

**Transnet National Ports Authority**

an Operating Division of **TRANSNET SOC LTD**

[Registration Number 1990/000900/30]

**REQUEST FOR PROPOSAL (RFP)**

**THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT OF  
RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS**

|                                             |                                      |
|---------------------------------------------|--------------------------------------|
| <b>RFP NUMBER</b>                           | <b>: TNPA/2023/08/0010/38485/RFP</b> |
| <b>ISSUE DATE</b>                           | <b>: 02/11/2023</b>                  |
| <b>COMPULSORY CLARIFICATION<br/>MEETING</b> | <b>: 10/11/2023</b>                  |
| <b>CLOSING DATE</b>                         | <b>: 24/11/2023</b>                  |
| <b>CLOSING TIME</b>                         | <b>: 16h00</b>                       |
| <b>TENDER VALIDITY PERIOD</b>               | <b>: 12 Weeks from closing date</b>  |

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### **Number      Heading**

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- C3.1          Works Information

##### **Part C4: Site Information**

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# **The Tender**

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## **Part T1: Tendering Procedures**

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## **T1.1 Tender Notice and Invitation**

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## T1.1: TENDER NOTICE AND INVITATION TO TENDER

### SECTION 1: NOTICE TO TENDERERS

#### 1. INVITATION TO TENDER

Responses to this Tender [hereinafter referred to as a **Tender**] are requested from persons, companies, close corporations, or enterprises [hereinafter referred to as a Tenderer].

|                           |                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DESCRIPTION</b>        | <b>THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS</b>                                                                                                                                                                                                                                                      |
| <b>TENDER DOWNLOADING</b> | This Tender may be downloaded directly from the National Treasury eTender Publication Portal at <a href="http://www.etenders.gov.za">www.etenders.gov.za</a> and the Transnet website at <a href="https://transnetetenders.azurewebsites.net">https://transnetetenders.azurewebsites.net</a> (please use <b>Google Chrome to access Transnet link</b> ) <b>FREE OF CHARGE.</b> |

|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>COMPULSORY TENDER CLARIFICATION MEETING</b> | <p>A Compulsory Tender Clarification Meeting will be conducted at <b>Transnet National Ports Authority, Port of Richards Bay Pioneer Centre on the 10 November 2023, at 10:00 [10 O'clock]</b> for a period of ± 3 (three) hours. [Tenderers to provide own transportation and accommodation].</p> <p>The Compulsory Tender Clarification Meeting will start punctually, and information will not be repeated for the benefit of Tenderers arriving late.</p> <p><b>A Site visit/walk (optional) will take place, tenderers are to note:</b></p> <ul style="list-style-type: none"> <li>• Tenderers are required to wear safety shoes, goggles, long sleeve shirts, high visibility vests and hard hats.</li> <li>• Tenderers without the recommended PPE will not be allowed on the site walk.</li> <li>• Tenderers and their employees, visitors, clients, and customers entering Transnet Offices, Depots, Workshops and Stores will have to undergo breathalyser testing.</li> <li>• All forms of firearms are prohibited on Transnet properties and premises.</li> <li>• The relevant persons attending the meeting must ensure that their identity documents, passports, or driver's licences are on them for inspection at the access control gates.</li> </ul> <p>Certificate of Attendance in the form set out in the <b>Returnable Schedule T2.2-01</b> hereto must be completed and submitted with your Tender as proof of attendance is required for a <b>compulsory</b> site meeting and/or tender briefing.</p> |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                     |                                                                                                                                                                                                                                                                             |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | <p><b>Tenderers are required to bring this Returnable Schedule T2.2-01 to the Compulsory Tender Clarification Meeting to be signed by the Employer's Representative.</b></p> <p><b>Tenderers failing to attend the compulsory tender briefing will be disqualified.</b></p> |
| <b>CLOSING DATE</b> | <p><b>16h00 on (24 November 2023)</b></p> <p>Tenderers must ensure that tenders are uploaded timeously onto the system. <b>No late tender submissions will be accepted.</b></p>                                                                                             |

## 2. TENDER SUBMISSION

Transnet has implemented a new electronic tender submission system, the e-Tender Submission Portal, in line with the overall Transnet digitalization strategy where suppliers can view advertised tenders, register their information, log their intent to respond to bids and upload their bid proposals/responses on to the system.

a) The Transnet e-Tender Submission Portal can be accessed as follows:

Log on to the Transnet eTenders management platform website

(<https://transnetetenders.azurewebsites.net>).

- Click on "ADVERTISED TENDERS" to view advertised tenders;
- Click on "SIGN IN/REGISTER – for bidder to register their information (must fill in all mandatory information);
- Click on "SIGN IN/REGISTER" - to sign in if already registered;
- Toggle (click to switch) the "Log an Intent" button to submit a bid;
- Submit bid documents by uploading them into the system against each tender selected.
- **Tenderers are required to ensure that electronic bid submissions are done at least a day before the closing date to prevent issues which they may encounter due to their internet speed, bandwidth, or the size of the number of uploads they are submitting. Transnet will not be held liable for any challenges experienced by bidders as a result of the technical challenges. Please do not wait for the last hour to submit. A Tenderer can upload 30mb per upload and multiple uploads are permitted.**

b) The tender offers to this tender will be opened as soon as possible after the closing date and time. Transnet shall not, at the opening of tenders, disclose to any other company any confidential details pertaining to the Tender Offers / information received, i.e., pricing, delivery, etc. The names and locations of the Tenderers will be divulged to other Tenderers upon request.

- c) Submissions must not contain documents relating to any Tender other than that shown on the submission.

### **3. CONFIDENTIALITY**

All information related to this RFP is to be treated with strict confidentiality. In this regard Tenderers are required to certify that they have acquainted themselves with the Non-Disclosure Agreement. All information related to a subsequent contract, both during and after completion thereof, will be treated with strict confidence. Should the need however arise to divulge any information gleaned from provision of the Works, which is either directly or indirectly related to Transnet's business, written approval to divulge such information must be obtained from Transnet.

### **4. DISCLAIMERS**

Tenderers are hereby advised that Transnet is not committed to any course of action as a result of its issuance of this Tender and/or its receipt of a tender offer. In particular, please note that Transnet reserves the right to:

- 4.1. Award the business to the highest scoring Tenderer/s unless objective criteria justify the award to another tenderer.
- 4.2. Not necessarily accept the lowest priced tender or an alternative Tender;
- 4.3. Go to the open market if the quoted rates (for award of work) are deemed unreasonable;
- 4.4. Should the Tenderers be awarded business on strength of information furnished by the Tenderer, which after conclusion of the contract is proved to have been incorrect, Transnet reserves the right to terminate the contract;
- 4.5. Request audited financial statements or other documentation for the purposes of a due diligence exercise;
- 4.6. Not accept any changes or purported changes by the Tenderer to the tender rates after the closing date;
- 4.7. Verify any information supplied by a Tenderer by submitting a tender, the Tenderer/s hereby irrevocably grant the necessary consent to the Transnet to do so;
- 4.8. Conduct the evaluation process in parallel. The evaluation of Tenderers at any given stage must therefore not be interpreted to mean that Tenderers have necessarily passed any previous stage(s);

- 4.9. Unless otherwise expressly stated, each tender lodged in response to the invitation to tender shall be deemed to be an offer by the Tenderer. The Employer has the right in its sole and unfettered discretion not to accept any offer.
- 4.10. Not be held liable if tenderers do not provide the correct contact details during the clarification session and do not receive the latest information regarding this RFP with the possible consequence of being disadvantaged or disqualified as a result thereof.
- 4.11. Transnet reserves the right to exclude any Tenderers from the tender process who has been convicted of a serious breach of law during the preceding 5 [five] years including but not limited to breaches of the Competition Act 89 of 1998, as amended. Tenderers are required to indicate in tender returnable [clause 12 on T2.2-25], [**Breach of Law**] whether or not they have been found guilty of a serious breach of law during the past 5 [five] years.
- 4.12. Transnet reserves the right to perform a risk analysis on the preferred tenderer to ascertain if any of the following might present an unacceptable commercial risk to the employer:
- unduly high or unduly low tendered rates or amounts in the tender offer.
  - contract data of contract provided by the tenderer; or
  - the contents of the tender returnables which are to be included in the contract.
5. Transnet will not reimburse any Tenderer for any preparatory costs or other work performed in connection with this Tender, whether or not the Tenderer is awarded a contract.

## 6. NATIONAL TREASURY'S CENTRAL SUPPLIER DATABASE

Tenderer are required to self-register on National Treasury's Central Supplier Database (CSD) which has been established to centrally administer supplier information for all organs of state and facilitate the verification of certain key supplier information. The CSD can be accessed at <https://secure.csd.gov.za/>. Tenderer are required to provide the following to Transnet in order to enable it to verify information on the CSD:

Supplier Number .....and Unique registration reference  
number ..... (**Tender Data**)

**Transnet urges its clients, suppliers and the general public  
to report any fraud or corruption to  
TIP-OFFS ANONYMOUS: 0800 003 056 OR [Transnet@tip-offs.com](mailto:Transnet@tip-offs.com)**

# “HOW TO” GUIDE FOR BIDDERS

REGISTER ON ETENDER PORTAL

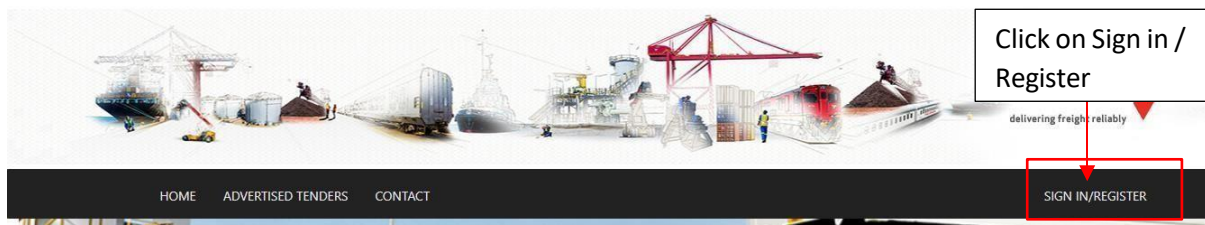
ACCESS TENDERS

**NB: Do not wait for the last minute to register or to bid for a tender. Ensure you complete your process at least 1 day (24hours) before the closing date**

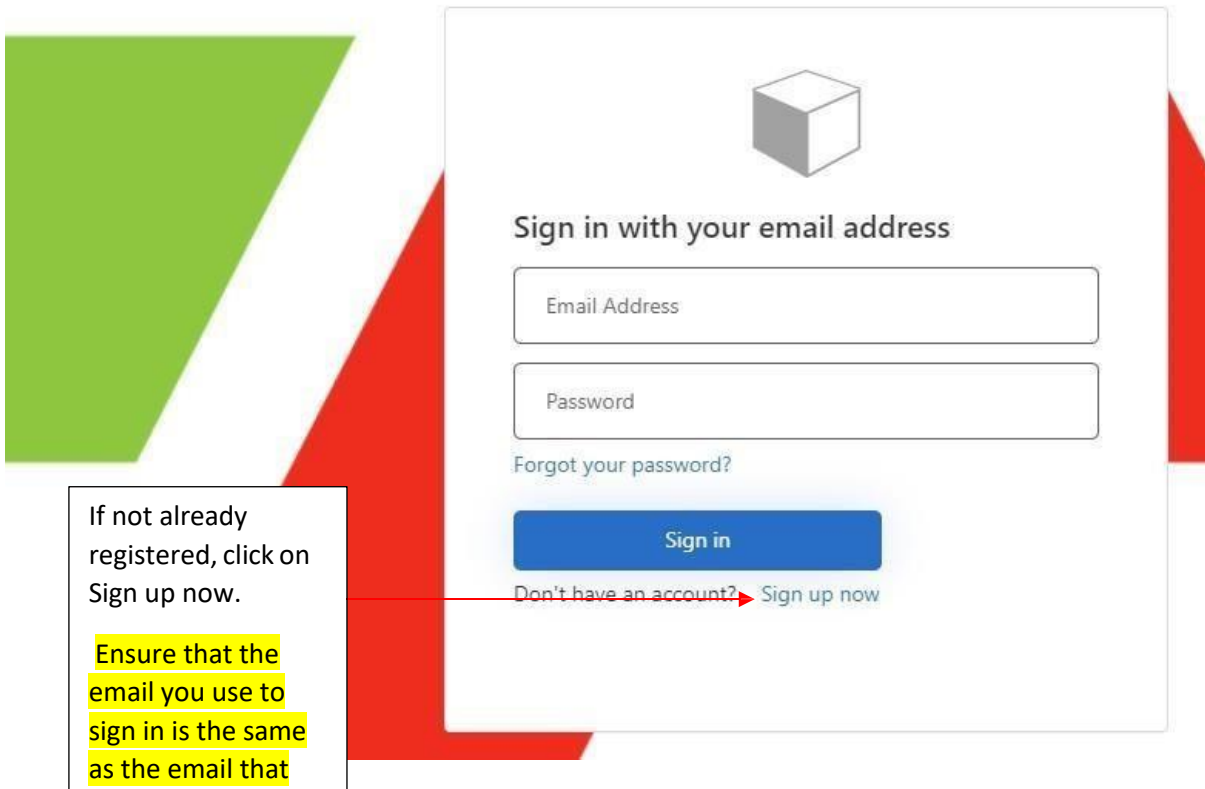
## **TENDERERS TO NOTE WHEN UPLOADING DOCUMENTS TO ONLY USE ALPHA NUMERIC AND NO SPECIAL CHARACTERS TO BE USED**

Go to Google Chrome 

In the address bar type: <https://transnetetenders.azurewebsites.net>



https://transnetetender.b2clogin.com/transnetetender.onmicrosoft.com/b2c\_1\_signupsignin/oauth2/v2.0/authorize?client



Sign in with your email address

Email Address

Password

[Forgot your password?](#)

[Sign in](#)

[Don't have an account? Sign up now](#)

If not already registered, click on Sign up now.

Ensure that the email you use to sign in is the same as the email that you received from the tender invite on the email, otherwise you will not see the tender

Cancel


Email Address

Send verification code

New Password

Confirm New Password

Given Name

Organization Name

Surname

Central Supplier Database Number

Company Registration Number

Country/Region

Country/Region

Secondary Email Address

State/Province

Street Address

Postal Code

Display Name

Create

Complete all fields, before selecting “Send verification code” and confirm that all information is correct.

**VERY IMPORTANT:** Each field needs to be completed and not to be left blank

If you do not have a central Supplier Database number, enter the same company registration number in that field.

Send verification code

After completing all fields, select "Send verification code". The code will be sent to your email.

< Cancel



Verification code has been sent to your inbox. Please copy it to the input box below.

abc@gmail.com

Verification Code

Copy the code as received on the email and paste it in the Verification code field  
Then click on Verify code

Verify code

Send new code

.....

[Forgot your password?](#)

Sign in

Don't have an account? [Sign up now](#)

Then click on Sign in

Once registered and signed in, the home screen will have “WELCOME (Registered user)”

**DO NOT use secondary email address, YOU THE SAME EMAIL ADDRESS WHICH YOU RECEIVE INVITES FOR BIDDING**

HOME

**ADVERTISED TENDERS**

MY SUBMITTED INTENTS

MY BID DOCUMENT SUBMISSIONS

CONTACT

WELCOME TESTING

SIGN OUT

## ADVERTISED TENDERS

Open Tenders

Other Tenders

Search:

Show  entries

| Reference Number | Tender Name | Description | Briefing Session | Closing Date | Tender Status |
|------------------|-------------|-------------|------------------|--------------|---------------|
|------------------|-------------|-------------|------------------|--------------|---------------|

To view / search for tenders, click on ADVERTISED TENDERS

Tender Invitation For Tender Ref # TE/2022/04/0697/RFQ - Message (HTML)

File Message Help Tell me what you want to do

Delete Archive Reply Reply All Forward Share to Teams ATM signed To Manager Team Email Move Tags Editing Read Aloud Translate Zoom Send to OneNote Viva Insights

Tender Invitation For Tender Ref # TE/2022/04/0697/RFQ

SRV-TCC-Etender  
To: noreply@transnet.net  
This message was sent with Low importance.

Dear Suppliers,  
You have been invited to bid and respond to the following tender:

Name Of Tender : TE22-SRX-1FG-02068  
Description : STOP; TOP BUNK, OD 19.5 X HT 6.5 MM  
Tender Number : TE/2022/04/0697/RFQ

Access to this tender will be granted by using this email when you sign up/sign in. To access the tender information, please go to Transnet eTenders.

Kind Regards,  
Transnet eTenders

When a bidder receives an email to quote, the bidder needs to register with the email address of the recipient that received the email. If already registered, sign in.

**NOTE: The details on this email is intended for guidance only and not to be used on the live system**

HOME ADVERTISED TENDERS MY SUBMITTED INTENTS MY BID DOCUMENT SUBMISSIONS CONTACT WELCOME TESTING SIGN OUT

ADVERTISED TENDERS

Open Tenders Other Tenders

Show entries Search:

| Reference Number     | Tender Name                                          | Description                                                                                                                                                                                                               | Briefing Session | Closing Date           | Tender Status |                              |
|----------------------|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------|---------------|------------------------------|
| TCC/2021/11/0031/RFQ | For the supply and installation of an air compressor | For the supply and installation of an air compressor for indoor shooting range that operates the laser system and supply air to air guns utilised during training and conduct maintenance on air supply system and hoses. |                  | 12/10/2021 12:00:00 PM | Closed        | <a href="#">View Details</a> |
| TFR/2021/12/0014/RFQ | ELECTRICAL MATERIAL (CABLES)                         | SUPPLY AND DELIVERY OF ELECTRICAL MATERIAL (CABLES) FOR A ONCE OFF PERIOD                                                                                                                                                 |                  | 12/13/2021 4:00:00 PM  | Closed        | <a href="#">View Details</a> |
| TFR/2021/12/0017/RFQ | CRAC_JHB_36509.                                      | FOR THE SUPPLY AND DELIVERY OF HIGH BACK CHAIRS FOR CTC OFFICES IN CENTRAL, EASTERN AND WESTERN REGIONS, FOR A ONCE OFF PERIOD.                                                                                           |                  | 12/14/2021 10:00:00 AM | Closed        | <a href="#">View Details</a> |
| TFR/2021/12/0015/RFQ | CRAC-JHB-36313                                       | FOR THE SUPPLY AND DELIVERY OF VARIOUS CLAMPS, TERMINAL LUGS, DROPPER CLIPS AND                                                                                                                                           |                  | 1/13/2022 12:00:00     | Closed        | <a href="#">View Details</a> |

When signed in, select "ADVERTISED TENDERS".

To manually search and change the view from Closed to Open, click twice on arrow next to "Tender Status". The arrow pointing down will change to blue and open tenders will be displayed.

