in perfect working order after completion.				
4	1	58		Distribution boards etc.				
4	1	58		Rates for distribution boards etc are to include busbars, jumpers, neutral bars, internal wiring and connections, circuit identification markers, control gear labels, circuit legend cards and working drawings				
4	1	58		Switches, socket outlets, etc				
4	1	58		Rates for switches, socket outlets, etc are to include for screwing to outlet boxes, connecting and cover plates				
4	1	59		Light fittings				
4	1	59		Rates for light fittings are to include for hanging, fixing and connecting and for lamp holders and fluorescent tubes and lamps of the type and wattage described				
4	1	59		-----				
4	1	59		ELECTRICAL INSTALLATION				
4	1	59		Electrical Installation complete:				
4	1	59	1	Allow for the complete electrical installation, inclusive of the following: 8 x Light Fittings 2 x Double Wall Sockets 1 x Complete DB Box Wiring, inclusive if conduits Earthing & Bonding CoC	Item	1		

SECT	BILL	PAGE	ITEM	DESCRIPTION	UNIT	Q'TY	RATE	AMOUNT
			1	Lockers- Supply and installation Single Steel Hostel - Metal locker – 180*41*52cm grey	Each	25		

FINAL SUMMARY

5 1 61 1 PRELIMINARIES AND GENERAL

5 1 61 2 BUILDING WORKS

5 1 61 3 EXTERNAL WORKS

5 1 61 4 ELECTRICAL WORKS

5 1 61 NET TOTAL, EXCLUSIVE OF
VALUE ADDED TAX

5 1 61 ADD: 15% VALUE ADDED TAX

TOTAL, INCLUSIVE OF VAT

All price alterations must be signed for by the bidder confirming that such changes were made by the Bidder. **PLEASE NOTE THAT PRICE CHANGES WITHOUT SIGNATURE WILL LEAD TO THE DISQUALIFICATION OF THE BID SUBMITTED.**

NOTE: The onus lies with the tenderer to make sure that all formulas and calculations are correct. Calculation errors discovered during the evaluation process will be logged as non-conformance and the tender/quotation will therefore be disregarded.