**PART 3: SCOPE OF WORK**

<table>
<thead>
<tr>
<th>Document reference</th>
<th>Title: MAJUBA REHABILITATION PROJECT: MAJUBA POWER STATION ROADS REHABILITATION - WORKS INFORMATION.</th>
<th>No of pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3.1</td>
<td>This cover page</td>
<td>1</td>
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<td><strong>76</strong></td>
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1. Description of the works

1.1 Executive Overview

Following the collapse of one of its 10 000-ton coal storage silos (Silo 20) on 01 November 2014, the Majuba Power Station management was forced to implement alternative measures to transport coal to the power generating units. The solution implemented was to use mobile coal feeders to enable a manual feed of coal to these units. This in turn necessitated the provision of numerous emergency coal stockpiles on site which required access to be granted to fully loaded coal haul trucks onto the internal road network of the station.

The internal roads of the station were not designed for the traffic loading it was subjected to during this time and as such, suffered severe damage. To remedy this, Eskom is requesting for quotations from suitably qualified contractors to attend to the rehabilitation of numerous internal roadway sections. The works will comprise of the following:

- Removal of damaged road layers (up to layer determined by the engineer)
- Reinstatement of damaged layers (in accordance with engineering designs)
- Upgrading and development of functional storm water management systems (in accordance with engineering designs)

1.2 Employer’s Objectives and Purpose of the works

The objective of this contract is to repair and rehabilitate some of the internal roads and related infrastructure that were damaged during reconstruction of Silo 20 at the Majuba Power Station.

1.3 High level Scope of the works

The roadways subjected to rehabilitation comprises of the following:

- Approximately 2075m of asphalt roadway
  - Access Road 1 – 950m
  - Access Road 2 – 375m
  - Part of Workshop Road – 285m
  - North Street – 165m
  - Ring Road East – 110m
  - Ring Road – 190m
- Approximately 1100m² concrete Intersection
- 675m of gravel Haul Road roadway
- 280m of segmented paving Workshop roadway
- Upgrading and rectification of storm water management infrastructure as follows:
  
  - Cleaning of all storm water channels, culvert inlets and outlets.
  - Remove and replace damaged grass blocks in existing channels.
  - Removing all silt in the road reserve that were cleaned on a previous occasion to allow storm water to flow naturally into the storm water channels.
  - Construction of a new storm water V-channel 1.2m wide along the left side of Workshop Road for the entire length where block paving is to be found to drain into existing storm water inlets.
  - Construction of a new storm water junction box on the new low point to the left of Workshop Road (in line with CH 80) to allow storm water accumulating on the V-channel and block paving to drain through the new junction box connecting to the existing storm water system.

In order to minimize construction costs, the original road levels will be elevated by between 100-200mm. The majority of the roads current base layer (G5 material), is suitable as a sub-base layer, Workshop Road, Haul Road and the parking area will require more detail.

Workshop Road – The existing paving blocks and sub base will be removed, the roadbed will be ripped, stabilized and re-compacted. A new 150mm G5 material will be imported from a commercial source and will additionally be stabilized to form a C4 material.

Workshop Road – Asphalt Section: The existing base and sub-base layers are insufficient and not suitable. Contractor to excavate to a nominal depth of 350mm rip, stabilized and re-compact the roadbed, import a 150mm sub-base layer (G5 material) form a commercial source, followed by a 150mm base layer imported from a commercial source (G1 material), followed by 40mm continuous graded asphalt.

Haul Road – Cut to fill will be performed to adjust the final road levels before a new 200mm Wearing Course (G5 material), will be imported from a commercial source and placed on top of the current layers.

- Environmental Rehabilitation of temporary roads used during construction – Approximate Length (1150m)
- Environmental Rehabilitation of areas where coal stockpiles previously were located
- Rehabilitation of area contaminated with invasive species
- Importation and planting of trees
- Relocation of Jersey Barriers
## 1.1 Interpretation and Terminology

### 1.1.1 List of Definitions

Terms and/or abbreviations used in this Works Information are defined as follows:

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employer</strong></td>
<td>The person named as the <em>Employer</em> in the Appendix to Tender and the legal successors in title to this person.</td>
</tr>
<tr>
<td><strong>Contractor</strong></td>
<td>The person(s) named as <em>Contractor</em> in the Letter of Tender accepted by the <em>Employer</em> and the legal successors in title to this person(s).</td>
</tr>
<tr>
<td><strong>Project Manager</strong></td>
<td>The person appointed by the <em>Employer</em> to act as the <em>Project Manager</em> for the purposes of the Contract and named in the Appendix to Tender, or other person appointed from time to time by the <em>Employer</em> and notified to the <em>Contractor</em> as per NEC procedures.</td>
</tr>
<tr>
<td><strong>NEC</strong></td>
<td>New Engineering Contract.</td>
</tr>
<tr>
<td><strong>Drives</strong></td>
<td>Drives are all mechanical or electrical prime movers, e.g. actuators, pumps, etc.</td>
</tr>
<tr>
<td><strong>Major plant</strong></td>
<td>Machinery e.g. Conveyors, Feeders, etc.</td>
</tr>
<tr>
<td><strong>Works Information</strong></td>
<td>The document/s forming part of the contract in which are described the methods of executing the various items of work to be done, and the nature and quality of the materials to be supplied and includes technical schedules and drawings attached thereto as well as all samples and patterns.</td>
</tr>
<tr>
<td><strong>Competent Person</strong></td>
<td>A person who is qualified by virtue of his education, training, experience and contextual knowledge to make a determination regarding the performance of a building or part thereof in relation to a functional regulation or to undertake such duties as may be assigned to him in terms of these regulations.</td>
</tr>
<tr>
<td><strong>Fire Protection System</strong></td>
<td>Any fire alarm device or system or fire-extinguishing device or system, or combination thereof, that is designed and installed for detecting, controlling, or extinguishing a fire or otherwise alerting occupants, or the fire department, or both, that a fire has occurred.</td>
</tr>
</tbody>
</table>
1.1.2 List of Abbreviations

Table 2: Abbreviation

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<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning given to the abbreviation</th>
</tr>
</thead>
<tbody>
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<td>AP</td>
<td>Appointed Person</td>
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<tr>
<td>B-BBEE</td>
<td>Broad Based Black Economic Empowerment</td>
</tr>
<tr>
<td>BPLwD</td>
<td>Black People Living with Disability</td>
</tr>
<tr>
<td>BWO</td>
<td>Black Woman Owned</td>
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<tr>
<td>BYO</td>
<td>Black Youth Owned</td>
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<tr>
<td>C&amp;I</td>
<td>Control and Instrumentation</td>
</tr>
<tr>
<td>CA</td>
<td>Contract Award</td>
</tr>
<tr>
<td>CQP</td>
<td>Contract Quality Plan</td>
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<tr>
<td>CoE</td>
<td>Centre of Excellence</td>
</tr>
<tr>
<td>CR</td>
<td>Construction Regulations</td>
</tr>
<tr>
<td>CV</td>
<td>Curriculum Vitae</td>
</tr>
<tr>
<td>DB</td>
<td>Distribution Board</td>
</tr>
<tr>
<td>DE</td>
<td>Drive End</td>
</tr>
<tr>
<td>DCS</td>
<td>Distributed Control System</td>
</tr>
<tr>
<td>DIR</td>
<td>Department of Internal Revenue</td>
</tr>
<tr>
<td>DOL</td>
<td>Department of Labour</td>
</tr>
<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
</tr>
<tr>
<td>FAT</td>
<td>Factory Acceptance Test</td>
</tr>
<tr>
<td>FMEA</td>
<td>Failure Mode and Effect Analysis</td>
</tr>
<tr>
<td>FRI</td>
<td>Forecast Rate of Invoice</td>
</tr>
<tr>
<td>HAZOP</td>
<td>Hazard and Operability</td>
</tr>
<tr>
<td>HDPE</td>
<td>High Density Polyethylene</td>
</tr>
<tr>
<td>HECU</td>
<td>Head End Control Unit</td>
</tr>
<tr>
<td>IEC</td>
<td>International Electrotechnical Commission</td>
</tr>
<tr>
<td>ISO</td>
<td>International Organisation for Standardisation</td>
</tr>
<tr>
<td>ITP</td>
<td>Inspection and Test Plan</td>
</tr>
<tr>
<td>KKS</td>
<td>Numbering System used at Majuba Power Station</td>
</tr>
<tr>
<td>kPa</td>
<td>kilopascal</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Meaning given to the abbreviation</td>
</tr>
<tr>
<td>--------------</td>
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</tr>
<tr>
<td>LAR</td>
<td>Limited Access Register</td>
</tr>
<tr>
<td>LOSS</td>
<td>Limits Of Supply and Services</td>
</tr>
<tr>
<td>MS</td>
<td>Mild Steel</td>
</tr>
<tr>
<td>NCR</td>
<td>Non Conformance Report</td>
</tr>
<tr>
<td>NEC</td>
<td>New Engineering Contract</td>
</tr>
<tr>
<td>NEMA</td>
<td>National Environmental Management Act</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Association</td>
</tr>
<tr>
<td>OD</td>
<td>Outside Diameter</td>
</tr>
<tr>
<td>OEM</td>
<td>Original Equipment Manufacturer</td>
</tr>
<tr>
<td>OHSA</td>
<td>Occupational Health and Safety Act</td>
</tr>
<tr>
<td>OR</td>
<td>Operation Regulation</td>
</tr>
<tr>
<td>P&amp;ID</td>
<td>Piping and Instrumentation Diagram</td>
</tr>
<tr>
<td>PFD</td>
<td>Process Flow Diagram</td>
</tr>
<tr>
<td>PPE</td>
<td>Personal Protective Equipment</td>
</tr>
<tr>
<td>PS</td>
<td>Power Station</td>
</tr>
<tr>
<td>QA</td>
<td>Quality Assurance</td>
</tr>
<tr>
<td>QC</td>
<td>Quality Control</td>
</tr>
<tr>
<td>QCP</td>
<td>Quality Control Plan</td>
</tr>
<tr>
<td>QM</td>
<td>Quality Management</td>
</tr>
<tr>
<td>QMS</td>
<td>Quality Management System</td>
</tr>
<tr>
<td>SABS</td>
<td>South African bureau standards</td>
</tr>
<tr>
<td>SANS</td>
<td>South African National Standards</td>
</tr>
<tr>
<td>SAT</td>
<td>Site Acceptance Test</td>
</tr>
<tr>
<td>SBE</td>
<td>Small Black Enterprises</td>
</tr>
<tr>
<td>SD&amp;L</td>
<td>Supplier Development and Localisation</td>
</tr>
<tr>
<td>SHE</td>
<td>Safety, Health and Environment</td>
</tr>
<tr>
<td>SOC</td>
<td>State Owned Company</td>
</tr>
<tr>
<td>VAT</td>
<td>Value Added Tax</td>
</tr>
<tr>
<td>VDSS</td>
<td>Vendor Document Submittal Schedule</td>
</tr>
<tr>
<td>WBS</td>
<td>Work Breakdown Structure</td>
</tr>
</tbody>
</table>
2. Management and Start Up

2.1 Management Meetings

Meetings will be held monthly between the Project Manager and the Contractor (and any other co-opted members). The Contractor is represented at each meeting by the appropriate members of the staff.

The venue for these meetings is as determined by the Project Manager. The Project Manager writes the minutes of meetings.

Any action of the Project Manager, Supervisor, Contractor and Adjudicator implied in the minutes of meetings with contractual implications is confirmed by a separate communication given in accordance with this Works Information and NEC.

The Contractor reports the overall progress and as a minimum requirement, the following is addressed:

a) Contractor’s current activity progress and planned finish dates;
b) Contractor’s to report on all items listed in the NEC core clause, 31.
c) Contractor’s and Project Manager’s programme agenda compared for delays and milestone targets.
d) Current and projected manpower by class;
e) Health, safety, environmental and quality Management;
f) The progress of any other relevant activities;
g) To discuss any technical or commercial issues;
h) Skills Development and Localisation
i) CSI and Infrastructure Project Implementation Plan
j) Procurement progress
k) Problem areas or concerns.
Regular meetings of a general nature may be convened and chaired by the Project Manager or his representative as follows:

**Table 3: Meetings Schedule**

<table>
<thead>
<tr>
<th>Title and purpose</th>
<th>Approximate time &amp; interval</th>
<th>Location</th>
<th>Attendance by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk register and compensation events</td>
<td>Weekly</td>
<td>Venue determined by the Project Manager</td>
<td>Relevant appointed members of a Risk or Compensation event committee</td>
</tr>
<tr>
<td>Overall contract progress and feedback (from contract date to execution commencement)</td>
<td>Bi - Weekly</td>
<td>Venue determined by the Project Manager</td>
<td>Employer, Contractor, Supervisor, and Others as determined by the Project Manager</td>
</tr>
<tr>
<td>Planning Meetings (including integration meetings with Others)</td>
<td>Weekly</td>
<td>Venue determined by the Project Manager</td>
<td>Employer, Contractor, Supervisor, Planners and Others as determined by the Project Manager</td>
</tr>
<tr>
<td>SHE Meetings</td>
<td>Fortnightly</td>
<td>Venue determined by the Project Manager</td>
<td>Employer, Contractor, Supervisor, Safety and Environmental Officers and Others as determined by the Project Manager</td>
</tr>
<tr>
<td>SHE Contractors Meetings</td>
<td>Fortnightly</td>
<td>Venue determined by the Project Manager</td>
<td>Employer, Contractor, Supervisor, Safety Manager / Officers and Others as determined by the Project Manager</td>
</tr>
<tr>
<td>Payment Assessment Meeting</td>
<td>Monthly – 20th of every month</td>
<td>Venue determined by the Project Manager</td>
<td>Employer, Contractor, Supervisor, Quantity Supervisors and Others as determined by the Project Manager</td>
</tr>
<tr>
<td>Engineering Meeting</td>
<td>Monthly or as determined by Project Manager</td>
<td>Venue determined by the Project Manager</td>
<td>Employer, Contractor, Supervisor Safety Officers and Others as determined by the Project Manager</td>
</tr>
<tr>
<td>Quality</td>
<td>Monthly</td>
<td>Venue determined by the Project Manager</td>
<td>Employer, Contractor, Supervisor Safety Officers and Others as determined by the Project Manager</td>
</tr>
</tbody>
</table>
Meetings of a specialist nature may be convened as specified elsewhere in this Works Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the works. Such meetings should not prejudice the Employer in terms of cost, quality and schedule. Records of these meetings shall be submitted to the Project Manager by the person convening the meeting within five days of the meeting. People attending meetings must have authority to make decisions and execute the decision.