HOME
ADVERTISED TENDERS
MY SUBMITTED INTENTS
MY BID DOCUMENT SUBMISSIONS
CONTACT
WELCOME TESTING
SIGN OUT

### ADVERTISED TENDERS

Open Tenders
Other Tenders

Show
▼
entries
Search:

| Reference Number    | Tender Name                              | Description                                                                                                                                                                                                                                | Briefing Session | Closing Date         | Tender Status |                              |
|---------------------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------|---------------|------------------------------|
| TE/2022/04/0450/RFQ | VALVE;L-1 LOAD DET,WAGONS AIRBRAKE       | VALVE;L-1 LOAD DET,WAGONS AIRBRAKE-062101802 VALVE; TYPE: L-1 LOAD DETECTOR, MEDIA FOR WHICH DESIGNED: WAGONS AIRBRAKE, CONNECTION TYPE: FLANGE, SPECIAL FEATURES: BLUE, WITHOUT PIPE BRACKET; SIMILAR ITEM: 062004338                     |                  | 4/8/2022 10:00:00 AM | Open          | <a href="#">View Details</a> |
| TE/2022/04/0494/RFQ | GEAR OIL                                 | OIL, GEAR TYPE SYNTHETIC BRAND NAME MOBILGEAR SHC SERIES GRADE SCH 6800 VISCOSITY RATING 220 TO 320 FLASH POINT 234 DEG C COLOR ORANGE CONTAINER TYPE SACHET 250 G CONTAINER CAPACITY 14 KG FOR USE ON; 39-200 GM, 15E AND 19E LOCOMOTIVES |                  | 4/8/2022 10:00:00 AM | Open          | <a href="#">View Details</a> |
| TE/2022/04/0495/RFQ | SUPPLY OF CORROSION (NALCOOL) - APPROVED | ITEM NUMBER - 077807563 INHIBITOR, CORROSION; TYPE: COOL-C18, COLOR: RED,                                                                                                                                                                  |                  | 4/8/2022 10:00:00    | Open          | <a href="#">View Details</a> |

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ADVERTISED TENDERS
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### ADVERTISED TENDERS

Open Tenders
Other Tenders

Show
▼
entries
Search: TE/2022/04/0697/RFQ

| Reference Number    | Tender Name        | Description                         | Briefing Session | Closing Date          | Tender Status |                              |
|---------------------|--------------------|-------------------------------------|------------------|-----------------------|---------------|------------------------------|
| TE/2022/04/0697/RFQ | TE22-SRX-1FG-02068 | STOP; TOP BUNK, OD 19.5 X HT 6.5 MM |                  | 4/13/2022 10:00:00 AM | Open          | <a href="#">View Details</a> |

To search for a specific tender, the tender number, tender name or description can be used for searching.

### ADVERTISED TENDERS

Open Tenders
Other Tenders

Show
▼
entries
Search: TE22-SRX-1FG-02068

| Reference Number    | Tender Name        | Description                         | Briefing Session | Closing Date       | Tender Status |                              |
|---------------------|--------------------|-------------------------------------|------------------|--------------------|---------------|------------------------------|
| TE/2022/04/0697/RFQ | TE22-SRX-1FG-02068 | STOP; TOP BUNK, OD 19.5 X HT 6.5 MM |                  | 4/13/2022 10:00:00 | Open          | <a href="#">View Details</a> |

When the tender has been identified, click on "View Details"

When the “View Details” has been selected, the following screen will be displayed where the attachments can be viewed or downloaded.

**TENDER DETAILS**

Tender Details

|                                     |                                         |
|-------------------------------------|-----------------------------------------|
| <b>Tender Reference Number</b>      | TE/2022/04/0697/RFQ                     |
| <b>Name Of Tender</b>               | TE22-SRX-1FG-02068                      |
| <b>Description</b>                  | STOP; TOP BUNK, OD 19.5 X HT 6.5 MM     |
| <b>Tender Type</b>                  | RFQ                                     |
| <b>Contact Person</b>               | Charl du Preez Transnet Engineering SLR |
| <b>Contact Person Email Address</b> | Charl.duPreez@transnet.net              |
| <b>Date Published</b>               | 4/7/2022 3:51:47 PM                     |
| <b>Closing Date</b>                 | 4/13/2022 10:00:00 AM                   |
| <b>Briefing Date And Time</b>       |                                         |
| <b>Briefing Details</b>             |                                         |
| <b>Location Of Service</b>          | Coaches, Salt River                     |

**Briefing Session**

**Closing Date**  
4/13/2022 10:00:00 AM

**Attachments**

- 2.14 Standard Terms and Conditions of Contract f
- 2.18 Supplier Integrity Pact\_April 2020\_v1.pdf
- 2.19 Non Disclosure Agreement\_April 2020\_v1.pdf
- 2.9 Request for Quotations TE22-SRX-1FG-02068

**Log An Intent To Bid**

☐

If interested to bid, on the same page there's an option to select: **Log an Intent to Bid**. Once selected, an option will appear to “**Submit Intent**” or “**Cancel**”. Click on **Submit Intent**

Tender Details

|                                     |                                         |
|-------------------------------------|-----------------------------------------|
| <b>Tender Reference Number</b>      | TE/2022/04/0697/RFQ                     |
| <b>Name Of Tender</b>               | TE22-SRX-1FG-02068                      |
| <b>Description</b>                  | STOP; TOP BUNK, OD 19.5 X HT 6.5 MM     |
| <b>Tender Type</b>                  | RFQ                                     |
| <b>Contact Person</b>               | Charl du Preez Transnet Engineering SLR |
| <b>Contact Person Email Address</b> | Charl.duPreez@transnet.net              |
| <b>Date Published</b>               | 4/7/2022 3:51:47 PM                     |
| <b>Closing Date</b>                 | 4/13/2022 10:00:00 AM                   |
| <b>Briefing Date And Time</b>       |                                         |
| <b>Briefing Details</b>             |                                         |
| <b>Location Of Service</b>          | Coaches, Salt River                     |
| <b>Name Of Institution</b>          | TE                                      |
| <b>Tender Category</b>              | Goods                                   |
| <b>Tender Status</b>                | Open                                    |

**Briefing Session**

**Closing Date**  
4/13/2022 10:00:00 AM

**Attachments**

- 2.14 Standard Terms and Conditions of Contract f
- 2.18 Supplier Integrity Pact\_April 2020\_v1.pdf
- 2.19 Non Disclosure Agreement\_April 2020\_v1.pdf
- 2.9 Request for Quotations TE22-SRX-1FG-02068

**Log An Intent To Bid**

☒

**Submit Intent** **Cancel**

**Tender Details**

**Tender Reference Number**

**Name Of Tender**

**Description**

**Tender Type** RFQ

**Contact Person** Charl du Preez Transnet Engineering SLR

**Contact Person Email Address** Charl.duPreez@transnet.net

**Date Published** 4/7/2022 3:51:47 PM

**Closing Date** 4/13/2022 10:00:00 AM

**Briefing Date And Time**

**Briefing Details**

**Location Of Service**

**Name Of Institution**

**Tender Category**

**Tender Status**

### Intent to Bid

Your request to log an intent to bid has been successfully submitted.

[Close](#)

**Briefing Session**

**Closing Date** 4/13/2022 10:00:00 AM

**Attachments**

- 2.14 Standard Terms and Conditions of Contract for
- 2.18 Supplier Integrity Pact\_April 2020\_v1.pdf
- 2.19 Non Disclosure Agreement\_April 2020\_v1.pdf
- 2.9 Request for Quotations TE22-SRX-1FG-02068.pdf

**Log An Intent To Bid**

☒

[Submit Intent](#) [Cancel](#)

When the "Submit Intent" is selected, a message will appear to indicate that the request was successfully submitted. Click on close and wait for the next screen.



delivering freight reliably

HOME
ADVERTISED TENDERS
MY SUBMITTED INTENTS
MY BID DOCUMENT SUBMISSIONS
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WELCOME TESTING 
SIGN OUT

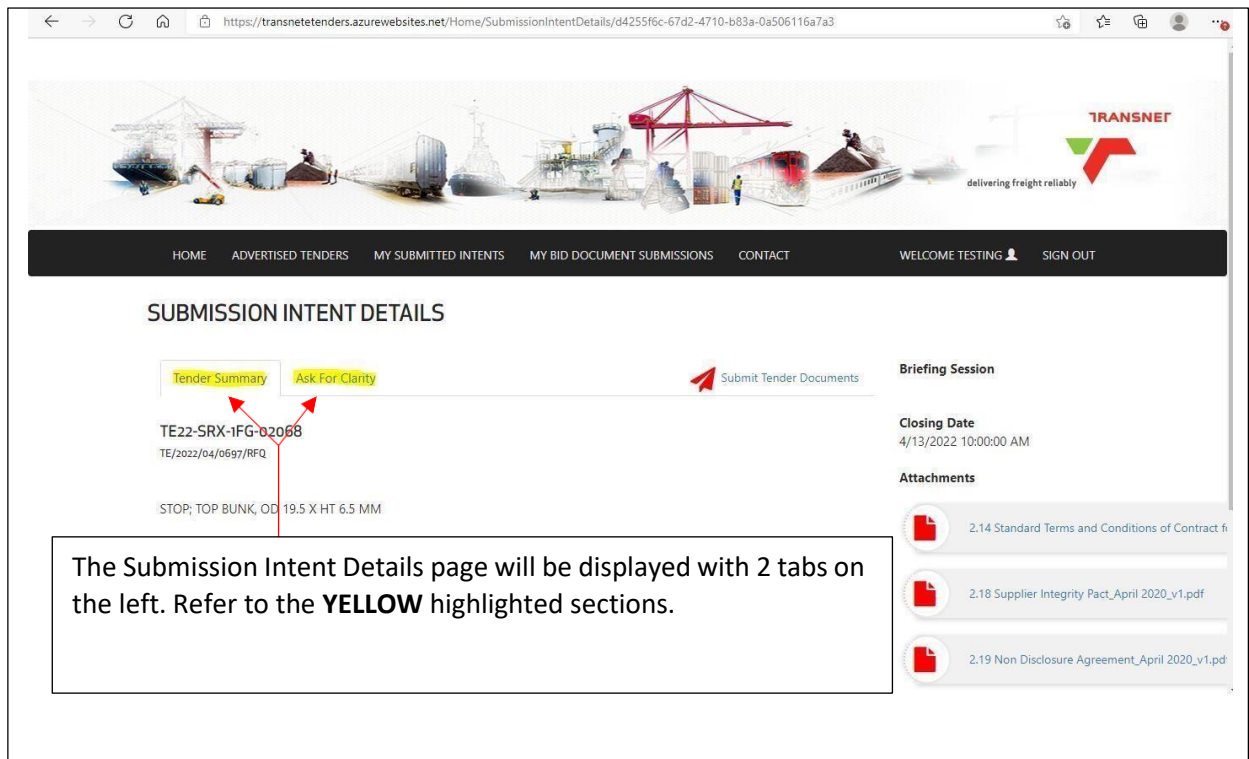
## MY SUBMISSION INTENTS

Show  entries

| Tender Reference Number | Name               | Description Of Tender               | Briefing Session Date | Closing Date          | View Details                 |
|-------------------------|--------------------|-------------------------------------|-----------------------|-----------------------|------------------------------|
| TE/2022/04/0697/RFQ     | TE22-SRX-1FG-02068 | STOP; TOP BUNK, OD 19.5 X HT 6.5 MM |                       | 4/13/2022 10:00:00 AM | <a href="#">View Details</a> |

Showing 1 to 1 of 1 entries

The screen should be updated and load the "MY SUBMITTED INTENTS". To proceed to capturing your bid documents, click on "View Details"



https://transnettenders.azurewebsites.net/Home/SubmissionIntentDetails/d4255f6c-67d2-4710-b83a-0a506116a7a3

HOME ADVERTISED TENDERS MY SUBMITTED INTENTS MY BID DOCUMENT SUBMISSIONS CONTACT WELCOME TESTING SIGN OUT

### SUBMISSION INTENT DETAILS

Tender Summary Ask For Clarity

TE22-SRX-1FG-02068  
TE/2022/04/0697/RFQ

STOP; TOP BUNK, OD 19.5 X HT 6.5 MM

Submit Tender Documents

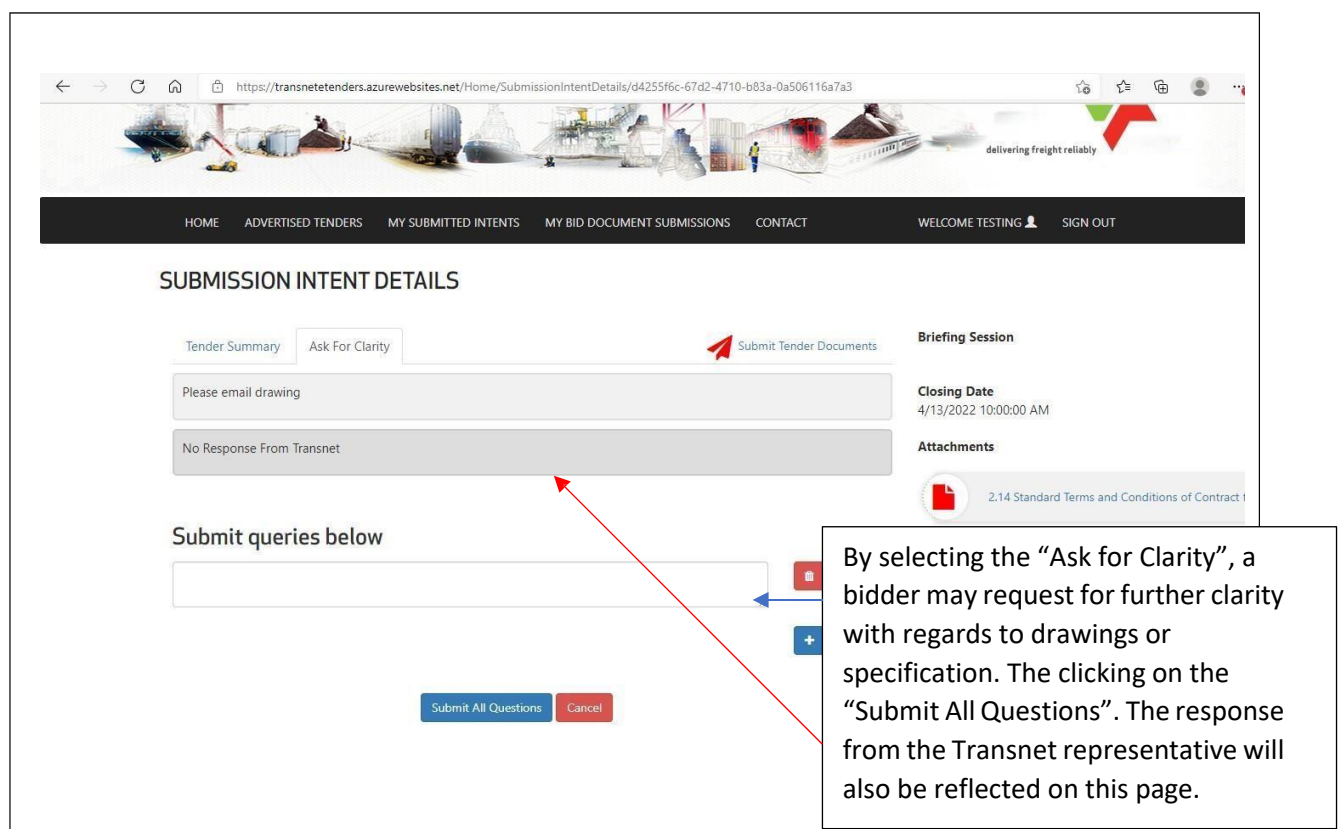
**Briefing Session**

**Closing Date**  
4/13/2022 10:00:00 AM

**Attachments**

- 2.14 Standard Terms and Conditions of Contract
- 2.18 Supplier Integrity Pact\_April 2020\_v1.pdf
- 2.19 Non Disclosure Agreement\_April 2020\_v1.pdf

The Submission Intent Details page will be displayed with 2 tabs on the left. Refer to the **YELLOW** highlighted sections.



https://transnettenders.azurewebsites.net/Home/SubmissionIntentDetails/d4255f6c-67d2-4710-b83a-0a506116a7a3

HOME ADVERTISED TENDERS MY SUBMITTED INTENTS MY BID DOCUMENT SUBMISSIONS CONTACT WELCOME TESTING SIGN OUT

### SUBMISSION INTENT DETAILS

Tender Summary Ask For Clarity

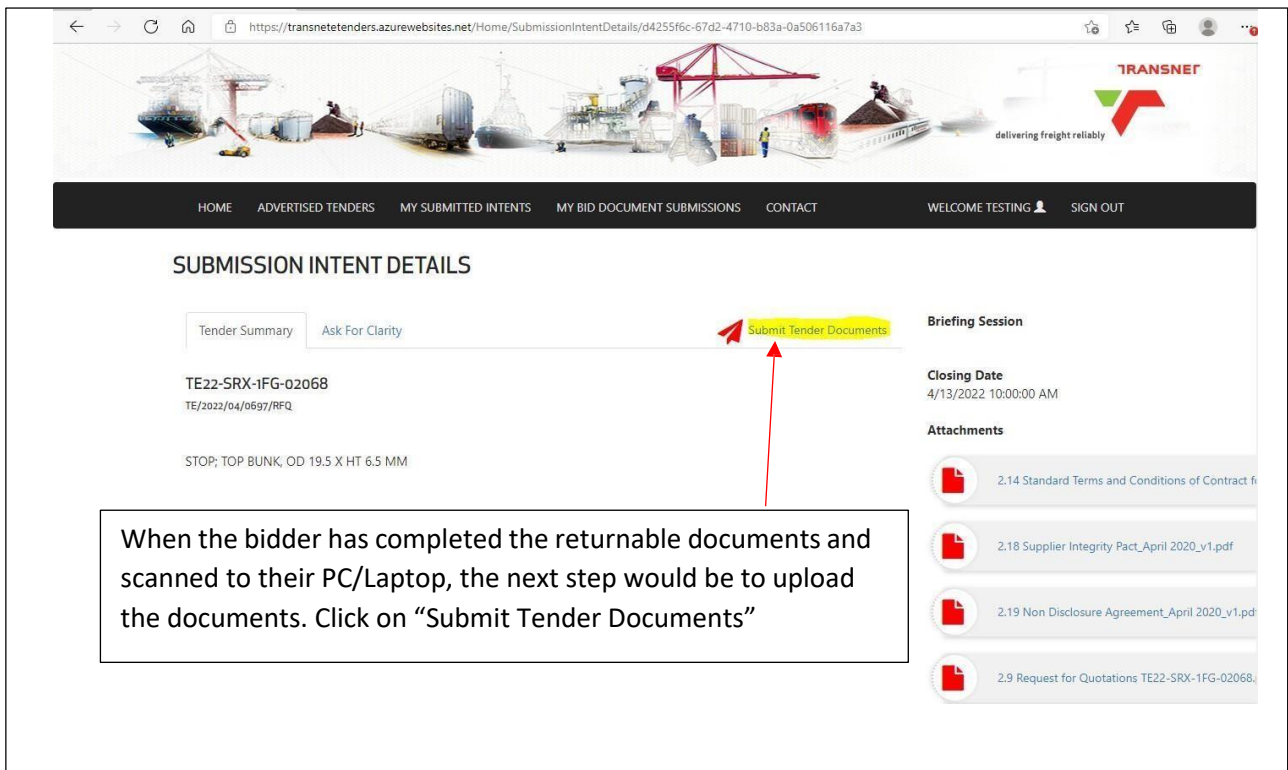
Please email drawing

No Response From Transnet

Submit queries below

Submit All Questions Cancel

By selecting the "Ask for Clarity", a bidder may request for further clarity with regards to drawings or specification. The clicking on the "Submit All Questions". The response from the Transnet representative will also be reflected on this page.



