PART C3: SCOPE OF WORK

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PART C3: SCOPE OF WORK

SECTION 1

1 DESCRIPTION OF THE WORKS

1.1 Executive Overview

A structural condition assessment was completed on Island View Berth 4 and the findings for this assessment can be found in Annexure A. The assessment was conducted to quantify and classify the extents of the structural damages to Berth 4. Transnet National Ports Authority wishes to appoint a *Contractor* to execute the repair works as per the findings and recommendations of the condition assessment and in accordance with the requirements and specifications as described herein. The works that the *Contractor* is to preform are the concrete and reinforcement repairs to the structural damage identified on the Island View berth 4.

The works include:

- Detailed inspections by the *Contractor*.
- Video recording and verification of damaged areas.
- Concrete repair works – piles and pile cap, soffit of deck, fender panels, spine beams, top of deck.
- Reinforcement repair works- verification of existing reinforcement area, cleaning, clearing and/or replacing the corroded rebar.
- Continuous removal and replacement of fenders during construction.
- Disposal of rubble and waste.

Overall, the damages to the structure are considered mainly superficial i.e. not affecting the Ultimate Limit State of the structure. The associated repairs is considered specialised and as such will be required to be executed by a licenced Transnet National Ports Authority commercial diving entity with the requisite experience in the repairs and refurbishment of large, reinforced concrete, berthing structures in a marine/port environment.

1.2 *Employer*'s Objectives

The *Employer*, Transnet National Ports Authority, requires the Works, comprising the complete civil and structural repairs to Berth 4 at the Island View Precinct to be carried out by the *Contractor*.

Note: The Island View Precinct is a National Key Point and a strategic, fully operational environment requiring the Works to be planned and executed in a manner which results in minimal operational disruption and this requirement is considered to be a primary concern of the *Employer*. Furthermore, the *Contractor* shall take note that berthing operations shall take precedence over the project repair works. The *Contractor* shall, in its submitted Level 4 project execution schedule (submitted a maximum of 2 weeks after contract award), clearly define the 'time risk' and 'float' allowance taking into account the construction disruptions explained in 1.6.1. The *Contractor* shall also be responsible for supplying a detailed project execution method statement which shall align with the project schedule in respect of the activities to be undertaken and elaborate in detail the sequencing and requirements for the individual activities. Both the schedule and method statement shall be for the *Project Managers* and *Supervisors* approval, before commencement of the Works.

1.3 Activity Schedule

Regarding the activity schedule, the following points are pertinent:

- The activity schedule is a list of activities prepared by the *Employer* which he expects the *Contractor* to carry out in providing the Works
- When it has been priced by the *Contractor*, the lump sum for each activity is the Price to be paid by the *Employer* for that activity
- With regards to payment, the structure has been divided into four separate zones. These are defined in figure 1. The *Contractor* will be allowed to claim on completion of each specific zone.

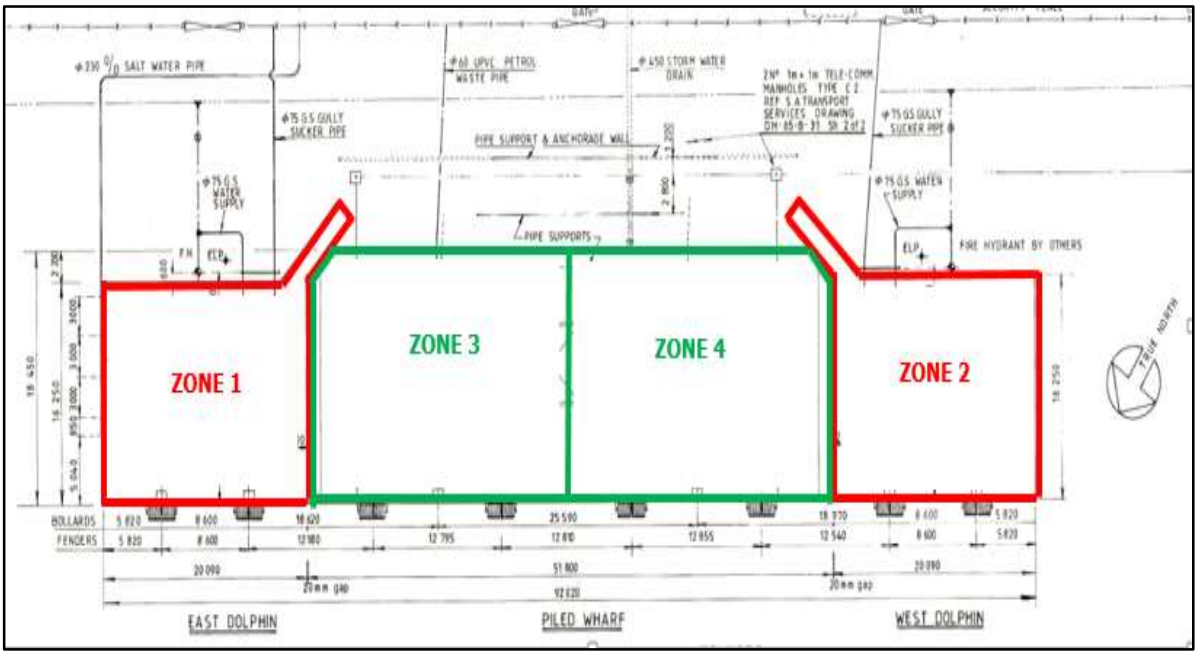

Figure 1: General Layout of Berth 4 indicating the Separate Zones.

- The *Contractors* quote will be the total cost for the completion of the works for each of the four zones.
- Information in the activity schedule is not Works Information or Site Information.
- The *Contractor* provides information which shows how each activity on the activity schedule relates to the operations on each programme which he submits for acceptance.
- The *Contractor* shall align its programme with this activity schedule to facilitate assessment and payments.
- If the *Contractor* changes a planned method of working at his discretion so that the activities on the activity schedule do not relate to the operations on the Accepted Programme, he submits a revision of the activity schedule to the *Project Manager* for acceptance.

1.4 Identified Defect Areas on the Berth 4 Structure

The following components make up the Berth 4 structure:

- Piles
- Deck
- Under deck surface
- Top deck surface
- Spine Beams
- Quay Walls

The defects identified will be described per the components stated above. Figure 2 provides a naming convention for the piles. In the sections that follow, the defects noted are located in reference to this pile naming convention. Refer to Annexure A for the Engineering Review Report and Dive Report on the defects identified for details.

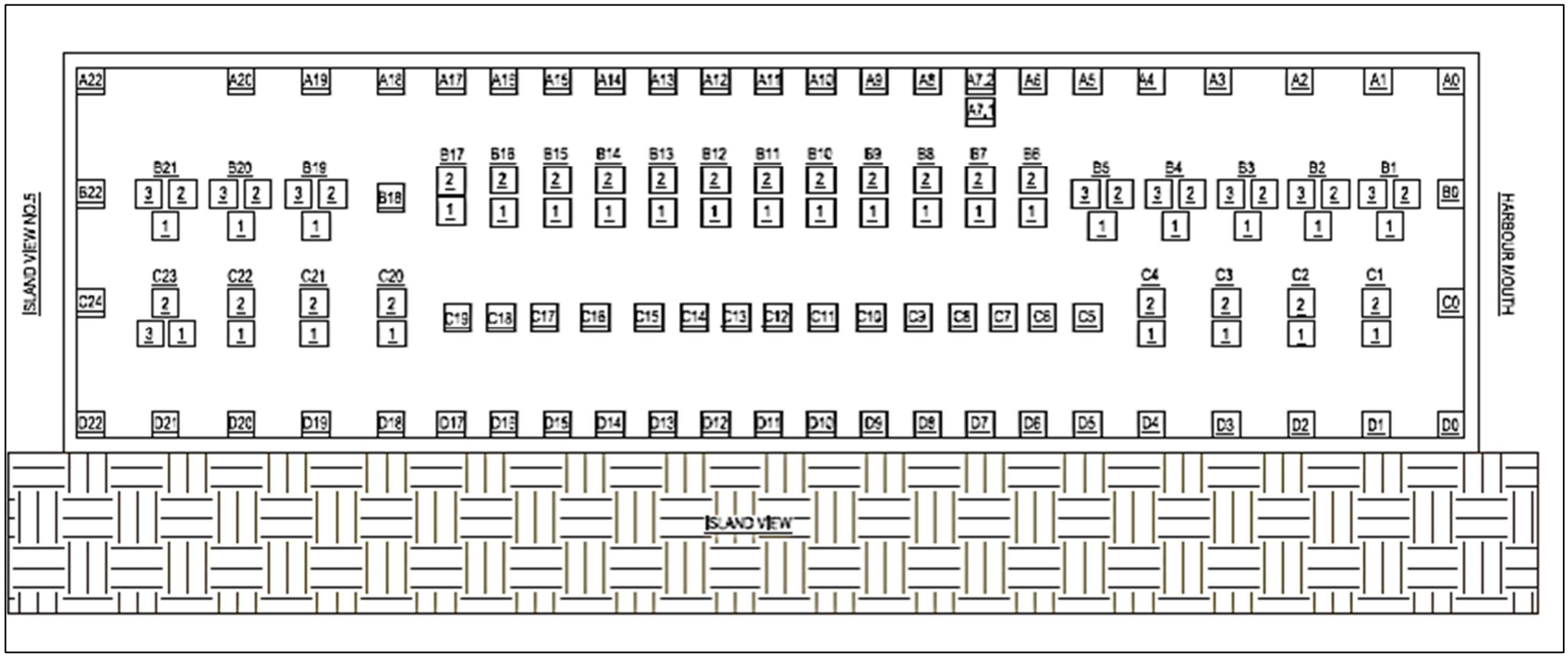

Figure 2: Pile layout and naming convention

1.5 Summary Quantification of Defects

Minor defects (honeycombing and spalling) on 6 of the total 132 piles, these defects being concentrated on the portion of the pile in the splash zone. The affected piles represent less than 5% of the total number of piles.

22 Minor defects (mainly spalling) over the entire underdeck surface. The damaged areas equate to less than 5% of the total underdeck surface area.

Major spalling and corrosion of reinforcement was noted on isolated areas (mainly on the North facing concrete panels) forming the berth's quay walls. The extents of the damage point to vessel impact as the likely cause, initially. The damaged areas equate to approximately 3% of the total quay wall surface area.

Minor defects (hairline cracks) at 2 locations of the spine beams.

The visual survey on the topside of the deck revealed only minor surface cracks resulting from operational wear and tear. Some of the bollards also had loose or broken off concrete around their foundations, however the foundations were found intact.

1.6 Defects on Under Deck Surface

The pile number, with reference to **Error! Reference source not found.** , serves as a marker that locates the area on the under surface of the where a defect was noted. The defect would typically be located within a 2m radius around the pile centre as shown in the figure 3. An average depth of **130 mm** can be used for the under deck defects.

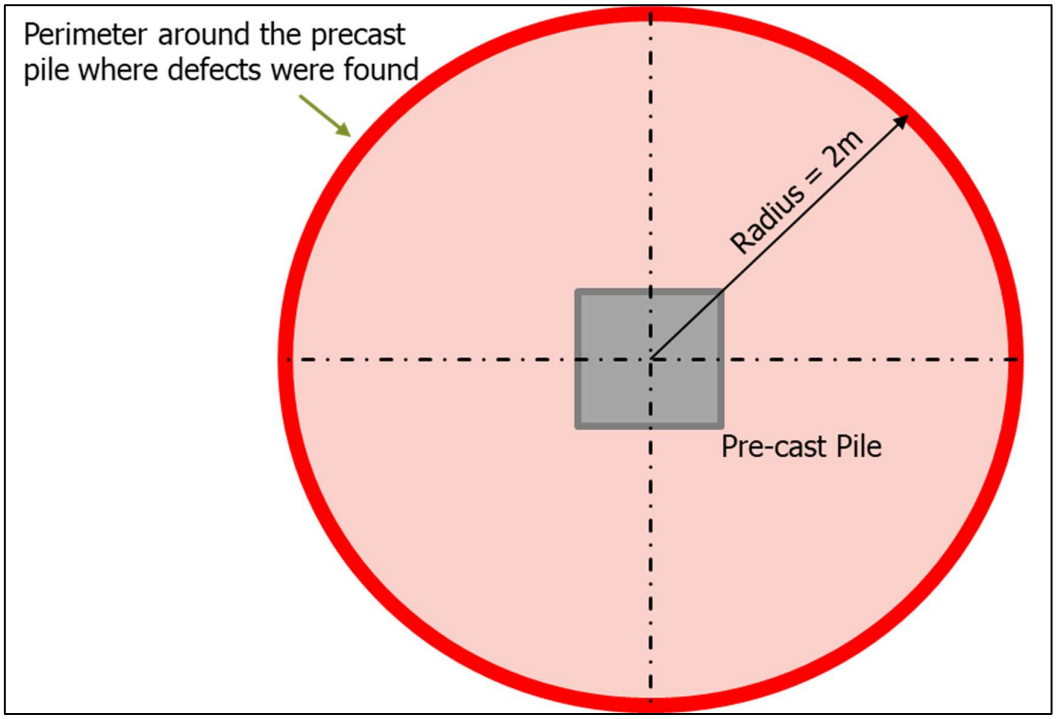

Figure 3: Locality of defect in relation to pile

Table 1: Under deck defects summary

Pile No.	Defect Classification	Quantification
B0 – 1	Honeycombing	1.8m^2
B1 – 2	Spalling	3m^2
B1 – 3	Spalling	12m^2
B2 – 1	Honeycombing	0.65m^2
B2 – 2	Honeycombing	0.8m^2
B2 – 3	Honeycombing	0.47m^2

B3 – 1	Honeycombing	2.1m^2
B4 – 1	Spalling	0.9m^2
B5 – 1	Superficial Crack	1m
B6 – 2	Honeycombing	0.8m^2
B7 – 1	Superficial Crack	1m
B11 – 2	Superficial Crack	1m
C2 – 2	Spalling	3.8m^2
C19 – 1	Spalling	4.6m^2
C20 – 1	Spalling	2.6m^2
C21 – 1	Spalling	4.2m^2
C21 – 2	Spalling	1.1 m^2
C22 – 2	Spalling	0.6 m^2
C23 – 1	Honeycombing	0.9 m^2
C23 – 2	Honeycombing	1.7 m^2
C24 – 1	Spalling	4.4m^2

1.6.1 Piles

All damages to the piles as noted in Table 2: Pile Defects Summary were found on the section of the pile in the tidal zone. Refer Figure 2 for pile reference naming.