2.2 Documentation Control

2.2.1 Documentation Management

2.2.1.1 Document identification
The documentation requirements cover the various engineering stages, from the design stage through fabrication, installation, testing and commissioning and most importantly for the operating, maintenance and training stage of the project.

The Contractor is responsible for the compilation and the supply of the documentation during the various project stages and to provide the documentation programme to link with the milestone dates. Documentation and drawings are programmed for delivery to meet the milestone dates and in accordance with the agreed VDSS supplied Employer.

2.2.1.2 Documents Submission

All documents and records must be submitted according to Technical Document and Record Management Work Instruction (240-76992014) and Gx Projects Documentation Deliverable Requirements Specification (240-65459834) and the Employer ensures that the Contractor is provided with latest revisions of all these documents. In order to portray a consistent image it is important that all documents used within the project follow the same standards of layout, style and formatting as described in the documents above. The Contractor is required to submit documents as electronic in .pdf format on a flash drive and hard copies and must be delivered to the Project Manager with a transmittal note.

The Contractor submits the Master Document List to the Employer on a monthly basis for tracking purposes irrespective of whether there are updates or not. The MDL includes list of drawings and documents and contains the following minimum information for each document:

- Date of submission
- Transmittal number
- Transmittal title
• Document description
• Document number
• Document Type
• Revision number
• Document Approval Status
• Document Authorisation Status (i.e. Accepted With Comments, Not Accepted with Comments, Accepted)

2.2.1.3 Documentation Review and Turn-around
The Employer has a minimum 14 calendar days to review and consolidate review comments for documentation submitted by the Contractor. The Contractor also has a minimum 14 calendar days to respond and rectify as per the comments by the Employer.

2.2.2 Drawings Format and Layout

The creation, issuing and control of all Engineering Drawings will be in accordance to the latest revision of 36-943 (Engineering Drawing Office and Engineering Documentation Standard) and 36-945 and 36-946 (associated Work Instructions) to be supplied as part of the enquiry documents. Drawings issued to the Employer will be a minimum of one hardcopy and an electronic copy. All Contractors are required to submit electronic drawings in Micro Station (DGN) format, and scanned drawings in pdf format. No drawings in TIFF, AUTOCAD or any other electronic format will be accepted. Drawings issued to Eskom may not be “Right Protected” or encrypted. (240-86973501) The Employer reserves the right to use these drawings to meets it other contractual obligations

2.2.3 Plant Identification

2.2.3.1 Plant Coding Allocation
Coding of the design will be based on the KKS coding system and the Employer will undertake the coding in line with its standards. The KKS coding shall be applied during the design review stage(s) and cross referenced to all arrangement drawings, schematics, wiring diagrams, instructions and manuals and where practical to spare parts list/manuals. The Contractor will be required to include allocated coding to the electronic design drawings.

2.2.3.2 Plant Labelling

The Contractor will also manufacture and install KKS labels to identified plant items as per list supplied by the Employer. Labels will be manufactured and installed according to the Employer’s
KKS Plant Labelling and Equipment Descriptions Standard. The labeling standard will be supplied as part of the enquiry documents. Mention no. of standard

2.2.4 Configuration change control
Any changes to the design baselines will be formally managed according to the Eskom Project Engineering Change Procedure (240-53114026). All design reviews will be conducted according to the Design Review Procedure (240-53113685).

2.3 Health and Safety Risk Management

2.3.1 General
In carrying out its obligations to the Employer in terms of this contract, which obligations include, amongst others, providing the works; using Plant, Materials and Equipment; and whilst at the site for any reason, the Contractor is the “Employer” in terms of the Occupational Health and Safety Act, No. 85 of 1993, in respect of its activities and in relation to its employees, agents, Subcontractor/s and mandatories.

The Contractor does not consider itself under the supervision or management of the Employer with regard to compliance with the Safety Health and Environmental requirements.

Furthermore, the Contractor does not consider himself to be a subordinate or under the supervision of the Project Manager in respect of these matters. The Contractor is responsible for the supervision of its employees, agents, Subcontractors and mandatories and takes full responsibility and accountability for ensuring that they are competent, aware of the Safety Health and Environmental requirements, whilst executing the works in accordance with the Safety Health and Environmental requirements.

The Contractor ensures compliance with, amongst others:

a) The provisions of the Occupational Health and Safety Act, No. 85 of 1993 and all applicable regulations (as amended), binding in terms thereof;

b) The latest versions of standards, procedures, specifications, rules, systems of work and requirements of the Employer, copies of which will be provided to the Contractor on request. Refer to Section 6.

c) The Health, Safety and Environmental Plan prepared by the Contractor in accordance with the Employer’s Safety, Health and Environmental Specification for the Road Rehabilitation Project at Majuba Power Station – 240-143826846 and requirements.
d) The provisions of the National Environmental Management Act (as amended) and all
regulations in force from time to time in terms of that Act, including Record of
Decisions, Majuba Environmental Programme for the Emergency Coal Handling at Silo
10 & 30, Construction of access Roads and Conveyor Systems, Majuba Waste
Management Procedure – RAENV06, Majuba Environmental Non-conformances,
corrective and preventive measures and all applicable environmental legislations.

(The documentation referred to in paragraphs 2.3.1 (a) (b) (c) and (d) are collectively referred to as
the Safety Health and Environmental requirements and forms a part of the contract Works
Information.)

The Contractor ensures that its employees, agents, Subcontractors and mandatories comply with
the provisions of the Occupational Health and Safety Act, No. 85 of 1993, and all applicable
regulations binding in terms thereof as well as the Employer’s Safety Health and Environmental
Specification whilst making use of plant, materials and equipment and whilst at the Site for any
reason whatsoever.

The Contractor implements a comprehensive health and safety management system, based on the
OHSAS 18001: 2007 requirements for utilisation at the project.

The Contractor appoints a person, qualified and competent in accordance with the safety health
and environmental requirements, as the liaison with the Employer’s Project Safety, Health and
Environment Manager/Officer or delegated person for all such matters as pertaining related to
safety, health and the environment. The Contractor shall ensure that such a person is contactable
24 hours a day, and is registered with a registered professional council approved by the Principal
Director of the Department of Labour, as per the requirements of the latest Construction
Regulations, inclusive of all exemptions and amendments pertaining thereto.

The Contractor hereby indemnifies the Employer and holds the Employer harmless in respect of
any and all loss, costs, claims, demands, liabilities, damage, penalties or expenses that may be
made against the Employer and/or suffered or incurred by the Employer (as the case may be) as a
result of, any failure of the Contractor, its employees, agents, Subcontractors and mandatories to
comply with their obligations, and/or the failure of the Employer to procure the compliance by the
Contractor, its employees, agents, Subcontractors and/or mandatories with their responsibilities
and/or obligations in terms of or arising from the Occupational Health and Safety Act, No. 85 of
1993.
2.3.2 Mandatory Agreements

The Contractor confirms that:

a. In terms of sections 37(1) and 37(2) of the OHSA, the Employer is relieved of any and all of its responsibilities and liabilities pertaining to the activities performed by the Contractor (and its employees, agents, Subcontractors and mandatories) relating to the works; the use of plant, materials and equipment; and whilst at the Site for whatsoever reason.

b. The Contractor confirms that, in terms of the Construction Regulations, regulation 6, it is hereby mandated as the designer and must perform all duties required of a designer. (This will be applicable only where the Contractor is required to do design work as part of their Scope).

The Contractor confirms that he has been provided with sufficient information regarding the health and safety arrangements applicable to the works; the use of Plant, Materials and Equipment, as well as at the Site.

In addition, the Contractor shall ensure that:

a. Prior to the Contractor commencing with any operations/activities relating to the works and/or prior to gaining access to the Site, the Contractor concludes a written mandatory agreement with the Employer in terms of section 37(2) of the OHSA and 5(1)(k) under the construction regulations. The aforementioned agreement constitutes a record of the written arrangements and procedures between the Contractor and Employer regarding health and safety.

b. As far as is reasonably practicable, the safety and absence of risks to health in connection with the production, processing, use, handling, storage or transport of articles or substances is maintained;

c. As far as is reasonably practicable, all hazards pertaining to the health and safety of persons and harm to the environment that are attached to any work which is performed, any article or substance which is produced, processed, used, handled, stored or transported and any plant or machinery which is used in its business, is clearly identified and, as far as is reasonably practicable, further establishes what precautionary measures should be taken with respect to such work, article, substance, plant or machinery in order to protect the health and safety of persons and or harm to the environment, and provides the necessary means to apply such precautionary measures;
d. Such information, instructions, training and supervision as may be necessary to ensure, as far as is reasonably practicable, the health and safety at work of its employees, agents, Subcontractors and mandatories is provided;

e. As far as is reasonably practicable, no employee, agent, Subcontractor and mandatory performs any work or produces, processes, uses, handles, stores or transports any article or substance or operates any plant or machinery, unless the precautionary measures contemplated in paragraph 2.3.3, or any other precautionary measures which may be prescribed have been taken;

f. Such measures as may be necessary in the interest of health and safety and the environment are enforced;

g. Work is performed and that plant, materials or equipment is used under the direct supervision of a person trained to understand the hazards associated with it and who has the authority to ensure that precautionary measures required by the Employer are implemented; and

h. All employees are informed of the scope of their authority as contemplated in OHSA.

2.3.3 Health and Safety Obligations

In addition to the mandatory agreements, the Contractor:

a. Ensures that all statutory appointments (as required in terms of the Occupational Health and Safety Act, No. 85 of 1993 and all applicable regulations binding in terms thereof, as amended) and other appointments required in terms of the Employer's Safety, Health and Environmental Specification for the Road Rehabilitation Project at Majuba Power Station – 240-143826846 and SHE Requirements Procedure (32–726) are in place and that all appointees are cognisant of their duties and responsibilities in terms of such appointments;

b. Ensures that such appointees execute their duties and responsibilities as required by such an appointment.

c. Ensures that all personnel brought by itself onto site (including employees of Contractors and Subcontractors) are suitably qualified and trained for the performance of the task, duties and functions, which will be allocated to them;

d. Immediately reports any occupational or other injuries, near miss events, property damage, environmental related incidents as well as any potential threat to the health
and safety of individuals at the works or on the site, as soon as he becomes aware thereof, to the Project Manager;

e. Complies with the Employer’s Environmental, Occupational Health & Safety Incident Management Procedure - 32-95, relating to the reporting and investigation of incidents. The classification of incidents contained in such document are considered final and must be applied by the Contractor relating to any incidents/ injuries relating to its employees, agents, Contractors, Subcontractors and mandatories whilst on Site;

f. Conducts a risk assessment regarding the utilisation of PPE and thereafter ensure that PPE of good quality is issued (at its own cost) to its employees, agents, Contractors, Subcontractors and mandatories prior to such individuals accessing the site, alternatively performing activities related to the works at the site, as specified in the Eskom PPE Specification - 240-44175132.

g. Complies with the Employer’s Environmental Incident Management Procedure - 240-133087117.

2.3.4 Radiographic Examinations

If radiographic tests are carried out in the plant, the danger area must be evacuated with the exception only of authorised radiographic workers, and thereafter barricaded. Compliance is according to Regulatory, Eskom’s Safety, Health and Environmental Specification for the Road Rehabilitation Project at Majuba Power Station – 240-143826846 and Majuba Power Station, Site regulations number 16 for use, conveyance and storage of Radioactive sources; document identifier – Site Regulations 16. No persons will be allowed gate access if the Majuba Power Station Procedure is not followed. The transportation of density tests should be fully complied with before access will be granted into Majuba Power Station.

In advance arrangements needs to be made with GCD, SHE Practitioner for the RPO of Majuba Power Station to be available for testing and authorizing entrance into Majuba Power Station.