**SUBMISSION INTENT DETAILS**

Tender Summary   Ask For Clarity   **Submit Tender Documents**

**TE22-SRX-1FG-02068**  
TE/2022/04/0697/RFQ

STOP; TOP BUNK, OD 19.5 X HT 6.5 MM

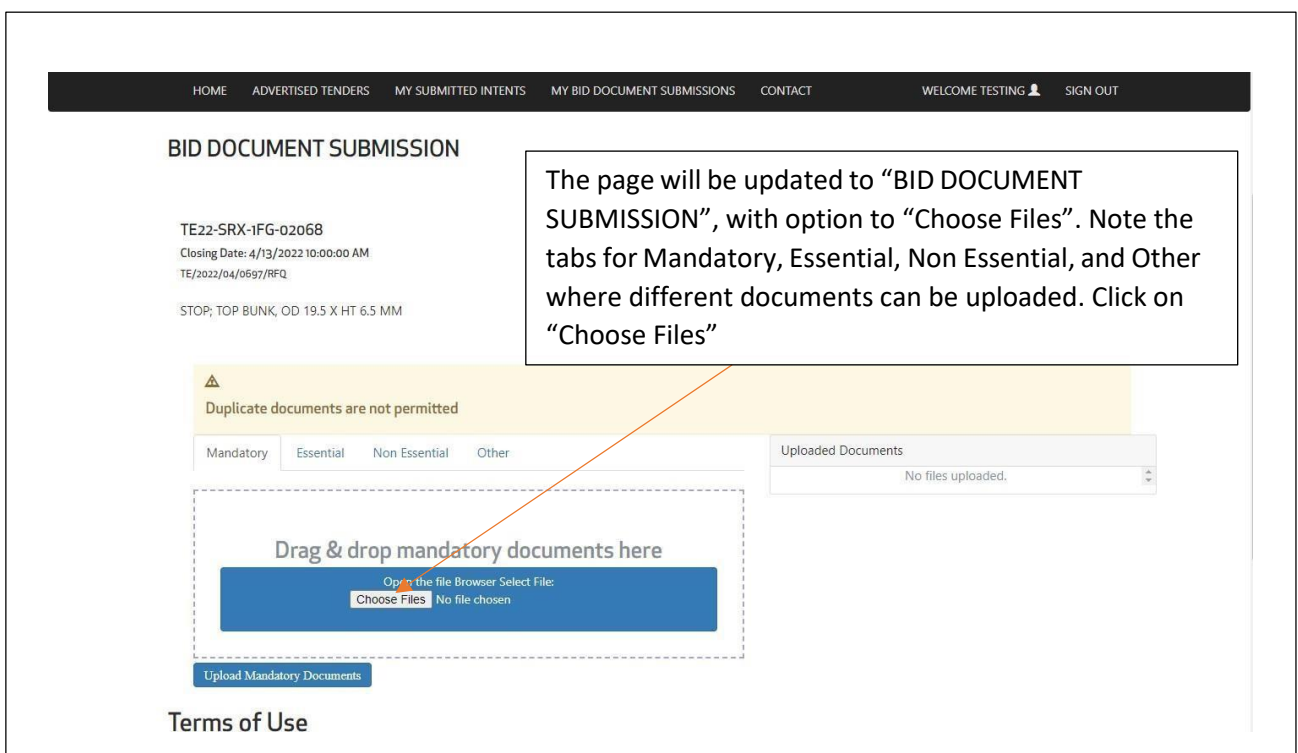
**Briefing Session**

**Closing Date**  
4/13/2022 10:00:00 AM

**Attachments**

- 2.14 Standard Terms and Conditions of Contract f
- 2.18 Supplier Integrity Pact\_April 2020\_v1.pdf
- 2.19 Non Disclosure Agreement\_April 2020\_v1.pdf
- 2.9 Request for Quotations TE22-SRX-1FG-02068,

When the bidder has completed the returnable documents and scanned to their PC/Laptop, the next step would be to upload the documents. Click on “Submit Tender Documents”



**BID DOCUMENT SUBMISSION**

**TE22-SRX-1FG-02068**  
Closing Date: 4/13/2022 10:00:00 AM  
TE/2022/04/0697/RFQ

STOP; TOP BUNK, OD 19.5 X HT 6.5 MM

**Uploaded Documents**  
No files uploaded.

**Drag & drop mandatory documents here**

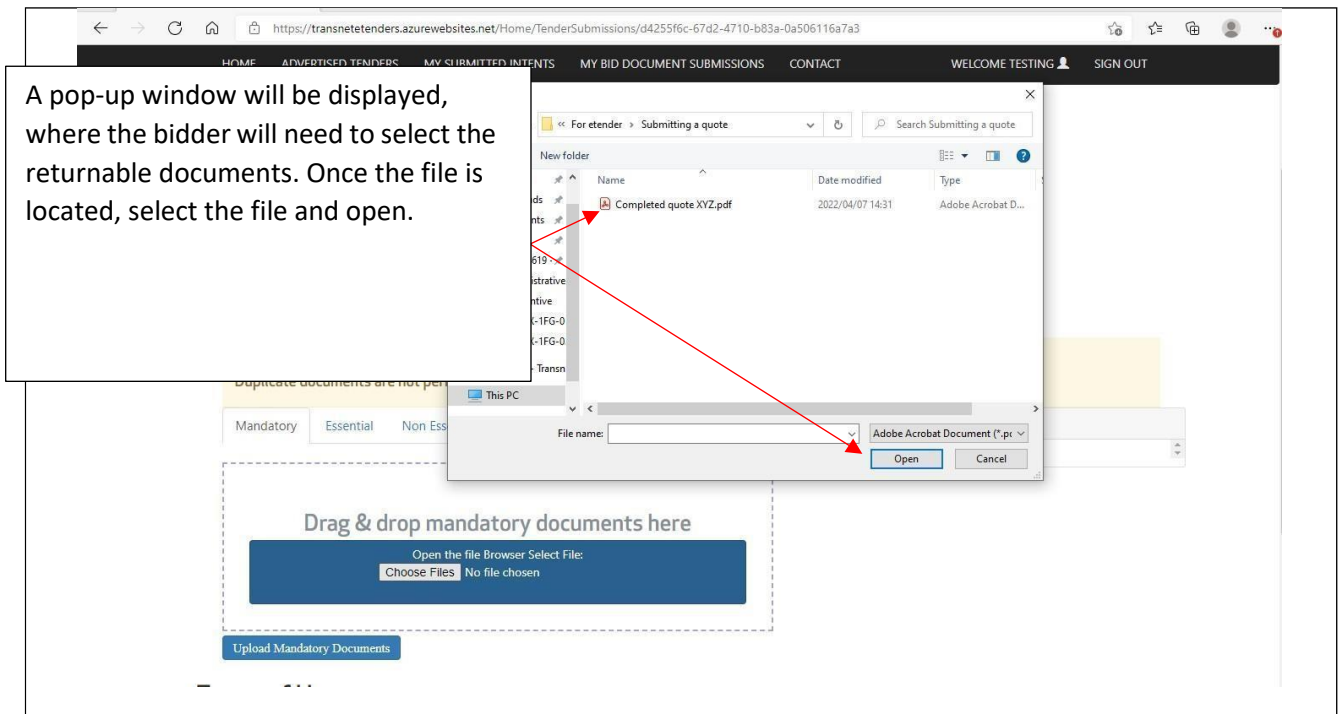
Open the file Browser Select File:  
**Choose Files** No file chosen

**Upload Mandatory Documents**

**Terms of Use**

The page will be updated to “BID DOCUMENT SUBMISSION”, with option to “Choose Files”. Note the tabs for Mandatory, Essential, Non Essential, and Other where different documents can be uploaded. Click on “Choose Files”

A pop-up window will be displayed, where the bidder will need to select the returnable documents. Once the file is located, select the file and open.



**BID DOCUMENT SUBMISSION**

TE22-SRX-IFG-02068  
Closing Date: 4/13/2022 10:00:00 AM  
TE/2022/04/0697/RFQ  
STOP; TOP BUNK, OD 19.5 X HT 6.5 MM

Duplicate documents are not permitted

Mandatory Essential Non Essential Other

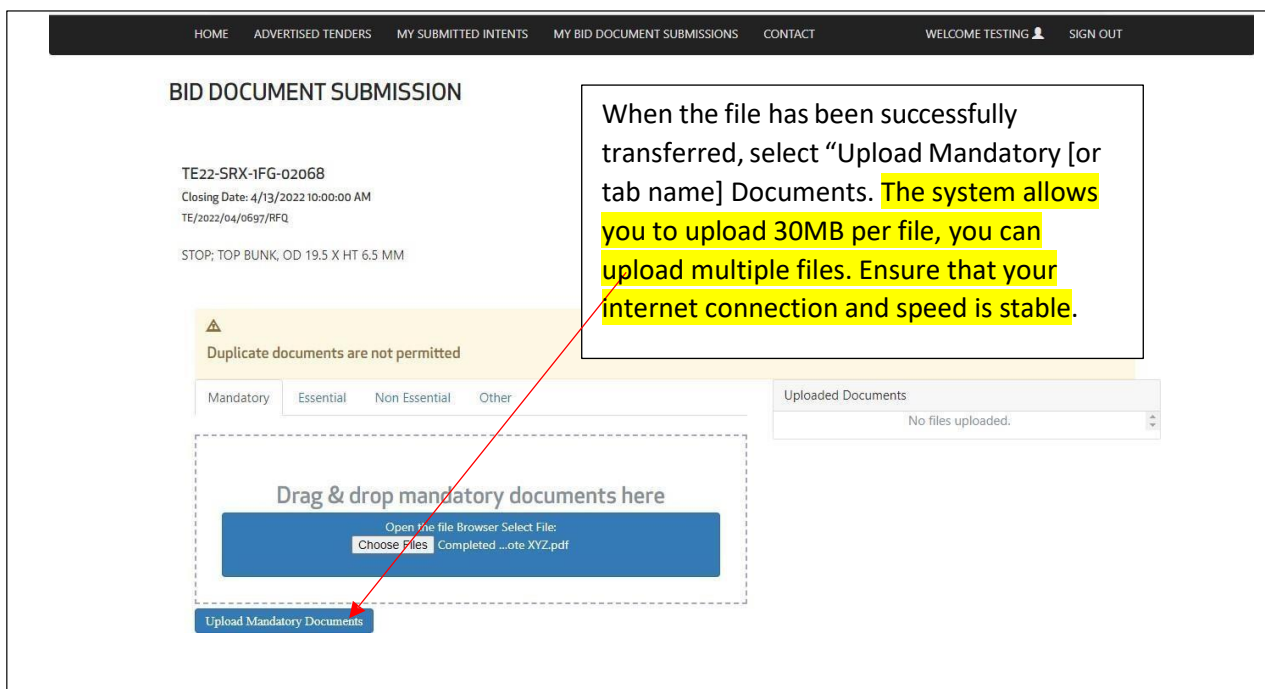
Drag & drop mandatory documents here

Open the file Browser Select File:  
Choose Files No file chosen

Upload Mandatory Documents

Uploaded Documents  
No files uploaded.

When the file has been successfully transferred, select "Upload Mandatory [or tab name] Documents. The system allows you to upload 30MB per file, you can upload multiple files. Ensure that your internet connection and speed is stable.



The "Uploaded Documents" section will be updated to confirm that the document was uploaded, then click on "Submit Bid"

TE/2022/04/0697/RFQ

STOP; TOP BUNK, OD 19.5 X HT 6.5 MM

**⚠ Duplicate documents are not permitted**

Mandatory Essential Non Essential Other

Drag & drop mandatory documents here

Open the file Browser Select File:  
Choose Files No file chosen

Upload Mandatory Documents

Uploaded Documents

Completed quote XYZ.pdf - Document Type: Mandatory Documents

Delete

Terms of Use

Information provided by the bidder through this portal constitute a binding bid submission/response and a commitment to deliver Transnet requirements. Kindly note that the system automatically ranks the outcome of the evaluation of price and BBBEE scoring based on the information provided. Pricing and BBBEE information provided is the responsibility of the bidder to ensure correctness and Transnet will only consider your latest submission made before the closing date.

← Back

→ Submit Bid



HOME ADVERTISED TENDERS MY SUBMITTED INTENTS **MY BID DOCUMENT SUBMISSIONS** CONTACT WELCOME TESTING SIGN OUT

### MY BID DOCUMENT SUBMISSIONS

Show 10 entries Search:

| Tender Reference Number | Name               | Date Submitted      | Company Name         | View Details                 |
|-------------------------|--------------------|---------------------|----------------------|------------------------------|
| TE/2022/04/0697/RFQ     | TE22-SRX-1FG-02068 | 4/8/2022 8:59:06 AM | Transnet Engineering | <a href="#">View Details</a> |

Showing 1 to 1 of 1 entries

Previous 1 Next

The screen will progress to "MY BID DOCUMENT SUBMISSION", where the "View Details" can be selected to confirm that all required information is submitted correctly.

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## **T1.2 Tender Data**

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## T1.2: TENDER DATA

The conditions of tender are the Standard Conditions of Tender as contained in Annex C of the CIDB Standard for Uniformity in Engineering and Construction Works Contracts. The Standard for Uniformity in Construction Procurement was first published in Board Notice 62 of 2004 in Government Gazette No 26427 of 9 June 2004. It was subsequently amended in Board Notice 67 of 2005 in Government Gazette No 28127 of 14 October 2005, Board Notice 93 of 2006 in Government Gazette No 29138 of 18 August 2006, Board Notice No 9 of 2008 in Government Gazette No 31823 of 30 January 2009, Board Notice 86 of 2010 in Government Gazette No 33239 of 28 May 2010, Board Notice 136 of 2015 in Government Gazette 38960 of 10 July 2015 and Board Notice 423 of 2019 in Government Gazette No 42622 of 8 August 2019.

This edition incorporates the amendments made in Board Notice 423 of 2019 in Government Gazette 42622 of 8 August 2019. (see [www.cidb.org.za](http://www.cidb.org.za)).

The Standard Conditions of Tender make several references to Tender data for detail that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Each item of data given below is cross-referenced in the left-hand column to the clause in the Standard Conditions of Tender to which it mainly applies.

| Clause                                                      | Data                                                                                            |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| C.1.1 The Employer is                                       | <b>Transnet SOC Ltd</b><br><b>(Reg No. 1990/000900/30)</b>                                      |
| C.1.2 The tender documents issued by the Employer comprise: |                                                                                                 |
| <b>Part T: The Tender</b>                                   |                                                                                                 |
| Part T1: Tendering procedures                               | T1.1 Tender notice and invitation to tender<br>T1.2 Tender data                                 |
| Part T2: Returnable documents                               | T2.1 List of returnable documents<br>T2.2 Returnable schedules                                  |
| <b>Part C: The contract</b>                                 |                                                                                                 |
| Part C1: Agreements and contract data                       | C1.1 Form of offer and acceptance<br>C1.2 Contract data (Part 1 & 2)<br>C1.3 Form of Securities |
| Part C2: Pricing data                                       | C2.1 Pricing instructions<br>C2.2 Bill of Quantities                                            |
| Part C3: Scope of work                                      | C3.1 Works Information                                                                          |

|       | Part C4: Site information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | C4.1 Site information                                                                                                                  |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| C.1.4 | The Employer's agent is:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Procurement Officer                                                                                                                    |
|       | Name:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Selina Mojaki                                                                                                                          |
|       | Address:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Transnet National Ports Authority<br>Venture Road, 1 <sup>st</sup> Floor, Open plan,<br>Bayvue Building, Port of Richards Bay,<br>3900 |
|       | Tel No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 031 361 2239                                                                                                                           |
|       | E – mail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <a href="mailto:Selina.Mojaki@transnet.net">Selina.Mojaki@transnet.net</a>                                                             |
| C.2.1 | Only those tenderers who satisfy the following eligibility criteria are eligible to submit tenders:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                        |
|       | <p><b>1. Stage One - Eligibility with regards to attendance at the compulsory clarification meeting:</b></p> <p>An authorised representative of the tendering entity or a representative of a tendering entity that intends to form a Joint Venture (JV) must attend the compulsory clarification meeting in terms C2.7</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                        |
|       | <p><b>2. Stage Two - Eligibility in terms of the Construction Industry Development Board:</b></p> <p>a) Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, designation of <b>7GB or higher</b> class of construction work, are eligible to have their tenders evaluated.</p> <p>b) Joint Venture (JV)</p> <p>Joint ventures are eligible to submit tenders subject to the following:</p> <ol style="list-style-type: none"> <li>every member of the joint venture is registered with the CIDB;</li> <li>the lead partner has a contractor grading designation of not lower than one level below the required class of construction works under consideration and possesses the required recognition status; and</li> <li>the combined Contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a <b>7GB or higher</b> class of construction work or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations.</li> </ol> <p>The tenderer shall provide a certified copy of its signed joint venture agreement.</p> |                                                                                                                                        |

**Any tenderer that fails to meet the stipulated eligibility criteria will be regarded as an unacceptable tender.**

### **3. Stage Three - Functionality:**

Only those tenderers who obtain the minimum qualifying score for functionality will be evaluated further in terms of price and the applicable preference point system. The minimum qualifying score for functionality is **60** points.

The evaluation criteria for measuring functionality and the points for each criteria and, if any, each sub-criterion is as stated in C.3.11. below.

**Any tenderer that fails to meet the stipulated pre-qualifying criteria will be regarded as an unacceptable tender.**

C.2.7 The arrangements for a compulsory clarification meeting are as stated in the Tender Notice and Invitation to Tender. **Tenderers must complete and sign the attendance register.** Addenda will be issued to, and tenders will only be received from those tendering entities including those entities that intends forming a joint venture appearing on the attendance register.

Tenderers are also **required to bring their RFP document to the briefing session and have their returnable document T2.2-01 certificate of attendance** signed off by the Employer's authorised representative.

C.2.12 No alternative tender offers will be considered.

C.2.13.3 Each tender offer shall be in the **English Language.**

C.2.13.5 The Employer's details and identification details that are to be shown on each tender offer are as follows:

Identification details:

The tender documents must be uploaded with:

- Name of Tenderer:
- Contact person and details:
- The Tender Number: TNPA/2023/08/0010/38485
- The Tender Description: The Upgrade of the Workshop at the Waterfront in the Port of Richards Bay, Phase 1

Documents must be marked for the attention of:

**Employer's Agent:**

C.2.13.9 Telephonic, telegraphic, facsimile or e-mailed tender offers will not be accepted.