Table 2: Plie Defects Summary

Pile No.	Defect Classification	Quantification
B0 – 1	Spalling	0.8m^2
B1 – 1	Spalling	0.6m^2
C19 – 1	Spalling	0.6m^2
C23 – 1	Spalling	0.9 m^2
C23 – 2	Spalling	0.7 m^2
C24 – 1	Spalling	0.4m^2

1.6.2 Spine Beam

Refer Figure 2 for pile reference naming.

Table 3: Spine Beam Defects Summary

Pile No.	Defect Classification	Quantification
A1	Superficial Crack	1.2m
C1 – 1	Superficial Crack	1m

1.1.1 Quay Wall

Damages noted on the quay wall against which, ships berth i.e. North Facing. Damage classified as spalling was identified on 2off precast panels. The approximate area of the spalling damage is **9m^2**.

1.7 Reinforcement Replacement

If the reinforcement area has been reduced by 10% or more, the reinforcement shall be replaced with an equivalent or larger diameter bar, with a **minimum 50 bar diameter** lap length onto existing good reinforcement.

1.8 Schedule of Documents for Submission before Commencement of Site Works

The *Contractor* shall submit the stipulated documents within the time frame stated in Table 4, for the approval of the *Project Manager*.

Table 4: Schedule of Documents

SUBMISSION	FILE TYPE	TIME FRAME
Environmental, Health and Safety File	Printed Hardcopy and PDF	1 Week after contract award
Detailed Method statements and Risk Assessments for the individual Works	2 X Printed Hardcopy and PDF	2 Weeks after contract award
Level 4 Project schedule in MSP format	2 X Printed Hardcopy and PDF	2 Weeks after contract award
Site Establishment Plan	2 X Printed Hardcopy and PDF	1 Week after contract award
Supervision and site management plan	2 X Printed Hardcopy and PDF	1 Week after contract award
Quality Control Plan	1 X Printed Hardcopy and PDF	2 Weeks after contract award

Compilation of "Completion Certificates" certified by the *Employer*	1 X Printed Hardcopy and PDF	Once all defects of the works have been rectified and the project is complete.
Qualification documentation (all those resources involve with fabrication, quality, *Supervisor*y and HSE)	1 X Printed Hardcopy and PDF	Throughout the duration of the works
Lifting/rigging studies	1 X Printed Hardcopy and PDF	Only if applicable to the works.
Approved or evidence of approved welding procedures relevant to this Project scope of works	1 X Printed Hardcopy and PDF	
Insurance cover	1 X Printed Hardcopy and PDF	

1.9 Envisaged Roll-Out of the Project Execution Phase

1.9.1 Introduction

Due to inevitable disruption of the project and construction works as a result of berth operations (which take precedence over the repair work), a total of **twelve (12**) berth accessible Calendar days per month have been allowed for. However the 12 days are provisional and they are not considered consecutive days.

The project for the repairs to Berth 4 structure is expected to take a total of **9 months** to complete in accordance with the berth access limitations stated above.

It is envisaged that the project shall be rolled out as follows:

a. *Contractor* submits all documents as stipulated in section 1.5 above for the review and approval of the *Employer*.

b. The *Contractor*s team liaises with the *Project Manager* and Island View SHERQ departments to ensure compliance with all necessary documentation requirements and via this process obtain

all required inductions, permits, verifications, accreditations, certifications etc. required for the *Contractor* to gain access and perform the Works at the site.

c. The *Contractor* gives required notices of construction work to the relevant Legislative and Statutory authorities and requests the *Employer* to issue a Department of Labour certified Construction Work Permit.

d. On gaining the necessary approvals of all required SHERQ and project preliminary documentation from either the *Employer* or the required Legislative and Statutory authorities as appropriate, the *Contractor* shall establish its Site.

e. The first activity comprising the start of the actual construction works is inspections and verifications. The *Contractor* shall undertake an inspection of the structure above and below water to verify the defects and location of defects and defect extents as described herein. The aim of this inspection shall also be to identify other defective areas or deviations in the extents of the already identified defects as more may have occurred in the time between the condition assessment and the execution of the repairs. The *Contractor* shall ensure that it completes a full video surveillance/documentation of the entire structure and during this process to identify the defective areas stipulated herein as well as any additional defective area which may have formed. This video documentation shall then be compared to video footage taken by the *Contractor* at the completion of the repair works, so that the *Employer* can verify that all the defects noted have been suitably repaired.

f. On completion of the inspections and verifications, the *Contractor* shall submit an inspection report to the *Project Manager*, for review and approval, which verifies the extents of the defects noted herein as well as any deviations resulting from the inspections.

g. Once the *Employer* has approved the *Contractor*s inspection report, the *Employer* shall issue a notice to the *Contractor* advising the *Contractor* that it may begin the execution of the repair work.

h. The *Contractor* shall then be allowed to establish any Plant, Materials and Equipment to the site that will be needed to execute the work.

i. The *Contractor* shall liaise on a daily basis with the Island View Berthing Manager or the 'responsible person/s' as well as with the *Employer* regarding planned and unplanned and emergency requirements for vessel berthing that will affect the *Contractor*s work. It should be noted that the Berthing Manager can only give a 24 hour notice with regards to berth occupancy.

j. Since operations will take precedence over project work, the *Contractor* shall make the necessary provisions to allow for minimal disruptions to the operations. This includes continuous removal and replacement of fenders during the panel repairs as the berth will be utilised during the construction period.

k. On completion of the repairs, the *Contractor* shall prepare a defects list and repair to their satisfaction and then hand over to the *Project Manager*. Prior to the certification of the work complete the *Supervisor* shall satisfy themselves that there are no further defects that the *Contractor* needs to rectify.

1.10 Location of Works

The site is located within the Island View Precinct at the chemical berth, Berth 4. Berth 4 is located west of Berth 3 and East of Berth 5 in the inner entrance channel along the Bluff south walls within the Island View Channel and turning basin. It is surrounded by quay walls and sea walls from Island View berths 1 to 9 and along the Navy boundary adjacent to Island View. Figure 4 shows Berth 4 and the surrounding infrastructure on the Berth.

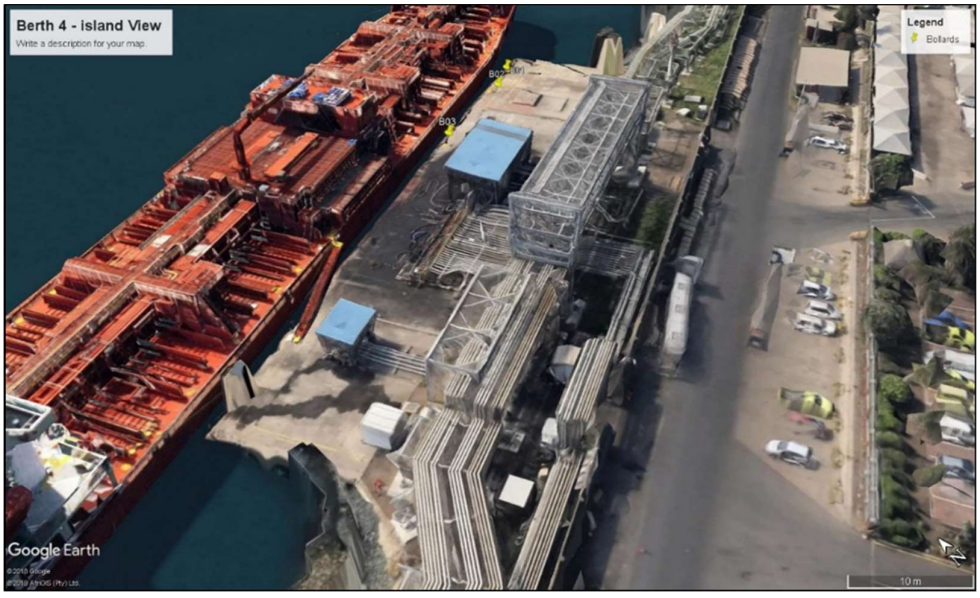

Figure 4: Berth 4 and Surrounding Infrastructure

1.11 Access to the Works

Access to the works is from existing public road networks and roads internal to the Port of Durban. Access will be subject to Transnet National Ports Authority security and safety requirements and regulations

Due allowance must be made for any potential delays arising from vehicular congestion due to the large number of trucks entering the Port facilities.

The *Contractor*, its employees and its sub-*Contractor*s shall be required to complete a full induction from TNPA and Island View Precinct before being allowed on the site.

The *Contractor* should also familiarise themselves with the height restrictions for vehicles within the Island View Precinct and conform to these height restrictions. Additionally, cognisance of the height restrictions for Island View berth 4 needs to be taken into account. The *Employer* will bear no responsibility regarding access limitations experienced by the *Contractor* regarding height access restrictions.

1.12 Permitting

The *Contractor* shall make itself conversant with all the permitting requirements of the TNPA/Island View/Cutler facility as well as those required by any statutory body such as the Department of Labour. It is the *Contractor*s responsibility to gain all required permitting and while TNPA may assist where possible with the applications for permits, TNPA shall not be responsible for any delays or issues associated with the permitting processes. Such permits that shall be required by the *Contractor* are for example: Diving Permit, Construction Work Permit and Hot Work Permit.

1.13 Interpretation and terminology

Table 5 lists the abbreviations used in this Works Information.

Table 5: Abbreviations used in the works Information

Abbreviation	**Meaning given to the abbreviation**
CA	Contract Administrator
CQA/QCM	*Contractor*'s Quality Assurance/Quality Control Manager
CDR	*Contractor* Documentation Register
CEMP	Construction Environmental Management Plan
CDS	*Contractor* Documentation Schedule
CSHEO	*Contractor*'s Safety Health and Environmental Officer
CHSMP	*Contractor*'s Health and Safety Management Plan
CM	Construction Manager
PSIRM	Project Site Industrial Relations Manager
PSPM	Project Safety Program Manager
PSSM	Project Site Safety Manager
PES	Project Environmental Specifications
PHA	Preliminary Hazard Assessment
PIRM	Project Industrial Relations Manager
PIRPMP	Project Industrial Relations Policy and Management Plan
PLA	Project Labour Agreements
ProjM	Project Manager

ProjEM	Project Environmental Manager
ProjEO	Project Environmental Officer
QA	Quality Assurance
SHERQ	Safety, Health, Environment, Risk, Quality
DP	Data Pack
QCP	Quality Control Plan
SANS	South African National Standards
SES	Standard Environmental Specification
SHE	Safety, Health and Environment
SIP	Site Induction Programme
SMP	Safety Management Plan
SSRC	Site Safety Review Committee

Where in these documents the words TNPA is used, read "TRANSNET NATIONAL PORTS AUTHORITY".

Where in these documents the words or expression "Engineer" or "engineer" is used, read "*Supervisor*" as the context requires.

2 ENGINEERING DESIGN

2.1 *Employer*'s design

The *Contractor* shall conform in every aspect to the specifications and details as supplied to the *Contractor*. The performance parameters of repair products and sizes of reinforcement/steelwork details supplied shall not be less than that represented by specifications and/or drawings included in this document. The acceptance of the information in this document shall in no way relieve the *Contractor* of its responsibilities in terms of the quality and performance of the Works. The *Contractor* shall remain solely responsible for all aspects comprising the Works.

The *Employer* supplies the following:

- Works Information
- Technical specifications or reference thereto
- Engineering Drawings, if relevant
- Activity Schedule

Table 6 lists the "Transnet General Specifications" which are applicable to the Works Information. Refer to Annexure B for the Transnet General Specifications.

Table 6: Transnet General Specifications

Hydraulic Equipment	EEAM-Q-002
Structural Steelwork	EEAM-Q-006
Quality Management	EEAM-Q-009
Corrosion Protection	EEAM-Q-008
General Quality Requirements for Contractors and Suppliers	QAL-STD-0001

2.2 Part of the Works which the *Contractor* is to Design

The *Contractor* is to design the following parts of the works:

- Scaffolding and temporary structures – The *Contractor* is responsible in his design for the overall integration of the design of the Works with the design of the *Employer* as stated under 2.1 *Employer*'s design above. Additionally, the *Contractor* shall be solely responsible for the design of any temporary Works required to execute the scope of works.

2.3 Standards

The latest editions and/or revisions of the following:

- BS: British Standards
- ISO: International Standards Organisation
- SANS: South African National Standards

2.4 Codes

The following codes form part of this document:

- BS 8007 – Water Retaining Structures
- SANS 1200 A – General
- SANS 1200 AH – General (Structural)
- SANS 1200 G – Concrete
- SANS 1200 H – Structural Steel
- SANS 2001-CC1 – Construction works – Part CC1: Concrete Works (Structural)
- SANS 2001-CS1 – Construction works – Part CS1: Structural Steelwork
- SANS 10100-1 – The structural use of concrete Part 1: Design
- SANS 10100-2 – The structural use of concrete Part 2: Materials and execution of work
- SANS 10144 – Detailing of steel reinforcement for concrete
- SANS 10162-1 – The structural use of steel Part 1: Limit-states design of hot-rolled steelwork
- SANS 10162-2 – The structural use of steel Part 2: Cold-formed steel structures
- Occupational Health & Safety Act 85 of 1993.
- The Local Authority by-laws and any special requirements for the district concerned.
- Local Fire Regulations.