The relevant warning signs should be visible on all the vehicles that is transporting radio-active source even density tests on and off site. The relevant warning signs at the lockout gates are bolt secured and not by wire or any other means, which could be removed while radiographic tests are in progress. The area is barricaded and access is restricted until the radiographic process is complete. The radiographic technicians ensure that all the lockout gates are opened on completion of the tests.
2.3.5 Fire Protection

The Contractor ensures that adequate fire fighting apparatus is provided at all his work sites, and that his staff and sub-contractors are trained in the use of this apparatus.

Precautions are taken to prevent any occurrence of fires or explosions while carrying out any work near flammable gas and liquid systems.

Any tampering with the Employer's Fire Equipment is strictly forbidden. All exit doors, fire escape routes, walkways, stairways and stair landings are kept free of obstruction, and not be used for work or storage at any time. Firefighting equipment remains accessible at all times.

2.4 Environmental Constraints and Management

The Contractor provides an Environmental Management Plan applicable during installation and maintenance of works. The plan provides a guideline on the environmental management of the handling of the works. All waste will be handled in an environmentally friendly manner. The Contractor conforms to the “polluter pays principle”, duty of care and other NEMA principles.

The Contractor conforms to all requirements dictated in the document “Environmental Management Programme for the Emergency Coal Handling at Silo 10 & 30; Construction of Access Roads and Conveyor Systems”. Majuba Waste Management Procedure – RAENV06, Majuba Environmental Non-conformances, corrective and preventive measures as well as the National Environmental Management Act (NEMA, Act No. 107 of 1998) and the National Environmental Management Waste Act (NEMWA, Act No. 59 of 2008). This is achieved by undertaking inspections, audits, monitoring and reviews, conducted internally by the Contractor and externally by the Project Manager.

The Contractor ensures that all environmental authorization obligations, applicable legislative requirements and Employer’s specific requirements are fulfilled. This includes all national, provincial and local environmental legislation and requirements.

The Contractor issues on a monthly basis, Environmental Management Performance and Expenditure Reports to the Project Manager.
The Contractor conducts their environmental management based on the ISO 14001 requirements and implement their environmental management practices accordingly.

The Contractor develops and implements as a minimum the following procedures:

- Environmental Management Plan,
- Waste Management Procedure,
- Site Establishment Plan
- Spill Management Procedure,
- Hazardous Chemical Substances Management and Storage Procedure,
- Stockpile and Erosion Management Procedure,
- Alien Vegetation Control
- Site Layout Plan
- Clear-and-Grub Procedure,
- Environmental Rehabilitation Procedure.

All environmental procedures, as listed above, shall be site-specific and submitted to the Employer for acceptance by the Project Manager before the commencement of construction activities.

The Employer will provide a copy of the environmental authorisation and Environmental Management Plan to the contractor for the drafting of the above procedures.

2.4.1 Waste Management

All waste management activities, which includes procurement of control measures, handling and disposal or processing of all waste forms generated on the Contractor’s site, are conducted according to Gx Majuba PS Waste Management Plan – RAENV06, and all requirements of the Employer as per the Environmental Management Programme for the Emergency Coal Handling at Silo 10 & 30, Construction of Access roads and Conveyor Systems. All costs associated with waste management are the responsibility of the Contractor.

All demolished concrete is treated as Hazardous waste and disposal to be disposed of at a licensed Hazardous Waste Site, and safety disposal certificates are kept for record purposes.

2.4.2 Spill Management

The Contractor, at his cost, has available spill control measures (spill kits, drip trays, etc.), to the satisfaction of the Employer. All hazardous wastes generated from a spill are disposed of at a
licensed disposal facility, at the cost of the Contractor, and safety disposal certificates are kept for record purposes.

2.4.3 Dust and Storm-water Management

The Contractor implements dust control measures for the project. The Contractor ensures that no ponding of storm water occurs on the site and shall establish good storm-water management in accordance with the Employer's requirements as per Environmental Management Programme for the Emergency Coal Handling at Silo 10 & 30; Construction of Access Roads and Conveyor Systems.

2.4.4 Environmental Rehabilitation

The Contractor rehabilitates both its lay-down and construction site at the end of the project. The rehabilitation is done in accordance with the Environmental Management Programme for the Emergency Coal Handling at Silo 10 & 30; Construction of Access Roads and Conveyor Systems, as provided by the Employer. The Contractor submits to the Project Manager a rehabilitation plan and schedule at least two (2) weeks before finalisation of the works for approval by the Project Manager. All rehabilitation costs are the responsibility of the Contractor.

2.5 Quality Assurance Requirements

2.5.1 General

The Contractor complies with the Employer's Quality Requirements Standards.

a) The Contractor and all Subcontractors comply with the Employer’s quality requirements including those listed in the Employers specification document, (240-105658000)

b) Certified to ISO 9001 is a mandatory requirement for this contract. The Contractor uses the QMS for all phases of the Project. The Contractor provides evidence of a fully implemented QMS within its own organisation. The Employer may, at his sole discretion, carry out an audit on the Contractor or Subcontractor’s QMS for acceptance.

2.5.2 Quality Management Documents Requirements

The Contractor conforms to the quality management requirements as per ISO 9001 and the Employer’s Supplier Contract Quality Requirements Specification (240-105658000). The Contractor shall adhere to the following:
During the Pre-Contract Award: Quality Requirements Categories (1, 2, 3 and 4)
Eskom supplier quality requirements for all existing and potential suppliers and sub-suppliers are
classified into four Categories. The following is the minimum documentation for Category 1 to 4:

Category 1.
SECTION A: Valid certification of Quality Management System by an ISO accredited body
- The supplier shall submit a copy of ISO 9001 (or the latest application revision) certificate.
SECTION B: Evidence of QMS in operation
- Copy of appointment letter & CV/resume of a Quality Representative for the project.
- Signed Organisational structure & Quality dept reporting structure.
- Copy of procedure for control of suppliers & subcontractors
- Copy of an internal management system audit report (with NCR, corrective & preventive report).
- Copy of an external management system audit report (with NCR, corrective & preventive report).
- Copy of Customer satisfaction surveys
- Copy of a Quality Plan (incl ITP's) on previous project < 2yrs
- Historical Information (list) of similar work performed < 2yrs

SECTION C: Contract Quality Plan as per Scope of Works (Ref ISO 10005)
- Draft Contract Quality Plan

SECTION D: QCP/ITP (Quality Control Plans) as per Scope of Works

SECTION E: Form A is completed and signed.

2.5.3 The Contract Quality Plan (CQP)

The Contractor submits to the Project Manager within thirty (30) days of Contract Date for review
and acceptance prior to the commencement of work, a CQP which will detail the Contractor’s
organisation, quality assurance and quality control procedures within that organisation specific to
this project. The CQP must be aligned to, and reference ISO 10005:2005 QMS, guidelines for
quality plans and in compliance with the guideline in QM 240-105658000.

The CQP will make reference to the Contractor’s QMS documents to be used in this Contract:
a) The Contractor’s QMS compliance with the requirements of ISO 9001
b) Contractor’s quality manual
c) Contractor’s quality procedures
d) Contractor’s quality forms and work instructions
e) Contractor’s quality system documents referenced in this Works Information
f) Employers Works Information, drawings, specifications, standards and codes, etc.

2.5.4 Quality Control Plan or Inspection and Test Plan

As defined in the approved CQP the Contractor drafts and submits to the Project Manager for acceptance, prior to the commencement of any works, the requisite Inspection and Test Plan (ITP) or Quality Control Plan (QCP). The ITP/QCP shows each activity from the Works Information. The Project Manager inserts intervention points based on the risk profile of the equipment.

a) The interventions points include all witness, hold, verification, surveillances and review points required by the Project Manager. The Contractor’s failure to allow the intervention points will constitute a non-conformance.
b) The intervention requirements take into consideration the criticality of the Plant and Materials.
c) Where intervention points have been bypassed without prior written waiver from the Project Manager, result in the repeat performance of the activity in question and a Non-conformance (NC) is issued.

2.5.5 Operational Documents

The Contractor submits as a minimum the following documents, as required by the Project Manager during the execution of the works:

a) Updated QCP register
b) Inspection notifications accompanied by their inspection report
c) Non-conformance and Defects registers and reports
d) Updated Site and off site inspection schedules.
e) Inspection and or FAT / SAT dates.
f) Inspections, completed and outstanding.
g) Inspection and test reports
h) Weekly and monthly contract quality progress report
i) Data books for the completed works, before commissioning can commence (refer to the data book specification)

2.5.6 Inspections and Tests

All Plant and Materials is comprehensively tested in accordance with the agreed ITP/ QCPs prior to delivery. The Employer reserves the right to appoint others to inspect all parts during manufacturing, erection and commissioning to be present at any of the tests specified. The witnessing of tests by the Supervisor or Others, and if the Supervisor chooses to waive the witnessing of any tests, it does not relieve the Contractor of his responsibilities.

Tests that are required by the Employer are carried out by the Contractor during manufacturing, erection and commissioning to prove compliance with the specification independently of any test that may have been carried out at the Contractor's premises.

The Supervisor inspects parts of the Plant at his discretion during manufacturing stages and before shipment as per the agreed ITP/QCP;

a) The Contractor is responsible for the inspection of all the work that is performed and the Supervisor only verifies that the work is conducted as per the Works Information.
b) The Contractor conducts all inspections in accordance with the accepted ITP/QCP.
c) The Contractor provides suitably qualified personnel to conduct on-and-offsite inspections
d) The Contractor ensures that all are inspected and approved before the Supervisor is invited for verification.
e) The Contractor provides a minimum of five (5) working days' notice for local off-site inspections, 24 hours for local on-site inspection, and 21 working days' notice for foreign inspections. The notice contains copies of the Contractor's inspection reports.

2.5.7 Quality Responsibility

The Contractor responsibilities include but are not limited to the following:

a) The Contractor is accountable for the quality of the output and liable for any failures.
b) Implementation of their QMS on site
c) Administration of their QA/QC systems on site

d) Verification of approval status of Subcontractor’s Quality programmes, that is, CQP’s, QCPs, NC’s, Defects and all their operational procedures and works instructions

e) On-and-offsite inspections

f) Weekly and monthly progress reporting on quality performance

g) The Contractor is responsible for defining the level of intervention of QA/QC or inspections in line with the Employer’s requirements.

h) The Contractor is responsible for defining the level of intervention of QA/QC or inspections to be imposed on his Subcontractor, suppliers and sub-suppliers and must ensure that these are in line with the Employer’s requirements.

The Supervisor will be responsible for the following:

a) Reviews of the quality submissions

b) Verification of the Contractor’s intervention points

c) Reviews the Contractor’s ITP/QCP documents (procedures, test results)

d) Reviews the data book

e) Issue of Defects Certificate

f) Checks and marks off materials off site

2.5.8 Non Conformances and Defects

Where Non-Conformance (NC) notifications are issued, the Contractor acknowledges receipt within the period of reply and proposes corrective and preventive actions to the Supervisor. The corrective and preventive actions will include the implementation and completion dates. Progress on all NCs notifications issued to the Contractor must be reported to the Supervisor on weekly basis.

a) The Contractor’s Quality Manager keeps a register of all NC notifications issued

b) Records of NCs notifications are kept and form part of the data book records.

c) Deviations from the Contract are treated as a non-conformance.

To ensure reduction of non-conformances, the Employer will implement a penalty to the value of R20 000.00 for every NCR issued during the contract period not closed within 14 working days.
During the contract execution phase, the Contractor will be monitored by the Supervisor for performance on quality related aspects. The monitoring will be in the form of audits and assessments.

2.5.9 Quality Reporting

The Contractor submits a monthly quality report, on the last working day of the month. The report includes but not limited to the following:

a) A register of NCRs and defects
b) Updated QCP / ITP register
c) QA monthly report summary
d) Planned and completed local and foreign inspection dates
e) Completed and outstanding Inspections
f) Audit findings report
g) Risks with Mitigation plan

2.5.10 Preservation, shipping and transportation

The Contractor ensures that all Plant and Materials are preserved in an appropriate manner as described in the product specifications or in the Employer preservation, shipping and transportation procedures as applicable. The Contractor submits the preservation, shipping and transportation procedures to the Supervisor for review and acceptance. The Supervisor may choose to witness the packaging, loading and offloading of the products depending on the equipment criticality, this will be indicated in the intervention points on the ITP/QCP.

The Contractor also ensures that all storage requirements for Plant and Materials are properly implemented to preserve the products against adverse conditions, deterioration, damages, etc. Storage and preservation procedures for the different equipment must be submitted to the Project Manager for review and acceptance. The Project Manager may request to inspect the stored Plant and Materials at any given point during the storage period of the product.

The Contractor shall comply with the quality criteria and constraints stated in this Works Information.

Plant and Materials for this contract is not shipped by the Contractor until all the documents stated in the Particular Specification have been submitted to the Supervisor.
2.6 Programming Constraints

2.6.1 General

The Contractor submits a single integrated Level 3 programme that incorporates all the work to be performed including that of his Subcontractors. The interfaces between Subcontractors as well as the interfaces between Subcontractors and the Contractor are clearly identified. Project key dates are incorporated into the programme.

2.6.2 Computerised Planning

Primavera is the only planning tool Eskom accepts for this project; therefore the Contractor is required to obtain this planning tool for the use of producing their programmes. The Project Manager does not intend duplicating the Contractor’s planning and scheduling, however, the Accepted Programme will be used in the Employer’s internal integrated and Master project programmes for project control purposes, updating and monitoring. The accepted programme will be in Primavera XER file. The Project Manager requires one project programme to be used and updated during the installation process, which will remain with Eskom. This insures that any changes, deviations to the Programme can be carried out on the agreed programme and monitored. The initial programme supplied to Eskom after Contract award must be fully resource loaded.