C.2.15 The closing time for submission of tender offers is: Time: **16:00** on the **24 November 2023**

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Location: The Transnet e-Tender Submission Portal:  
(<https://transnetetenders.azurewebsites.net>);

**NO LATE TENDERS WILL BE ACCEPTED**

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C.2.16 The tender offer validity period is **12 weeks** after the closing date. Tenderers are to note that they may be requested to extend the validity period of their tender, on the same terms and conditions, if Transnet's internal evaluation and governance approval processes has not been finalised within the validity period.

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C.2.23 The tenderer is required to submit with his tender:  
A valid Tax Clearance Certificate issued by the South African Revenue Services.  
**Tenderers also to provide Transnet with a TCS PIN to verify Tenderers compliance status.**

A **valid B-BBEE Certificate** from a Verification Agency accredited by the South African Accreditation System [**SANAS**], or a **sworn affidavit** confirming annual turnover and level of black ownership in case of all EMEs and QSEs with 51% black ownership or more together with the tender;

A valid CIDB certificate in the correct designated grading;

Proof of registration on the Central Supplier Database;

Letter of Good Standing with the Workmen's compensation fund by the tendering entity or separate Letters of Good Standing from all members of a newly constituted JV.

**Note:** Refer to Section T2.1 for List of Returnable Documents

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C3.11 The minimum number of evaluation points for functionality is **60**

The procedure for the evaluation of responsive tenders is Functionality, Price, and Preference:

**Only those tenderers who attain the minimum number of evaluation points for Functionality will be eligible for further evaluation, failure to meet the minimum threshold will result in the tender being disqualified and removed from any further consideration.**

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## Functionality Criteria

The functionality criteria and maximum score in respect of each of the criteria are as follows:

| Functionality criteria                   | Sub-criteria                                                                                                                                                                                                                                                                                                      | Sub-criteria points | Maximum number of points |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------|
| T2.2-03<br>Programme                     | The tender must provide a programme that provides the detail that would indicate the order and timing of activities to carry out the services in terms of the Employer's requirements and within the stipulated timeframes. The Tenderer shall produce a level 3 schedule according to the Employer's objectives. |                     |                          |
|                                          | The tenderer shall demonstrate the following:                                                                                                                                                                                                                                                                     |                     |                          |
|                                          | - Ability to Provide the Services                                                                                                                                                                                                                                                                                 | 5                   | 12                       |
|                                          | - Provision of Dates                                                                                                                                                                                                                                                                                              | 2                   |                          |
|                                          | - Resourcing & Equipment                                                                                                                                                                                                                                                                                          | 3                   |                          |
| - Progress Measurement & Tracking Sheets | 2                                                                                                                                                                                                                                                                                                                 |                     |                          |
| T2.2-04<br>Quality Management            | Due consideration must be given to the deliverables required to demonstrate to the Employer the effectiveness of the Quality Management System to be used in the performance of the scope.                                                                                                                        |                     |                          |
|                                          | The following standards apply to the quality of the deliverables to be supplied.<br>- International Standard ISO 9001:2015                                                                                                                                                                                        |                     |                          |
|                                          | - Project Quality Plan (as per TNPA-QUAL-REQ-014.1)                                                                                                                                                                                                                                                               | 5                   | 10                       |
|                                          | - Quality Control Plan (as per as per TNPA-QUAL-REQ-014.1)                                                                                                                                                                                                                                                        | 4                   |                          |
|                                          | - Quality Policy                                                                                                                                                                                                                                                                                                  | 1                   |                          |
| T2.2-05<br>Environmental Management      | The tenderer must provide evidence of how their Environmental Management System (EMS) will ensure conformance to                                                                                                                                                                                                  |                     | 10                       |
|                                          | - Environmental Management Plan                                                                                                                                                                                                                                                                                   | 4                   |                          |
|                                          | - Environmental Policy                                                                                                                                                                                                                                                                                            | 1                   |                          |
|                                          | - Organogram Qualification & Experience                                                                                                                                                                                                                                                                           | 2                   |                          |
|                                          | - List of projects where construction environmental management duties have been executed                                                                                                                                                                                                                          | 2                   |                          |

|                                                     |                                                                                                                                                                                                             |    |    |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|
|                                                     | - Declaration of Understanding                                                                                                                                                                              | 1  |    |
| T2.2-06<br>Health and<br>Safety<br>Requirements     | Submit the following documents as a minimum with<br>your tender                                                                                                                                             |    |    |
|                                                     | - Project Specific Documented                                                                                                                                                                               | 3  | 15 |
|                                                     | - Policy current, dated and signed                                                                                                                                                                          | 1  |    |
|                                                     | - Oranogram dated, signed with Role&<br>Responsibilities                                                                                                                                                    | 2  |    |
|                                                     | - Training Matrix dated and signed                                                                                                                                                                          | 1  |    |
|                                                     | - Overview of the Baseline risk<br>assessment                                                                                                                                                               | 3  |    |
|                                                     | - One year synopsis                                                                                                                                                                                         | 2  |    |
|                                                     | - Safety Questionnaire                                                                                                                                                                                      | 1  |    |
|                                                     | - Cost Breakdown Sheet                                                                                                                                                                                      | 2  |    |
| T2.2-07<br>Management<br>& CV's of key<br>personnel | The tender must be able to demonstrate that the project<br>personnel have sufficient knowledge, experience, and<br>qualifications to provide the required service                                           |    |    |
|                                                     | - Relevant years of experience                                                                                                                                                                              | 8  | 25 |
|                                                     | - Education, training, and skills                                                                                                                                                                           | 5  |    |
|                                                     | - Knowledge of Issues pertinent                                                                                                                                                                             | 7  |    |
|                                                     | - Specific experience related to managing a<br>contract based on the NEC3 ECC conditions of<br>contract                                                                                                     | 5  |    |
| T2.2-08<br>Previous<br>Experience                   | The tenderer must demonstrate their relevant experience with<br>regards to the delivery and Construction of similar works as<br>detailed in the Works Information with reference to:                        |    |    |
|                                                     | - Civil works (i.e., internal water reticulation,<br>Sewer, Stormwater, Paving)<br>- Architectural and building works<br>(Brickwork, plastering, tiling,<br>painting, plumbing, electrical<br>installation) | 10 | 20 |

|                                                             |                                                                                                                                                                                                                                                                                                                                                                     |           |            |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|
|                                                             | <ul style="list-style-type: none"> <li>- Fire Services (Fire detection, alarms, and fire protection)</li> <li>- Heating Ventilation Air conditioning and cooling plant</li> </ul>                                                                                                                                                                                   |           |            |
|                                                             | References to substantiate experience indicated showing: <ul style="list-style-type: none"> <li>- Project description</li> <li>- Customer name and contact details</li> <li>- Contract value and duration</li> <li>- Evidence of project completion i.e., Completion Certificate</li> </ul>                                                                         | <b>10</b> |            |
| <b>Evaluation Schedule<br/>T2.2-09<br/>Method Statement</b> | <b>The tenderer must sufficiently demonstrate the approach/methodology that he/she will employ to cover the scope of the project.</b>                                                                                                                                                                                                                               |           |            |
|                                                             | <ul style="list-style-type: none"> <li>- Structural building works: <ul style="list-style-type: none"> <li>• Methodology for demolition</li> <li>• Temporary works</li> <li>• Structural concrete works</li> <li>• Building works</li> <li>• Electrical</li> <li>• Mechanical works including fire systems and HVAC</li> <li>• Commissioning</li> </ul> </li> </ul> | <b>5</b>  | <b>13</b>  |
|                                                             | - Schedule for work (including construction sequencing)                                                                                                                                                                                                                                                                                                             | <b>6</b>  |            |
|                                                             | - Details of equipment to be used for the works                                                                                                                                                                                                                                                                                                                     | <b>2</b>  |            |
| <b>Maximum possible score for Functionality</b>             |                                                                                                                                                                                                                                                                                                                                                                     |           | <b>100</b> |

Functionality shall be scored independently by not less than 3 (three) evaluators and averaged in accordance with the following schedules:

- T2.2-03 Programme
- T2.2-04 Quality Management
- T2.2-05 Environmental Management
- T2.2-06 Health and Safety Requirements
- T2.2-07 Management & CV's key personnel
- T2.2-08 Previous Experience
- T2.2-09 Method Statement

Each evaluation criteria will be assessed in terms of scores of 0, 20, 40, 60, 80 or 100. The scores of each of the evaluators will be averaged, weighted, and then totalled to obtain the final score for functionality, unless scored collectively. (See CIDB Inform Practice Note #9).

**Note: Any tender not complying with the above-mentioned requirements, will be regarded as non-responsive and will therefore not be considered for further evaluation. This note must be read in conjunction with Clause C.2.1.**

C3.11. Only tenders that achieve the minimum qualifying score for functionality will be evaluated further in accordance with the 80/20 preference points systems as described in Preferential Procurement Regulations.

80 where the financial value of one or more responsive tenders received have a value equal to or below R50 million, inclusive of all applicable taxes.

| Thresholds                | Minimum Threshold |
|---------------------------|-------------------|
| Technical / functionality | 60                |

| Evaluation Criteria        | Final Weighted Scores |
|----------------------------|-----------------------|
| Price                      | 80                    |
| Specific goals - Scorecard | 20                    |
| <b>TOTAL SCORE:</b>        | <b>100</b>            |

Up to 100 minus  $*W_1$  (Score for financial offer) tender evaluation points will be awarded to tenderers who complete the preferencing schedule and who are found to be eligible for the preference claimed. **Should the evidence required for any of the Specific Goals applicable in this tender not be provided, a tenderer will score zero preference points for that particular "Specific Goal".**

C.3.11. In terms of Transnet Preferential Procurement Policy (TPPP) and Procurement Manuals, the following preference points must be awarded to a bidder who provides the relevant required evidence for claiming points.

| Specific Goals                                                                                                                               | Number of points (80/20 system) |
|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| B-BBEE Status Level of Contributor 1 or 2.                                                                                                   | 5                               |
| 30% Black Women Owned Entities.                                                                                                              | 2                               |
| The promotion of enterprises located in uMhlathuze Local Municipality for work to be done or services to be rendered in that municipal area. | 3                               |
| The creation of 21 new jobs in uMhlathuze Local Municipality.                                                                                | 2                               |

|                                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <ul style="list-style-type: none"> <li>• 4 Skilled jobs</li> <li>• 6 Semi-skilled jobs</li> <li>• 11 Unskilled jobs</li> </ul>                                                                                                                                                                                                                                                                                                     |                            |
| The promotion of supplier development through subcontracting a minimum of 30% of the value of the <ul style="list-style-type: none"> <li>• HVAC and associated plan</li> <li>• Fire Detection and Alarm System</li> <li>• Fire Suppression Systems and</li> <li>• New data and communication infrastructure</li> </ul> portions of a contract to/with EMEs and/or QSEs 51% owned by black people, youth, women or disabled people. | 8                          |
| Non-compliant and/or Level 3-8 contributor                                                                                                                                                                                                                                                                                                                                                                                         | 0                          |
| <b>Specific Goals</b>                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Number of points 20</b> |

**The following Table represents the evidence to be submitted for claiming preference points for applicable specific goals in a particular tender:**

| <b>Specific Goals</b>                                                                                                                                                                                                                                             | <b>Acceptable Evidence</b>                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B-BBEE Status Level of Contributor 1 or 2.                                                                                                                                                                                                                        | Valid B-BBEE Certificate / Sworn - Affidavit / CIPC B-BBEE Certificate (in case of JV, a consolidated scorecard will be accepted) as per DTIC guidelines                                                                                                                                    |
| 30% Black Women Owned Entities.                                                                                                                                                                                                                                   | Valid B-BBEE Certificate / Sworn - Affidavit / CIPC B-BBEE Certificate (in case of JV, a consolidated scorecard will be accepted) as per DTIC guidelines                                                                                                                                    |
| The promotion of enterprises located in uMhlathuze Local Municipality for work to be done or services to be rendered in that municipal area.                                                                                                                      | <ul style="list-style-type: none"> <li>• CIPC Registration documents</li> <li>• B-BBEE Certificate / Sworn - Affidavit / CIPC B-BBEE Certificate (in case of JV, a consolidated scorecard will be accepted) as per DTIC guidelines</li> <li>• Proof Registered address of entity</li> </ul> |
| The creation of 21 new jobs in uMhlathuze Local Municipality <ul style="list-style-type: none"> <li>• 4 Skilled jobs</li> <li>• 6 Semi-skilled jobs</li> <li>• 11 Unskilled jobs</li> </ul>                                                                       | Section T2.2-28 Job Creation Schedule Returnable documents                                                                                                                                                                                                                                  |
| The promotion of supplier development through subcontracting a minimum of 30% of the value of the <ul style="list-style-type: none"> <li>• HVAC and associated plan</li> <li>• Fire Detection and Alarm System</li> <li>• Fire Suppression Systems and</li> </ul> | <ul style="list-style-type: none"> <li>• Sub-contracting agreements and Declaration</li> <li>• Subcontractor(s) CIPC registration documents</li> <li>• Subcontractor(s) B-BBEE Certificate / Sworn - Affidavit / CIPC B-BBEE Certificate as per DTIC guidelines</li> </ul>                  |

|                                                                                                                                                                                                         |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <ul style="list-style-type: none"> <li>New data and communication infrastructure</li> </ul> portions of a contract to/with EMEs and/or QSEs 51% owned by black people, youth, women or disabled people. |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

The maximum points for this bid are allocated as follows:

| DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | POINTS |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| PRICE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 80     |
| <b>B-B BEE Status Level of Contributor 1 or 2 = 5 points</b><br>30% Black Women Owned Entities = <b>2 points</b><br>The promotion of enterprises located in uMhlathuze Local Municipality for work to be done or services to be rendered in that municipal area = <b>3 points</b><br>The creation of 21 new jobs in uMhlathuze Local Municipality = <b>2 points</b><br><br>The promotion of supplier development through subcontracting a minimum of 30% of the value of the <ul style="list-style-type: none"> <li>HVAC and associated plan</li> <li>Fire Detection and Alarm System</li> <li>Fire Suppression Systems and</li> <li>New data and communication infrastructure</li> </ul> portions of a contract to/with EMEs and/or QSEs 51% owned by black people, youth, women or disabled people = <b>8 points</b><br>Non-compliant and/or level 3-8 contributors = <b>0 points</b> | 20     |
| Total points for Price and Specific Goals must not exceed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 100    |

Tender offers will only be accepted if:

- C.3.13
1. The tenderer or any of its directors/shareholders is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector;
  2. the tenderer does not appear on Transnet's list for restricted tenderers and National Treasury's list of Tender Defaulters;
  3. the tenderer has fully and properly completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the

tenderer's ability to perform the contract in the best interests of the Employer or potentially compromise the tender process and persons in the employ of the state.

4. Transnet reserves the right to award the tender to the tenderer who scores the highest number of points overall, unless there are **objective criteria** which will justify the award of the tender to another tenderer. Objective criteria include but are not limited to the outcome of a due diligence exercise to be conducted. The due diligence exercise may take the following factors into account inter alia;

the tenderer:

- a) is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement,
- b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,
- c) has the legal capacity to enter into the contract,
- d) is not insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act, 2008, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing,
- e) complies with the legal requirements, if any, stated in the tender data and
- f) is able, in the option of the employer to perform the contract free of conflicts of interest.

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C.3.17      The number of paper copies of the signed contract to be provided by the Employer is 1 (one).

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## Annex C

### Standard Conditions of Tender

#### C.1 General

##### C.1.1 Actions

**C.1.1.1** The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in C.2 and C.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

**C.1.1.2** The employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

*Note: 1) A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.*

*2) Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.*

**C.1.1.3** The employer shall not seek and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.

##### C.1.2 Tender Documents

The documents issued by the employer for the purpose of a tender offer are listed in the tender data.

##### C.1.3 Interpretation

**C.1.3.1** The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.

**C.1.3.2** These conditions of tender, the tender data and tender schedules which are required for tender evaluation purposes, shall form part of any contract arising from the invitation to tender.

**C.1.3.3** For the purposes of these conditions of tender, the following definitions apply:

- a) **conflict of interest** means any situation in which:
  - i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfill his or her duties impartially;
  - ii) an individual or tenderer is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
  - iii) incompatibility or contradictory interests exist between an employee and the tenderer who employs that employee.
- b) **comparative offer** means the price after the factors of a non-firm price and all unconditional discounts it can be utilised to have been taken into consideration;

- c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process;
- d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels;

#### **C.1.4 Communication and employer's agent**

Each communication between the employer and a tenderer shall be to or from the employer's agent only, and in a form that can be readily read, copied and recorded. Communications shall be in the English language. The employer shall not take any responsibility for non-receipt of communications from or by a tenderer. The name and contact details of the employer's agent are stated in the tender data.

#### **C.1.5 Cancellation and Re-Invitation of Tenders**

**C.1.5.1** An employer may, prior to the award of the tender, cancel a tender if-

- a) due to changed circumstances, there is no longer a need for the engineering and construction works specified in the invitation;
- b) funds are no longer available to cover the total envisaged expenditure; or
- c) no acceptable tenders are received.
- d) there is a material irregularity in the tender process.

**C.1.5.2** The decision to cancel a tender invitation must be published in the same manner in which the original tender invitation was advertised

**C.1.5.3** An employer may only with the prior approval of the relevant treasury cancel a tender invitation for the second time.

#### **C.1.6 Procurement procedures**

##### **C.1.6.1 General**

Unless otherwise stated in the tender data, a contract will, subject to C.3.13, be concluded with the tenderer who in terms of C.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.

##### **C.1.6.2 Competitive negotiation procedure**

**C.1.6.2.1** Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of C.3.4, the employer shall announce only the names of the tenderers who make a submission. The requirements of C.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

**C.1.6.2.2** All responsive tenderers or at least a minimum of not less than three responsive tenderers that are highest ranked in terms of the evaluation criteria stated in the tender data shall be invited to enter into competitive negotiations based on the principle of equal treatment, keeping confidential the proposed solutions and associated information.

Notwithstanding the provisions of C.2.17, the employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

C.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the employer to revise their tender offer based on the same evaluation criteria, with or without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.

C.1.6.2.4 The contract shall be awarded in accordance with the provisions of C.3.11 and C.3.13 after tenderers have been requested to submit their best and final offer.

### **C.1.6.3 Proposal procedure using the two stage-system**

#### **C.1.6.3.1 Option 1**

Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may be negotiated. The employer shall evaluate each responsive submission in terms of the method of evaluation stated in the tender data, and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.

#### **C.1.6.3.2 Option 2**

C.1.6.3.2.1 Tenderers shall submit in the first stage only technical proposals. The employer shall invite all responsive tenderers to submit tender offers in the second stage, following the issuing of procurement documents.

C.1.6.3.2.2 The employer shall evaluate tenders received during the second stage in terms of the method of evaluation stated in the tender data, and award the contract in terms of these conditions of tender.

### **C.2 Tenderer's obligations**

#### **C.2.1 Eligibility**

C.2.1.1 Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with employer.

C.2.1.2 Notify the employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the employer as the basis in a prior process to invite the tenderer to submit a tender offer and obtain the employer's written approval to do so prior to the closing time for tenders.

#### **C.2.2 Cost of tendering**

C.2.2.1 Accept that, unless otherwise stated in the tender data, the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

C.2.2.2 The cost of the tender documents charged by the employer shall be limited to the actual cost incurred by the employer for printing the documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.