2.5 Technical and Quality Management Specifications

Refer to Annexure G1 for Technical and Quality Management Specifications

2.6 Method Statements

The *Contractor* shall note that detailed method statements are required for all facets of the construction works.

No work shall be undertaken by the *Contractor* prior to submission of method statements. These will be agreed in principle with the *Employer* and his agent. All standing time due to the submission of insufficient or incomplete information shall be to the *Contractor*s account.

The *Contractor*, *Employer* and his agent will agree a suitable timeframe for the approval of method statements before the *Contractor* mobilizes staff and equipment to site.

The *Contractor* will maintain all project equipment in a reasonable working condition which does not compromise safety.

All unsuitable or unsafe equipment will be replaced at the *Contractor*s expense.

2.6.1 Safe Disposal of Rubble

The *Contractor* will also ensure that rubble which has been mechanically removed for the repairs and the broken concrete on the seabed that has resulted from concrete spalling over time and the repair work is to be removed and disposed of by a licenced waste removal company in an acceptable manner.

Rubble shall not free fall in an uncontrolled manner. Rubble should be removed on a continuous basis; and not limit daily site operations or personnel access. The *Contractor* will identify a suitable licensed dump site in conjunction with the local municipality.

The design of any purpose made access platforms must be signed off by a Professionally Registered Engineer or Technologist (ECSA).

2.7 General Obligations of *Contractor*

The *Contractor*s obligations as contained in this document shall be deemed to cover the following items:

- The project scope shall include the erection of all Plant and Materials as required for completing the Works. The *Contractor* shall supply all necessary manpower, labour, supervision, materials, services and testing devices for all aspects of this project as indicated hereunder and the *Contractor*s quoted amount for the Works shall be deemed to cover all cost and expense thereof;
- Project Management of the complete scope of work including planning, scheduling and reporting verbally to the *Supervisor* on a daily basis. Weekly written progress reports shall be issued to the *Supervisor* for approval;

- Implementation of an appropriate quality system including stringent quality control for all Plant and Materials stipulated in this document;
- Submission of a quality control plan (in accordance with ISO 9000) and conforming to requirements as contained in this document;
- Submission of a detailed erection programme for all Plant and Materials to be supplied by Others;
- The *Contractor* shall allow for any relevant information gathering exercises e.g. sample extraction and testing, dimensions, layouts, access routes, review surrounding structures, identify rigging points, checking, etc., to ensure that all Plant and Materials shall be erected in accordance with all theta specifications and requirements;
- Selection of appropriate codes of practice, standards and specifications applicable to the Works;
- Remove, replace, modify, reinstall and make good all existing equipment, Plant and Materials as required to facilitate the Erection of all new Plant and Materials;
- Supply, installation, statutory compliance to relevant Codes and Standards and safe storage of all Plant, Equipment and Materials required to completely negate the detrimental effects to construction progress resulting directly or indirectly from loss of electrical power on site;
- Mechanical fitting and alignment of all motors, gearboxes, couplings, pulleys, brakes, belts, sprockets, chains, bearings, seals, base plates, etc.;
- Installation of all chemical anchors, bolts, fasteners, washers, nuts, clamps, brackets, fixing and securing elements as required;
- All specialized equipment, tools, brackets, supports, packers, shims, etc., necessary to complete the Works in accordance with manufacturer's specifications, appropriate codes and the Project Standards;
- Supply of all construction lighting and associated support structures, access platforms, etc. as required for the successful Erection of all Plant and Materials;
- The *Contractor* shall engage the services of a certified (by relevant South African statutory organisation) welding inspection organisation for the execution and performance of all NDT, dye pen, Ultrasonic, X-ray and any other testing as required on all remediation work installations as is required by the appropriate codes, standards and the Project Standards.

- The *Contractor* shall plan, in detail, the installation and erection sequence of the Plant and Materials to allow for accessibility for rigging purposes and the availability of respective pieces of Plant and Materials based on their delivery to site
- Within the Site, removal and disposal of all scrap and rubble generated by the *Contractor* to the TNPA designated scrap lay-down or dumping area;
- Site safety supervision, personal protection and safety equipment;
- Supply of all equipment and personnel required to comply with the Occupational Health and Safety Act, 1993. The *Contractor* shall take special note of the requirements of the latest editions of Construction Regulations;
- Comply with the *Employer*s Environmental Management Plan;
- Complete all documentation to the satisfaction of the *Supervisor* in order for the Taking Over Certificates as appropriate to be signed off by the *Employer*;
- Assistance during Test on Completion (Pre-Commissioning and Commissioning) which shall be coordinated and directed by the *Supervisor*;
- The *Contractor* shall attend to all punch list items (Punch list A, B and C) as outlined by the *Supervisor* upon the completion of the installation and during Tests on Completion (Pre-commissioning and Commissioning).
- Supply of all *Contractor*s Documents, designs, drawings including all "As Built" drawings for Plant and Materials, specifications and details, NDT and hydraulic testing procedures and results.

2.8 Pre-preparation for Works execution

The *Contractor* shall fully inspect the site and ensure that the site is in an acceptable condition to commence with the Works. Any deviation from the *Contractor*s expectations as it pertains to existing infrastructure damage, site access etc. shall immediately be raised with the *Supervisor*.

The *Contractor* shall take all precautions necessary to prevent any damage to components especially to electronic components installed on structures (if any) which could be affected by the welding work if applicable.

2.9 General requirements for the Steel Works

Surface preparation and painting is done in accordance with the established corrosion protection supplies' guaranteed 60-month marine grade specification as well as the Transnet specification **EEAM-Q-008**.

It shall be noted by the *Contractor* that all corroded areas are to be prepared to bare metal. Welding works over primed metal has to be approved by the *Supervisor*.

If the reinforcement area has been reduced by 10% or more, the reinforcement shall be replaced with an equivalent or larger diameter bar, with a min 50 bar diameter lap length onto existing good reinforcement.

All welds shall be checked for cracks. NDT or any other required weld testing procedure is carried out on at least 10% of all welds. Any cracks found are repaired. A welding procedure specification for the repairs of the cracks is provided by the *Contractor* to the *Supervisor*s' acceptance. All welding consumable specifications stipulated herein shall be strictly adhered to. All weld runs to be continuous.

Should the *Contractor* deviate from the project requirements, TNPA reserves the right to stop the Works with the *Contractor* to rectifying the areas of concern.

The *Contractor* shall provide a detailed method statement stipulating how the Works are to be carried out in a safe manner.

2.10 Procedure for submission and acceptance of *Contractor*'s design

The *Contractor* shall address the following procedures:

- The *Contractor* undertakes design safety reviews with the acceptance of *Project Manager*
- The *Contractor* shall be responsible for preparing detail drawings as required and material lists for checking by the *Project Manager*.

2.11 Review and Acceptance of *Contractor* Documentation

The *Contractor* submits documentation as the 'Works Information' requires to the Project Manager for review and acceptance.

In undertaking the '*Works*' (including all incidental services required), the *Contractor* shall conform and adhere to the requirements of the '*Contractor* Document Submittal Requirements'

The *Project Manager* will review and comments on the proposals and forwards the comments electronically to the *Contractor*. The *Contractor* cannot proceed prior to receiving acceptance from the *Project Manager.*

(One) paper copy of the approved drawings is stamped 'Approved by *Employer*' and returned to the *Contractor*.

The approval of the any drawings and documentation by the *Supervisor* is done in principle only and does not mean the approval of the details contained therein.

2.12 Use of *Contractor's* Design

The *Contractor* grants the Employer a licence to use the copyright in all design data presented to the Employer in relation to the works for any purpose in connection with the construction, re-construction, refurbishment, repair, maintenance and extension of the works with such licence being capable of transfer to any third party without the consent of the *Contractor*.

2.13 Design of Equipment

The *Contractor* submits his design details for the following categories of his proposed principal Equipment to the *Project Manager* for his information only: Liability for such design Equipment will remain with the *Contractor.*

2.14 As-built drawings, operating manuals and maintenance schedules

a. As-built drawings are due 14 days before the Works completion

b. All submissions are in triplicate, hard copy and on a CD

c. By submitting drawings, the *Contractor* represents that they have determined and verified all site measurements, site instruction criteria, materials, catalogue numbers and similar data, or will do so, and that he has checked and co-ordinated each of his drawings with the requirements of the Works and the contract documents, taking into account drawings of all other relevant disciplines.

d. At the time of submission, the *Contractor* informs the *Supervisor* in writing of any deviation between the approved drawings packs and the requirements of the contract documents.

e. The *Supervisor* will review and approve drawings with reasonable promptness (so as not to cause a delay) only for conformance with the design concept and the contract requirements.

f. The *Supervisor* may, at his discretion and depending on the number of discrepancies, require amendment and resubmission prior to approval. Drawings are resubmitted until approved prior to any portion of the Works related to the drawings being commenced

g. Should the *Contractor* during drawing amendment, alter any portion of his drawings not specifically required by the *Supervisor*; he points this out in writing when resubmitting the drawing

h. Approval of the *Contractor*'s drawings is in no way indemnifies him from being responsible for the correctness of the drawings and satisfactory operation of the installation

3 CONSTRUCTION

3.1 Temporary Works, Site services & Construction constraints

a. The *Contractor* complies with the *Employer*'s rules and regulations regarding temporary works as required as well as the *Contractor*'s accessing of any site services.

b. The *Employer* is advised immediately should there arise any unforeseen construction constraints which shall impact the *Contractor*'s schedule.

3.2 *Employer*'s Site entry and security control, permits, and Site regulations

a. The *Contractor* shall comply with the *Employer*'s Site entry and security control, permits, and Site regulations as specified by Cutler Management Board.

b. The *Employer* shall facilitate the process of getting access to the site. This shall only be done when the *Contractor*'s staff undergoes full safety and site induction by TNPA.

3.3 Health and safety facilities on Site

a) All health and safety matters associated with the Works shall be dealt with in accordance with the Occupational Health and Safety Act (Act No.85 of 19993) and the Transnet National Ports

Authority Health and Safety Specifications contained in Annexure C1: TNPA Health and Safety Specifications.

b) COVID-19 OCCUPATIONAL HEALTH AND SAFETY MEASURES IN WORKPLACE

The contractor is to implement occupational health and safety measures to (reduce and eliminate) the escalation of COVID-19 infections in workplaces as set out in the Schedule adopted by the Minister of Employment and Labour, in terms of Regulation 10(8) of the National Disaster Regulations (Act No. 57 of 2002) and comply to all COVID-19 related guidelines issued by the government in this regard.

The Transnet National Port Authority COVID-19 related guidelines and procedures that the contractor is required to comply with is contained in the following sections of Annexure F;

- ✓ Annexure F5 -COVID 19 Post-Lockdown Construction Site HS Guidelines Rev 01
- ✓ Annexure F6- Site Meeting Procedure
- ✓ Annexure F7- Protocol for COVID positive cases
- ✓ Annexure F8- Handwashing Procedure
- ✓ Annexure F9- Cleaning and Disinfection Procedure

3.4 Restrictions to access on Site, roads, walkways and barricades:

a. The *Contractor* shall be specifically excluded from entering the *Employer*'s operational areas which are adjacent to the Site and Working Areas. The *Contractor* shall plan and organise his work in such a manner so as to cause the least possible disruption to the *Employer*'s operations.

b. The *Contractor* shall ensure the safe passage of *Contractor*'s traffic to and around the Site and Working Areas at all times that includes providing flagmen, protective barriers, signage, etc. for protection, direction and control of traffic.

c. The *Contractor* shall ensure that any of his staff, labour and Equipment moving outside of his allocated Site and Working Areas does not obstruct the *Employer*'s operations. To this end access routes are allocated and coordinated by the *Project Manager*.

d. The *Contractor* shall ensure that all his construction staff, labour, and Equipment remains within his allocated and fenced off construction area.

e. All *Contractor*'s staff and labour shall comply with the *Employer*'s operational safety requirements and shall be equipped with all necessary PPE.

f. The *Contractor* shall take note of the vehicle height restriction along wharf side road and make necessary provision.

g. The fullest collaboration between the *Contractor*, *Project Manager*, *Supervisor* and the Harbour Master is essential to minimise construction disruptions and delays and to ensure the safe execution of the *Works*. It will be necessary to discuss the *Contractor's* proposed activities and short term programme on a day to day basis with the *Supervisor* and Harbour Master to ensure effective cooperation and a smooth interface between the activities of the *Contractor* and those of the working Port.

h. The Works are located within an operational berth and the *Contractor* shall organise his work to cause the least possible inconvenience to the operations of the berth. The *Contractor* is reminded that Island View Berths are of considerable economic importance to the Country and therefore the *Contractor* is expected to work in close liaison with the Project Manager and the Terminal Operations Manager. The fullest collaboration between these parties is essential to ensure success of the Project.

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

a. The *Contractor* shall keep daily records of his people engaged on the Site and working areas (including *SubContractor*s) with access to such daily records available for inspection by the *Project Manager* at all reasonable times.

3.6 Title to Materials from demolition and excavation

a. The *Contractor* shall have no title to all materials arising from excavation and demolition in the performance of the works with title to such materials remaining with the *Employer*.

b. The Project Manager shall instruct the *Contractor* how to label, mark, set aside and/or dispose of such materials for the benefit of the *Employer* in accordance with the construction contract.

3.7 Cooperating with and obtaining acceptance of others

a. The *Employer* (including the agents of the *Employer*) shall operate on Site during the entire duration of the contract period.

b. The *Contractor* shall fully cooperate with the *Employer*'s team and any other entity that the *Employer* specifies

3.8 Publicity and progress photographs

a. The *Contractor* shall not advertise the contract or the project to any third party, nor communicate directly with the media (in any jurisdiction) whatsoever without the express written notification and consent of the *Project Manager*.

b. The *Contractor* shall obtain the permission and approval of the *Project Manager* before erecting any notice boards or using the details of the contract in any advertising media.

c. The *Contractor* shall provide a complete digital photographic record of the progress of the construction of the works in it workshop as well as on site to the *Project Manager*, monthly as part of the *Contractor*'s monthly programme narrative report.