Any changes that are required to be made to the Project/Programme i.e. scope changes, delays and the such, will be recorded through the Eskom change process and documentation, where all parties agree to the changes and sign.

The Contractor and Project Manager shall agree on the format of how the updates will be done i.e. PDF, XER, and the frequency of the updates i.e. such as on a weekly basis, or at any other time as required by the Contractor, or as instructed by the Project Manager.

The latest version of Primavera has been adopted by the Employer for all planning, progress monitoring and reporting on the Contract. The Contractor obtains this software and applies it for the planning and control of the work in line with the Work Breakdown Structure (WBS) which will be agreed upon contract award.
2.6.3 Planning and Scheduling Levels

All planning and scheduling is done based on the Critical Path Method (CPM). The Contractor uses activity codes to define interfaces to be agreed upon between project manager and contractor. The Contractor’s programme shows the actual critical path clearly.

The schedule layout takes into account the approved WBS, reflecting the manner the works are to be performed as per the Contractor’s Method Statement and how activities are to be summarised, reported and monitored.

The following levels of programmes are to be used for this project for integrated project control:

(a) Management programme (Level 1)
(b) Project programme (Level 2)
(c) Control programme (Level 3 – Sub-system level)
(d) Discipline specialty programme (Level 4)

2.6.3.1 Management Programme (Level 1) – Project Master Programme

The management programme Level 1 is the project master programme and is used to show the overall time frames for the works. It is a statement of project objectives recorded in graphic form.

2.6.3.2 Project Programme (Level 2)

A "rolled up" programme from the control level 3 programme is produced. It will be separated by unit, plant area and by phase (engineering, procurement, construction and commissioning).

2.6.3.3 Control Programme (Level 3 – Sub-system level)

The project programme is prepared representing the significant work activities and deliverables associated with the works.

The programme includes:

a) Major milestones, interface dates, access dates and key dates (for the new plant, existing plant and between Subcontractors)

b) The duration of major activities and their relationship to one another.

c) Identified long-lead material items.

d) Responsibility assignments for accomplishing project objectives end product is a time scaled bar-chart programme developed using logic network.
This programme is separated by unit, by plant area, by phase, by WBS. The work within each plant area is broken down by engineering discipline, procurement, delivery, construction by the Contractor, start-up and commissioning. The programme is resource-loaded and it forms the basis for progress measurement, progress curves and histograms for each discipline within a plant area. This is used for Evaluations and for the accepted programme after contract award. This will be saved and used as the original.

The Contractor submits a Level 3 Programme to the Project Manager which breaks the Works Information down to a sub-system level as per the Activity Schedules. This programme is in alignment with the Contractor’s Method Statement. The Contractor’s Forecasted Rate of Invoicing (FRI) should also align with the resource loading on the programme.

2.6.3.4 Discipline Programme (Level 4)

The discipline specialty programme is developed and maintained by the Contractor and generated for tracking and control of various activities and deliverables for all phases of the project. This programme is formatted as a spreadsheet or database report utilizing the WBS breakdown. This programme represents the day-to-day activities which are work-unit based and are summarized in the level 3 activities.

Resource information for manpower, plant, material and equipment and reflected in resource histograms is provided by the Contractor. Staffing histograms are required to be submitted based on “equivalent personnel”.

2.6.4 Planning Programmes

The Contractor develops a contract programme which will include a bar chart conforming to the project master programme dates included and sufficient detail to indicate the Contractor’s intention for executing the works. This programme covers major items relating to design, procurement, manufacture, delivery, erection, start-up and commissioning. The critical path is clearly shown.

Key milestones, access dates, interface dates and commissioning key dates are clearly identified in the contract programme, including access dates and release of terminal points that involve the Employer or Others. The programme makes provision for site related preparation such as site establishment, safety induction and medical clearance of the entire Contractor’s staff that will be working on site.
2.6.4.1 Design Programme

The design programme contains a full list of documents and drawings, their submission dates and duration for review as specified by the Contractor in the VDSS. The programme also illustrates the sequence of work for the project and the submission of drawings, studies and reports.

The design programme meets the requirements of the Contractor and Others engaged on the project. The Contractor is required to submit the programme for review by the Project Manager.

The programme should include all the design reviews to be conducted as per the Employer’s Design Review Procedure. The Contractor is responsible for conducting the following design reviews:

a) Detail Design Freeze Review
b) Integrated Design Review
c) Construction Completion Review
d) Acceptance Testing Review

2.6.4.2 Procurement and Manufacturing Programme

The Contractor is required to submit a procurement and manufacturing programme for review by the Project Manager which identifies as a minimum:

a) Details of orders and target dates for placing subcontracts
b) Any detailed design required within the manufacturing period
c) Long-lead delivery items
d) Hold-points and witness-points for inspection and tests for acceptance and release.
e) CSI roll out plan to be incorporated.

This programme is in sufficient detail to enable the work to be adequately tracked and progressed.

2.6.4.3 Construction Programme

The Contractor is required to submit a construction programme that is resource loaded for review by the Project Manager. This programme includes the following criteria (where applicable):

a) Full details of all civil/mechanical/electrical/C&I/Low Pressure Services terminal point release requirements
b) Identify any erection or commissioning activities that may affect other construction activities

c) Identify when services are required for commissioning purposes

This programme meets the requirements of the Contractor and Others engaged on the project. The programme shall be based on the following minimum working hours: Where applicable

a) Ten (10) hours per day for single shift or Twenty 20 hours per day for double shift
b) Five/Six (5/6) days per week
c) Holidays included as working days
d) Pay weekends to be negotiated in advance

NB. It is vital that the construction be completed on or before 30 June 2020. The Contractor will have to take this into consideration when completing his programme as this will determine the number of shifts and number of resources and plant & equipment to be allowed for.

2.6.4.4 Commissioning Programme

During the progress of the works, the Contractor develops a detailed commissioning programme with sufficient detail to enable the work to be adequately progressed and tracked to meet the commissioning key dates.

Training programme to be incorporated into the commissioning programme.

The commissioning programme is detailed to sub-system level and is fully integrated with the Construction Programme.

2.6.4.5 Reporting and Data Requirements for Contractors Document number 240-83561037

This specification is included as an Annexure to the Works Information. This specification lists all the data and reporting that must be submitted by the Contractor on a weekly / monthly basis to the Project Manager. The purpose of this information is to implement proper project controls on this project.

2.7 Contractor’s Management, Supervision and Key People

The Contractor will provide the Employer and the Project Manager with an organogram showing the key people and the roles and responsibilities.

The organogram provided must show clear reporting lines between individuals, including individuals from subcontractors or joint ventures.
The Contractor provides the following key personnel and not limited to:
The Contractor shall take the Construction Regulations in consideration when the organogram is provided.

a) Contracts Manager
b) Project Planner
c) Site Agent
d) Supervisors
e) Quality officer
f) Site Safety Officers
g) Environmental Officer

NB.
1. The name of a SHEQ Manager must also be provided who oversees the SHEQ officers. The SHEQ Manager must be easily available and visit site at least once a week but not necessarily based on site.
2. The name of a Project Manager/ Director must also be provided who will oversee the project and Contracts Manager but does not have to be site based. All matters not resolved by the site based team will be escalated to the Project Manager/ Director and must be in a position of authority. The Project Manager/ Director must attend regular site meetings.

2.8 Invoicing and Payment

There are no additional requirements to the invoicing and payment clauses in Section 5 of the core clauses.

At each assessment interval, the Contractor submits to the Project Manager a forecast rate of invoicing that includes all the expected payments by the Employer to the Contractor on a month-by-month basis.

The invoices from the Contractor contain the following information:

a) The registered name of the Contractor
b) The VAT registration number of the Contractor
c) The address of the Contractor
d) The Employer’s contract number
e) The VAT registration number of the Employer
f) The amount paid to date
g) The value of the invoice split into payments as per the activity schedule as indicated in the Price Lists.
h) Any retention monies to be deducted from the invoice
Part C3: Scope of Work

C3.1 ECC3 Employer’s Works Information

i) Any interest payable
j) Escalation formula used where applicable
k) Settlement discount
l) Proof of ownership of materials supplied

The Contractor shall address the tax invoice to Eskom Holdings SOC Ltd and include on each invoice the following information:

All invoices in PDF format shall be emailed straight from your system to an Eskom email address (see email addresses below):

- Email addresses for invoice submission:
  - All invoices: invoicesgrpcapitalOTH@eskom.co.za
  - The Project Managersshall be copied when submitting invoices.
- All queries and follow up on invoice payments should be made by contacting the FSS Contact Centre:
  - Tel: 011 800 5060 or e-mail: fss@eskom.co.za
- For Foreign invoices, the Contractor is required to physically deliver hard copies of original documents to the Project Manager even though the Contractor has e-mailed those invoices.
- The Contractor ensures compliance with the tax Requirement for submitting invoices electronically.
- If there is Cost Price Adjustment (CPA) on your invoice, the Employer recommends that the Contractor issue a separate invoice for CPA so that if there are any issues on the CPA the rest of the invoice can be paid while resolving CPA issues.
- The base invoice number needs to be mentioned on the CPA invoice.
- Electronic invoicing does not guarantee payment but ensures visibility of all invoices and ensures that no invoices get lost. If the Goods Receipt (GR) is not done the invoice will be parked and the system will automatically send an e-mail to the Project Manager to do the goods receipt. This is also tracked by the Employer through the parked invoice report.
- The Contractor can request a parked invoice report from the Finance Shared Services (FSS) Contact Centre which can then be followed up and corrected. You are welcome to forward the details of invoices corrected to the FSS Contact Centre.
2.9 Insurance Provided by the *Employer*

There are no additional requirements to the risk and insurance clause in Section 8 of the core clauses.

2.10 Contract Change Management

There are no additional requirements to the compensation event clauses in Section 6 of the core clauses.

2.11 Provision of Bonds and Guarantees

The Contractor is not required to provide any performance bonds or guarantees.

2.12 Records of Defined Cost, Payments & Assessments of Compensation Events to be kept by the *Contractor*

There are no additional requirements to the compensation event clauses in Section 6 of the core clauses.

2.13 Training Workshops and Technology Transfer

The *Contractor* provides training on the Plant regarding operating, maintenance and engineering aspects. The *Contractor* provides training material and a separate training course for operating, maintenance and engineering personnel.
3. Engineering and the Contractor’s design

3.1 Employer’s Design

3.1.1 Specifications and Returnable

Road Rehabilitation and Storm-water Management Systems:

The Employer provides the construction drawings where applicable

3.2 As-built drawings

The Contractor provides As-built survey to the Employer to update the construction drawings.

4. Construction

4.1 Detailed Scope of Work

The detailed scope of Work for the rehabilitation of the roads is as follows: Construction drawings and necessary documents are also attached. Drawings where provided take preference to the Scope of Work. Where drawings are not present assume “As per description/instruction”

<table>
<thead>
<tr>
<th>Eskom No</th>
<th>Scope of Work Description</th>
<th>Drawing Title</th>
<th>Drawing No</th>
</tr>
</thead>
</table>
| 1        | ACCESS ROAD 1

From CH00-CH780, 7.4m wide. Remove existing asphalt, rip and re-compact current base layer to form the new subbase. Import new G1 material for base layer, followed with a new asphalt surface. Final road level will be 150mm higher than the existing road level.