#### **C.2.3 Check documents**

Check the tender documents on receipt for completeness and notify the employer of any discrepancy or omission.

#### **C.2.4 Confidentiality and copyright of documents**

Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a tender offer in response to the invitation.

#### **C.2.5 Reference documents**

Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.

#### **C.2.6 Acknowledge addenda**

Acknowledge receipt of addenda to the tender documents, which the employer may issue, and if necessary apply for an extension to the closing time stated in the tender data, in order to take the addenda into account.

#### **C.2.7 Clarification meeting**

Attend, where required, a clarification meeting at which tenderers may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the tender data.

#### **C.2.8 Seek clarification**

Request clarification of the tender documents, if necessary, by notifying the employer at least five (5) working days before the closing time stated in the tender data.

#### **C.2.9 Insurance**

Be aware that the extent of insurance to be provided by the employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the contract data. The tenderer is advised to seek qualified advice regarding insurance.

#### **C.2.10 Pricing the tender offer**

C.2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable fourteen (14) days before the closing time stated in the tender data.

C.2.10.2 Show VAT payable by the employer separately as an addition to the tendered total of the prices.

C.2.10.3 Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the contract data.

C.2.10.4 State the rates and prices in Rand unless instructed otherwise in the tender data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

#### **C.2.11 Alterations to documents**

Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations.

### **C.2.12 Alternative tender offers**

C.2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.

C.2.12.2 Accept that an alternative tender offer must be based only on the criteria stated in the tender data or criteria otherwise acceptable to the employer.

C.2.12.3 An alternative tender offer must only be considered if the main tender offer is the winning tender.

### **C.2.13 Submitting a tender offer**

C.2.13.1 Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

C.2.13.2 Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.

C.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the employer.

C.2.13.4 Sign the original and all copies of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.

C.2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

C.2.13.6 Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

C.2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.

C.2.13.8 Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

C.2.13.9 Accept that tender offers submitted by facsimile or e-mail will be rejected by the employer, unless stated otherwise in the tender data.

### **C.2.14 Information and data to be completed in all respects**

Accept that tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the employer as non-responsive.

### **C.2.15 Closing time**

C.2.15.1 Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.

C.2.15.2 Accept that, if the employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

### **C.2.16 Tender offer validity**

C.2.16.1 Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.

C.2.16.2 If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.

C.2.16.3 Accept that a tender submission that has been submitted to the employer may only be withdrawn or substituted by giving the employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted. If the validity period stated in C.2.16 lapses before the employer evaluating tender, the contractor reserves the right to review the price based on Consumer Price Index (CPI).

C.2.16.4 Where a tender submission is to be substituted, a tenderer must submit a substitute tender in accordance with the requirements of C.2.13 with the packages clearly marked as "SUBSTITUTE".

### **C.2.17 Clarification of tender offer after submission**

Provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

**Note:** Sub-clause C.2.17 does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the Employer elect to do so.

### **C.2.18 Provide other material**

C.2.18.1 Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment.

Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the tender offer as non-responsive.

C.2.18.2 Dispose of samples of materials provided for evaluation by the employer, where required.

### **C.2.19 Inspections, tests and analysis**

Provide access during working hours to premises for inspections, tests and analysis as provided for in the tender data.

### **C.2.20 Submit securities, bonds and policies**

If requested, submit for the employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.

### **C.2.21 Check final draft**

Check the final draft of the contract provided by the employer within the time available for the employer to issue the contract.

### **C.2.22 Return of other tender documents**

If so instructed by the employer, return all retained tender documents within twenty-eight (28) days after the expiry of the validity period stated in the tender data.

### **C.2.23 Certificates**

Include in the tender submission or provide the employer with any certificates as stated in the tender data.

## **C.3 The employer's undertakings**

### **C.3.1 Respond to requests from the tenderer**

C.3.1.1 Unless otherwise stated in the tender Data, respond to a request for clarification received up to five (5) working days before the tender closing time stated in the Tender Data and notify all tenderers who collected tender documents.

C.3.1.2 Consider any request to make a material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used to prequalify a tenderer to submit a tender offer in terms of a previous procurement process and deny any such request if as a consequence:

- a) an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements;
- b) the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture; or
- c) in the opinion of the Employer, acceptance of the material change would compromise the outcome of the prequalification process.

### **C.3.2 Issue Addenda**

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until three (3) working days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who collected tender documents.

### **C.3.3 Return late tender offers**

Return tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.

### **C.3.4 Opening of tender submissions**

C.3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

C.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where

applicable, the total of his prices, number of points claimed for its BBBEE status level and time for completion for the main tender offer only.

C.3.4.3 Make available the record outlined in C.3.4.2 to all interested persons upon request.

### **C.3.5 Two-envelope system**

C.3.5.1 Where stated in the tender data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data and announce the name of each tenderer whose technical proposal is opened.

C.3.5.2 Evaluate functionality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the functionality evaluation more than the minimum number of points for functionality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any points claimed on BBBEE status level. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for functionality.

### **C.3.6 Non-disclosure**

Not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.

### **C.3.7 Grounds for rejection and disqualification**

Determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.

### **C.3.8 Test for responsiveness**

C.3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:

- a) complies with the requirements of these Conditions of Tender,
- b) has been properly and fully completed and signed, and
- c) is responsive to the other requirements of the tender documents.

C.3.8.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would:

- a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- b) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or
- c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

**C.3.9 Arithmetical errors, omissions and discrepancies**

C.3.9.1 Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and the amount in words, the amount in words shall govern.

C.3.9.2 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with C.3.11 for:

- a) the gross misplacement of the decimal point in any unit rate;
- b) omissions made in completing the pricing schedule or bills of quantities; or
- c) arithmetic errors in:
  - (i) line item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or
  - (ii) the summation of the prices.

C.3.9.3 Notify the tenderer of all errors or omissions that are identified in the tender offer and either confirm the tender offer as tendered or accept the corrected total of prices.

C.3.9.4 Where the tenderer elects to confirm the tender offer as tendered, correct the errors as follows:

- a) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.
- b) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.

**C.3.10 Clarification of a tender offer**

Obtain clarification from a tenderer on any matter that could give rise to ambiguity in a contract arising from the tender offer.

**C.3.11 Evaluation of tender offers**

The Standard Conditions of Tender standardize the procurement processes, methods and procedures from the time that tenders are invited to the time that a contract is awarded. They are generic in nature and are made project specific through choices that are made in developing the Tender Data associated with a specific project.

Conditions of tender are by definition the document that establishes a tenderer's obligations in submitting a tender and the employer's undertakings in soliciting and evaluating tender offers. Such conditions establish the rules from the time a tender is advertised to the time that a contract is awarded and require employers to conduct the process of offer and acceptance in terms of a set of standard procedures.

| The CIDB Standard Conditions of Tender are based on a procurement system that satisfies the following system requirements: |                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Requirement                                                                                                                | Qualitative interpretation of goal                                                                                                                                                                                             |
| Fair                                                                                                                       | The process of offer and acceptance is conducted impartially without bias, providing simultaneous and timely access to participating parties to the same information.                                                          |
| Equitable                                                                                                                  | Terms and conditions for performing the work do not unfairly prejudice the interests of the parties.                                                                                                                           |
| Transparent                                                                                                                | The only grounds for not awarding a contract to a tenderer who satisfies all requirements are restrictions from doing business with the employer, lack of capability or capacity, legal impediments and conflicts of interest. |
| Competitive                                                                                                                | The system provides for appropriate levels of competition to ensure cost effective and best value outcomes.                                                                                                                    |

|                |                                                                                                                                                                                                                                        |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cost effective | The processes, procedures and methods are standardized with sufficient flexibility to attain best value outcomes in respect of quality, timing and price, and least resources to effectively manage and control procurement processes. |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**The activities associated with evaluating tender offers are as follows:**

- a) Open and record tender offers received
- b) Determine whether or not tender offers are complete
- c) Determine whether or not tender offers are responsive
- d) Evaluate tender offers
- e) Determine if there are any grounds for disqualification
- f) Determine acceptability of preferred tenderer
- g) Prepare a tender evaluation report
- h) Confirm the recommendation contained in the tender evaluation report

**C.3.11.1 General**

The employer must appoint an evaluation panel of not less than three persons conversant with the proposed scope of works to evaluate each responsive tender offer using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

**C.3.12 Insurance provided by the employer**

If requested by the proposed successful tenderer, submit for the tenderer's information the policies and / or certificates of insurance which the conditions of contract identified in the contract data, require the employer to provide.

**C.3.13 Acceptance of tender offer**

Accept the tender offer; if in the opinion of the employer, it does not present any risk and only if the tenderer:

- a) is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement;
- b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract;
- c) has the legal capacity to enter into the contract;
- d) is not; insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act No. 2008, bankrupt or being wound up, has his/her affairs administered by a court or a judicial officer, has suspended his/her business activities or is subject to legal proceedings in respect of any of the foregoing;
- e) complies with the legal requirements, if any, stated in the tender data; and
- f) is able, in the opinion of the employer, to perform the contract free of conflicts of interest.

**C.3.14 Prepare contract documents**

C.3.14.1 If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the tender documents to take account of:

- a) addenda issued during the tender period,
- b) inclusion of some of the returnable documents and
- c) other revisions agreed between the employer and the successful tenderer.

C.3.14.2 Complete the schedule of deviations attached to the form of offer and acceptance, if any.

### **C.3.15 Complete adjudicator's contract**

Unless alternative arrangements have been agreed or otherwise provided for in the contract, arrange for both parties to complete formalities for appointing the selected adjudicator at the same time as the main contract is signed.

### **C.3.16 Registration of the award**

An employer must, within twenty-one (21) working days from the date on which a contractor's offer to perform a construction works contract is accepted in writing by the employer, register and publish the award on the cidb Register of Projects.

### **C.3.17 Provide copies of the contracts**

Provide to the successful tenderer the number of copies stated in the Tender Data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

### **C.3.18 Provide written reasons for actions taken**

Provide upon request written reasons to tenderers for any action that is taken in applying these conditions of tender but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.

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## **Part T2: Returnable Documents**

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## **T2.1: List of Returnable Documents**

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## **T2.1: List of Returnable Documents**

### **2.1.1 Specific Goals**

a. B-BBEE Status Level of Contributor 1 or 2

**Evidence to be provided:**

- Valid B-BBEE Certificate / Sworn-Affidavit / CIPC B-BBEE Certificate (in case of JV, a consolidate scorecard will be accepted) as per DTIC guidelines.

b. 30% Black Women Owned Entities

**Evidence to be provided:**

- Valid B-BBEE Certificate / Sworn-Affidavit / Valid B-BBEE CIPC Certificate (in case of JV, a consolidate scorecard will be accepted) as per DTIC guidelines.

c. The promotion of enterprises located in uMhlathuze Local Municipality for work to be done or services to be rendered in that municipal area.

**Evidence to be provided:**

- CIPC registration documents B-BBEE Certificate / Sworn- Affidavit / CIPC B-BBEE Certificate (in case of JV, a consolidated scorecard will be accepted) as per DTIC guidelines and Proof Registered address of entity.

d. The creation of 21 new jobs in uMhlathuze Local Municipality

**Evidence to be provided:**

- SectionT2.2-28 Job Creation Schedule Returnable documents.

e. The promotion of supplier development through subcontracting a minimum of 30% of the value of the

- HVAC and associated plan
- Fire Detection and Alarm System.
- Fire Suppression Systems and
- New data and communication infrastructure portions of a contract to/with EMEs and/or QSEs 51% owned by black people, youth, women or disabled people.

**Evidence to be provided:**

- Sub-contracting agreements and Declaration / Subcontractors CIPC registration documents / Subcontractors valid B-BBEE Certificate / Sworn-Affidavit / CIPC B-BBEE Certificate as per DTIC guideline.

**2.1.2 These schedules are required for pre-qualification and eligibility purposes:**

T2.2-01 **Stage One** - Eligibility with regards to attendance at the compulsory clarification meeting

T2.2-02 **Stage Two as per CIDB: Eligibility Criteria Schedule – 7GB or higher**

**2.1.3 Stage Three as per CIDB: these schedules will be utilised for evaluation purposes:**

T2.2-03 **Evaluation Schedule:** Programme

T2.2-04 **Evaluation Schedule:** Quality Management

T2.2-05 **Evaluation Schedule:** Environmental Management

T2.2-05a **Evaluation Schedule:** Environmental Declaration of Understanding Form

T2.2-06 **Evaluation Schedule:** Health and Safety Management

TNPA Estimate Health and Safety Cost Breakdown

Health, Safety Questionnaire

T2.2-07 **Evaluation Schedule:** Management & CVs of key personnel

T2.2-08 Evaluation Schedule: Previous Experience

T2.2-09 Evaluation Schedule: Method Statement

**2.1.4 Returnable Schedules:**

**General:**

T2.2-10 Intention To Tender

T2.2-11 Authority to submit Tender

T2.2-12 Record of addenda to tender documents

T2.2-13 Letter of Good Standing

T2.2-14 Risk Elements

T2.2-15 Proposed Organisation Staffing

T2.2-16 Site Establishment requirements

T2.2-17 Availability of Equipment and Other Resources

T2.2-18 Capacity and Ability to meet Delivery Schedule

T2.2-19 List of Sub-Contractors

### **2.1.5 Agreement and Commitment by Tenderer:**

- T2.2-20 Domestic Prominent Influential Persons (DPIP) Or Foreign Prominent Public Officials (FPPO)
- T2.2-21 Agreement in terms of Protection of Personal Information Act, 4 of 2013 ("POPIA")
- T2.2-22 Non-Disclosure Agreement
- T2.2-23 RFP Declaration Form
- T2.2-24 Service Provider Integrity Pact
- T2.2-25 Certificate of Acquaintance with Tender Document
- T2.2-26 RFP – Breach of Law
- T2.2-27 CIDB SFU ANNEX G Compulsory Enterprise
- T2.2-28 Supplier Code of Conduct
- T2.2-29 Job Creation Schedule

### **2.1.6 Bonds/Guarantees/Financial/Insurance:**

- T2.2-30 Insurance provided by the Contractor
- T2.2-31 Form of Intent to provide a Performance Guarantee
- T2.2-32 Forecast Rate of Invoicing
- T2.2-33 Three (3) years audited financial statement

### **2.1.7 Transnet Vendor Registration Form:**

- T2.2-34 Transnet Vendor Registration Form

## **2.2 C1.1 Offer portion of Form of Offer & Acceptance**

### **2.3 C1.2 Contract Data**

### **2.4 C1.3 Form of Securities**

## **2.5 C2.1 Pricing Instructions (Bill of Quantities)**

### **2.6 C2.2 Bill of Quantities**

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## **Specific Goals**

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## **A. B-BBEE Status Level of Contributor 1 or 2**

### ***Evidence to be provided:***

- ***Valid B-BBEE Certificate / Sworn- Affidavit /CIPC B-BBEE Certificate (in case of JV, a consolidated scorecard will be accepted) as per DTIC guideline.***

***Please attach evidence here***

## ***B. 30% Black Women Owned Entities***

### ***Evidence to be provided:***

- ***Valid B-BBEE Certificate / Sworn- Affidavit / Valid B-BBEE CIPC Certificate (in case of JV, a consolidate scorecard will be accepted) as per DTIC guidelines.***

***Please attach evidence here***

***C. The promotion of enterprises located in uMhlathuze Local Municipality for work to be done or services to be rendered in that municipal area***

***Evidence to be provided:***

- ***CIPC registration documents B-BBEE Certificate / Sworn- Affidavit / B-BBEE CIPC Certificate (in case of JV, a consolidated scorecard will be accepted) as per DTIC guidelines and Proof Registered address of entity.***

***Please attach evidence here***

## ***D. The creation of 21 new jobs in uMhlathuze Local Municipality***

***Evidence to be provided:***

- ***Section T2.2-28 Job Creation Schedule Returnable documents***

***Please attach evidence here***

- E. The promotion of supplier development through subcontracting a minimum of 30% of the value of the***
- HVAC and associated plan***
  - Fire Detection and Alarm System***
  - Fire Suppression Systems and***
  - New data and communication infrastructure portions of a contract to/with EMEs and/or QSEs 51% owned by black people, youth, women or disabled people***

***Evidence to be provided:***

- Sub-contracting agreements and Declaration***
- Subcontractors CIPC registration documents***
- Subcontractors valid B-BBEE Certificate/ Sworn- Affidavit / CIPC B-BBEE Certificate as per DTIC guidelines.***

***Please attach evidence here***

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## **T2.2: Returnable Schedules**

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## **T2.2-01: Eligibility Criteria Schedule: Certificate of Attendance at Tender Clarification Meeting**

This is to certify  
that

(Company  
Name)

Represented  
by:

(Name and  
Surname)

Was represented at the compulsory tender clarification meeting

|           |  |                |
|-----------|--|----------------|
| Held at:  |  |                |
| On (date) |  | Starting time: |

### **Particulars of person(s) attending the meeting:**

Name

Signature

Capacity

### **Attendance of the above company at the meeting was confirmed:**

Name

Signature

**For and on Behalf of the  
Employers Agent.**

Date

## T2.2-02: Eligibility Criteria Schedule - CIDB Grading Designation

### Note to tenderers:

Tenderers are to indicate their CIDB Grading by filling in the table below. **Attach a copy of the CIDB Grading Designation or evidence of being capable of being so registered.**

| CRS Number | Status | Grading | Expiry Date |
|------------|--------|---------|-------------|
|            |        |         |             |

- a) Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, designation of **7GB or higher** class of construction work, are eligible to have their tenders evaluated.

### b) Joint Venture (JV)

Joint ventures are eligible to submit tenders subject to the following:

1. every member of the joint venture is registered with the CIDB;
2. the lead partner has a contractor grading designation of not lower than one level below the required class of construction works under consideration and possesses the required recognition status; and
3. the combined Contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a Contractor grading designation determined in accordance with the sum tendered for **7GB or higher** class of construction work or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations

The tenderer shall provide a certified copy of its signed joint venture agreement.

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**These Schedules are required for  
Evaluation Purposes**

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## **T2.2-03: Evaluation Schedule: Programme**

### **Note to tenderers:**

The Tenderer makes reference to his proposed programme and attaches it to this schedule along with draft progress tracking sheets and an electronic native version of the programme developed using a scheduling software tool.

The tenderer shall provide the proposed programme detailed to minimum of level 3 showing as a minimum the following: -

- **Ability to provide the services:**

Ability to provide the services in terms of the Employer's requirements within the required time frame indicating, in a logical sequence, the order and timing of the services that will take place in order to Provide the Works clearly indicating the capacity & capability to achieve the dates stated in the Contract Data.

- **Provision of Dates:**

The Contractor clearly indicates in the schedule all milestones, activities & information related to

the following:

1. Float,
2. Time Risk Allowances,
3. Health and safety requirements,
4. Procedures set out in this contract,
5. Work by the Employer and Others,
6. Access to a part of the site if later than its access date,
7. Acceptances,
8. Plant & Materials and other things to be provided by the employer,
9. Information by Others,
10. starting date, access dates, Key Dates and Completion Date
11. planned Completion for each Key Date for each option and the complete works,

- **Resourcing & Equipment:**

The Contractor indicates for each operation, a statement of how the Contractor plans to do the work identifying the principal Equipment and other resources which he plans to use. Resources & equipment are loaded against activities with their associated rates.