3.9 *Contractor*'s Equipment

a. The *Contractor* keeps 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.

3.10 Equipment provided by the *Employer*

a. No Equipment shall be provided by the *Employer*.

3.11 Site services and facilities:

a. For the duration of the contract, the *Project Manager* shall allocate an area which can be leased by the *Contractor* to establish his offices, lay down areas, stores, workshops, and other *Contractor*'s Equipment.

b. It is the responsibility of the *Contractor* to complete applications for water and electricity through Transnet. All requirement must be mentioned in the application

c. The responsibility for maintaining adequate and continuous power supplied will rest solely with the *Contractor* and inadequate or interrupted power supplies will not be accepted by Transnet as a valid reason for delay in completing the contract.

d. The *Contractor* shall install its own meter for water and record its consumption. The *Contractor* is responsible for the costs of the temporary connections to the site.

e. The *Contractor* provides a connection to the *Employer's* water borne sewage network. Where no suitable connection to a sewerage system is feasible, portable chemical type toilets may be used.

3.12 Giving notice of work to be covered up

a. The *Contractor* notifies the *Supervisor* in writing of any elements of the works which are to be covered up.

3.13 Connections to existing Works or Services

a. The *Contractor* shall obtain written permission from the *Supervisor* prior to installing any connections, modifications or removal of existing works.

3.14 *Contractor*` s Facilities

a. The *Contractor* ensures that this site establishment area is compliant with the relevant health, safety and environmental regulations and restrictions, is clearly sign posted, and has a suitable security fence, lighting and the necessary access control gates.

b. All costs for preparation of the site establishment area are for the *Contractor*'s account.

c. The *Contractor* submits details of the layout of his site establishment to the *Project Manager* for his acceptance.

d. The *Contractor* is responsible for his own connection to the *Employer*'s services and for the reticulation of his services from the connection point. The cost of meters, connections, reticulation and all other usage costs associated with the provision of services (except potable water and electricity) are for the *Contractor*'s account.

e. The *Contractor* provides the *Project Manager* with a "Certificate of Compliance" (COC), by an "Accredited" Person as defined by the OHS Act, in respect of his construction power electrical installation. The *Project Manager* only makes construction power available upon receipt of the COC.

f. The *Supervisor* (or his nominated representative) conducts routine inspections of the *Contractor*'s construction power reticulation and power tools. If found to be un-safe and / or non-compliant with statutory requirements, the electrical power supply is disconnected until the *Contractor* rectifies all defaults.

g. The *Contractor* provides, at his cost, a sufficient number of toilets and maintains them in a clean and sanitary working condition.

h. The *Contractor* provides temporary lighting and fencing around every section occupied by him during the construction of the Works.

i. Such fencing demarcates and secures the construction area. The fencing is erected before any work starts and is removed only upon completion of the work in that area.

j. The *Contractor* includes for all costs for such lighting and fencing, including access control into and out of these restricted areas.

k. The *Contractor* shall provide facilities (either his own and for the Project Manager and/or *Supervisor*) and all items of Equipment, involving, inter alia, offices, accommodation, laboratories, Materials storage, etc., within the Working Areas, then the *Contractor* makes good and provides full reinstatement to the land (including all apparatus of the *Employer* and Others in, on or under the land) and surrounding areas to its original standard, upon dismantling of such facilities and items of Equipment.

l. Upon completion, and within one month of the date of acceptance of the Works, the *Contractor* completely removes from the Site and Working Areas all his Equipment, including the

foundations of any structures, stores, office accommodation or any other asset belonging to him, and leaves the Site and Working Areas in a tidy condition to the satisfaction of the Project Manager.

m. No excess or discarded materials or Equipment may be buried or dumped within the port boundary.

n. Demolition of all permanent and temporary structures, surfaces etc. shall be first approved by the Project Manager prior to the work being carried out.

o. The *Employer* does not provide any security for the Site and Working Areas. The *Contractor* provides same and indemnifies and holds indemnified the Project Manager and *Employer* against any claims and actions that may arise out of Site and Working Area security.

p. No housing is available for the *Contractor*'s employees. The *Contractor* makes his own arrangements to house his employees and transports them to site in a closed vehicle specifically designed for passenger transport (bus or similar) which is in a roadworthy condition.

q. Wherever the *Employer* provides facilities for the *Contractor*'s use and the *Contractor* adapts such facilities for use, then the *Contractor* makes good and provides full reinstatement to the land (including all apparatus of the *Employer* and Others in, on or under the land) and surrounding areas to its original standard upon dismantling of such facilities and hand-back to the *Employer*.

3.15 Survey control and setting out of the Works.

a. The *Contractor* is responsible for all setting out works and all surveys required that are additional to those provided to the *Contractor* by the *Employer*.

3.16 Excavations and associated water control

a. Probability of Asbestos Contamination in Excavations:

i. The *Contractor* ensures his staff and labour are equipped with the necessary PPE and are trained to recognise asbestos contamination.

ii. On encountering asbestos contamination, the *Contractor* immediately stops all work in the affected area, he summonses the *Supervisor* and secures the area.

iii. The *Supervisor* arranges for a specialist waste disposal *Contractor* to collect, bag, remove and dispose the contaminated material from the excavation or bulk earth Works.

iv. The *Contractor* continues with the excavation or bulk earth Works on receipt of a written instruction from the *Supervisor*.

3.17 Underground services, other existing services, cable and pipe trenches and covers

a. As a guide only, the Project Manager provides the *Contractor* with drawing(s) showing various known existing underground services for his information. The position of these services is approximate and it is possible that other services exist which are not reflected, and which may affect the Works.

b. The *Contractor* establishes the location of the various existing services situated within the Site and Working Areas, and records all such information on "marked-up" drawing(s) which remain available for reference at all times.

c. The *Contractor* exercises due care and attention in carrying out any excavation work to avoid damage or disruption to existing services. The *Contractor* accordingly consults the Project Manager prior to undertaking any excavation work.

d. Should the *Contractor* fail to exercise the requisite care and attention in carrying out the excavation work, the *Contractor* will be held liable for any claims arising out of damage caused by such excavation.

3.18 Control of noise, dust, water and waste

Before moving Equipment onto the Site, Working Areas and commencing operations, the *Contractor* submits his proposed methods of construction which demonstrate the measures taken to avoid and or reduce any nuisance arising from dust, noise and vibration for acceptance by the Project Manager.

3.19 Giving notice of work to be covered up

The *Contractor* notifies the *Supervisor* in writing of any elements of the Works which are to be covered up. This notification is given not less than 24 (twenty-four) hours prior to the proposed covering up.

3.20 Restrictions to access on Site, roads, walkways and barricades

a. The *Contractor* is specifically excluded from entering the *Employer*'s Operational Areas which are adjacent to the Site and Working Areas. The *Contractor* plans and organises his work in such a manner so as to cause the least possible disruption to the *Employer*'s operations.

b. The *Contractor* ensures the safe passage of *Contractor*'s traffic to and around the Site and Working Areas at all times that includes providing flagmen, protective barriers, signage, etc. for protection, direction and control of traffic as detailed in the project specifications

c. The *Contractor* ensures that any of his staff, labour and Equipment moving outside of his allocated Site and Working Areas does not obstruct the operations of the Port. To this end access routes are allocated and coordinated by the *Project Manager*.

d. The *Contractor* ensures that all his construction staff, labour, and Equipment remains within his allocated and fenced off construction area.

e. All *Contractor*'s staff and labour working within Port's boundary complies with Transnet National Ports Authority's (TNPA) operational safety requirements and are equipped with all necessary personnel protective equipment (PPE).

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

a. The *Contractor* keeps daily records of his people engaged on the Site and Working Areas (including Sub-*Contractor*s) with access to such daily records available for inspection by the *Project Manager* at all reasonable times.

b. The *Contractor* has access to the site from 07h00 to 17h00 daily on all calendar days. The *Contractor* will be required to obtain permission from the *Project Manager* to Conduct Works out of the hours stipulated.

3.22 Completion, Testing, Commissioning and Correction of Defects

On or before the Completion Date, the *Contractor* completes everything required to complete the Works including the work listed below which is to be done before the Completion Date and in any event before the dates stated. The *Project Manager* cannot certify Completion until all the work listed below has been done and is also free of Defects, which would have, in his opinion, prevented the *Employer* from utilising the berth and others from doing their work.

Table 7: Indicating completion date post deliverables

Item of work	To be completed by
As built drawings as specified in the Works Information	Within 14 days prior to Completion.
Performance testing of the *Works*	To be conducted as the Works progress in order to satisfy the requirements of the Technical Specifications.

3.23 Materials, facilities and samples for tests and inspections

a. The *Contractor* shall supply concrete mix designs to Transnet specifications, concrete cube tests, compaction results, data sheets for products like epoxy, grout, etc., steelwork shop detail drawings for approval and steelwork material certificates, if required.

3.24 Commissioning

a. Access given by the *Employer* for correction of Defects

b. The *Contractor* complies with the following constraints and procedures of the *Employer* where the *Project Manager* arranges access for the *Contractor* after Completion:

- The Site Entry and Security Control requirements of the TNPA
- Provision of barricading around the area where the defect is to be corrected.

- The requirements of the Health and Safety Standard HAS-STD-0001

c. The *Contractor* is permitted to carry out the following Works after Completion

- Defects during maintenance period.

3.25 Use of the Works required before Completion has been certified

None.

3.26 Access given by the *Employer* for correction of Defects

The *Contractor* complies with the following constraints and procedures of the *Employer* where the *Project Manager* arranges access for the *Contractor* after Completion:

a. Safety, access control and work procedures as determined by the Ports Manager.

b. These may be the same as communicated elsewhere within this Works Information as at the starting date / access date, or as the Works are now in use by the *Employer*'s occupation of the Site, the same may be incrementally or substantially changed post Completion.

4 PLANT AND MATERIALS STANDARDS AND WORKMANSHIP

4.1 National Standards

The latest editions and/or amendments of the following Standards and Codes shall be considered a minimum requirement. In the event of differing requirements, the most stringent Code or Standard shall apply:

a) Occupational Health and Safety (OHS) Act No. 85 of 1993;

b) South African National Standards;

c) DIN or British Standard Specifications. / DIN, EN and ASME Standard Specifications;

d) N.O.S.A. Safety Guidelines;

4.2 Civil Engineering and Structural Works

4.3.1 Where the SANS 1200 series of Specifications are used within the Works Information, the following interpretations and meanings shall apply:

- In case of any conflict in interpretation, ambiguity or discrepancy between any SANS 1200 Specification (whether standard or written as a particular project specification) contained in the Works Information and the conditions of contract, the conditions of contract take precedence within the ECC contract.
- In case of any conflict in interpretation, ambiguity or discrepancy between any SANS 1200 Specification (whether standard or written as a particular project specification) contained in this paragraph 4.3 of the *Employer*'s Works Information and specific statements contained elsewhere in C3.1 *Employer*'s Works Information, the specific statements contained elsewhere shall prevail, without prejudice to the Project Manger's express duty to resolve any ambiguity or inconsistency in the Works Information under ECC Clause 17.1.

4.3.2 Within SANS 1200 A: GENERAL, the following amendments and interpretations shall apply:

- Where the word or expression "*Employer*" is used, read "*Employer*";
- Where the word or expression "*Contractor*" is used, read "*Contractor*";
- Where the word or expression "*Supervisor*" is used, read "*Project Manager*" or "*Supervisor*" as the context requires;
- Where the word or expression "schedule of quantities" is used, this is deleted in entirety. Assessment and payment is in accordance with the conditions of contract (and the ECC main and secondary options stated therein);

4.3.3 Within SANS 1200 A: GENERAL 2.3 DEFINITIONS, the following apply:

- "Acceptable. Approved (Approval)" is interpreted as either a *Project Manager* or a *Supervisor* communication or instruction in relation to Works Information compliance, consistent with the conditions of contract as the context requires;
- "Adequate" is deleted. The *Project Manager* or *Supervisor* notifies the *Contractor* where the *Contractor* has not complied with the Works Information;
- "Measurement and payment" and the further definitions contained within 6.3 c) are deleted. Assessment and payment is in accordance with the conditions of contract (and the ECC main and secondary options stated therein);

4.3.4 Within SANS 1200 A: GENERAL 2.6 APPROVAL, the following applies:

- "Approval" by either the *Project Manager* and/or the *Supervisor* is without prejudice to ECC Clause 14.1 and, inter alia, ECC Clauses 13.1, 14.3 and 27.1.

4.3.5 SANS 1200 A: GENERAL 2.8 ITEMS IN SCHEDULE OF QUANTITIES, is deleted in entirety. Assessment and payment is in accordance with the conditions of contract (and the ECC main and secondary options stated therein).

4.3.6 SANS 1200 A: GENERAL 3.2 STRUCTURES AND NATURAL MATERIAL ON SITE, does apply.

4.3.7 Within SANS 1200 A: GENERAL 7.1 PLANT, the following applies:

- Where the word or expression "Plant" is used, read "Equipment".

4.3.8 SANS 1200 A: GENERAL 7.2 *CONTRACTOR*'S OFFICES, STORES AND SERVICES, applies but the *Project Manager* resolves any inconsistency with statements included within paragraph 3.1.12 of C3.1 *Employer*'s Works Information.

4.3.9 SANS 1200 A: GENERAL 5.1 SURVEY, does apply.

4.3.10 Within SANS 1200 A: GENERAL 3.2 WATCHING, BARRICADING, LIGHTING AND TRAFFIC CROSSINGS, the following applies:

- Where the word or expression "specification" is used, read "Works Information".