From CH780-CH956, 7.4m wide remove existing asphalt, excavate to stockpile current base layer 150mm deep. Excavate to spoil existing subbase to a depth of 150mm, 7.4m wide. Import from stockpile 150mm G5 material for the subbase and import from a commercial source a new, 150mm G1 material to form the base layer, followed with a new asphalt surface. The new road level to remain the same as

 ACCESS 1 - LONGITUDINAL SECTION : CH0 - CH280
 ACCESS 1 - LONGITUDINAL SECTION : CH280 - CH550
 ACCESS 1 - LONGITUDINAL SECTION : CH550 - CH820
 ACCESS 1 - LONGITUDINAL SECTION : CH820 - CH956
 ACCESS AND GRAVEL ROAD - TYPICAL CROSS SECTIONS
 LAYOUT PLAN: ROAD ARROWS SETTING OUT #1
 LAYOUT PLAN: ROAD ARROWS SETTING OUT #2
 LAYOUT PLAN: ROAD MARKING SETTING OUT #1
 LAYOUT PLAN: ROAD MARKING SETTING OUT #2
 LAYOUT PLAN: ROAD SIGNS SETTING OUT #1
 ROAD SIGNS DETAILS #1
 ACCESS ROAD 1 AND ACCESS ROAD 2 - SETTING-OUT LAYOUT | 066/100139 sheet 1-4
<p>| 066/100144 sheet 1 |
| 066/100149 sheet 1-2 |
| 066/100150 sheet 1-2 |
| 066/100151 sheet 1 |
| 066/100152 sheet 1-2 |</p>
<table>
<thead>
<tr>
<th>PART C3: SCOPE OF WORK</th>
<th>PAGE 36</th>
<th>C3.1 ECC3 EMPLOYER’S WORKS INFORMATION</th>
</tr>
</thead>
</table>

**C3.1 ECC3**

<table>
<thead>
<tr>
<th>2</th>
<th>ACCESS ROAD2</th>
<th>ACCESS ROAD 1 AND ACCESS ROAD 2 - SETTING-OUT LAYOUT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From CH00-CH200, 6m wide remove existing asphalt, rip and re-compact current base layer to form a new subbase layer, import a new 150mm G1 material to form a new base layer, followed by a new asphalt surface. Final road level will be 150mm higher than the existing road level. From CH200-CH374, 6m wide, remove existing asphalt. Excavate to stockpile current base layer to a depth of 150mm. Excavate to spoil current subbase layer to a depth of 150mm. Import from stockpile G5 to form new subbase, followed by imported G1 material from a commercial source to form the new base layer, followed by a new asphalt surface. Final road level will remain the same as the existing road level.</td>
<td>ACCESS 2- LONITUDINAL SECTION : CH0 - CH280 ACCESS 2 - LONITUDINAL SECTION : CH280 - CH374 ACCESS AND GRAVEL ROAD - TYPICAL CROSS SECTIONS LAYOUT PLAN: ROAD ARROWS SETTING OUT #1 LAYOUT PLAN: ROAD ARROWS SETTING OUT #2 LAYOUT PLAN: ROAD MARKING SETTING OUT #1 LAYOUT PLAN: ROAD MARKING SETTING OUT #2 ROAD SIGNS DETAILS #1 ACCESS ROAD 1 AND ACCESS ROAD 2 - SETTING-OUT LAYOUT ACCESS ROAD 1 AND ACCESS ROAD 2 - SETTING-OUT LAYOUT</td>
</tr>
<tr>
<td></td>
<td>All layers to be compacted as per drawing 0.66/100144 sheet 1</td>
<td>066/100139 sheet 5-6 066/100144 sheet 1 066/100149 sheet 1-2 066/100150 sheet 1-2 066/100151 sheet 1 066/100152 sheet 1-2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3</th>
<th>Haul ROAD</th>
<th>Haul ROAD - LONITUDINAL SECTION : CH0 - CH280 Haul ROAD - LONITUDINAL SECTION : CH280 - CH560 Haul ROAD - LONITUDINAL SECTION : CH560 - CH675 ACCESS AND GRAVEL ROAD - TYPICAL CROSS SECTIONS LAYOUT PLAN: ROAD ARROWS SETTING OUT #1 LAYOUT PLAN: ROAD MARKING SETTING OUT #1 ROAD SIGNS DETAILS #1 LAYOUT PLAN: ROAD SIGNS SETTING OUT #1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From CH00-CH290 and from CH420-CH675, 10m wide and between CH290-CH420, 8m wide, rip cut to fill and compact to specified density. Import a new 200mm G5 material from a commercial source, compacted to specific density as per drawing 0.66/100144 sheet 1. Final level will be 200mm higher than existing level.</td>
<td>066/100140 sheet 1-3 066/100144 sheet 1 066/100149 sheet 1 066/100150 sheet 1 066/100151 sheet 1-2 066/100152 sheet 3</td>
</tr>
</tbody>
</table>
WORKSHOP ROAD
From CH00-C280, 6m wide, the road surface will remain paving blocks. From CH280-CH565m 6m wide the road surface will remain asphalt.

From CH00-CH280, 6m wide, the current paving blocks will be removed and spoiled. The current subbase will be removed and spoiled. The current selected layer will be ripped stabilized and compacted. A new 150mm imported G5 material will be imported and stabilized to form the new C4 subbase followed by new interlocking paving blocks.

A 1.2m wide channel will be constructed on the northern side of the road to accommodate storm water.

From CH280-CH565, 6m wide the current asphalt surface will be removed and spoiled. The current subbase and base layers (to a depth of 300mm) will be removed and spoiled, good G5 material can be tested and stockpiled to be re-used. The selected layer will be ripped, stabilized and compacted. A new 150mm imported G5 (or stockpile material) will be used to form the new subbase. A new 150mm G1 material will be imported from a commercial source to form the new Base layer, followed by an asphalt surface.

A new storm water inlet will be constructed on the edge of the road at CH80 to accommodate the storm water.

A variety of kerbs and edge beams will be used.

The final road level will remain the same as the existing road.
| 5 | **NORTH STREET** | From CH00-CH166, 8m wide, the existing asphalt surface will be removed and spoiled. The current base layer will be ripped and re-compacted to form the new subbase layer. A new 150mm imported G1 material will form the new Base layer, followed by an asphalt surface; Existing Fig 8c kerbs will be replaced.

The final road level will be 150mm higher than existing road level.

All layers to be compacted as per drawing 0.66/100144 sheet 2 | **NORTH STREET - LONGITUDINAL SECTION : CH0 - CH167** | 066/100142 sheet 1
**NORTH STREET AND PARKING LOT - TYPICAL CROSS SECTIONS** | 066/100144 sheet 3
**LAYOUT PLAN: ROAD MARKING SETTING OUT #3** | 066/100150 sheet 3
**LAYOUT PLAN: ROAD SIGNS SETTING OUT #2** | 066/100151 sheet 3
**NORTH STREET - SETTING-OUT LAYOUT** | 066/100152 sheet 6 |
| 6 | **RING ROAD (NORTH PORTION)** | From CH00-CH109, 7.4m wide, the existing asphalt surface will be removed and spoiled. The current base layer will be ripped and re-compacted to form the new subbase layer. A new 150mm G1 material will be imported to form the new Base layer, followed by an asphalt surface.

The final road level will be 150mm higher than the existing road level, except where the road tie in with the existing road. No kerbs will be installed on this road.

All layers to be compacted as per drawing 0.66/100144 sheet 2 | **RING ROAD EAST (NORTH PORTION) - LONGITUDINAL SECTION : CH0 - CH109** | 066/100143 sheet 1
**RING ROAD EAST AND WORKSHOP ROAD - TYPICAL CROSS SECTIONS** | 066/100144 sheet 2
**LAYOUT PLAN: ROAD ARROWS SETTING OUT #3** | 066/100149 sheet 3
**LAYOUT PLAN: ROAD MARKING SETTING OUT #3** | 066/100150 sheet 3
**ROAD SIGNS DETAILS #1** | 066/100151 sheet 1 and 4
**LAYOUT PLAN: ROAD SIGNS SETTING OUT #3** | 066/100152 sheet 5
**RING ROAD EAST (NORTH) & RING ROAD EAST (SOUTH) - SETTING-OUT LAYOUT** | |
| 7 | **RING ROAD (SOUTH PORTION)** | From CH00-CH193, 7.4 wide, the existing asphalt surface and Base | **RING ROAD (SOUTH PORTION) - LONGITUDINAL SECTION : CH0 - CH194** | 066/100143 sheet 2
<p>| | | | 066/100145 sheet 1 | 066/100149 sheet 2 |</p>
<table>
<thead>
<tr>
<th>8</th>
<th><strong>PARKING LOT</strong></th>
<th><strong>ROADS</strong> LAYOUT: CENTRE ISLAND SETTING-OUT DATA LAYOUT PLAN: ROAD ARROWS SETTING OUT #2 LAYOUT PLAN: ROAD MARKING SETTING OUT #2 ROAD SIGNS DETAILS #1 LAYOUT PLAN: ROAD SIGNS SETTING OUT #2 RING ROAD EAST (NORTH) &amp; RING ROAD EAST (SOUTH) - SETTING-OUT LAYOUT</th>
<th>066/100150 sheet 2 066/100151 sheet 1 and 3 066/100152 sheet 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The parking area will have the same final road level as the existing level. The existing asphalt, base and subbase will be removed and spoiled.</td>
<td></td>
<td>066/100144 sheet 3 066/100147 sheet 1 066/100150 sheet 3 066/100151 sheet 1 and 4</td>
</tr>
<tr>
<td></td>
<td>The roadbed will be ripped, stabilized and compacted. A new 150mm G5 imported (or from stockpile if available) material will be used as subbase, followed by a new 150mm imported G1 material for the new Base layer, followed by an asphalt surface.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>All existing kerb will be replaced with new Fig 8c kerbs around the parking area.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>All layers to be compacted as per drawing 0.66/100144 sheet 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>All layers to be compacted as per drawing 0.66/100144 sheet 3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

layer will be removed to a depth of 150mm.

The road bed will be ripped, stabilized and re-compacted. A new 150mm imported G5 material will be used for the new subbase.

A new 150mm imported G1 material will form the new Base layer, followed by an asphalt surface.

No kerbs, except at the intersection and traffic island, will be used.

The final road level will be 150mm higher than the existing road.

All layers to be compacted as per drawing 0.66/100144 sheet 2

The parking area will have the same final road level as the existing level. The existing asphalt, base and subbase will be removed and spoiled.

The roadbed will be ripped, stabilized and compacted. A new 150mm G5 imported (or from stockpile if available) material will be used as subbase, followed by a new 150mm imported G1 material for the new Base layer, followed by an asphalt surface.

All existing kerb will be replaced with new Fig 8c kerbs around the parking area.

All layers to be compacted as per drawing 0.66/100144 sheet 3
### CONCRETE INTERSECTIONS

The existing 170mm concrete intersection will be demolished. The current base layer will be excavated and spoiled, 350mm below final road level.

A new 150mm G5 subbase to be constructed, followed by a 200mm 30MPa reinforced concrete slab.

Construction joints and saw cut joints should be carried out according to drawing 2543-G01. A 300mmx200mm sleeper beam should be installed underneath the construction joints.

Dowels should be installed as indicated on the engineering drawings. A storm water channel at the southern concrete section will be constructed to divert storm water from entering the weighbridge area. The channel will divert the storm water across the access road to the kerb, along the edge of the road to the existing storm water inlet structure next to the exit of Majuba Power station.

The final road level will remain the same as the existing intersection to tie in with the weighbridge.

All layers to be compacted as per drawing 0.66/100144 sheet 2

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### STORMWATER

All existing storm water channels will be cleaned. Grass blocks that have been damaged should be replaced with grass blocks.

All excess excavated material should be spoiled at a suitable location. Material next to channels from previous cleaning
should be spoiled as it obstructs storm water travelling from the road surface to the existing channel.

Kerbs at the end of access road, Ch940 should tie in with existing storm water inlet structure.

All existing kerb/grid inlet should be cleaned thoroughly

<table>
<thead>
<tr>
<th></th>
<th>TEMPORARY GRAVEL ROADS ENVIRONMENTAL REHABILITATION</th>
<th>ENVIRONMENTAL REHABILITATION AREAS 066/100149</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Gravel Roads that were used during construction will need to Environmentally Rehabilitated.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Area F: Scarify to a depth of 300mm. Apply hydroseeding as per section 3.7.4 (Environmental Rehabilitation Plan)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Area G: Remove G5 layer to stockpile for re-use. Scarify to a depth of 300mm Execute top soiling to the depth of G5 removed. If no topsoil is available, perform ameliorative action as per section 3.5.2 in the Environmental Rehabilitation Plan.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>ENVIRONMENTAL REHABILITATION OF AREAS WHERE COAL STOCKPILES PREVIOUSLY WERE LOCATED</th>
<th>ENVIRONMENTAL REHABILITATION AREAS 066/100149</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Area A: Remove existing layer of coal. Execute top soiling to the depth of coal removed.</td>
<td></td>
</tr>
</tbody>
</table>
If no topsoil is available, perform ameliorative action as per section 3.5.2 in the Environmental Rehabilitation Plan. Hydroseeding to be applied as per Environmental Rehabilitation Plan.

Area B:
Remove existing layer of coal.
Execute topsoiling to the depth of coal removed.
If no topsoil is available, perform ameliorative action as per section 3.5.2 in the Environmental Rehabilitation Plan. Hydroseeding to be applied as per Environmental Rehabilitation Plan.

Area C:
Remove existing layer of coal.
Execute topsoiling to the depth of coal removed.
If no topsoil is available, perform ameliorative action as per section 3.5.2 in the Environmental Rehabilitation Plan. Hydroseeding to be applied as per Environmental Rehabilitation Plan.

Area D:
(Area between Mill Balls storage area and Silo)
Remove existing layer of coal.
Execute topsoiling to the depth of coal removed.
If no topsoil is available, perform ameliorative action as per section 3.5.2 in the Environmental Rehabilitation Plan. Hydroseeding to be applied as per Environmental Rehabilitation Plan.
### Rehabilitation of Areas with Invasive Species

**Area E:**
Remove 300mm topsoil thereafter replace with 300mm uncontaminated soil from indigenous seed bank. Environmental officer to approve the source. Hydroseeding to be applied as per Environmental Rehabilitation Plan.

### Planting of Trees

40no. 30L Searsia lancea trees to be imported and planted. Position of trees to be determined by the Environmental Officer.

### RELOCATION OF JERSEY BARRIERS

70no. Jersey Barriers need to be relocated from the area between silo 20 and 30 and relocated to ERI yard area approximately 1km away.

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**4.2 Procedure for Submission and Acceptance of Contractor's design**

All the Designs shall be passed on to the Project Manager for review and approval prior to placement of any order or procurement of the designs.