▪ **Progress Measurement & Tracking Sheets:**

The Contractor provides draft progress tracking sheets indicating how he plans to monitor and track the works at assembly member & commodity level. Sheets to have work steps and weight factors which roll up to a summary report.

The Programme should indicate the following columns as a minimum:

| Activity Number | Activity description | Start date | Finish date | Successor | Time risk allowances (TRA) |
|-----------------|----------------------|------------|-------------|-----------|----------------------------|
|-----------------|----------------------|------------|-------------|-----------|----------------------------|

The scoring of the programme will be as follows:

| Programme       |                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                                              |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Points (12)     | Ability to Provide the Services (5)                                                                                                                                                                                                                                                                                                    | Provision of Dates (2)                                                                                                                 | Resourcing & Equipment (3)                                                                                                                                                                | Progress Measurement & Tracking Sheets (2)                                                                                                                                                                   |
| <b>Score 0</b>  | The tenderer has <b>submitted no information</b> or inadequate information to determine a score.                                                                                                                                                                                                                                       | The tenderer has <b>submitted no information</b> or inadequate information to determine a score.                                       | The tenderer has <b>submitted no information</b> or inadequate information to determine a score.                                                                                          | The tenderer has <b>submitted no information</b> or inadequate information to determine a score.                                                                                                             |
| <b>Score 20</b> | <ul style="list-style-type: none"> <li>The programme is not acceptable as it will not satisfy project objectives or requirements.</li> <li>The programme does not meet all the required timeframes.</li> <li>The programme does not follow a logical sequence or has critical logic errors.</li> <li>Critical components of</li> </ul> | The tenderer has addressed $\leq 3$ of the eleven (11) criteria in the schedule pertaining to milestones, activities, and information. | The tenderer has <b>addressed some</b> but not all resource requirements and the submission are missing critical resources & equipment which renders it <b>unrealistic/unachievable</b> . | <b>The submission is generic.</b> The tenderer has addressed some of the works on the tracking sheets but lacks sufficient work steps to track the assembly members and/or commodities from start to finish. |

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                   |                                                                                                                                                                                                                  |                                                                                                                                                                                                                              |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <p>the scope are excluded and not to the level required in the scope.</p> <ul style="list-style-type: none"> <li>The tenderer has misunderstood the scope of work and does not deal with the critical aspects of the project.</li> </ul>                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                   |                                                                                                                                                                                                                  |                                                                                                                                                                                                                              |
| <b>Score 40</b> | <ul style="list-style-type: none"> <li>The programme is generic, not practical, and realistic, therefore is unlikely to satisfy project objectives or Employer's requirements.</li> <li>The programme does not meet all the required timeframes.</li> <li>The programme is missing some logic but is does not influence the tendered timeframe.</li> <li>Some components of the scope are excluded and not to the level required in the scope.</li> <li>The tenderer has misunderstood certain aspects of the scope of services and does not deal with the critical</li> </ul> | <p>The tenderer has addressed &gt;4 to ≤ 6 of the eleven (11) criteria in the schedule pertaining to milestones, activities, and information.</p> | <p>The tenderer has <b>addressed some</b> but not all resource requirements and the submission are missing some resources &amp; equipment which renders it <b>at risk of being unrealistic/unachievable.</b></p> | <p><b>The submission is project specific.</b> The tenderer has addressed some of the works on the tracking sheets but lacks sufficient work steps to track the assembly members and/or commodities from start to finish.</p> |

|                 | aspects of the project.                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                         |                                                                                                                                                                                                        |                                                                                                                                                                                                            |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Score 60</b> | <ul style="list-style-type: none"> <li>The programme addresses certain specific project objectives but does not adequately deal with the critical characteristics of the project.</li> <li>The programme meets all the required timeframes.</li> <li>The programme is not missing logic but has minor errors or omissions in critical path/s.</li> <li>The complete scope is captured and decomposed in the programme to the level required in the scope.</li> </ul> | The tenderer has addressed >7 to ≤ 9 of the eleven (11) criteria in the schedule pertaining to milestones, activities, and information. | The tenderer has <b>addressed most</b> resource requirements correctly and the submission contains resources & equipment which is accurate and renders the <b>submission realistic and achievable.</b> | <b>The submission is project specific.</b><br>The tenderer has addressed the works on the tracking sheets but lacks some work steps to track the assembly members and/or commodities from start to finish. |
| <b>Score 80</b> | <ul style="list-style-type: none"> <li>The programme addresses specific project objectives.</li> <li>The programme meets all the required timeframes.</li> <li>The programme is not missing any logic</li> <li>The complete scope is captured and decomposed in the programme to the level.</li> </ul>                                                                                                                                                               | The tenderer has addressed 10 of the eleven (11) criteria in the schedule pertaining to milestones, activities, and information.        | The tenderer has <b>addressed all</b> resource requirements correctly and the submission contains resources & equipment which is accurate and renders <b>the submission realistic and achievable.</b>  | <b>The submission is project specific.</b><br>The tenderer has addressed the works on the tracking sheets and lacks no work steps to track the assembly members and/or commodities from start to finish.   |

[illegible]

## **T2.2-04: Evaluation Schedule - Quality Management**

### **Reference Standard – TNPA-QUAL-REQ-014.1 General Quality Requirements for Suppliers and Contractors.**

Due consideration must be given to the deliverables required to execute and complete the contract as per the Quality Management Standard stated in the Works Information and should include but not be limited to:

1. The **Project Quality Plan (PQP)** details how the Contractor's Quality System will be applied to the Scope of Work specified in the contract and shall include the following as key elements:
  - 1) Include a description of the Contractor's Project organization, with key positions and responsibilities identified and individuals named. The organization structure shall also indicate resources committed to the management and co-ordination of Quality Assurance/Quality Control (QA/QC) activities.
  - 2) Provide a description of how documents provided by Transnet to the Contractor are to be managed. Documentation management/control
  - 3) Include all quality activities relevant to the Scope of Work, identifying all procedures, reviews, audits, controls and records used to control and verify compliance with specified Contractual requirements.
  - 4) Include a listing of all Quality Control Plans (QCP's) and associated Field Inspection Checklist (FIC'S), as applicable.
  - 5) Include a listing of all Special Processes (e.g. welding, non-destructive testing, cube testing etc.) envisaged for use.
  - 6) Include a detailed description on Control of externally provided services.
  - 7) Include a detailed description on Design Control.

#### **2. Quality Control Plan (QCP) specific to the Project but not limited to:**

1. Building Works-50%
2. HVAC Installation-30%
3. EL&P Installation-20%

The Quality Control Plan shall be Project Specific as per the Scope of Work and shall include the following as key elements:

- 1) Detailed sequence of activities (construction/fabrication)

- 2) Include all procedures/code specifications
- 3) Include all intervention points (i.e. hold, witness, verify)
- 4) Include all Verification documentation/Field inspection checklist
- 5) Include all relevant signatories (i.e. Contractor, Approved Inspection Authority (AIA), Transnet)

This QCP shall identify all inspection, test, and verification requirements to meet Contractual obligations, specifications, drawings, and related details including destructive and non-destructive testing, witness, and hold points.

3. A signed **Quality Policy** based on International Organisation for Standardisation (ISO 9001) that displays the five key policy requirements. These requirements include:

1. Is appropriate to the purpose and context of the organisation and supports its strategic direction,
2. Provides a framework for setting quality objectives,
3. Includes a commitment to satisfy applicable requirements,
4. Includes a commitment to continual improvement of the quality management system, and
5. Is communicated and understood within the organisation.

**Attached submissions to this schedule:**

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**The scoring of the Quality Plan will be as follows:**

|                                                       | Evaluation Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Maximum Score | Evaluation Criteria                             | Rating |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|--------|
| <b>Quality Requirements</b><br><br><b>(10 Points)</b> | <b>Project Quality Plan (as per TNPA-QUAL-REQ-014.1)</b><br><br>The Project Quality Plan (PQP) details how the Contractor's Quality System will be applied to the Scope of Work specified in the contract and shall include the following as key elements: <ol style="list-style-type: none"> <li>1) Include a description of the Contractor's Project organization, with key positions and responsibilities identified and individuals named. The organization structure shall also indicate resources committed to the management and co-ordination of Quality Assurance/Quality Control (QA/QC) activities.</li> <li>2) Provide a description of how documents provided by Transnet to the Contractor are to be managed. Documentation management/control</li> <li>3) Include all quality activities relevant to the Scope of Work, identifying all procedures, reviews, audits, controls and records used to control and verify compliance with specified Contractual requirements.</li> <li>4) Include a listing of all Quality Control Plans (QCP's) and associated Field Inspection Checklist (FIC'S), as applicable.</li> <li>5) Include a listing of all Special Processes (e.g. welding, non-</li> </ol> | <b>5</b>      | No response                                     | 0      |
|                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               | ≤ Three (3) or below Seven (7) key elements met | 20     |
|                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               | Four (4) of Seven (7) key elements met          | 40     |
|                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               | Five (5) of Seven (7) key elements met          | 60     |
|                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               | Six (6) of Seven (7) key elements met           | 80     |
|                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               | All Seven (7) of the key elements met           | 100    |

|  |                                                                                                                              |          |                                             |     |
|--|------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------|-----|
|  | destructive testing, cube testing etc.) envisaged for use.                                                                   |          |                                             |     |
|  | 6) Control of externally provided services.                                                                                  |          |                                             |     |
|  | 7) Include a detailed description on Design Control.                                                                         |          |                                             |     |
|  | <b>Quality Control Plans (as per TNPA-QUAL-REQ-014.1)</b>                                                                    |          | No response                                 | 0   |
|  | Quality Control Plan (QCP) specific to the Project but not limited to:                                                       |          | One (1) of Five (5) key elements met        | 20  |
|  | 1. Building Works-50%                                                                                                        |          | Two (2) of Five (5) key elements met        | 40  |
|  | 2. HVAC Installation-30%                                                                                                     |          | Three (3) of Five (5) key elements met      | 60  |
|  | 3. EL&P Installation-20%                                                                                                     |          | Four (4) of Five (5) key elements met       | 80  |
|  | The Quality Control Plan shall be Project Specific as per the Scope of Work and shall include the following as key elements: |          | All 5 key elements are met                  | 100 |
|  | 1) Detailed sequence of activities (construction/fabrication)                                                                | <b>4</b> |                                             |     |
|  | 2) Include all procedures/code specifications                                                                                |          |                                             |     |
|  | 3) Include all intervention points (i.e. hold, witness, verify)                                                              |          |                                             |     |
|  | 4) Include all Verification documentation/Field inspection checklist                                                         |          |                                             |     |
|  | 5) Include all relevant signatories (i.e. Contractor, Approved Inspection Authority (AIA), Transnet)                         |          |                                             |     |
|  | <b>Quality Policy</b>                                                                                                        |          | No response                                 | 0   |
|  | Quality Policy shall include the following key policy elements:                                                              |          | One (1) of Five (5) key policy elements met | 20  |
|  | 1) is appropriate to the purpose and context of the organisation and                                                         | <b>1</b> |                                             |     |

|  |                                                                                                                                                                                                                                                                                                                  |  |                                                |     |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------|-----|
|  | <p>supports its strategic direction,</p> <p>2) provides framework for setting quality objectives,</p> <p>3) includes a commitment to satisfy applicable requirements,</p> <p>4) includes a commitment to continual improvement of QMS, and</p> <p>5) is communicated and understood within the organisation.</p> |  | Two (2) of Five (5) key policy elements met    | 40  |
|  |                                                                                                                                                                                                                                                                                                                  |  | Three (3) of Five (5) key policy elements met. | 60  |
|  |                                                                                                                                                                                                                                                                                                                  |  | Four (4) of Five (5) key elements met          | 80  |
|  |                                                                                                                                                                                                                                                                                                                  |  | All Five (5) key elements met                  | 100 |

## **T2.2-05: Evaluation Schedule: Environmental Management**

The Tenderer must review the following documents in preparation to meeting the environmental requirements, namely:

- a) Transnet Integrated Management System (TIMS) Policy Commitment Statement.
- b) Transnet Construction Environmental Management Plan Rev 04 (CEMP).
- c) Transnet Standard Environmental Specifications Rev 04 (SES).

Where applicable, the following may also apply:

- Any other operational/maintenance environmental plans or specifications.
- PES which includes any environmental authorisations and/or permits.

1. The tenderer must provide a project specific Environmental Management Plan. This plan must be clear on the following:
  - a. A description of the environmental impacts that need to be avoided, managed and mitigated, a description of how those impacts will be avoided, managed and mitigated (impact management actions).
  - b. The method and frequency of monitoring the implementation of the impact management actions.
  - c. A description of how the environmental incidents will be managed on site.
  - d. An indication of the roles and responsibilities in the implementation of the impact management actions.
  - e. Records to be kept.
  - f. How non-conformance/non-compliance will be dealt with.
2. The tenderer must provide an **environmental policy** signed by Top Management that displays the following key components, namely:
  - Commitment to comply with all applicable environmental laws, regulations and standards
  - Commitment to pollution prevention
  - Emphasize the organisation's commitment to continual improvement in environmental performance
  - Address the sustainable use of resources/ resource conservation
  - Is communicated to all employees working for or on behalf of the Contractor

**An unsigned or undated Policy will be allocated a score of 20.**

3. Provide an **organogram** depicting key environmental staff. An organogram must be accompanied by CV's showing staff competencies, experience and environmental qualification (Degree/Diploma) relevant to project environmental management functions.
4. The tenderer must provide a list of projects where construction environmental management duties have been executed including a brief description of such duties.
5. Declaration of Understanding to demonstrate enough financial provision for Environmental Management requirements.

**Attached submissions to this schedule:**

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**The scoring of the Environmental will be as follows:**

**1. Site specific Environmental Management System**

| <b>Points</b>   | <b>Environmental Management Plan</b>                            | <b>Environmental Policy</b>                                       | <b>Organogram - Qualification &amp; Experience</b>                                                                      | <b>List of projects where construction environmental management duties have been executed</b> | <b>Declaration of Understanding (DOU)</b>                                         |
|-----------------|-----------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>(10)</b>     | <b>4</b>                                                        | <b>1</b>                                                          | <b>2</b>                                                                                                                | <b>2</b>                                                                                      | <b>1</b>                                                                          |
| <b>Score 0</b>  | The Tenderer has submitted no information to determine a score. | The Tenderer has submitted no information to determine a score.   | The Tenderer has submitted no information to determine a score.                                                         | The Tenderer has submitted no information to determine a score.                               | The Tenderer has submitted no information to determine a score.                   |
| <b>Score 20</b> | EMP only responds to 1-2 of the items listed under 1 above.     | Policy addresses 1 of the required elements listed under 2 above. | Organogram provided does not include the key environmental resources or there is no CV or qualification provided        | Tenderer has only executed environmental management duties in 1 Project.                      | DOU submitted but not signed.                                                     |
| <b>Score 40</b> | EMP only responds to 3 of the items listed under 1 above.       | Policy addresses 2 of the required elements listed under 2 above. | Organogram includes the key environmental resources but excludes the CVs or environmental qualifications or experience. | Tenderer has only executed environmental management duties in 2 projects.                     | DOU only signed by relevant company representative with no witnesses' Signatures. |

|                      |                                                           |                                                                                                                                              |                                                                                                                            |                                                                           |                                  |
|----------------------|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------|
|                      |                                                           |                                                                                                                                              |                                                                                                                            |                                                                           |                                  |
| <b>Score<br/>60</b>  | EMP only responds to 4 of the items listed under 1 above. | Policy addresses 3 of the required elements listed under 2 above and is possibly able to meet the Employer's requirements.                   | Organogram includes key environmental resources with the CVs, environmental qualifications and 1-2 years experience.       | Tenderer has only executed environmental management duties in 3 projects. |                                  |
| <b>Score<br/>80</b>  | EMP only responds to 5 of the items listed under 1 above. | Policy addresses 4 of the required elements listed under 2 above and is likely to ensure compliance with the stated Employer's Requirements. | Organogram includes key environmental resources with the CVs, environmental qualifications and 3-4 years experience.       | Tenderer has only executed environmental management duties in 4 projects. |                                  |
| <b>Score<br/>100</b> | EMP responds to all the items listed under 1 above.       | Policy addresses 5 of the required elements listed under 2 above and is likely to ensure compliance with the stated Employer's Requirements. | Organogram includes key environmental resources with the CVs, environmental qualifications and 5 or more years experience. | Tenderer has only executed environmental management duties in 5 projects. | DOU completely signed and dated. |

**T2.2-05a: ENVIRONMENTAL DECLARATION OF UNDERSTANDING**

|                      |  |                     |  |
|----------------------|--|---------------------|--|
| <b>PROJECT NAME:</b> |  | <b>DOCUMENT NO:</b> |  |
| <b>PROJECT NO:</b>   |  | <b>DATE:</b>        |  |
| <b>CONTRACTOR:</b>   |  | <b>CONTRACT NO:</b> |  |

I,

\_\_\_\_\_  
(Name)\_\_\_\_\_  
(Designation)\_\_\_\_\_  
(Representing)

Declare that I have read and understood the contents of the Standard Environmental Specification (ENV-STD-002 Rev04) and the Construction Environmental Management Plan (ENV-STD-001 Rev04).

I also declare that I understand my responsibilities in terms of enforcing and implementing the Environmental Specifications for the aforementioned Contract. This include declaring that enough budget has been allocated for environmental management on site.

|            |           |      |
|------------|-----------|------|
| Signed     | Signature | Date |
| Place      |           |      |
| Witness 1: | Signature | Date |
| Witness 2: |           |      |

## **T2.2-06: Evaluation Schedule: Health and Safety Requirements**

Submit the following documents as a minimum with your tender:

1. The Tenderer must provide their Contract specific health and safety plan, and proof of registration with DOL as an electrical contractor
2. Safety, Health & Environmental Policy current, dated and signed by the Chief Executive Officer. List the five elements -
  - Commitment to Safety, prevention of pollution, prevention of ill health
  - Continual improvement,
  - Compliance to legal requirements, appropriate to the nature of contractor's activities,
  - Hold management accountable for development of the safety systems
  - Include objectives and targets.
3. Organogram with Roles & Responsibilities dated and signed, such as S16.1 CEO, 16.2, CR8.1 Construction manager, CR8.2 Assistant Construction Manager, CR8.5 Health and Safety officer, CR8.7 Construction Supervisor, CR8.8 Construction assistant supervisor, CR9.1 Risk Assessor, 17.1 SHE Reps, etc. as per the Occupational health and safety Act 85 of 1993
4. List of job categories for project and competencies required per category and develop a training Matrix for all employees who will be working on the project. This matrix must include Management and highlight training planned dates.
5. Overview of the project specific Baseline Risk Assessment (RA), indicating major activities of the project namely; supply, delivery, installation, commissioning and handover of the following package the upgrade of the workshop at the waterfront in the port of Richards Bay:

### **Construction of the extension of the existing building at the waterfront;**

- Demolition works
- Civil and Concrete Works

### **Mechanical Works which include;**

- Installation of Fire Protection system and HVAC

### **Electrical works will include;**

- Installation of building cabling, distribution board, wireways and associates
- Installation of photovoltaic solar panels, microinverters, mounting rails and, associates.