4.3.11 SANS 1200 A: GENERAL 3.4 PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES applies only to the extent that it is consistent with the specific statements made elsewhere in C3.1 *Employer*'s Works Information and in any case and at all times consistent with the conditions of contract.

4.3.12 Within SANS 1200 A: GENERAL 5 TESTING, the following applies:

- Where the word or expression "*Supervisor*" is used, read "*Supervisor*".

4.3.13 SANS 1200 A: GENERAL 8 MEASUREMENT AND PAYMENT, is deleted in entirety. Assessment and payment is in accordance with the conditions of contract (and the ECC main and secondary options stated therein).

4.3.14 The principles, meanings and interpretation stated and established within paragraphs 6.3.1 to 6.3.15 with respect to SANS 1200 series and to SANS 1200 A: GENERAL equally apply to the other SANS 1200 specification reference parts G (concrete) and H (structural steelwork)

4.3.15 Code of Practice for Steel Construction

The relevant sections of this document shall conform to the requirements of the SANS 1200 H Series of Standards.

4.3.16 Rolled Steel

All structural steelwork, except where otherwise stated, shall be of rolled steel and shall comply in every respect with SANS 1431 for evadable structural steel. Structural steelwork shall be designed in accordance with SANS 10162.

4.3.17 Steel Castings

Steel castings shall be sound, clean and free from all defects and distortion of any kind and should, except where otherwise specified, confirm with the conditions and tests specified in SANS 407: 2000 for the particular purpose according to service. They shall be thoroughly annealed and all working parts and bearing surfaces shall be machined and turned accurately with the correct finish.

4.3.18 Steel Forgings

All steel forgings shall be free from flaws and surface defects of any kind and be accurately finished to the prescribed dimensions. They should conform to the conditions and tests specified in BS. No. 24, Part 4.

4.3.19 Workmanship and Finish to Steelwork

The workmanship and finish shall be of the best quality throughout with every individual part accurately made to size and form so as to fit exactly on erection.

Generally, the workmanship on any steelwork shall be in accordance with the recommendations of SANS 1200H series & SANS 2001: CSI. Cutting of steelwork may be affected by shearing,

cropping or sawing. Sheared or cropped edges shall be dressed to a neat and workmanlike finish and shall be free from any distortion.

All holes for turned and fitted bolts shall be accurately drilled or reamed and the diameter of the hole shall not exceed the finished diameter of the bolt by more than 0, 25 mm.

All steelwork which has been partially heated shall be properly annealed except in applications of minor detail.

4.3.20 Galvanising of Steelwork

This shall be in accordance with SANS 121: 2000 latest revision and the relevant Project Standards

Note: on National Standards: Where given, these are a minimum requirement, and not limited. Equivalent Standards are acceptable, but must be specified.

4.3 Materials, fabrication and finishing

All materials, where applicable, shall conform in respect to quality, manufacture, tests and performance, to the Project Standards, South African National Standards/the International Electro Technical Commission, or where no such Standard exists, the appropriate British Standard. Materials not specifically stipulated shall be of the best commercial quality.

All welding activities performed by the *Contractor* shall be in accordance with appropriate codes, standards and the Project Standards and shall also include the following:

4.4.1 All welds shall be laid smooth and external welds strip polished;

4.4.2 All stainless steel and 3Cr12 welds shall be pickled and passivated.

4.4 Ease of Operation and Maintenance

All Plant and Materials supplied by the *Contractor* shall be designed and constructed for ease of operation and maintenance to ensure that the availability, reliability requirements and operating time efficiencies stated in the Specifications are achieved and maintained throughout the life span of the Plant and Materials.

The Following shall also be noted:

- All operational, maintenance and inspection points shall be safely accessible;
- All working platforms shall be wide enough for safe and easy passage

The *Contractor* shall provide a specification and procedure that shall suggest the safest and most efficient operation to carry out the cleaning and maintenance of all Plant and Materials to be supplied by the *Contractor* as well as outline and supply all specialist tools required for these operations.

4.5 Safety equipment and name plates

The *Contractor* shall secure all safety equipment, guards, notices and nameplates associated with all Plant and Materials erected by the *Contractor*. This will include but is not limited to the following items:

4.5.1 Hot surface guards

4.5.2 Railings and chains

4.5.3 Signage and notices

4.5.4 Name plates

4.6 Scaffolding

The *Contractor* shall contract with a certified scaffolding *Contractor* who will supply and erect all scaffolding. The *Contractor* shall manage their activities to ensure the timely and safe supply and erection of all scaffolding needed for the Erection of all work under this Contract as defined in the Scope of Work. The *Contractor* shall give the scaffolding *Contractor* sufficient time or extension of time to erect the scaffolding.. No standing time or extension of time shall be claimed by the *Contractor* due to unavailability of scaffolding.

4.7 Erection Planning

The *Contractor* shall develop and submit to the *Supervisor* a detailed erection plan for the erection of all Plant and Materials, 10 (ten) days after the award date. The erection plan shall outline the following as a minimum:

4.7.1 Critical Path definitions

4.7.2 Installation start Dates

4.7.3 All site progress meeting dates

4.7.4 Installation milestone dates

4.7.5 Installation and Erection completion dates

4.8 Rigging

Before undertaking heavy lifting and rigging, the *Contractor* must undertake a rigging study and all rigging activities must have the following in place:

4.8.1 The rigging study must be reviewed by the *Supervisor* and the *Employer*s Safety Officer prior to any heavy lifting and rigging activities being undertaken by the *Contractor*;

4.8.2 The rigging study must be co-ordinated with the overall site planning and activities schedule.

The *Contractor* shall supply all qualified and experienced personal required to effectively and efficiently position, align, install and erect all Plant and Materials supplied (by others) in a timely manner. This shall also include the installation of all rigging equipment fixed and mobile, such as crawl beams, crawls, "A" frame, gantries, hoists, etc. as required to lift, suspend, position and align, etc.; all Plant and Materials in their respective positions and in accordance with the manufacturer's specifications and the Project Standards.

4.9 Workmanship

The *Contractor* shall only employ competent staff to execute the Works and submit a competency and compliance certificate of each employee (e.g. welding certifications or certificates, fitter qualifications, etc.) to the *Employer* for approval.

The Contract shall be executed in accordance with good Engineering practice and the relevant standards, codes, statutory requirements and the Project Standards applicable to the satisfaction of the *Employer*.

Should any material or workmanship supplied and performed by the *Contractor* not be to the satisfaction of the *Supervisor*/ *Employer*; it shall be rectified at the cost of the *Contractor* and all rejected material removed from Site. The *Contractor* shall be responsible for the correct and complete installation of all Plant and Materials supplied by others.

Inspections by the *Supervisor* shall not release the *Contractor* from his responsibilities within the Contract unless covered by a formal Take Over Certificate.

4.10 Painting and Corrosion Protection

The *Contractor* shall carry out all preparation, priming, protection coating, painting and finishing activities as required in accordance with both the Project Standard Technical Specification for Corrosion Protection as supplied by TNPA.

The final coat of paint or touch ups on Plant and Materials supplied by others shall be done by the *Contractor*.

Touch ups shall be limited to any damages, scratches, scraps etc. which occurred during the offloading, storage, retrieval, assembly, positioning, alignment, installation, erection and securing of all Plant and Material or unless approved by the *Employer*. All painting activities shall be undertaken by competent personnel supplied by the *Contractor*.

4.11 Lubrication

The *Contractor* shall ensure that all initial fluids, lubrication oils and greases, associated mechanisms and equipment required by all Plant and Materials and supplied by others are installed correctly and in

accordance with the manufacturer's specifications. This shall also include consumables such as oil filters and chemicals, etc.

The *Contractor* shall ensure that all Plant and Materials installed, modified, removed and reinstalled by the *Contractor* are correctly lubricated prior to Commissioning.

4.12 Health, Safety and Environmental requirements

The *Contractor* shall comply with all applicable health, safety and environmental regulations and requirements for all persons entitled to be on the Site.

The *Contractor* shall be responsible for the precautions and measures to ensure the health and safety of all individuals on the Site and temporary areas (if applicable) outside of the Site, but utilised by the *Contractor*, with the prior approval of the *Employer*.

This shall also include any areas that may adjoin those areas or otherwise be affected or potentially endangered by the Works. The *Contractor* shall be responsible for the adequacy, stability and safety of all Site and Temporary Areas operations, methods of construction, all *Contractor*'s Equipment, Temporary Works and structures.

The *Contractor* shall provide and/or install for all necessary safety protection equipment (e.g. rotating parts guards, hot surface insulation/guards, and railings) and necessary *Contractor*'s Personnel, in accordance with the applicable legislation in South Africa, including the Occupational Health and Safety Act (1993) of South Africa. The *Contractor* shall take special note of the requirements of the Construction Regulations, 2003.

The *Contractor* shall comply with the *Employer*'s Environmental Management Plan Requirements. The Plant's noise level shall be less than 85 dBA when measured at any point further than three metres from the source(s) of the noise.

4.13 Quality Control Plan

The QCP shall be approved by the *Supervisor* and shall conform to the requirements of ISO 9001 (2000) and shall incorporate the following as a minimum:

4.13.1 A detailed organisation chart;

4.13.2 A list of *SubContractor*s;

4.13.3 A list of the applicable quality assurance procedures;

4.13.4 A list of applicable Codes and Standards for design, construction, inspection and tests;

4.13.5 The *Contractor*'s inspection plans;

4.13.6 Any *SubContractor*'s inspection plans;

4.13.7 Provisional programmes for expediting Works to be executed by *SubContractor*s;

4.13.8 Procedures to manage the non-conformance of Plant and Materials

4.13.9 An audit schedule for *Contractor*/*SubContractor* activities.

The QCP shall indicate Hold Points and Witness Points proposed by the *Contractor*. The *Supervisor* will determine, in consultation with the *Contractor* and the *Employer*, and notify the *Contractor*, the Hold Points and Witness Points to be witnessed by the *Supervisor* and/or the *Employer*.

The Taking-Over Certificate shall not be issued to the *Contractor* until all the Hold Points on the QCP have been witnessed and approved by the *Supervisor* and/or *Employer* as required.

The *Contractor* shall be responsible for updating the QCP regularly throughout the Contract. The QCP shall be required to demonstrate compliance with the requirements of the Contract.

The *Supervisor* shall be entitled to audit any aspect of the QCP and details of all procedures and compliance documents shall be submitted to the *Supervisor* for information, before each design and execution stage is commenced. When any document of a technical nature is issued to the *Supervisor*, evidence of the prior approval by the *Contractor* itself shall be apparent on the document itself.

The *Contractor* shall maintain the *Contractor*'s Data Book for the Works at all times, and the *Contractor*'s Data Book for the Works shall be made available to the *Employer* at all times during the Contract for review and approval by a Third Party Inspector.

4.14 Storage of existing Plant and Materials

Plant and Material to be stored for future use by the *Employer* shall be transported by the *Contractor* to a storage area to be advised by the *Employer*. All Plant and Materials shall as far as practically possible, be stored above the ground on wood block, palettes, etc.

4.15 Welders Certification

All welders employed by the *Contractor* shall be subjected to a welding test prior to carrying out any work on Site by an Approved Inspection Authority employed by the *Contractor*. These tests shall be co-ordinated and supervised by the *Contractor*. The testing process shall consist of each welder performing a series of test welds which shall be inspected by the Approved Inspection Authority to be supplied by the *Contractor*. The Inspection Authority shall provide the *Supervisor*` s Third Party Inspection Authority and the Site Manager with full certification for all welders tested. The *Contractor* shall be responsible for the supply all test materials, welding rods, welding machines and any other material and equipment required to carry out the above tests.

4.16 Weld maps, weld inspection and weld failures

The *Contractor* shall allocate each welder a unique hard stamp number prior to starting any work on Site. These numbers shall be used by the *Contractor* to outline on each drawing the welds to be carried out by the relevant welders. These drawings shall serve as a weld map to be used by the *Supervisor*s Third Party Inspection Authority's inspector during testing. In addition, each welder shall hard stamp their own unique number next to each weld produced by them on Site. All hard stamps and hard stamp equipment and materials shall be provided by the *Contractor*.

The *Supervisor*s Third Party Inspector shall identify the welds to be tested by the *Contractor*. These shall include all NDT, X-ray; die pen or any other test as required by the relevant codes, standards and the Project Standards. For every weld failure, 2(two) additional equivalent tests shall be conducted for welds carried out by that same welder. Should these tests uncover further weld failures, testing of 100% of all that particular welder's welds may be conducted by the *Contractor* under the supervision of the *Supervisor*s Third Party Inspector. In the event that 10% of all welds produced by a particular welder fail the tests carried out during the 100% testing period, that particular welder shall be immediately be removed from Site The cost of all the additional testing, all rectification work and the removal of unsuitable welders shall be for the *Contractor*s account.

5 LIST OF DRAWINGS

5.1 Drawings issued by the *Employer*

Drawing Numbers:

- DH65-B-35-Sheet 1
- DH65-B-35-Sheet 2
- DH65-B-35-Sheet 3
- DH65-B-35-Sheet 4
- DH65-B-35-Sheet 5
- DH65-B-35-Sheet 6
- DH65-B-35-Sheet 7
- DH65-B-35-Sheet 8
- DH65-B-35-Sheet 9
- DH65-B-35-Sheet 10
- DH65-B-3-Sheet 1
- DH65-B-3-Sheet 2
- DH65-B-3-Sheet 3
- DH65-B-3-Sheet 4
- DH65-B-3-Sheet 5
- DH65-B-3-Sheet 6
- DH65-B-3-Sheet 7
- DH65-B-3-Sheet 8
- DH65-B-3-Sheet 9

SECTION 2

6 MANAGEMENT AND START UP

6.1 Management meetings

a. It is the *Employer*'s specific intention that the Parties and their agents use the techniques of partnering to manage the contract by holding meetings designed to pro-actively and jointly manage the administration of the contract with the objective of minimising the adverse effects of risks and surprises for both Parties.