**4.2.1 Design Review Procedure**

Where the Contractor has design work in their scope, the Contractor is the Design Authority as defined in the Design Review Procedure (240-53113685). The Contractor is responsible for following this design procedure and conducting all the design reviews as specified in this procedure. The Contractor is responsible for conducting the following design reviews:

a) Detail Design Freeze Review
b) Integrated Design Review
c) Construction Completion Review
d) Acceptance Testing Review
4.2.2 Project Engineering Change Procedure

The Contractor takes note of the Employer’s Project Engineering Change Procedure (240-53114026). An engineering change includes any proposed change originating from engineering, Contractors, project management or construction management.

The Project Engineering Change Procedure applies to the Employer’s personnel or Contractors performing engineering or engineering related work where the quality of the engineering work performed is the direct responsibility of the Project Manager.

4.2.3 Process for Submission of Documents

The Contractor submits all documents according to the accepted VDSS. The process for the submission of documents is described below:

a) The Contractor submits the documents/drawings to the Project Manager.
b) The Project Manager’s Document Controller registers the documents.
c) The Project Manager’s Document Controller will supply the documents/drawings to all relevant parties within the Project Manager’s project team.
d) The Project Manager’s team reviews the documents/drawings and will submit all comments or inputs to the Project Manager and the Project Manager submits to the Contractor for consideration.
e) If the Project Manager finds major deficiencies in the submitted documents/drawings, the Contractor revises the documents/drawings and resubmits to the Project Manager.
f) The Project Manager reviews the documents/drawings and if no major deficiencies are found, the Contractor organises a Design Review session.
g) The Project Manager and the Contractor conduct a Design Review.
h) If any fundamental errors were found in the designs or further actions are required, the Contractor record all concerns raised and revises the designs.
i) The Contractor organises a Design Review session once all designs were revised according to the concerns raised by the Project Manager.
j) If no fundamental errors were found in the designs during the Design Review session, the Contractor compiles the Design Review minutes or report and submits it to the Project Manager.
k) The Project Manager’s Document Controller registers the report.
l) The Project Manager’s team reviews the Contractor’s report/minutes. If the report/minutes are not acceptable, the Contractor revises the report/minutes and resubmits to the Project Manager.
m) The Project Manager will accept the Contractor’s design once the report/minutes are accepted by the Project Manager’s team.
4.2.4 Time Required for Acceptance of Designs

4.3 Other Requirements of the Contractor’s design

4.3.1 Technical Risk Assessments

4.3.1.1 HAZOP Studies
a. The Contractor carries out formal HAZOP Studies on all systems in their supply. These studies are done in accordance with the requirements as laid down in the Eskom HAZOP Guideline: 240-49230111.

b. All recommendations are included in the Contractors designs. This is submitted to the Project Manager for acceptance.

4.3.1.2 FMEA (FAILURE MODE AND EFFECT ANALYSIS)

a. The Contractor carries out formal Failure Mode and Effect Analysis (FMEA) Studies on all systems in their supply. These studies are done in accordance with the requirements as laid down in the Eskom FMEA Guideline: 240-49230046.

4.3.2 System Interface

The Contractor is responsible for all system interfaces which forms part of the works. The Employer will provide the relevant information defining the system interfaces. The Contractor caters for all the identified interfaces.

4.4 Use of Contractor’s design
Not applicable

4.5 Design of Equipment
Not applicable

4.6 Equipment required to be included in the Works

No specialised equipment is identified as being required, however if any is required, the designs shall be provided by the Contractor and reviewed as per Sections 3.3 above.
4.7 As-built Drawings, Operating Manuals and Maintenance Schedules

a) Language: All documentation, including reports, manuals, etc. is in the English language.

b) Manuals:
The technical, training, operating and maintenance manuals are provided for each type of a functional unit. Technical manuals include all technical data as well as the technical data and leaflets of each individual component provided. Where generic manuals are provided, an addendum is provided indicating the applicable project specific components.

Manuals are of a good quality and cover the following as a minimum:

a) Technical descriptions of the equipment and component parts
b) General arrangement drawings
c) Installation instructions with drawings or pictures
d) Operating and maintenance instructions for all components
e) Detailed parts lists (accompanied by exploded view type drawings clearly detailing the part and uniquely identifying it)
f) Spare part ordering instructions

Any special instructions pertaining to storage of spare parts or their shelf life is included in the maintenance manual. All drawings requested for component location, dismantling and re-assembly for maintenance are included in the maintenance manual. All special tools required for operating and maintenance of the equipment are presented in a form of a schedule in the operating and maintenance manual, respectively. The content of the training manual is based on the content of the technical, operating and maintenance manuals.

This section is read in conjunction with section 2.2: Documentation Control and the VDSS in Appendix 2
4.7.1 Drawing Requirements

The Contractor supplies reproducible drawings according to the Vendor Document Submittal Schedule (VDSS). The Contractor develops the following minimum requirements for the drawings:

4.7.1.1 Drawing Numbering System

The Employer supplies the proposed Project Manager drawing numbering system. The Contractor may assign his own drawing number as required to meet his document control system requirements.

4.7.1.2 As-Built Drawings

The Contractor's Staff will maintain a master set of red-lined as-built drawings. The Contractor will provide drawing mark-ups as work is completed. The Project Manager and the Contractor will ensure that all appropriate information is transferred to the field record copy of drawings. The Project Manager and the Contractor will check the "as-builts" for completeness and accuracy.

The following types of drawings will be updated to as-built status:
- P&IDs
- Underground utilities drawings
- Electrical single-line diagrams
- Electrical schematic drawings
- Wiring diagrams (including panel layouts and loop diagrams)
- Plant arrangements
- Civil & Structural drawings
- Piping layouts
- Valve and Equipment lists

4.7.2 Operating and Maintenance Manual

The Contractor provides maintenance manuals. The Contractor provides 4 hard copies and an electronic copy.

The procedures are provided by the original equipment manufacturer detailing descriptions of the maintenance work.
4.7.3 Maintenance Schedule

The Contractor provides a maintenance strategy for the life expectancy of the new Plant with a summary schedule. The Contractor provides the life expectancy of the equipment. The Contractor lists maintenance spares (with detailed specifications) for the life expectancy of the equipment. Maintenance strategy updates to be in accordance with the Reliability Based Optimisation (RBO) standard for all disciplines (electrical, civil, mechanical, fire, C&I).

4.7.4 Data Books

The Contractor shall compile Data Books progressively for all manufacturing and construction/erection inspections, operating manuals and test records and documents for every piece of plant required in producing the Works. The Contractor shall submit data books to the Supervisor and Project Manager for their review for all Plant and Materials and work undertaken with the applicable requirements and specifications.
5. Procurement

5.1 B-BBEE and Preferencing Scheme

The Employer requires the Contractor to achieve a Broad Based Black Economic Empowerment Recognition Level (B-BBEE Recognition Level) of 4 (the “Required B-BBEE Recognition Level”) within six months from date of Contract Award in terms of Eskom’s Directive “Implementation of Eskom’s Black Economic Empowerment Strategy” and Standard “Application of the Broad Based Black Economic Empowerment Codes of Good Practice within Eskom (32-1034)”.

Eskom’s policy is to maximise purchases from Black or Black Empowering Enterprises (BEE’s) whether Black Woman-owned, small or Large Black or Black empowering suppliers. The purpose is to promote entrepreneurship in black communities and give black business access to the mainstream of business opportunity.

5.2 Supplier Development and Localisation (SD&L)

Eskom Holding SOC Limited as a state Owned Enterprise is supportive of the South African Government’s growth, poverty eradication and job creation strategy, Supplier Development and Localisation (SD&L) as well as the New Growth Path as announced by the State President.

Eskom’s contribution to this initiative is to set Local Content, Local Content to Site, Black Economic Empowerment targets to Large Black Suppliers, Small Black Enterprises (SBE) Black Woman Owned (BWO), and Black Youth Owned Enterprises (BYO), Enterprises owned by Black People Living with Disability (BPLwD) as well as Skills Development targets as key evaluation criteria in awarding of all formal tenders.

The Contractor complies with and fulfils the Contractor’s obligations in respect of the Supplier Development and Localisation (SD&L) in accordance with and as provided for in the Contractor’s SD&L Compliance Schedule IT 1.2 SD&L requirements.

Eskom is committed to Supplier Development and Localisation and its prime objectives of economic growth, skills development, job creation and poverty eradication. This commitment shall be achieved through leveraging Eskom’s procurement spend in a manner that allows flexibility within the business in order to accommodate government local development initiatives and policies.

The Contractor keeps accurate records and provide the Project Manager with reports on the Contractor’s actual delivery against the above stated Supplier Development and Localisation criteria.
The \textit{Contractor}'s failure to comply with his SD&L obligations constitutes substantial failure on the part of the \textit{Contractor} to comply with his obligations under this contract.

### 5.3 Subcontracting

#### 5.3.1 Preferred Subcontractors

The \textit{Contractor} makes use of any supplier for sourcing of equipment, tools and material which the \textit{Contractor} will use to execute \textit{works}.

2nd and 3rd Tier Companies (Sub-Contractors) should be submitted to Eskom for vetting and approval (That is, to be evaluated for LBS/BWO/SBE/BYO BPLwD classification in terms of the requirements of 32-1034).

#### 5.3.2 Subcontract Documentation, and Assessment of Subcontract Tenders

a) The \textit{Contractor} submits the proposed contract data for each subcontracting for acceptance to the \textit{Project Manager}.

b) The \textit{Contractor} prepares subcontracting document as according to the NEC Contract.

c) The \textit{Contractor} must inform the \textit{Project Manager} when intending to subcontract some of the works from the contract scope.

d) The \textit{Contractor} takes note that their Subcontractors Safety Files will be accepted by the \textit{Contractor} Safety Manager before it will be handed to the GCD SHE practitioner/Officers for verification of compliance before any work commence. Proof of acceptance by the Contractor Safety Manager needs to be in the Safety file when handed over to GCD SHE Practitioners for verification.

e) The \textit{Contractor} only employs qualified sub-contractors

#### 5.3.3 Limitations on Subcontracting

Not Applicable to this type of project.

### 5.4 Plant and Materials

#### 5.4.1 Quality

All Plant and Materials are either new or used. All New Plant and Materials will be free from defects. No Reconditioned Plant and/or Materials are regarded as new under any circumstances.
It will be the responsibility of the Contractor to ascertain the condition of any used equipment or materials, transport to site, corrosion protection.

The Contractor will not use Plant or Materials which are generally recognised as being unsuitable or otherwise to be avoided for the purpose for which they are intended.

Only components of high reliability will be utilised, with a proven operating history, to enable the Plant to achieve required reliability and availability. Plant and Material design, engineering and manufacture will accord with the best modern practice applicable to high-grade products of the type to be furnished, so as to ensure the efficiency and reliability of the works and the strength and suitability of the various parts for the works.

Plant and Materials withstands ambient conditions and the variations of temperature arising under working conditions without distortion, deterioration or undue strains in any part.

All parts are made accurately, and where practicable, to standard gauges so as to facilitate replacement and repairs. Like parts are interchangeable.

No repair of defective Plant and/or Materials will be permitted without the Project Manager’s approval and any such repair, if approved, will be carried out to the satisfaction of the Employer.

The Contractor ensures that co-ordinated and formally documented management system is in place for the assurance of quality as specified in ISO 9001, Quality management Systems – Requirements.

The Project Manager is free to specify hold and witness points during the installation and on site testing stages of the project. The Contractor issues preliminary notification of such hold and witness points by fifteen working days advance notice to the Project Manager, and confirms such hold and witness points at least seven days prior to the activity.

Typical holding points are listed below:

a) Design Review
b) FAT
c) Delivery to Site
d) Erection
e) SAT
f) All manuals and drawings (in the specified format)

g) Commissioning

In addition to maintaining appropriate inspection and test records to substantiate conformance to requirements, the following records are safely stored for a minimum period of seven years following the final completion of the works:

a) Construction, layout and component approvals
b) Routine test certificates
c) Construction drawings and approvals

After this period, the Contractor offers these records to the Employer (in writing) and obtains a disposal instruction.

Documentation regarding quality procedures is submitted within thirty days of Contract Award. The Employer will review and comment on the acceptability of these documents in a time frame as per the requirements of the contract for contractual correspondence. If controlled copies of these documents have been submitted to the Employer, then the controlled copy numbers may be quoted in the submission.

5.4.2 Plant & Materials provided “free issue” by the Employer

The Employer shall not issue any material to the Contractor.

The Employer does reserve the opportunity to negotiate with the Contractor that different plant and materials be used of another origin for whatever purpose that may become apparent at the time.

5.4.3 Contractor's Procurement of Plant and Materials

- The Contractor shall supply and use suitable and sufficient construction plant, tools and equipment and materials as may be required to carry out the works efficiently.
- The Contractor at all times provides protection for all plant and materials from damage or loss due to weather, fire, theft, unexplained disappearance or similar.
- The Contractor at all times protects from damage, due to the Contractors service to provide the works, all plant and materials and equipment and all items on the site that are the property of the Employer or Others.
• The Contractor provides or manages, as part of Works everything necessary for the receiving, inspection, safe keeping and storage, issuing, handling, management and administration of all plant and materials purchased by the Contractor.

• The Contractor shall provide through the Project Manager and relevant Construction Management personnel the documentation for the warranties from suppliers of all any relevant plant and material used in the structures built within the Road Rehab area, as well as the vendor data of the suppliers.

• The Contractor will ensure to provide all guarantees and warranties of the plant & materials used in the Works to the Project Manager and Employer when construction is completed.