### **Structural Works;**

- Construction of a new ablution facility, 'Bin' area, 'Canopy' Structures, security kiosk, Walkways and Carport Structures

### **ICT Infrastructure**

- ICT and Security System

### **Testing and Commissioning of all new installations to the new Building;**

6. One year synopsis of SHE incidents, description, type and action taken to prevent re-occurrence.
7. Complete and return with tender documentation the Contractor Safety Questionnaire with supporting evidence included to this Evaluation Schedule as a returnable.
8. Evidence that the Principal Contractor have made adequate provisions for the cost of Health & Safety "Activity Schedule": CR 3(5) (b)(iii) read with CR 5(1)(g)

### **Attached submissions to this schedule:**

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**The scoring of the Tenderer's Health and safety requirements will be as follows:**

| <b>Points<br/>(10)</b> | <b>1</b>                                                                                                                                                                                                                     | <b>1</b>                                                                                                                                                                                                                                                                                          | <b>2</b>                                                                                                                                                                                                                                                              | <b>1</b>                                                                                                                                                                                                                                                                           | <b>2</b>                                                                                                                                                                                                                                                                                       | <b>1</b>                                                                                                 | <b>1</b>                                                                                                                                                                         | <b>1</b>                                                                                        |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
|                        | <b>Project Specific documented</b><br>1. Health and Safety Plan in accordance with TNPA 's) Health and Safety Specification.<br>2. Proof of registration with Department of Labour as and Electrical installation contractor | <b>Policy current, dated and signed (State points allocated)</b><br>1. Commitment to Safety, prevention of pollution, ill health<br>2. Continual improvement,<br>3. Compliance to legal requirements, appropriate to the nature of contractor's activities,<br>4. Hold management accountable for | <b>Oranogram dated, signed with Roles &amp; Responsibilities</b><br>S16.2 CEO<br>8.1 Construction Manager - SACPCMP registration as Pr. Construction Manager,<br>8.2 Assistant Construction manager,<br>8.5 SACPMP Registered Construction Health and Safety officer, | <b>Training Matrix dated and signed</b><br>List of job categories for project and competencies required per category and develop a training Matrix for all employees who will be working on the project. This matrix must include Management and highlight training planned dates. | <b>Overview of the Baseline risk assessment –</b><br>Indicating major activities of the project i.e. installation, commissioning and handover of the following packages:<br><b>1.</b> Construction of the extension of the existing building at the waterfront;<br>(Demolition works and Civil | <b>One year synopsis:</b><br>SHE incidents, description, type and action taken to prevent re-occurrence. | <b>Safety Questionnaire</b><br>Complete and return with tender documentation the Contractor Safety Questionnaire with required supporting documentation included as an Annexure. | <b>Cost Breakdown Sheet.</b><br>Submission of completed health and safety cost breakdown sheet. |



|  |  |                                                                          |                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                 |  |  |  |
|--|--|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
|  |  | development of the safety systems,<br>5. Include objectives and targets. | 8.7 Construction Supervisor,<br>8.8 Construction assistant supervisor,<br>9.1 Risk Assessor, CR12.1<br>Temporary Works Designer,<br>17.1 SHE Reps, etc. as per the Occupational health and safety Act 85 of 1993 |  | and Concrete Works)<br><b>2.</b> Mechanical Works which include;<br>Installation of Fire Protection system and HVAC.<br><b>3.</b> Electrical works will include;<br>Installation of building cabling, distribution board, wireways and associates & Installation of photovoltaic solar panels, microinverters, mounting rails and, associates.) |  |  |  |
|--|--|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|



|  |  |  |  |  |                                                                                                                                                                                                                                                                                                                     |  |  |  |
|--|--|--|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
|  |  |  |  |  | <p><b>4. Structural Works;</b><br/>Construction of a new ablution facility, 'Bin' area, 'Canopy' Structures, security kiosk, Walkways and Carport Structures.</p> <p><b>5. ICT Infrastructure -</b><br/>ICT and Security System</p> <p><b>6.</b><br/>Commissioning of all new installations to the new Building</p> |  |  |  |
|--|--|--|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|

|                |                                                                 |
|----------------|-----------------------------------------------------------------|
| <b>Score 0</b> | The Tenderer has submitted no information to determine a score. |
|----------------|-----------------------------------------------------------------|



|                     |                                                                                                           |                                                                                      |                                                                                                                                                                |                                                                                                                                                                            |                                                                                                                               |                                                                                                                               |                                                                                                                               |                                                                                                                                            |
|---------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Score<br/>20</b> | Information supplied is totally insignificant / inadequate to meet Employer's requirements                | 1 of the 5 key policy components are recognized and meet the Employer's requirement. | Roles and responsibilities do not meet the Occupational health and safety Act as per construction regulations and <b>TNPA</b> health and safety specification. | Key responsible persons are not included on training matrix as per proposed organogram structure.                                                                          | Information supplied is totally insignificant / inadequate to achieve the required standard of service.                       | Information supplied is totally insignificant / inadequate to achieve the Employers Works information.                        | Information supplied is totally insignificant / inadequate to achieve the required standard of service.                       | Health and safety Budget submitted is totally insignificant / inadequate to achieve the required standard of service, 0,1 to 1% allocated. |
| <b>Score<br/>40</b> | Health and Safety Plan submission unlikely to ensure compliance with stated Employer's Works Information. | 2 of the 5 key policy components are recognized and meet the Employer's requirement. | Roles and responsibilities are unlikely to ensure compliance as per the Works information and not in line with OHS Act and <b>TNPA</b> health and safety       | Not all key responsible persons are included in the training matrix. Trainings matrix submitted does not cover all SHE training listed on Health and Safety specification. | Poor response / answer / solution lacks convincing evidence, medium risk that stated employer's requirements will not be met. | Poor response / answer / solution lacks convincing evidence, medium risk that stated Employer's requirements will not be met. | Poor response / answer / solution lacks convincing evidence, medium risk that stated Employer's requirements will not be met. | Health and safety Budget submitted is insignificant / inadequate / answer / solution to the returnable, Employer's health and safety       |

|                 |                                                                                                                |                                                                                       |                                                                                     |                                                                                                                                                                                                                     |                                                                                                                                                            |                                                                                                                                                            |                                                                                                                                                            |                                                                                                                                                                                   |
|-----------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |                                                                                                                |                                                                                       | specification.                                                                      | Training matrix not signed by responsible personnel.                                                                                                                                                                |                                                                                                                                                            |                                                                                                                                                            |                                                                                                                                                            | requirements will not be met, above 1 – 2% allocated.                                                                                                                             |
| <b>Score 60</b> | Health and Safety Plan submission possibly able to ensure compliance with stated Employer's Works Information. | 3 of the 5 key policy components are recognized and meet the Employer's requirements. | Satisfactory response on roles and responsibilities as per Employer's requirements. | Satisfactory response on the list of job categories and trainings as per proposed project organogram structure. Training matrix covers most of the trainings listed on <b>TNPA</b> Health and safety specification. | Satisfactory response / answer / solution to the particular aspect of the requirement, evidence given that the stated Employer's requirements will be met. | Satisfactory response / answer / solution to the particular aspect of the requirement, evidence given that the stated Employer's requirements will be met. | Satisfactory response / answer / solution to the particular aspect of the requirement ,evidence given that the stated Employer's requirements will be met. | Health and safety Budget submitted is Satisfactory response / answer / solution to the returnable, Employer's health and safety requirements will be met, above 2 – 3% allocated. |
| <b>Score 80</b> | Health and Safety Plan submission likely                                                                       | 4 of the five key policy components are recognized and                                | Roles and responsibilities are likely to                                            | Most of key persons listed on the training                                                                                                                                                                          | Good response / answer / solution which                                                                                                                    | Good response / answer / solution which                                                                                                                    | Good response / answer / solution which                                                                                                                    | Health and safety Budget submitted is                                                                                                                                             |

|                  |                                                                                                              |                                                                                  |                                                                                                                                                        |                                                                                                                                                      |                                                                                                                                           |                                                                                                                                |                                                                                                                                |                                                                                                                                            |
|------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
|                  | to ensure compliance with stated Employer's Works Information.                                               | meets the Employer's requirements.                                               | ensure compliance as per Works Information, OHS Act and <b>TNPA</b> health and safety specification.                                                   | matrix as per proposed project organogram structure. Trainings specified on the matrix are in line with <b>TNPA</b> health and safety specification. | demonstrates real understanding and evidence of ability to meet stated Employer's requirements.                                           | demonstrates real understanding and evidence of ability to meet stated Employer's requirements.                                | demonstrates real understanding and evidence of ability to meet stated Employer's requirements.                                | Good response / answer /solution to the returnable, Employer's health and safety requirements will be met, above 3 – 4% - above allocated. |
| <b>Score 100</b> | Health and Safety Plan submission most likely to ensure compliance with stated Employer's Works Information. | All 5 key policy components are recognized and meets the Employer's requirements | Roles and Responsibilities most likely to ensure compliance as per requirements of OHS Act and <b>TNPA</b> Health and Safety Management Specification. | Training matrix include Management and all employees / personnel in the project. Training matrix had been signed by responsible personnel.           | Very good response / answer / solution gives real confidence that the tenderer is most likely to ensure compliance with stated Employer's | Very good response / answer / solution gives real confidence that the tenderer is most likely to ensure compliance with stated | Very good response / answer / solution gives real confidence that the tenderer is most likely to ensure compliance with stated | Health and safety Budget submitted is Very good response / answer / solution to the returnable, Employer's health and safety               |



|  |  |  |  |  |               |                          |                          |                                                       |
|--|--|--|--|--|---------------|--------------------------|--------------------------|-------------------------------------------------------|
|  |  |  |  |  | requirements. | Employer's requirements. | Employer's requirements. | requirements will be met, above 4% - above allocated. |
|--|--|--|--|--|---------------|--------------------------|--------------------------|-------------------------------------------------------|

### Tender Health and Safety Cost Breakdown

| Tenderer (Company)   | Responsible Person | Designation                    | Date |
|----------------------|--------------------|--------------------------------|------|
|                      |                    |                                |      |
| Project/Tender Title | Project/Tender No. | Project Location / Description |      |
|                      |                    |                                |      |

| #   | Cost element                              | Unit Cost (R)                            | # of Units | Total Cost (R) |
|-----|-------------------------------------------|------------------------------------------|------------|----------------|
| 1.  | Human Resources                           |                                          |            |                |
| 2.  | Systems Documentation                     |                                          |            |                |
| 3.  | Meetings & Administration                 |                                          |            |                |
| 4.  | H&S Training                              |                                          |            |                |
| 5.  | PPE & Safety Equipment                    |                                          |            |                |
| 6.  | Signage & Barricading                     |                                          |            |                |
| 7.  | Workplace Facilities                      |                                          |            |                |
| 8.  | Emergency & Rescue Measures               |                                          |            |                |
| 9.  | Hygiene Surveys & Monitoring              |                                          |            |                |
| 10. | Medical Surveillance                      |                                          |            |                |
| 11. | Safe Transport of Workers                 |                                          |            |                |
| 12. | HazMat Management (e.g. asbestos /silica) |                                          |            |                |
| 13. | Substance Abuse Testing                   |                                          |            |                |
| 14. | H&S Reward & Recognition                  |                                          |            |                |
|     |                                           | <b>Total Health and Safety Cost (R)</b>  |            |                |
|     |                                           | <b>Total Tender Value (R)</b>            |            |                |
|     |                                           | <b>H&amp;S Cost as % of Tender value</b> |            | <b>%</b>       |

## Contractor Safety Questionnaire

| 1. Safe Work Performance |                            |                                                                                                                                                           |  |                          |  |  |     |  |    |  |
|--------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------|--|--|-----|--|----|--|
| 1A                       |                            | Injury Experience / Historical Performance – Alberta                                                                                                      |  |                          |  |  |     |  |    |  |
|                          |                            | Use the previous three years injury and illness records to complete the following:                                                                        |  |                          |  |  |     |  |    |  |
|                          |                            | Year                                                                                                                                                      |  |                          |  |  |     |  |    |  |
|                          |                            | Number of medical treatment cases                                                                                                                         |  |                          |  |  |     |  |    |  |
|                          |                            | Number of restricted work day cases                                                                                                                       |  |                          |  |  |     |  |    |  |
|                          |                            | Number of lost time injury cases                                                                                                                          |  |                          |  |  |     |  |    |  |
|                          |                            | Number of fatal injuries                                                                                                                                  |  |                          |  |  |     |  |    |  |
|                          |                            | Total recordable frequency                                                                                                                                |  |                          |  |  |     |  |    |  |
|                          |                            | Lost time injury frequency                                                                                                                                |  |                          |  |  |     |  |    |  |
|                          |                            | Number of worker manhours                                                                                                                                 |  |                          |  |  |     |  |    |  |
| 1                        | Medical Treatment Case     | Any occupational injury or illness requiring treatment provided by a physician or treatment provided under the direction of a physician                   |  |                          |  |  |     |  |    |  |
| 2                        | Restricted Work Day Case   | Any occupational injury or illness that prevents a worker from performing any of his/her craft jurisdiction duties                                        |  |                          |  |  |     |  |    |  |
| 3                        | Lost Time injury Cases     | Any occupational injury that prevents the worker from performing any work for at least one day                                                            |  |                          |  |  |     |  |    |  |
| 4                        | Total Recordable Frequency | Total number of Medical Treatment, Restricted Work and Lost Time Injury cases multiplied by 200,000 then divided by total manhours                        |  |                          |  |  |     |  |    |  |
| 5                        | Lost Time Injury Frequency | Total number of Lost Time Injury cases multiplied by 200,000 then divide by total manhours                                                                |  |                          |  |  |     |  |    |  |
| 1B                       |                            | Workers' Compensation Experience                                                                                                                          |  |                          |  |  |     |  |    |  |
|                          |                            | Use the previous three years injury and illness records to complete the following (if applicable):                                                        |  |                          |  |  |     |  |    |  |
|                          |                            | Industry Code:                                                                                                                                            |  | Industry Classification: |  |  |     |  |    |  |
|                          |                            | Year                                                                                                                                                      |  |                          |  |  |     |  |    |  |
|                          |                            | Industry Rate                                                                                                                                             |  |                          |  |  |     |  |    |  |
|                          |                            | Contractor Rate                                                                                                                                           |  |                          |  |  |     |  |    |  |
|                          |                            | % Discount or Surcharge                                                                                                                                   |  |                          |  |  |     |  |    |  |
|                          |                            | Is your Workers' Compensation account in good standing?<br>(Please provide letter of confirmation)                                                        |  |                          |  |  | Yes |  | No |  |
| 2. Citations             |                            |                                                                                                                                                           |  |                          |  |  |     |  |    |  |
| 2A                       |                            | Has your company been cited, charged or prosecuted under Health, Safety and/or Environmental Legislation in the last 5 years?<br>If yes, provide details: |  |                          |  |  | Yes |  | No |  |
|                          |                            |                                                                                                                                                           |  |                          |  |  |     |  |    |  |
|                          |                            |                                                                                                                                                           |  |                          |  |  |     |  |    |  |
|                          |                            |                                                                                                                                                           |  |                          |  |  |     |  |    |  |
| 2B                       |                            | Has your company been cited, charged or prosecuted under the above Legislation in another Country, Region or State?<br>If yes, provide details:           |  |                          |  |  | Yes |  | No |  |

|                                                      |                                                                                                                                                                    |                 |    |                              |  |     |     |    |    |  |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----|------------------------------|--|-----|-----|----|----|--|
|                                                      |                                                                                                                                                                    |                 |    |                              |  |     |     |    |    |  |
|                                                      |                                                                                                                                                                    |                 |    |                              |  |     |     |    |    |  |
| <b>3. Citations</b>                                  |                                                                                                                                                                    |                 |    |                              |  |     |     |    |    |  |
| Does your company have a Certificate of Recognition? |                                                                                                                                                                    |                 |    |                              |  |     | Yes |    | No |  |
| If yes, what is the                                  |                                                                                                                                                                    | Certificate No: |    | Issue Date:                  |  |     |     |    |    |  |
| <b>4. Safety Program</b>                             |                                                                                                                                                                    |                 |    |                              |  |     |     |    |    |  |
| 4A                                                   | Do you have a written safety program manual?<br>If Yes, provide a copy for review                                                                                  |                 |    |                              |  |     | Yes |    | No |  |
| 4B                                                   | Do you have a pocket safety booklet for field distribution?<br>If Yes, provide a copy for review                                                                   |                 |    |                              |  |     | Yes |    | No |  |
| 4C                                                   | Does your safety program contain the following elements:                                                                                                           |                 |    |                              |  |     |     |    |    |  |
|                                                      |                                                                                                                                                                    | Yes             | No |                              |  | Yes |     | No |    |  |
|                                                      | Corporate Safety Policy                                                                                                                                            |                 |    | Equipment Maintenance        |  |     |     |    |    |  |
|                                                      | Incident Notification Policy                                                                                                                                       |                 |    | Emergency Response           |  |     |     |    |    |  |
|                                                      | Recordkeeping & Statistics                                                                                                                                         |                 |    | Hazard Assessment            |  |     |     |    |    |  |
|                                                      | Reference to Legislation                                                                                                                                           |                 |    | Safe Work Practices          |  |     |     |    |    |  |
|                                                      | General Rules & Regulations                                                                                                                                        |                 |    | Safe Work Procedures         |  |     |     |    |    |  |
|                                                      | Progressive Discipline Policy                                                                                                                                      |                 |    | Workplace Inspections        |  |     |     |    |    |  |
|                                                      | Responsibilities                                                                                                                                                   |                 |    | Investigation Process        |  |     |     |    |    |  |
|                                                      | PPE Standards                                                                                                                                                      |                 |    | Training Policy & Program    |  |     |     |    |    |  |
|                                                      | Environmental Standards                                                                                                                                            |                 |    | Communication Processes      |  |     |     |    |    |  |
|                                                      | Modified Work Program                                                                                                                                              |                 |    |                              |  |     |     |    |    |  |
| <b>5. Training Program</b>                           |                                                                                                                                                                    |                 |    |                              |  |     |     |    |    |  |
| 5A                                                   | Do you have an orientation program for new hire employees?<br>If Yes, include a course outline. Does it include any of the following:                              |                 |    |                              |  |     | Yes |    | No |  |
|                                                      |                                                                                                                                                                    | Yes             | No |                              |  | Yes |     | No |    |  |
|                                                      | General Rules & Regulations                                                                                                                                        |                 |    | Confined Space Entry         |  |     |     |    |    |  |
|                                                      | Emergency Reporting                                                                                                                                                |                 |    | Trenching & Excavation       |  |     |     |    |    |  |
|                                                      | Injury Reporting                                                                                                                                                   |                 |    | Signs & Barricades           |  |     |     |    |    |  |
|                                                      | Legislation                                                                                                                                                        |                 |    | Dangerous Holes & Openings   |  |     |     |    |    |  |
|                                                      | Right to Refuse Work                                                                                                                                               |                 |    | Rigging & Cranes             |  |     |     |    |    |  |
|                                                      | Personal Protective Equipment                                                                                                                                      |                 |    | Mobile Vehicles              |  |     |     |    |    |  |
|                                                      | Emergency Procedures                                                                                                                                               |                 |    | Preventative Maintenance     |  |     |     |    |    |  |
|                                                      | Project Safety Committee                                                                                                                                           |                 |    | Hand & Power Tools           |  |     |     |    |    |  |
|                                                      | Housekeeping                                                                                                                                                       |                 |    | Fire Prevention & Protection |  |     |     |    |    |  |
|                                                      | Ladders & Scaffolds                                                                                                                                                |                 |    | Electrical Safety            |  |     |     |    |    |  |
|                                                      | Fall Arrest Standards                                                                                                                                              |                 |    | Compressed Gas Cylinders     |  |     |     |    |    |  |
|                                                      | Aerial Work Platforms                                                                                                                                              |                 |    | Weather Extremes             |  |     |     |    |    |  |
| 5B                                                   | Do you have a program for training newly hired or promoted supervisors?<br>If Yes, submit an outline for evaluation. Does it include instruction on the following: |                 |    |                              |  |     | Yes |    | No |  |