Regular meetings of a general nature may be convened and chaired by the *Project Manager* as follows:

Title and Purpose	**Approximate time & interval**	**Location**	**Attendance by :**

Kick -off Meeting	Once off at the start of the contract	Ocean Terminal Building / Virtual via Microsoft Teams.	*Project Manager* (and appropriate key persons)and *Contractor*
Risk register and compensation event	Bi-weekly or as risks are identified	On Site / Virtual via Microsoft Teams.	*Project Manager* (and appropriate key persons)and *Contractor*
Overall contract progress and feedback	Bi -weekly	Ocean Terminal Building / Virtual via Microsoft Teams.	*Project Manager* (and appropriate key persons) and *Contractor*
Safety meetings	Weekly	On Site	*Construction Manager* (and appropriate key persons), Safety Manager *Contractor*

b. The *Contractor* attends management meetings at the Project Manager's request. These meetings are to be held fortnightly or as regularly as maybe determined by the Project Manager. At these meetings the *Contractor* presents all relevant data including safety, health and environmental issues, progress, quality plans, *SubContractor* management, as may be required.

c. Meetings of a specialist nature and virtual meetings may be convened as specified elsewhere in this Works Information, or if not so specified, be convened by persons at times and locations to suit the Parties, the nature and the progress of the Works. Within five days of the meeting the person convening the meeting shall submit records of the meeting to the Project Manager.

d. All meetings shall be recorded in a register, using minutes prepared and circulated by the person who convened the meeting. Such minutes (or register) shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the conditions of contract to carry out such actions or instructions.

6.2 Documentation Control

All documentation shall conform to the latest revisions of the following, i.e.:

a. SANS 10111 - Code of Practice for Engineering Drawings, or

b. ISO 9001:2000 - Quality Management Systems Requirements.

6.3 Safety risk management

The *Contractor* shall comply with the health and safety requirements contained in this Works Information. Refer to Annexure C for Safety, Health and Environmental Specifications and requirements.

6.4 Environmental Constraints and Management

The *Contractor* complies with the following ENV-STD-001 Rev01 (CEMP):
The *Contractor* performs the *works* and all construction activities within the Site and Working Areas having due regard to the environment and to environmental management practices as more particularly described within the SES and PES.

The SES describes the minimal acceptable standard for environmental management for a range of environmental aspects commonly encountered on construction projects and sets environmental objectives and targets, which the *Contractor* observes and complies.

The PES may require higher minimal standards than those described in the SES as may be required by the *Project Manager* or Others.

The overarching obligations of the *Contractor* under the CEMP before construction activities commence on the Site and/or Working Areas is to provide an environmental method statement for a particular construction operation at the Site and/or Working Area by the *Contractor* and where requested by the CM and to comply with the following:

Where relevant, method statements, as detailed in the SES and PES, shall be provided by the *Contractor*. These include, but are not limited to, the following where applicable:

- Establishment of construction lay down area
- Hazardous and non-hazardous solid waste management
- Storm water management
- Contaminated water management
- Prevention of marine pollution
- Hydrocarbon spills

- Diesel tanks and refuelling procedures
- Dust control
- Spoil dumping
- Sourcing, excavating, transporting and dumping of fill material
- Noise and vibration control
- Removal of rare, endemic or endangered species
- Removal and stockpiling of topsoil
- Rodent and pest control
- Environmental awareness training
- Site division
- Emergency procedures for environmental incidents
- *Contractor's* SHE Officer
- Closure of construction laydown area

The *Contractor* shall ensure that his management, foremen and the general workforce, as well as all suppliers and visitors to Site have attended the Induction Programme ; covering all of the rules and regulations and emergency protocols for that specific site ,prior to commencing any *work* on Site. If new personnel commence work on the Site during construction, the *Contractor* shall ensure that these personnel undergo the Induction Programme and are made aware of the environmental specifications on Site.

The *Contractor* must appoint a sufficient number of named assistants to the CSHEO to monitor environmental issues e.g. litter, spills, illegal activities, fence patrol, dust etc. These appointments, along with details of the individuals being appointed and job descriptions, must be sent to the *Project Manager* for his approval.

During the construction period, the *Contractor* complies with the following:

A copy of the SES, and the relevant PES shall be available on Site, and the *Contractor* shall ensure that all the personnel on Site (including Sub*Contractor*s and their staff) as well as suppliers are familiar with and understand the specifications contained in the SES (as amended by the PES). Refer to Annexure C for Environmental Specifications and Guidelines.

Method statements that are required during construction must be submitted to the *Project Manager* for approval at least 20 days prior to the proposed commencement of the activity. Emergency construction activity method statements may also be required. The activities requiring method statements cannot commence if they have not been approved by the *Project Manager*.

The *Contractor* shall ensure that any Materials delivery drivers are informed of all procedures and restrictions (e.g. which access roads to use, no go areas, speed limits, noise, etc) required by the CEMP before they arrive at Site and off load any Materials.

The *Contractor* ensures that its *SubContractor*s comply with the requirements of the CEMP.

The *Contractor* makes copies of the CEMP, SES and PES available at the offices of the *Contractor* on Site. The *Contractor* ensures that all personnel on Site (including Sub*Contractor*s) are familiar with and understand the requirements of the CEMP.

The *Contractor* complies with the following SES:

- The *Contractor* shall identify the kinds of environmental impacts that will occur as a result of his activities and then prepare separate method statements describing how each of those impacts will be prevented or managed so that the standards set out in this document are achieved. These method statements will be prepared in accordance with the requirements set out in the CEMP.
- To ensure that environmental issues are taken into account in the establishment of the Site offices and all other facilities on Site.

The CSHEO submits daily and weekly checklists to the Project Manager and an audit report monthly against the requirement of the SEMP and SES.

The roles and responsibilities of the various personnel acting on behalf of the Project Manager and who communicate directly with the *Contractor* and his key persons with respect to the CEMP and environmental issues are:

a. The Construction Manager (CM) is responsible for environmental management on the Site and Working Areas and reports to the Project Manager.

b. Implementing the *Employer*'s SES and SEMP.

c. Monitor *Contractor*'s compliance to the SES and SEMP

The Project Environmental Manager (ProjEM) is responsible for ensuring that the *Contractor* complies with the CEMP and acts on behalf of the Project Manager.

The *Contractor* complies with the CEMP, SES and PES. The *Contractor* abides by the instructions of the *Project Manager* regarding the implementation of the CEMP.

6.5 Quality assurance requirements

6.5.1 Quality system

The *Contractor* shall develop and maintain an effective quality system in accordance with the relevant requirements of SABS/ISO9000 Series, or equivalent standard, to ensure and demonstrate that material, workmanship, procedures and services conform to the specified requirements.

A copy of the *Contractor*'s / supplier's Quality Manual may be requested for review by the Project Manager followed, at the Project Managers discretion, by Quality Assessments or Surveillance's to obtain evidence that a satisfactory quality system is being maintained.

6.5.2 Work Procedures Plan

Within a maximum of two (2) weeks following Contract Award or as per order condition, the *Contractor* shall produce a Work Procedure Plan. This Procedure Plan, as a MINIMUM, identifies the following:

- Order Number, Job Title.
- Organogram with nominated personnel, including signatures and initials.
- Scope of Job, Equipment, Structure(s)
- Basis for Designs and Fabrication, e.g. codes and specifications.
- Communication e.g. contacts address, telephone number, facsimile number, numbering systems and formats, email address.
- Bar Chart (Time Schedule – Level 4) for production, supplies and repair works including Sub-Suppliers.
- Control of documents, e.g. issuing and receiving, transmittals.
- Numbering of Documents including TNPA drawing number requirements
- Specific Procedures and/or General Procedures list to be utilized.

- Internal Quality Audits and/or Surveillance's to be performed with actual dates

6.5.3 Quality Control Plan

The *Contractor* shall provide a Quality Control Plan (Inspection and Test Plan) specifying his proposed quality control activities for the entire scope of supply and scope of works. The Quality Control Plan shall incorporate, as a minimum, an INSPECTION CHECK LIST. The Quality Control Plan shall reference the procedures, codes and standards which apply to the listed activities, the acceptance criteria, the records to be produced and similarly it shall incorporate all Sub-*Contractor*s and supplier's activities. The Quality Control Plan shall be prepared on the *Contractor*s / Suppliers standard format.

Deviations from this Quality Control Plan may only be permitted following acceptance in writing by the *Supervisor* and/or the appointed Third Party Inspection Authority.

The *Contractor* shall not undertake any work in advance of the review and acceptance of the Quality Control Plan without the written consent of the Project Manager.

During the review of the Quality Control Plan / Inspection and Test Plan, Inspection and Test intervention points will be included by the *Supervisor* and, where applicable, the Third Party Inspection Authority to indicate their intended monitoring during manufacturing, fabrication and installation.

The *Contractor* / Supplier shall ensure that any work sub-contracted will be covered by Quality Control Plans / Inspection and Test Plans generated by the relevant Sub-*Contractor* or Supplier.

6.5.4 Pre Inspection Meetings

Pre-inspection meetings may be held at the discretion of *Supervisor*. In such cases, the content of the agenda shall include, but not be limited to, the following:

- Documentation: Method of Submission, review etc.
- Quality Control Plan: Agreement of inspection, witness, review and hold points, Agreement of contacts for notification, etc.
- Code Data book / QC Dossier: Agreement to contents and format.
- QC Procedures: Agreement to Scope.

- AIA: Authorised Inspection Authority requirements.
- Communications: Responsible persons.
- Non-destructive Testing: Personnel qualification, method and extent required.

6.5.5 Inspection

Definition: Inspection means all activities such as measuring, examining, testing, gauging one or more characteristics of material or service and comparing these with specified requirements to determine conformity.

6.5.5.1 Inspection Point Definition:

- **Hold Point = H:** This indicates an inspection or test which is considered vital to quality, integrity and safe functioning of the material or services and which can only be achieved at this point. The *Contractor* shall not proceed beyond this point beyond this point without written approval by *Project Manager*/*Supervisor* and/or the appointed Third Party Inspection Authority.
- **Witness Point – W:** This indicates an inspection or test which may be equally as important as a Hold Point, but which can be waived by the appointed Third Party Inspection Authority or the *Supervisor*.
- **Review Point – R:** This indicates that information collected is required to be reviewed and approved. The job may continue past the review point, however, if the information is inadequate or does not satisfy the requirements, may necessitate additional work.
- **Inspection Points – I**: During the review of the Quality Control Plan, Inspection points will be added by the *Supervisor* and where relevant, the Third Party Inspection Authority to indicate the intended monitoring of the *Contractor*'s and/or Sub-*Contractor*'s quality control.

6.5.5.2 *Contractor*s Inspection

The *Contractor* shall as a minimum, carry out the inspections as detailed in the Quality Control Plan and maintain the required records for verification by Transnet and/or Third Party Inspection Authority.

For sub-contracted material or services, the *Contractor* shall ensure that controls are effective, including, where necessary, monitoring at the Sub-*Contractor*'s works and retention of the necessary records. Signing-off of the Quality Control Plan progressively by all relevant parties is a mandatory requirement following the indicated inspection activity.

6.5.5.3 Readiness for Inspection

6.5.5.3.1 Material or services shall be deemed ready for inspection by the *Supervisor* only when:

- Material or services shall be deemed ready for inspection by Transnet only when:
- The *Contractor* has firstly carried out his own inspection at the stage identified on the relevant Quality Control Plan and is satisfied that material, workmanship and services meet the specified requirements. Documented evidence shall be maintained by the *Contractor* including signing-off the Quality Control Plan.
- All applicable certificates and quality documents are available for review at the inspection location. Immediately following receipt by the *Contractor* ALL material and certification (including welding consumables), the *Contractor* shall review these certificates and endorse them "Verified to Code/Specification Requirements" including date and name. Immediately following, the material and certification shall be presented to the *Supervisor* and/or the appointed Third Party Inspection Authority for review and endorsement.

6.5.5.4 Notification of Readiness for Inspection

- Notification by fax/email/ telephone is required for both Hold and Witness points at least two days in advance of "Readiness of Inspection" or as agreed at the pre-inspection meeting. Review points do not require prior notification.
- The *Contractor* shall ensure that the latest revisions of approved drawings and/or procedures with evidence of acceptance by Transnet, his nominated representative or Third Party Inspection Authority, are available.
- *Contractor*s are advised that it is a condition of Purchase / Contract that all costs of Transnet's inspector, *Supervisor* and/or Third Party Inspection Authority will be passed on to the *Contractor* for aborted inspection visits. A visit is considered aborted if:

- The *Contractor* / Supplier advises "readiness" for inspection and upon arrival of the *Supervisor*(s) or Third Party Inspection Authority, the material or Services and/or the associated documentation is not ready; or if Transnet's personnel identifies that material or services are to specification such that the *Contractor*'s Inspector should have identified the non-conformity prior advising readiness for the *Supervisor* or Third Party Inspection Authority inspection.
- **NOTE:** An inspection report to this effect shall be generated by the *Supervisor* or Third Party Inspection Authority and countersigned by the *Contractor*'s duly authorised representative. This report shall form the basis of back-charges to the *Contractor* / Supplier by Transnet. In addition, a non-conformance report shall be raised by Transnet, the *Supervisor* or the Third Party Inspection Authority which shall be replied to by the *Supervisor* within twenty-four (24) hours.

6.5.5.5 Inspection Waiver

Any Witness, or review or Hold point may, at the sole discretion of the *Supervisor*, be waived, which will be followed by an inspection waiver report, in the form of a *Supervisor*'s notification.

6.5.6 Materials of Construction

All material shall be purchased and certified in accordance with EN 10204 requirements as a minimum. The term "Purchaser" in EN 10204 shall mean the *Contractor*. The certificates shall report mechanical properties in the heat treated condition and must be accompanied by the relevant verified furnace charts.