• The Contractor supplies the labelling for the Plant that forms part of the works. The Contractor provides labels for the Plant according to the Majuba label specification. The Contractor makes use of the KKS codes and descriptions provided by the Employer.

• The labels are affixed in such a way that they are easily legible and not obstructed by the wiring or by other components.

• Clamping methods applied to the labels ensures that removal of the labels requires force. The Project Manager will approve the proposed method of clamping prior to use.

• The Contractor supplies the Project Manager, for verification and acceptance purposes, with a label list showing the text only. The Project Manager will approve the positioning and designation of labels.

• The KKS codes are used accordingly on documentation (e.g. drawings, manuals, equipment lists, cable schedules etc.) as a unique identification means. References to plant are accompanied by the relevant KKS code for that item of plant.

• Abbreviations to descriptions on the labels are generally not acceptable. Where abbreviations are unavoidable, due to the limited number of characters that can be engraved/etched on labels, the abbreviations are submitted to the Project Manager for acceptance. The Contractor makes use of the Employer’s Standard Plant Related Abbreviations for Inter-System Use GGS0968.

• The Contractor arranges all shipments of Plant and Materials and consigns all such shipments to him as consignee at the project shipping address, freight fully prepaid. The Contractor makes demurrage agreements and settlements with carriers for his shipments.
5.5 Tests and Inspections before Delivery

It will be the responsibility of the Contractor to perform the required tests during construction and to coordinate documentation with the Supervisor. Test documentation generated during the commissioning phase will be filed as the work is completed. All tests and inspections are to comply with the quality management plans and requirements for the project as per Sections 2.5 and 5.4.1.

Once all Contractor construction activities are complete, the Contractor will hand over the Works to the Supervisor for testing and checkout. Completeness of the construction will be verified through a joint walk down between the Supervisor and Contractor. Any minor outstanding work items found during the construction walk down will be recorded as Defects, and dates will be established for resolution of these Defects. Buildings with major omissions, errors, or problems found during the walk down will not be accepted for commissioning from construction. All construction documentation will be turned over to the Supervisor for review. This documentation will be reviewed for completeness, and will be included in the final safety clearance with the Project Manager. Once the Supervisor has accepted a part of the works from construction, the responsible Project Manager will direct all pre-operational tests required to ready the subsystem for initial operation.

Plant and Materials contained within the Works will undergo testing to verify that they are in good condition and ready to be put into service.
6. Construction

The Contractor is required to:

- Submit a comprehensive method statement of the entire works to the Project Manager for acceptance prior to the start of the works.
- Submit a project specific safety file to the Employer for comments / acceptance.
- Submit a detailed level 3 schedule for the works to the Project Manager for acceptance after contract award.
- Take all necessary precautions to ensure that none of the existing plant that is not in the scope of works is damaged during demolition.
- The waste disposal site is selected to suit the classification of the materials to be disposed of. Certificates of disposal are required to be submitted to the Employer.
- Manage his access to the working areas and the Site.
- Manage his activities on Site to ensure that no interference takes place between his work and that of others.
- Complete "Contract Activities Daily Reports".
- Liaise with the Supervisor regarding utilities and telephone facilities required for his Site establishment.
- Liaise with the Supervisor regarding the location of waste disposal sites and rubbish dumps,
- Maintain and promote labour harmony on the Site and in the working environment.
- Immediately report any potential labour disharmony to the Supervisor.
- Not recruit or employ any personnel from the Employer and Others, without prior acceptance of the Project Manager.

Construction and Erection

- The Contractor is responsible for the rehabilitation and construction of all associated items in accordance with the detailed drawings and specifications.
- The Contractor disposes of all demolition waste at a licenced waste disposal site to be accepted by the Project Manager. The waste disposal site is selected to suit the classification of the materials to be disposed of. Certificates of disposal are required to be submitted to the Employer.
6.1 Temporary Works, Site Services & Construction Constraints

6.1.1 Employer’s Site entry and security control, permits, and Site regulations

6.1.1.1 Access to Site

Access to the site is controlled and it is governed by the terms and conditions lay down by Majuba Power Station security officials. The proposed site will be shown to the Contractor during the site meeting or clarification meeting by the Employer.

The Contractor liaises with the GCD SHE Practitioner/Officers for Safety Induction prior work to commence. During Safety Induction, site access permits with a copy of the medical and a certified ID copy/passport (not older than three months) should be handed to the GCD SHE Practitioner/Officer for approval.

The Contractor employees will take the signed site access documents to security reception official in order to finalize their site access.

The Contractor ensures that all its employees carry their site access forms with them all the time.

The Contractor is subjected to alcohol testing on a daily basis everytime they enter and re-enter the Power Station. Random alcohol testing may also be conducted on site.

The Contractor submits his application for vehicle permit to the Project Manager. The personnel and vehicles entering and leaving the site are subjected to routine searches.

The Contractor obtains a “Gate Removal Permit” from the Project Manager before materials and equipment can be removed from site. The “Gate Removal permit” gives itemised list of materials and equipment to be removed from site.

The Contractor ensures that a tool list is available on the day of arrival and that all tools are captured on the tool list. The tool list will be handed over to the Reception Security official that will stamp the tool list. The tool list will be kept safe and will be used when tools needs to be remove from site. This message should be handed over to any Subcontractor that will be working on Majuba Power Station.

6.1.1.2 Site Regulations

The Contractor complies with the Site Regulations as per Employer’s Safety, Health and Environmental Specification for the Road Rehabilitation Project at Majuba Power Station – 240-143826846.

Any subject within the authority of the Project Manager may be addressed by a Site Regulation.

Before work starts on Site, a kick-off meeting is held with the Contractor and the Project Manager, to explain in detail all requirements of the Site Regulations.

The Contractor is issued with a CD with the current Site Regulations at the project kick-off meeting.
6.1.1.3 Permit to Work System

The Contractor allocates staff to be trained and authorised as Responsible Persons according to the Employer's Plant Safety Regulations (36-681) and/or High Voltage Regulations. These Responsible Persons are available on Site as and when required to take out permits to work.

In this contract the Contractor shall appoint employees to attend and be authorised as follows:
- All Construction Managers, Assistant Managers, Supervisors and Assistant Supervisors to attend PSR and be authorised as Authorised Supervisors.
- Four (4) Supervisors to be authorised in terms of the PSR as Responsible Persons; and
- Two (2) to be authorised in terms of ORHVS as Responsible Persons, if necessary.

6.1.2 People restrictions on Site; hours of work, conduct and records

Restrictions and hours of work may apply at Majuba Power Station. The Contractor keeps records of his people on Site, including those of his Subcontractors which the Project Manager or Supervisor have access to at any time. These records may be required when assessing compensation events.

6.1.3 Health and safety facilities on Site

The Contractor provides a First Aid service and SHE representative to his employees and Sub-Contractors. In the case where these prove to be inadequate, like in the event of a serious injury, the Employer’s Medical Centre and facilities will be available. Outside the Employer’s office hours, the Employer’s First Aid Services are only available for serious injuries and life threatening situations. The Employer recovers the costs incurred, in the use of the above Employer’s facilities, from the Contractor.

6.1.4 Environmental controls, fauna & flora, dealing with objects of historical interest


6.1.5 Title to materials from demolition and excavation

As per Clause 73.2 the Contractor has no title to materials from excavation and demolition (e. g. copper).
6.1.6 Cooperating With and Obtaining Acceptance of Others

Other Contractors are working in the same area as the work of this contract. In this regard, the Contractor co-ordinates his work with the Project Manager to maintain harmonious working conditions on Site.

During the progress of the works the Contractor provides access to Others who also execute work in the same area, on an as and when required basis.

The Contractor makes his own assessment of the problems and difficulties which may be encountered for providing access to and interfacing with Others (this includes access difficulties experienced during construction or commissioning phase).

6.1.7 Publicity and Progress Photographs

The taking of photographs at Majuba Power Station including the Project works is restricted and subject to the approval by the Project Manager.

For the purpose of the Progress Reporting Requirements, the Project Manager may prohibit the taking of such photographs and/or require that all such photographs be taken by an official Employer photographer. In the latter event, the Contractor is required to make arrangements directly with the photographer for the taking of the photographs required by the Contractor for the purpose of the Progress Reporting Requirements.

6.1.8 Contractor's Equipment

a) The Contractor provides all Equipment that is required to complete the works.
b) The Contractor shall ensure that all his construction labour and equipment remains within the fenced off allocated construction area.
c) The Contractor shall ensure that any staff, labour, or equipment moving outside his allocated construction site does not obstruct the normal operation of the Road Rehabilitation the power station. Any additional access routes required must be coordinated with the Project Manager.
d) The Contractor must keep daily records of his equipment used on Site and the Working Areas (distinguishing between owned and hired Equipment) with access to such daily records available for inspection by the Project Manager at all reasonable times.
e) All Equipment used by the Contractor in providing the Works shall comply with the General Machinery Regulation 4 of the Occupational Health and Safety Act (Act 85 of 1993).

6.1.9 Equipment provided by the Employer

No Equipment will be supplied by the Employer; however the Employer does reserve the right to negotiate with the Contractor that different equipment be used of another origin for whatever purpose that may become apparent at the time.

The Contractor supplies all equipment including cranes, scaffolding and other earthmoving equipment for the construction of the works.
6.1.10 Site services and Facilities

6.1.10.1 Site Yard

Site Yard for the Contractor shall conform to the Employer’s Safety, Health and Environmental Specification for the Road Rehabilitation Project at Majuba Power Station – 240-143826846. It is required, for the proper co-ordination and execution of the works that the Contractor has an office on site for the duration of the contract.

A site will be made available to the Contractor for his yard within the Power Station security area. The proposed site will be shown to the Contractor during site meeting or clarification meeting. The yard is a raw site of approximately one hectare and will be used by the Contractor for the establishment of his offices, workshop and stores.

The Contractor’s yard is subject to periodic inspection by the Project Manager delegated person.

The location of the nearest sewer manhole, power distribution point, portable water connection storm water channel and road access point is indicated by the Employer. The Contractor is responsible for connection to the closest point of supply.

6.1.10.2 Supply of Electricity

Electricity will be made available for construction purposes free of charge from power points which will be indicated by the Project Manager. The Contractor is responsible for the provision of the reticulation system from the point of supply. Both 220 (AC) Volt and 380 (AC) Volt are available on request. All points of supply requested by the Contractor are provided in terms of quantity and location at the discretion of the Project Manager.

No guarantees of power supply quality are given and power supply breaks of some duration may occur without warning. Planned outages are also a possibility. The Contractor makes arrangements at his own expense to improve continuity and quality of power where necessary for any reason and no claim of any nature relating to power failures is considered.

No connection is made to the permanent installation at Majuba Power Station without the prior acceptance of the Project Manager.

The power supply is managed in accordance with the latest revision of the Eskom safety regulations i.e.:

a) 32-846, Operating Regulations for High-Voltage Systems
b) 36-681, Generation Plant Safety Regulations
c) COC for the site installation is required prior to power being switched on.

6.1.10.3 Lighting

The Contractor at his own expense provides temporary local lighting in accordance with the requirements of the OHS Act as amended. The Project Manager provides no local lighting. All construction lighting is the responsibility of the Contractor.
6.1.10.4 Water

Water will be made available on request free of charge from water points on site. The Contractor supplies at his own cost all the necessary connections, fittings, piping work, temporary plumbing and pumps necessary to lead water from the Employer’s points of supply to the various points where it is required. The Contractor is responsible for maintaining this equipment and for removing it at Completion of the whole of the works.

The Project Manager does not guarantee continuity of supply and the Contractor makes his own provision for standby supplies to maintain continuity of work. Claims of any nature relating to discontinuity of water supply are not considered.

6.1.10.5 Roads

Main access roads are surfaced and complete and may be used by the Contractor with the necessary care. The Employer maintains the Site roads, described above, to a fair condition. Any costs incurred by the Project Manager from damage caused to underground services, structures, etc. as a result of the Contractor not using the prescribed routes is recovered from the Contractor.

The Contractor provides temporary access points from the prescribed routes and roads to the points where the Contractor is required to perform work, having first obtained permission in writing from the Project Manager.

6.1.10.6 Setting-Out Beacons

The Project Manager provides permanent beacons marking the main setting out grid lines for the works, and permanent level benchmarks.

The Contractor takes reasonable steps to preserve beacons and benchmarks provided by the Project Manager who is not to be held responsible if any existing beacons are removed as long as other beacons exist.

6.1.11 Facilities provided by the Contractor

6.1.11.1 Contractor’s Yard, Offices, Workshops and Stores

It is required, for the proper co-ordination and execution of the works that the Contractor has an office on Site for the duration of the contract.

The Contractor includes in his establishment rates for all further treatment of the yard areas that he considers necessary for his entire operation throughout his period of occupation and under all weather conditions. The Contractor also includes for all security fencing, security and access arrangements. The yard will be kept clean and tidy at all times, this will include all workshops and storage areas under the control of the Contractor. Maintenance of the yard is the Contractor’s responsibility and is for the Project Managers acceptance.

Outfall drainage of all surface run-off drains is constructed by the Contractor to the acceptance of the Project Manager to minimise erosion and to effect control of contaminated water. The Contractor’s plan for the layout of his yard area are accepted by the Project Manager prior to occupying the yard and the Contractor does not occupy any site area other than that allocated to
him. The Contractor’s plan states fully what measures are taken regarding removal and storage of topsoil, stabilisation of eroded areas and further loss of topsoil.