6.5.7 Assessment/Audit/Surveillance

- The *Supervisor* reserves the right to conduct a *Contractor* Quality Assessment, prior to the award of any Purchase Order, to verify that the *Contractor*'s system complies with the relevant quality standard. Additionally, Transnet may conduct a Quality Assurance Audit or Surveillance at any time after the award of a Purchase Order. Seven (7) days notification of a QA Audit and twenty-four (48) hours notification of a QA Surveillance will be given by facsimile / email to the *Contractor*'s nominated QA/QC representative.

- Should the *Contractor*'s quality system be found deficient/unsatisfactory during their assessments, audits or surveillance's, the *Contractor* will be given opportunity to carry out corrective action within a period of time (14days) to bring his system up to the required standard. A follow up audit surveillance will be carried out to verify that the *Contractor* has carried out the necessary corrective actions.
- If, during a follow-up audit or surveillance, it is found that the required corrective actions have not been carried out, Transnet reserves the right to take such actions as necessary to rectify the deficiencies. It is a pre-requisite that the *Contractor* fully supports any such actions
- Surveillance by Inspectors will also be carried out by Transnet as an alternative method of monitoring the *Contractor*'s quality control. This will normally take the form of a verification of a Section of the Quality Control Plan where the physical and documentary evidence will be required to verify compliance with the Quality Control Plan

6.5.8 Non-Conformities

- Non-Conformity is defined as a deficiency in characteristic, documentation or procedure which renders the quality of an item, work or service unacceptable or indeterminate in accordance with specified requirements. Such Non-Conformities shall be identified by the *Contractor*/Supplier/Transnet and/or Third Party Inspection Authority.
- Such non-conformities require the issue of a Non-Conformity Report (NCR) by the *Contractor*/Supplier in compliance with his own QA system. The NCR then becomes the means by which the Non-Conformity is identified and triggers the need for corrective action and measures.
- The non-conforming material, work or service shall be reviewed by the *Contractor* in accordance with documented procedures and it might be:
    - Re-worked to meet the specified requirements
    - Accepted, with or without repair; or
    - Re-graded for alternative application; or
    - Scrapped
- All proposed re-working or repair shall, together with the relevant procedures, be firstly reviewed by Transnet and/or Third Party Inspection Authority where applicable.

- In the event that the *Supervisor* and/or Third Party Inspection Authority identifies a Non-Conformity that is not subject to a *Contractor*/Supplier NCR, the *Supervisor* and/or Third Party Inspection Authority will raise an NCR on the *Contractor*. The *Contractor* must issue to the *Supervisor* in writing within twenty-four (24) hours a response indicating the corrective action he proposes to make.
- Material, work and services which do not conform to requirements shall not be used unless written authority, on the returned NCR, is obtained for the Non-Conformity.
- The *Contractor* shall maintain a register of his NCR's and shall submit this register to Transnet monthly. The *Supervisor* will audit the register. Transnet reserves the right to request copies of NCR's for review of deviation and disposition
- Corrective actions will necessitate additional inspections and/or tests shall be included in an updated Quality Control Plan which shall be submitted for review to Transnet.
- The *Contractor* shall ensure that his procedures provide for the identification and segregation of all non-conforming materials, work or services.

6.5.9 Recording 'AS-BUILT' sizes

- The *Contractor* shall complete the "as-built" drawings to a standard conforming to good engineering practice and to the satisfaction and approval of the *Supervisor*.

6.5.10 *Contractor* Document Submissions

- When the *Contractor* submits his documents for re-view, he shall, where relevant, submit them to the *Project Manager* and *Supervisor*.
- Transmittals shall be submitted in complete sets in order to perform a full review, e.g. WPS's, weld procedure, weld map summary, material lists and GA drawings and calculation, etc.

6.5.11 Handover Acceptance System

The Purpose of this system is to provide essential handover and acceptance information to all parties engaged in the construction, modification, demolition, refurbishment and commissioning of plant and equipment at the Port of Durban by Island View Berth 4. The information and guidelines required to achieve a smooth sequence between all construction and commissioning activities, and thereafter the successful start-up operations and transfer of ownership of plant and equipment to Transnet, - Port of Durban

This procedure provides for a sequenced, construction completion and checkout of plant / equipment leading up to the transfer of care, custody and control to Transnet.

This procedure adopts a two package handover system:

- Quality Control Dossier
- Management Package

6.5.11.1 Quality Control Dossier and Management Package Compilation

- The *Contractor* shall compile the Quality Control Dossier and Management Package with the accepted contents to the satisfaction and approval of the *Supervisor*.
- The *Contractor* shall compile the Quality Dossier which includes the Code Data Book (format as stipulated in this document as a minimum but also to the satisfaction and approval of the *Supervisor*) to ensure that all requirements have been met and the relevant documents are included in the Quality Control Dossier.
- For multiple disciplines, the QC Dossier shall be developed for each discipline or system.

6.5.11.2 Management Package: consists of:

- Completed "Punch-List", signed off by operations, area manager and the *Supervisor*s appointed 16.2 responsible for the area/unit.
- Drawing Package of all "as-built" drawings.
- Vendor Data Documentation as per Bill of Material of detail designs and as built documentation.

The *Supervisor* shall:

- Collect and compile the Management Package in accordance with this procedure, to ensure all requirements have been met. This ensures that:
  - The QC Dossier has been signed off by Transnet and the Inspection Authority (where applicable).
  - The plant/facility/equipment has been commissioned (or handed over) by and with operations,
  - All required performance tests have been successfully carried out by operations and maintenance department,
  - Copies of approved test run certificates have been inserted into the Management Package.
  - All maintenance documents have been updated and new instructions been inserted.

6.5.11.3 'Punch List' category Items

- Category 1: Items which compromise safety and integrity of personnel, plant, equipment and infrastructure.
- Category 2: Items which require correction prior operational acceptance.
- Category 3: Items which can be rectified after plant start-up and must be completed prior to final acceptance of plant or equipment.

6.5.12 Code Data Book

The Code Data Book shall have the following content and format:

1. Cover Page:

   A MANUFACTURER / *CONTRACTOR*

   B ENGINEERING *CONTRACTOR* (if applicable)

   C AUTHORISED INSPECTION AUTHORITY (or certifying body)

   D PURCHASE ORDER NUMBER

E CONTRACT NUMBER

F EQUIPMENT / PLANT / WORKS DESCRIPTION

G MAUFACTURERS SERIAL NUMBER (if applicable)

H CODES AND STANDARDS USED

2. Index of Contents

3. Release of Notes (*Contractor*/AIA/*Employer*)

4. "As-Built" drawings

5. Authorised Inspection Authority Certificate of Compliance

6. Design Calculations

7. MATERIAL AND CONSUMABLES CERTIFICATIONS

- Material List
- Material Map (Outline Drawings)
- Mill Test Certificates marked with item number.
- Heat treatment charts, NDE and mechanical testing.

8. WELDING DOCUMENTS

- Weld Map(s)
- Weld Procedure Specification Summary
- Welding Procedure Specifications
- Procedure Qualification Records
- Welder Performance Qualification Test Record Summary
- Weld Consumables Certification
- Pre- and Post-Heating Procedures

9 INSPECTION REPORTS

- Quality Control Plan
- Dimensional Inspection Report (sizes etc.)

- Heat Charts and Certificates.

10 NON-DESTRUCTIVE TESTING DOCUMENTS

- NDT Map
- NDT Procedure Record Summary
- NDT Personnel Qualification Record Summary
- NDT Reports
- Load Test Certificates

6.5.13 Commissioning

Definitions

"Commissioning" is performed by the *Contractor* in presence of the *Supervisor* to demonstrate successful installations, Works and functionality

"TESTING" is performed by the *Contractor* on its own to satisfy himself and to establish the "readiness" for commissioning.

"Test Runs" are performed by the *Employer*s operational team in the presence of the *Contractor* were all functions shall be vigorously tested.

"Performance Test" is a fixed duration of continuous operation in which the Plant / Equipment shall perform without malfunction. This test is performed by the *Employer*s operational team, - with or without the presence of the *Contractor*. The Equipment / Plant shall be tested to its Design Capacity.

"Endurance Test" a variant of the Performance test, - normally done at a lower rate than the Design Capacity but with extended Duration (up to 72 to 100hrs continually) were the equipment must perform without fault and malfunctions.

"Hand Over" a formal certificate issued for the continuous use in operation of plant and equipment at the successful passing of the Performance Test.

The *Contractor* submits his Quality Management System documents to the *Project Manager* as part of his programme under ECC3 Clause 31.2 to include details of:

- Quality Plan for the Contract
- Quality Policy

- Index of Procedures to be used and
- A schedule of internal and external audits during the Contract
- The *Contractor* develops and maintains a comprehensive register of documents that will be generated throughout the Contract including all quality related documents as part of its Quality Plan.

6.6 Programming constraints

6.6.1 Tender Program

A summary program, hereinafter referred to as the "Tender Program" for the duration of the contract are submitted by the *Contractor*, reflecting all Milestone deliverables and Events.

The level of this program must at least be "compatible" to the Price Schedule columns and or the breakdown of sections in the bills of quantities as applicable. The incidence of Payment Schedules or Cash Flow Forecast, submitted with the *Contractor*'s program must be based on this program.

The *Contractor*'s Programs are evaluated by the *Project Manager* to assess the *Contractor*'s ability to plan his portion of the project to the extent necessary for the high degree of mutual co-ordination demanded by the Project.

Non-compliance with this specification may lead to the disqualification of the tenderer. At the *Project Manager's* discretion, the *Contractor* may be requested to prepare and submit a new Contract Program.

6.6.2 Initial Program, Contract Program and Subsequent Revisions

a. The *Contractor* submits a program within 1 week of the date on which he was notified of having been awarded the contract / order.

b. Any program submitted which does not supply all the required documentation set out in this document or does not comply with the requirements of this document shall be deemed to be rejected, whether or not the *Project manager* does so in writing.

c. This Initial Contract Program, hereinafter referred to as the "Initial Program", is be drawn up at the level of detail necessary in the opinion of the *Project Manager* to ensure effective control over the work, usually to Level 4 detail.

d. A "Summary" or "ham-mocked" program is submitted with the Initial Program. The summarized activities are inserted in such a way that the Milestone Dates as well as major interfaces of services and/or other contracts logically required for the completion of the contract are clearly shown. The start and finish of the summarized or ham-mocked activities are clearly indicated on the detailed network.

e. Unless stated to the contrary, the *Project Manager* will examine and comment on the Initial Program within 2 weeks of submission and the *Contractor* amends and submits this program, hereinafter referred to as the "Contract Programme" for approval within a further period of 5 days.

f. The *Project Manager* may not in every instance be able to provide all information or working drawings, where applicable, of every aspect of the Works but such non-availability will not be deemed to be an excuse for non-presentation of programs. In such instances the relevant part of the program should be based on the *Contractor*'s best estimate with a statement on which assumptions or drawings it is based.

g. Should the *Project Manager* so require, or should problems occur during the execution of the contract, the *Project Manager* might request that portions of the program be expanded to enable closer control to be exercised (Level 5 detail) e.g. site construction and commissioning programs. In such cases the more detailed networks fit exactly into the logic and time span of the Contract Program, but may be presented as separate programs.

h. Minor revisions to the Contract Program may be introduced from time to time by mutual agreement. Should the *Project Manager* require a major revision to the Contract Program, such revision will be specified to the *Contractor* in writing.

i. The *Project Manager* specifies the date by which the *Contractor* is required to submit the revision in question. This date is not, unless otherwise agreed, be less than 2 weeks from the date of notice.

j. Revised Payment Schedules are required based on the revised Contract Program. These revisions are made when changes occur in this program and must be updated every month to include actual payments.

k. Should the *Contractor* require a major revision affecting the logic or dates of the program, such revision will be specified to the *Project Manager* in writing for approval before the revision is performed.

l. A revision to the program does not invalidate the "Date of Completion" in terms of the General Conditions of Contract and as given in the appropriate schedules. Changes to these dates can only be effected through a contract amendment (NEC3 ECC compensation event).

m. Progress is monitored against the latest revised program and payments controlled by the latest revised Payment Schedule accepted by the *Project Manager.*

6.6.3 Progress Reporting

a. The *Contractor* updates the program and supplies the progress reports to show actual and expected progress compared to the latest agreed Contract Program. Progress information may be verified by the *Project Manager* at any stage.

b. Progress reports on design, manufacturing, shipping, transport and site progress are submitted separately as per Table 1.

c. The methodology to define work content in the progress curves needs to be agreed to between the *Contractor* and *Employer* within 5 days of Contract Award and may include parameters such as man-hours, m3 concrete, tons of steel, length of cable and cable rack to be installed, number of terminations, etc.

d. The work content needs to be specifically designed to suit the type of work and to effectively indicate actual progress against planned progress.

e. Progress reports are submitted in line with the requirements as specified in the table 8.

Table 8: Progress Reporting Requirements

ITEM	DESCRIPTION	FREQUENCY
1.	General Planning Report and revised network if logic has changed since the previous report.	Weekly
2.	Critical Activities Report. (Look ahead)	2 Weekly

3.	Milestone Report.	2 Weekly
4.	Updated Bar Charts.	Weekly
5.	Updated Program Graphs.	Monthly
7.	Progress S-Curves.	2 Weekly
8.	Expediting Report	2 Weekly
9.	Milestones of Deliverables	2 Weekly

f. The *Contractor* uses Microsoft Projects 2010 or later version for his programme submissions. A similar programme software package equivalent to Microsoft Projects 2010 or later version may be used, subject to and with the prior written notification and acceptance by the *Project Manager*.

6.6.4 Reporting and monitoring

The *Contractor* submits programme narrative report to the *Project Manager* at weekly intervals in addition to the intervals for submission of revised programmes stated under Contract Data Part One. *Contractor* submits monthly programme narrative report to the *Project Manager*.

The *Contractor* completes an assessment of all activities in progress and to completion to determine percentage complete, forecast completion dates, deviations from the Accepted Programme and proposes remedial actions to rectify deviations.

The *Contractor* shows on each revised programme submitted to the *Project Manager* a resource histogram showing planned progress versus actual, deviations from the Accepted Programme and any remedial actions proposed by the *Contractor*.

a. The *Contractor* submits the programme narrative report detailing the status and performance of operations on the Site and Working Areas; status and performance of operations outside the Working Areas; manpower histograms; plant and equipment histograms; S-curve of overall progress; and critical action items (top 10). Report indicates "progress this period" and "progress to date".

b. The *Contractor*'s weekly programme narrative report, updated and issued weekly, includes:

i. Level 5 Project Schedule – showing two separate bars for each task i.e. the primary bar must reflect the current forecast dates and the secondary bar the latest Accepted Programme.

ii. 3-week Look-ahead Schedule – showing two separate bars for each task i.e. the primary bar must reflect the current forecast dates and the secondary bar the latest Accepted Baselined Programme.

iii. Manpower Histogram – reflecting actual, forecast and planned activities

iv. Plant and Equipment Histogram – reflecting actual, forecast and planned activities

v. S-curves – reflecting the actual percentage complete versus the planned percentage for the overall contract utilising the earned values.

c. The *Contractor*'s monthly programme narrative report is submitted a week before the last Friday of each month, or as required by the *Project Manager*. The report indicates "progress this period" and "progress to date" and include, but is not limited to, the following:

i. Summary of progress achieved during the reporting period.

ii. Latest Accepted Programme.

6.7 *Contractor*'s management, supervision and key people

The *Contractor* provides an Organogram and Curriculum Vitae's of all his Key people (both as required by the *Employer* and as independently stated by the *Contractor* under Contract Data Part Two) and shows how such Key people communicate with the *Project Manager*, the *Supervisor* and their delegates.

The *Contractor* employs a CSHEO, based on the Site, as a key person under ECC3 Clause 24.1.

The CSHEO reports to the PSSM in respect of issues relating to safety risk management. The CSHEO submits the CHSMP to the *Project Manager* for approval and ensures that the *Contractor* implements the CHSMP.

The CSHEO reports to the ProjEM on the Site in respect of issues relating to environmental management. The CSHEO submits the CEMP to the *Project Manager* for approval and ensures that the *Contractor* implements the CEMP.

The CSHEO tasks include but are not limited to:

a. Reports a safety incident to the *Project Manager*;

b. Reports a safety incident to the *Project Manager*;

c. Attends all SHE meetings, toolbox talks, induction programmes and monitors compliance with the CHSMP;

d. Submits daily, weekly and monthly reports and data as required by the CHSMP to the PSSM;

e. Reports an environmental incident to the *Project Manager*;

f. Undertakes daily, weekly and monthly inspections of the Site and Working Areas as required by the CEMP and submits reports to the ProjEM;

g. Monitors compliance with the CEMP and the environmental method statements submitted to the *Project Manager*; and

h. Ensures the *Contractor* clears litter from the Site and Working Areas.

The *Contractor* employs a QA/QC Manager (CQA/QCM), based on the Site, as a key person under ECC3 Clause 24.1.

The CQA/QCM reports to the *Supervisor*. The CQA submits the PQP to the *Project Manager* for approval and ensures that the Works meet the standards stated in the Works Information.

The CQA/QCM tasks include but are not limited to:

a. Maintains the comprehensive register of documents required by the PQP;

b. Undertakes all inspections and testing required by the PQP;

c. Prepares and regularly updates the CDR, and

The *Contractor* employs a *Contractor*'s Industrial Relations Practitioner (CIRP), based on the Site, as a key person under ECC3 Clause 24.1.

The CIRP ensures that all reports and Industrial Relation requests are submitted accurately and in a timely manner to the *Project Manager*.

The CIRP tasks include but are not limited to:

a. Dedicated to human resources, industrial relations and any other *Contractor* employee related function; Resolve all human resources and industrial relations matters arising from the *Contractor*'s employees;

The *Contractor* employs the *Contractor*'s Planner (CP), based on site, as a key person under ECC3 Clause 24.1.

The CP is based on the Site and is responsible for all construction programming, planning and reporting as stated under paragraph 2.6 of this Works Information. The CP tasks include but are not limited to:

a. Undertakes the planning and scheduling of all activities comprising the Works.

b. Ensures the *Contractor* submits the first and all subsequently revised programmes accurately and in a timely manner to the *Project Manager*.

c. Ensures the *Contractor* submits programme narrative report to the *Project Manager* at weekly intervals.

6.8 Training Workshops and technology transfer

The *Contractor* facilitates the following requirements for training Workshops:

a. The operational staff, maintenance staff and project team from the TNPA shall be trained by the *Contractor* during the construction, assembly, commissioning and handover.

b. A safety pre-mobilisation Workshop.

c. *Contractor* employee safety training programme.

d. The *Contractor* utilises local people for staffing up some of his requirements and ensures that there are adequate skills transfer taking place.

6.9 Insurance provided by the *Employer*

The insurance that will be provided by the *Employer* is contained in the Contract Data –Part 1.

The procedure manual further details the cover to be arranged by the *Contractor* and *SubContractor*s as well as exclusions and deductibles.

The *Contractor* liaises with the *Employer* and the *Project Manager* at the Contract Date to declare the ECC3 contract details to the *Employer*'s insurance brokers.

Where the Works involve the assembly, erection and installation of Plant, the *Contractor* declares the full replacement value and not the value included in the ECC3 contract.

The *Contractor* liaises with the *Employer* and the *Project Manager* when a claim is made and assists in completing the Claims Advice Forms that are provided.

6.10 Contract change management

At the Contract kick off meeting, the *Contractor* will be provided with the format of the standard forms to be used for communication of Contract change management (ECC3 Clause 60).

7 PROCUREMENT

7.1 Code of Conduct

Transnet aims to achieve the best value for money when buying or selling goods and obtaining services. This however must be done in an open and fair manner that supports and drives a competitive economy. Underpinning our process are several acts and policies that any supplier dealing with Transnet must understand and support.

These are:

a. The Transnet Procurement Procedures Manual (PPM);

b. Section 217 of the Constitution - the five pillars of Public PSCM (Procurement and Supply Chain Management): fair, equitable, transparent, competitive and cost effective;

c. The Public Finance Management Act (PFMA);

d. The Broad Based Black Economic Empowerment Act (B-BBEE); and

e. The Anti-Corruption Act.

f. This code of conduct has been included in this contract to formally apprise Transnet Suppliers of Transnet's expectations regarding behaviour and conduct of its Suppliers.

7.2 The *Contractor*'s Invoices

The *Contractor* is paid by electronic bank transfer within the period stated in the Contract Data.

The *Contractor* provides the *Employer* with his correct banking information to make the transfer.

All payments are provisional and subject to audit.

The *Contractor* preserves its records for such a period as the Department of Internal Revenue may require, but in any event for not less than five years.

When the *Project Manager* certifies payment (see ECC3 Clause 51.1) following an assessment date, the *Contractor* complies with the *Employer*'s procedure for invoice and statement submission.

Timing and procedure for submitting invoices will be presented at the kick-off meeting following award.

The invoice and statement must correspond to the *Project Manager's* assessment of the amount due to the *Contractor* as stated in the payment certificate.

The invoice states the following:

a. Invoice addressed to Transnet Limited;

b. Transnet Limited's VAT No:

c. Invoice number;

d. The *Contractor*'s VAT Number; and

e. The Contract number [ ].

f. The invoice contains the supporting detail

g. The invoice is presented either by hand delivery or electronic transmittal.

Where applicable the invoice contains the following supporting detail;

a. A statement of invoices,

b. Escalation is calculated on a separate sheet and presented to the *Project Manager* for acceptance,

c. The amount paid to date,

d. Retention monies to be deducted from the invoice,

e. Interest payable,

f. Escalation formula used,

g. Settlement discount, and

h. Proof of ownership of materials supplied.

i. Copies of delivery notes of equipment

j. Summary sheet of manning

k. Summary of progress covered by invoice

l. The invoice is presented as an original.

7.3 *Contractor* Liability

a. The *Contractor* warrants that it will be liable to Transnet for any loss or damage caused by strikes, riots, lockouts or any labour disputes by and/or confined to the *Contractor's* employees, which loss will include any indirect or consequential damages;

b. The *Contractor* warrants that no negotiations or feedback meetings by the *Contractor's* employees shall take place on Transnet premises, whether owned or rented by Transnet.

c. *The Contractor* shall give notice to Transnet of any industrial action by the *Contractor's* employees immediately upon becoming aware of any actual or contemplated action that is or may be carried out on Transnet's premises, whether owned or rented, and shall notify Transnet of all matters associated with such action that may potentially affect Transnet.

D. The *Contractor* is responsible for educating its employees on relevant provisions of the Labour Relations Act which deal with industrial action processes, and the risks of non-compliance.

E. The *Contractor* is required to develop a Contingency Strike Handling Plan, which plan the *Contractor* is obliged to update on a three monthly basis. The *Contractor* must provide Transnet with this plan and all updates to the Plan. The *Contractor* is responsible to communicate with its employees on site details of the plan.

7.4 INDUSTRIAL ACTION BY *CONTRACTOR* EMPLOYEES

- In the event of any industrial action by the *Contractor*'s employees, the *Contractor* is required to provide competent contingency resources permitted in law to carry out any of the duties that are or could potentially be interrupted by industrial action in delivering the Service.
- The *Contractor* warrants that it will compensate Transnet for any costs Transnet incurs in providing additional security to deal with any industrial action by the *Contractor*'s employees.
- In the event of any industrial action by the *Contractor*'s employees, the *Contractor* is obliged:

To prepare and deliver to Transnet, within two (2) hours of the commencement of industrial action an Industrial Action Report. If the industrial action persists the *Contractor* is required to deliver the report at 8h30 each day.

The Industrial Action Report must provide at least the following information:

- ✓ Industrial incident report,
- ✓ Attendance register,
- ✓ Productivity / progress to schedule reports,
- ✓ Operational contingency plan,
- ✓ Site security report,
- ✓ Industrial action intelligence gathered.

The final Industrial Action Report is to be delivered 24 hours after finalisation of the industrial action.

The management of the *Contractor* is required to hold a daily industrial action teleconference with personnel identified by Transnet to discuss the industrial action, settlement of the industrial action, security issues and the impact on delivery under the contract.

The resolution of any disputes or industrial action by the *Contractor*'s employees is the sole responsibility of the *Contractor*.

Access to Transnet premises by the *Contractor* and its employees is only provided for purposes of the *Contractor* delivering its services to Transnet. Should the *Contractor* and its employees not, for any reason, be capable of delivering its services Transnet is entitled to restrict or deny access onto its premises and unless otherwise authorized; such person will deemed to be trespassing.

7.5 Subcontracting

Contractor does not employ or bring a *SubContractor* onto the Site and/or Working Areas without the prior approval of the *Project Manager*.

Where the *Contractor* employs a *SubContractor* who constructs or installs part of the Works or who supplies Plant and Materials for incorporation into the Works which involves a *SubContractor* operating on the Site and/or Working Areas, then the *Contractor* ensures that any such *SubContractor* complies with the CHSMP (described under paragraph 5.3 of the Works Information) and the CEMP (described under paragraph 5.4 of the Works Information) as appropriate and that the subcontract documentation places back-to-back obligations on the *SubContractor* which reflect the *Contractor*'s obligations under the CHSMP, CEMP and PQP.

The *Contractor* ensures that a *SubContractor* complies fully with the *Contractor*'s Quality Management System (as described under paragraph 5.5 of the Works Information). Quality system requirements are applied on all subcontracts to the point where the acceptability of supplies can be demonstrated solely by the conduct of inspection and/or examination of goods upon receipt at the designated point of delivery.

7.6 Plant and Materials

The *Contractor* provides all Plant and Materials for inclusion in the Works in accordance with the Works Information.

The *Contractor* replaces any Plant and Materials subject to breakages (whether in the Working Areas or not) or any Plant and Materials not conforming to standards or the specifications stated and notifies the *Project Manager* and the *Supervisor* on each occasion where replacement is required.

The *Employer* provides no "free issue" Plant and Materials.

7.7 Tests and inspections before delivery

At the discretion of the *Project Manager* some equipment and components is inspected at place of manufacturer before it is delivered to site.

8 List of Annexures

The following is a list of Annexures issued by the Employer at or before the Contract Date and which will apply to this Works Information:

- ✓ Annexure A- Technical Report
  - Annexure A1-Engineering Review Report
  - Annexure A2-Suntech Diving Report
- ✓ Annexure B-Transnet General Specifications
  - Annexure B1- EEAM-Q-002: Hydraulic Equipment
  - Annexure B2- EEAM-Q-006: Structural Steelwork
  - Annexure B3- EEAM-Q-009: Quality Management
  - Annexure B4- EEAM-Q-008: Corrosion Protection
  - Annexure B5- QAL-STD-0001:General Quality Requirements for Contractors and Suppliers
- ✓ Annexure F-Safety, Health & Environmental Documents
  - Annexure F1-Health and Safety Specification_PoD_Generic
  - Annexure F2-Standard Generic EMPr DBN Rev0 Final
  - Annexure F3-EMP Guidelines Port of Durban
  - Annexure F4-TNPA STANDARD ENVIRONMENTAL SPECIFICATION
  - Annexure F5-COVID 19 Post-Lockdown Construction Site HS Guidelines Rev 01
  - Annexure F6-Site Meeting Procedure
  - Annexure F7-Protocol for COVID positive cases
  - Annexure F8-Handwashing Procedure
  - Annexure F9-Cleaning and Disinfection Procedure
  - Annexure F10-Contractor Compliance File Assessment Checklist - COVID 19 REQUIREMENTS
- ✓ Annexure G- Technical Specifications
  - Annexure G1-Technical & Quality Management Specifications