The Contractor complies with the environmental policy given in the Site Regulations. The Contractor provides, erects and maintains for his own use adequate size office accommodation and stores together with such drainage, lighting, heating, and hot and cold water services as may be required. Provision is also made for adequate parking and a turning area adjacent to all the aforesaid structures. The Supervisor prior to commencement of any work on Site accepts all designs and layouts for these provisions.

The Contractor dismantles and clears the yard of all such temporary structures and associated foundations and infrastructure at the direction of the Project Manager on Completion of the whole of the works. No such dismantling and clearance work is carried out without prior acceptance from the Project Manager.

The Contractor shall make provision for carrying out of all quality control testing required in terms of the works involved. This shall include, but is not limited to, the following:

- Soil grading analysis from 0.075 mm up to 100 mm as per TMH 1 A1a) and A5;
- Soil testing for Atterberg limits as per TMH 1 A2-A4;
- Soil density testing (nuclear and sand replacement as per TMH 1 A10);
- Soil testing for moisture content;
- DCP testing.

The Contractor shall either provide a laboratory on site (approved by the Supervisor) or may make use of approved external laboratories and/or laboratories of other contractors on site subject to the approval of the Project Manager.

Results of permeability testing will only be accepted if carried out by an accredited laboratory.

6.1.11.2 Telecommunications

Neither a network point nor a telephone is available on site. Should the Contractor require one, he is to make his own arrangements with relevant authorities. Arrangements may also be made to use the telephones of the station if they are available. Calls from these will be charged for at prevailing GPO rates.

Should the Contractor wish to use radio communication equipment on site, he will make his own arrangements with the relevant authorities. In this case, he is requested to liaise with the head of security at the station to ensure that there is no interference with existing channels or equipment.

6.1.11.3 Sanitary Facilities and Refuse

The Contractor is to supply own sanitary facilities at his Contractor’s yard. A refuge control system will be established by the Contractor. All waste and refuge will be collected and disposed of as directed by the Project Manager, at the Power Station refuse disposal site. In case where refuse disposal sites are not provided by the Power Station, then Contractor is responsible for the removal of such waste to an authorised waste site.
6.1.11.4 Equipment/Appliances

Any electrical Equipment, or appliances, used by the Contractor conforms to the applicable OHS Act safety standards and is maintained in a safe and proper working condition. The Project Manager has the right to stop the Contractor's use of any electrical Equipment, or appliance, which, in the opinion of Project Manager, does not conform to the foregoing. Inspection of equipment/appliance will be done as required by OSH Act.

The Employer may assist the Contractor with the off-loading of equipment, plant and material but the responsibility for off-loading remains with the Contractor.

Any special tools and equipment to be used on site for the execution of the works is the responsibility of the Contractor.

6.1.12 Survey control and Setting Out of the Works

The Project Manager designates the working area boundary limits and assigns for the Contractor's use access roads, parking areas, storage areas, existing facilities areas and construction areas. The Contractor does not trespass in or on areas not designated for his work.

The Contractor is responsible for keeping Contractor's personnel out of areas not designated for Contractor's use, except, in the case of isolated work located within such areas for which the Contractor is authorised to do so.

The control points will be established by the Contractor. Land surveys will be done by the Contractor before and after clear and grub, before and after topsoil strip and after final excavation before construction commences.

The Contractor will ensure that application for excavation permit is done well in advance before any excavation work can start in an area. The Employer will need the drawings of the work to be conducted in the area to show the Excavation authorised person of Majuba the drawings so that an excavation permit can be issued. A copy of the excavation permit with the drawings will be handed to the Employer for record keeping.

In addition, the survey information is to be according to the National LO co-ordinate grid system and is to be provided in digital format (either YXZ format or preferably in Model Maker file system ver. 7 or above).

The following survey information is additionally required in order to approve construction works executed. This list is intended to give an indication of some of the survey work required, and is not intended to be an exhaustive list of all the surveys that will be required.

- Detailed bottom of excavation survey, before placement of any layer works, clearly showing toe and crest lines of the basin excavation and embankment walls (for all works).
- Survey of invert level subsoil and leakage detection collection collector and outlet pipes to verify falls and length of pipes installed.
- Detailed survey of final HDPE liner surface, clearly showing toe and crest lines of the facility.
- As-built surveys of the bottom and top of primary and secondary Compacted Clay Liners to verify liner thickness, as well as of the final surface of the ballast layer, will be required.
• Inverts levels of storm water drains.
• Any extensions to stockpile areas.

Final As-Built survey information must be given to the Supervisor in the same format as what the setting out was given in the drawings. Final completion will not be processed before this survey information has been evaluated and verified using a DTM package.

### 6.1.13 Control of Noise, Dust, Water and Waste

The Contractor maintains a high standard of cleanliness during the conduct of his activities at Majuba Power Station. This includes areas allocated for storage of materials, site offices etc. to the satisfaction of the Project Manager. The Contractor keeps these areas clean and free from accumulation of waste materials and refuse regardless of the source.

The Contractor ensures during sweeping and dusting, that a minimum amount of dust is liberated into the atmosphere. Cleaning by vacuum cleaners is preferred and the use of compressed air for cleaning is prohibited.

The Contractor is responsible for the prompt removal of all waste to a designated disposal area. The disposal area will be on or in the vicinity of the Power Station and be indicated by the Project Manager.

For the purpose hereof, “waste” any matter, whether liquid or solid or any combination thereof, which is a by-product, emission, residue or remainder of any process or activity carried out in connection with the works and which is not reused on the Site in the in the ordinary course of carrying out the works within seven days of production.

The Contractor provides an adequate number of marked bins and containers at offices, in yards, at workshops and on the Site for the temporary storage of waste. These bins and containers are subject to approval by the Project Manager. The Contractor is required to segregate certain items of waste by type as designated by the Project Manager.

Bins and containers are emptied and waste removed to the designated area at least once a week. All the temporary storage areas for bins and containers are kept tidy and must not constitute a nuisance to others. The Contractor takes all required steps to avoid spillage of waste alongside the bins and containers during removal and disposal thereof.

All waste that cannot be contained in either a bin or container is placed on a temporary waste site which the Project Manager identifies. The waste is removed as soon as possible but in any event at least once a week. No burning of waste is allowed at the Power Station.

Hazardous waste is dealt with in accordance with the safety, health and/or environmental requirements of the works and the Contractor is solely responsible for the proper disposal thereof. Hazardous waste will be disposed of at an authorised landfill site. Waste manifest will be kept for record keeping and hand over at the end of the Project.

Controlling water from excavations is done as required by the Environmental legislation and only after a method statement to this regard has been accepted by the Project Manager.
The Contractor must ensure that adequate pumping capacity is provided for the continual pumping of water from excavations. Water may be contaminated and should not be discharged into the environment unless tested.

6.1.14 Sequences of Construction or Installation

The Contractor is responsible for the construction and installation of the equipment according to the Contractor’s construction and installation plans.

The Contractor complies with the Employer’s Work Co-ordination Process.

Without derogating from the provisions of the Conditions of Contract, the Work Co-ordination Process is used by the Project Manager to monitor and manage activities on the Power Station and to facilitate the integration and co-ordination of the various works by Others.

If not included in the contract, the Project Manager will notify the Contractor of the requirements of the Work Co-ordination Process prior to the date of site establishment by the Contractor.

6.1.15 Giving Notice of Work to be covered up

The Contractor provides a notice of work to be covered up to the Supervisor.

6.1.16 Hook ups to Existing Works

The adjacent plant and equipment may not be modified without written permission from the Project Manager. The Contractor complies with Eskom Life Saving Rules and will report any non-conformance.

6.2 Completion, Testing, Commissioning and Correction of Defects

6.2.1 Work to be done by the Completion Date

On or before the Completion Date the Contractor shall have done everything required to provide the Works. The Project Manager cannot certify Completion until all the work has been done and is also free of Defects which would have, in his opinion, prevented the Employer from using the works and Others from doing their work.

6.2.2 Use of the Works before Completion has been certified

After the completion of construction of Roads will be opened for operation.

6.2.3 Materials Facilities and Samples for Tests and Inspections

6.2.3.1 Tests and inspections before delivery and on site
During the progress of the work tests are conducted on materials and workmanship to ensure compliance with the requirements of the specifications.

The Contractor to provide testing certification for material supplied on site as per COLTO – Standard specification for road and bridge works for state road authorities (1998 Edition) and Supplier / Contractor Quality Requirements Specification.

The Contractor arranges with the Employer’s representative to witness and verify testing of in-situ material and construction material to be supplied by the Contractor.

The Contractor arranges a laboratory for testing of construction material such as concrete and soils and shall be accessible at any time for inspection by Employer.
6.2.3.2 Testing methods
All tests are conducted in accordance with the standard methods specified in the following, in order of precedence:

- Standard methods for testing road construction materials (SANS 3001 and TMH6) and for calibration (TMH2), compiled by the Committee of State Road Authorities (CSRA) and published by the Department of Transport as part of the series Technical Methods for Highways.
- South African National Standards specifications, test methods, codes of practice and co-ordinating specifications (abbreviated as SANS and CKS).
- Testing regime shall comply with COLTO – (Standard specification for road and bridge works for state road authorities (1998 Edition) and TRH 5 standard deviation measurement.
- The specifications of the American Society for Testing and Materials (abbreviated as ASTM).
- The specifications of the American Association of State Highway and Transportation Officials (abbreviated as AASHTO).

In addition to the above standard methods of testing, standards specifications or test methods of other bodies may also be referred to in these specifications, or test methods may be described where no acceptable standard methods exist.

6.2.4 Commissioning
No commissioning required for this work.

6.2.5 Start-Up Procedures required to put the Works into Operation
The Contractor gives the Project Manager written notice that the works is complete. Such notice will suit the requirements of the Employer but will not, unless otherwise agreed, be less than 48 hours or more than fourteen (14) calendar days.

No alterations or adjustments will be made to the works after functional checks are done without the Project Manager's written permission.
At this stage the following must have been achieved:

a) Road construction and Installation of work associated with the roads completed.
b) Testing report and the associated certificates received.
c) Signed erection and safety clearance certificates.
e) All Quality Control Plan (QCP) documentation received.

6.2.6 Take Over Procedures

Refer to the Employer’s Procedure, Commissioning and Completion of Power Station Projects, 240-85416341.

6.2.7 Access given by the Employer for correction of Defects

Clause 43.4 requires that the Project Manager arranges for the Employer to allow the Contractor access to and use of a part of the works which has been taken over if needed to correct a Defect.

6.2.8 Performance Tests after Completion

The Contractor shall carry out necessary tests after completion to demonstrate that the performance of the Plant is in accordance with the Employer’s Works Information requirements.

The Contractor will be required to provide a detailed method statement on how this verification will be achieved and any equipment required shall be part of the system provided by the Contractor.

6.2.9 Training and Technology Transfer

The Contractor provides training on the equipment and systems included as part of the works to the various categories of the Employer’s technical staff (operators, maintenance and engineering personnel) for the duration of the works.

Training provided by the Contractor is directly applicable to the actual equipment supplied for the works. Generalised training based on similar equipment is not acceptable. The local facilities for training provided by the Employer is a suitably sized air-conditioned room, as well as trainee and trainer desks, an overhead projector and flipchart or white board.

The Contractor submits to the Project Manager for acceptance a detailed training programme as well as a prospectus for each course. Course material is provided for the number of trainees as per the table above.
The training schedule is incorporated in the Accepted Programme.

Practical hands-on training for each individual trainee forms an integral part of each of the following courses:

6.2.9.1 Training of Maintenance Personnel

It is not applicable to this Employer’s Works Information.

6.2.9.2 Training of Maintenance Operators

It is not applicable to this Employer’s Works Information.

6.2.9.3 Engineering Training

It is not applicable to this Employer’s Works Information.

6.2.9.4 Training Documentation

It is not applicable to this Employer’s Works Information.

6.2.10 Operational Maintenance after Completion

It is not applicable to this Employer’s Works Information.
6.3 List of Reference Procedures, Standards and Specifications

The **Contractor** complies with all standards, specifications and regulations as listed within this Works Information:

### 6.3.1 List of Standardised Specifications

The **Contractor** is required to adhere to the latest editions of and the normative references within the following standards and other codes of practice, regulations & standards:

<table>
<thead>
<tr>
<th>Specification</th>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
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8. List of Eskom Project Management and Project Controls Specifications and Standards to be adhered to during this works

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9. List of Drawings and Data Sheets

9.1 Drawings Issued by the Employer

This is the list of drawings issued by the Employer at or before the Contract Date and which apply to this contract.

Note: Some drawings may contain both Works Information and Site Information.

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10. List of Appendices

Appendix 1: Technical Specification for Majuba Power Station Rehabilitation Project – Post Phase D, Rev 2, 374-113082

Appendix 2: Design report for Road Rehabilitation design for Majuba Power Station, Rev 2, 2532-02

Appendix 3: Majuba Coal Stockpile Rehabilitation Report, 2543/02V

Appendix 4: Soil Test Report, 5704A

Appendix 5: Analysis Report, 17117A

Appendix 6: Vendor Document Submittal Schedule