|                           | Yes | No |                                 | Yes | No |
|---------------------------|-----|----|---------------------------------|-----|----|
| Employer Responsibilities |     |    | Safety Communication            |     |    |
| Employee Responsibilities |     |    | First Aid/Medical Procedures    |     |    |
| Due Diligence             |     |    | New Worker Training             |     |    |
| Safety Leadership         |     |    | Environmental Requirements      |     |    |
| Work Refusals             |     |    | Hazard Assessment               |     |    |
| Inspection Processes      |     |    | Pre-Job Safety Instruction      |     |    |
| Emergency Procedures      |     |    | Drug & Alcohol Policy           |     |    |
| Incident Investigation    |     |    | Progressive Disciplinary Policy |     |    |
| Safe Work Procedures      |     |    | Safe Work Practices             |     |    |
| Safety Meetings           |     |    | Notification Requirements       |     |    |

| 6. Safety Activities |                                                                                                                                                                               |     |    |        |          |           |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|--------|----------|-----------|
| 6A                   | Do you conduct safety inspections?                                                                                                                                            | Yes | No | Weekly | Monthly  | Quarterly |
|                      | Describe your safety inspection process (include participation, documentation requirements, follow-up, report distribution)                                                   |     |    |        |          |           |
|                      |                                                                                                                                                                               |     |    |        |          |           |
|                      |                                                                                                                                                                               |     |    |        |          |           |
|                      | Who follows up on inspection action items?                                                                                                                                    |     |    |        |          |           |
| 6B                   | Do you hold site safety meetings for field employees? If Yes, how often?                                                                                                      | Yes | No | Daily  | Weekly   | Biweekly  |
|                      |                                                                                                                                                                               |     |    |        |          |           |
| 6C                   | Do you hold site meetings where safety is addressed with management and field supervisors?                                                                                    | Yes | No | Weekly | Biweekly | Monthly   |
|                      |                                                                                                                                                                               |     |    |        |          |           |
| 6D                   | Is pre-job safety instruction provided before to each new task?                                                                                                               | Yes |    | No     |          |           |
|                      | Is the process documented?                                                                                                                                                    | Yes |    | No     |          |           |
|                      | Who leads the discussion?                                                                                                                                                     |     |    |        |          |           |
| 6E                   | Do you have a hazard assessment process?                                                                                                                                      | Yes |    | No     |          |           |
|                      | Are hazard assessments documented?                                                                                                                                            | Yes |    | No     |          |           |
|                      | If yes, how are hazard assessments communicated and implemented on each project?                                                                                              |     |    |        |          |           |
|                      | Who is responsible for leading the hazard assessment process?                                                                                                                 |     |    |        |          |           |
| 6F                   | Does your company have policies and procedures for environmental protection, spill clean-up, reporting, waste disposal, and recycling as part of the Health & Safety Program? | Yes |    | No     |          |           |
| 6G                   | How does your company measure its H&S success?<br>Attach separate sheet to explain                                                                                            |     |    |        |          |           |

| 7. Safety Stewardship |                                                                                |     |    |         |           |          |
|-----------------------|--------------------------------------------------------------------------------|-----|----|---------|-----------|----------|
| 7A                    | Are incident reports and report summaries sent to the following and how often? | Yes | No | Monthly | Quarterly | Annually |
|                       | Project/Site Manager                                                           |     |    |         |           |          |
|                       | Vice President/Managing Director                                               |     |    |         |           |          |

|    |                                                                                         |     |    |         |           |          |
|----|-----------------------------------------------------------------------------------------|-----|----|---------|-----------|----------|
|    | Safety Director/Manager                                                                 |     |    |         |           |          |
|    | President/Chief Executive Officer                                                       |     |    |         |           |          |
| 7B | How are incident records and summaries kept? How often are they reported internally?    | Yes | No | Monthly | Quarterly | Annually |
|    | Incidents totalled for the entire company                                               |     |    |         |           |          |
|    | Incidents totalled by project                                                           |     |    |         |           |          |
|    | Subtotalled by superintendent                                                           |     |    |         |           |          |
|    | Subtotalled by foreman                                                                  |     |    |         |           |          |
| 7C | How are the costs of individual incidents kept? How often are they reported internally? | Yes | No | Monthly | Quarterly | Annually |
|    | Costs totalled for the entire company                                                   |     |    |         |           |          |
|    | Costs totalled by project                                                               |     |    |         |           |          |
|    | Subtotalled by superintendent                                                           |     |    |         |           |          |
|    | Subtotalled by foreman/general foreman                                                  |     |    |         |           |          |
| 7D | Does your company track non-injury incidents?                                           | Yes | No | Monthly | Quarterly | Annually |
|    | Near Miss                                                                               |     |    |         |           |          |
|    | Property Damage                                                                         |     |    |         |           |          |
|    | Fire                                                                                    |     |    |         |           |          |
|    | Security                                                                                |     |    |         |           |          |
|    | Environmental                                                                           |     |    |         |           |          |

## 8. Personnel

List key health and safety officers planned for this project. Attach resume.

| Name | Position / Title | Designation |
|------|------------------|-------------|
|      |                  |             |
|      |                  |             |

Supply name, address and phone number of your company's corporate health and safety representative. Does this individual have responsibilities other than health, safety and environment?

| Name                    | Address | Telephone Number |
|-------------------------|---------|------------------|
|                         |         |                  |
|                         |         |                  |
| Other responsibilities: |         |                  |

## 9. References

List the last three company's your form has worked for that could verify the quality and management commitment to your occupational Health & Safety program

| Name and Company | Address | Telephone Number |
|------------------|---------|------------------|
|                  |         |                  |
|                  |         |                  |
|                  |         |                  |

## **T2.2-07: Evaluation Schedule: Management & CV's of Key Persons**

1. The experience of assigned key persons in relation to the scope of work will be evaluated from three different points of view, namely:
  - i. General experience (total duration of construction activity) and positions held of each discipline specific team member.
  - ii. The education, training, and skills of the assigned staff in the specific sector, field, subject, etc. which is directly linked to the scope of work. Proof of education and training must be attached to the C.V.
  - iii. The key staff members' / experts' knowledge of issues that the tenderer considers pertinent to the project e.g., local conditions, affected communities, legislation, techniques, etc.
2. Comprehensive CV's should be attached to this schedule:  
As a minimum, each CV should address the following, but not limited to;
  - i. Personal particulars
    - a. Name
    - b. Date and place of birth
    - c. Place (s) of tertiary education and dates associated therewith
    - d. Professional awards
  - ii. Qualifications (degrees, diplomas, grades of membership of professional societies, and professional registrations)
  - iii. Name of current employer and position in enterprise
  - iv. Overview of post-graduate experience (year, organization, and position)
  - v. Outline of recent assignments/experience that has a bearing on the scope of work
3. CV's for personnel for all identified posts should include as a minimum but not limited to:

### **a. SENIOR SITE MANAGEMENT:**

#### **i. Contracts Manager X 1,**

The contracts Manager should at least have a BSc/B-Tech Civil/QS/Construction qualification and more than 10 years of experience in Civil Construction and Electrical installation works, unless the incumbent can demonstrate that he/she has developed the necessary competencies and experience working with the NEC3 Engineering and Construction Contract Option chosen for this contract, is necessary.

ii. **Construction Manager X 1,**

Construction Manager should at least have a BSc/B-Tech Civil/QS/Construction qualification and more than 10 years of experience in Civil Construction and Electrical installation works, unless the incumbent can demonstrate that he/she has developed the necessary competencies and experience working with the NEC3 Engineering and Construction Contract Option chosen for this contract, is necessary.

iii. **Lead Planner X 1,**

The lead planner should have more than 10 years of experience working in Civil construction and Electrical installation works as a planner and experience working with the NEC3 Engineering and Construction Contract Option chosen for this contract. In addition, the Lead planner must have a qualification within the Engineering and Electrical environment disciplines.

**b. GENERAL FOREMEN (Precast Concrete elements, Dredging and Scour Protection, Piling and Concrete works, and civil works)**

i. **Civil Foremen X 2,**

General Foremen should have more than 10 years of experience in electrical construction and civil works. Qualification is preferred but not compulsory if the incumbent can demonstrate that she/he has developed the necessary competence through experience.

**c. SITE OFFICERS**

i. **Quality Officer X 1,**

Quality officer should have a relevant Degree/Diploma, and Certified qualification in Electrical and civil with relevant quality experience in electrical and civil construction and working with the NEC3 Engineering and Construction Contract Option chosen for this contract. More than 5 years of experience in a quality systems environment and relevant experience in electrical cable installation projects is required.

ii. **Environmental Officer X 1,**

Environmental Officer should have a BSc/B-Tech Degree in Environmental Management/Science with experience in Estuarine Ecology/Biology, be registered with SACNASP, and have more than 5 years of experience in Civil Construction and Electrical installation works.

iii. **Health & Safety Officer X 1,**

Health and Safety Officer should be registered as a Health and Safety Officer with

SACPCMP with more than 5 years of experience on Electrical/civil construction projects and have a SAMTRAC or an equivalent training course as a minimum qualification.

#### iv. Electrical Engineer / Technologist

The Electrical Foreman must have a minimum of NTC 4 Trade Certificate in Electrical Engineering with at least 10 years of experience in Electrical MV and LV projects.

#### List of Key Persons assigned to the above disciplines

| No.                           | Discipline                         |            | Name and Surname | CV attached (Yes/No) |
|-------------------------------|------------------------------------|------------|------------------|----------------------|
| <b>SENIOR SITE MANAGEMENT</b> |                                    |            |                  |                      |
| (i)                           | Electrical Engineer / Technologist | Key Person |                  |                      |
| (ii)                          | Contracts Manager                  | Key Person |                  |                      |
| (iii)                         | Construction Manager               | Key Person |                  |                      |
| (iv)                          | Lead Planner                       |            |                  |                      |
| <b>GENERAL FOREMEN</b>        |                                    |            |                  |                      |
| (i)                           | Civil Foreman                      | Key Person |                  |                      |
| (ii)                          | Electrical Foreman                 | Key Person |                  |                      |
| <b>SITE OFFICERS</b>          |                                    |            |                  |                      |
| (i)                           | Quality Officer                    | Key Person |                  |                      |
| (ii)                          | Environmental Officer              |            |                  |                      |
| (iii)                         | Health & Safety Officer            |            |                  |                      |

#### Index of documentation attached to this schedule:

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| <b>Weight</b>                          | <b>Relevant years of experience for the following:</b>                                                                                                                                                                      | <b>Education, training, and skills for the following:</b>                                                                                                                                                 | <b>Knowledge of issues pertinent to the project for the following:</b>                                                                                                                                    | <b>Specific experience related to managing a contract based on the NEC3 ECC conditions of contract for the following:</b>                                                                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>50%</b><br>50%<br>20%<br>20%<br>10% | <b>Senior Site Management</b> <ul style="list-style-type: none"> <li>▪ Electrical Engineer / Technologist</li> <li>▪ Contracts Manager</li> <li>▪ Construction Manager</li> <li>▪ Lead Planner</li> </ul>                   | <b>Senior Site Management</b> <ul style="list-style-type: none"> <li>▪ Electrical Engineer / Technologist</li> <li>▪ Contracts Manager</li> <li>▪ Construction Manager</li> <li>▪ Lead Planner</li> </ul> | <b>Senior Site Management</b> <ul style="list-style-type: none"> <li>▪ Electrical Engineer / Technologist</li> <li>▪ Contracts Manager</li> <li>▪ Construction Manager</li> <li>▪ Lead Planner</li> </ul> | <b>Senior Site Management</b> <ul style="list-style-type: none"> <li>▪ Electrical Engineer / Technologist</li> <li>▪ Contracts Manager</li> <li>▪ Construction Manager</li> <li>▪ Lead Planner</li> </ul> |
| <b>30%</b><br>50%<br>50%               | <b>General Foremen</b> <ul style="list-style-type: none"> <li>▪ Civil</li> <li>▪ Electrical</li> </ul>                                                                                                                      | <b>General Foremen</b> <ul style="list-style-type: none"> <li>▪ Civil</li> <li>▪ Electrical</li> </ul>                                                                                                    |                                                                                                                                                                                                           |                                                                                                                                                                                                           |
| <b>20%</b><br>30%<br>25%<br>45%        | <b>Site Officers</b> <ul style="list-style-type: none"> <li>▪ Health &amp; Safety Officers</li> <li>▪ Environmental Officers</li> <li>▪ Quality Officers</li> </ul>                                                         | <b>Site Officers</b> <ul style="list-style-type: none"> <li>▪ Health &amp; Safety Officers</li> <li>▪ Environmental Officers</li> <li>▪ Quality Officers</li> </ul>                                       | <b>Site Officers</b> <ul style="list-style-type: none"> <li>▪ Health &amp; Safety Officers</li> </ul> 100%                                                                                                |                                                                                                                                                                                                           |
| <b>Points (25)</b>                     | <b>8</b>                                                                                                                                                                                                                    | <b>5</b>                                                                                                                                                                                                  | <b>7</b>                                                                                                                                                                                                  | <b>5</b>                                                                                                                                                                                                  |
| <b>Score 0</b>                         | The Tenderer has submitted no information or inadequate information to determine a score.                                                                                                                                   |                                                                                                                                                                                                           |                                                                                                                                                                                                           |                                                                                                                                                                                                           |
| <b>Score 20</b>                        | Staff do not have relevant levels of relevant experience. <ul style="list-style-type: none"> <li>▪ Senior Site Management: (≤5 years)</li> <li>▪ General foremen: (≤5 years)</li> <li>▪ Site officers: (≤1 year)</li> </ul> | Staff does not have project specific education, skills, training, and experience as indicated above.                                                                                                      | The staff has no experience of issues pertinent to the project.                                                                                                                                           | ≤5 years NEC3 previous experience                                                                                                                                                                         |
| <b>Score 40</b>                        | The staff has limited levels of relevant experience. <ul style="list-style-type: none"> <li>▪ Senior Site Management: (&gt;5 ≤10 years)</li> </ul>                                                                          | The staff has limited levels of project specific education, skills, training, and experience as                                                                                                           | Staff has limited knowledge of issues pertinent to the project.                                                                                                                                           | >5 ≤10 years NEC3 previous experience                                                                                                                                                                     |



|                  |                                                                                                                                                                                                                                                                                                     |                                                                                                                      |                                                                        |                                               |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------|
|                  | <ul style="list-style-type: none"> <li>General foremen: (<math>&gt;5 \leq 7</math> years)</li> <li>Site officers: (<math>&gt;1 \leq 3</math> years)</li> </ul>                                                                                                                                      | indicated above.                                                                                                     |                                                                        |                                               |
| <b>Score 60</b>  | <p>The staff has reasonable levels of relevant experience.</p> <ul style="list-style-type: none"> <li>Senior Site Management: (<math>&gt;10 \leq 12</math> years)</li> <li>General foremen: (<math>&gt;7 \leq 10</math> years)</li> <li>Site officers: (<math>&gt;3 \leq 5</math> years)</li> </ul> | The staff has reasonable levels of project specific education, skills, training and experience as indicated above.   | The staff has reasonable knowledge of issues pertinent to the project. | $>10 \leq 12$ years NEC 3 previous experience |
| <b>Score 80</b>  | <p>The staff has extensive levels of relevant experience.</p> <ul style="list-style-type: none"> <li>Senior Site Management: (<math>&gt;10 \leq 15</math> years)</li> <li>General foremen: (<math>&gt;12 \leq 15</math> years)</li> <li>Site officers: (<math>&gt;5 \leq 10</math>)</li> </ul>      | The staff has extensive levels of project specific education, skills, training, and experience as indicated above.   | The staff has extensive knowledge of issues pertinent to the project.  | $>12 \leq 15$ years NEC3 previous experience  |
| <b>Score 100</b> | <p>The staff has outstanding levels of relevant experience.</p> <ul style="list-style-type: none"> <li>Senior Site Management: <math>&gt;15</math> years</li> <li>General foremen: <math>&gt;1</math> years</li> <li>Site officers: <math>&gt;10</math> years</li> </ul>                            | The staff has outstanding levels of project specific education, skills, training, and experience as indicated above. | Staff has outstanding knowledge of issues pertinent to the project.    | $>15$ years NEC3 previous experience.         |

## **T2.2-08: Evaluation Schedule: Previous experience**

### **Note to tenderers:**

Tenderers are required to demonstrate their overall experience in the delivery of similar works, and to this end shall supply a sufficiently detailed reference list with contact details of existing customers and also demonstrate their relevant experience with regards to the Construction of similar works as detailed in the Works Information with reference to:

- Civil works (i.e., internal water reticulation, Sewer, Stormwater, Paving)
- Architectural and building works (Brickwork, plastering, tiling, painting, plumbing, electrical installation)
- Fire Services (Fire detection, alarms, and fire protection)
- Heating Ventilation Air conditioning and cooling plant

The tenderer is to submit the following:

- Previous experience based on similar work (specific to the scope)
  - d. Sufficient references to substantiate experience indicated (project description, Client name and contact details, contract value and duration)

| <b>Civil works (i.e., internal water reticulation, Sewer, Stormwater, Paving)</b> |                                        |                                    |                                   |
|-----------------------------------------------------------------------------------|----------------------------------------|------------------------------------|-----------------------------------|
| <b>Project Description</b>                                                        | <b>Client name and contact details</b> | <b>Contract value and duration</b> | <b>Date of project completion</b> |
|                                                                                   |                                        |                                    |                                   |
|                                                                                   |                                        |                                    |                                   |
|                                                                                   |                                        |                                    |                                   |
|                                                                                   |                                        |                                    |                                   |
|                                                                                   |                                        |                                    |                                   |

| <b>Architectural and building works (Brickwork, plastering, tiling, painting, plumbing, electrical installation)</b> |                                        |                                    |                                   |
|----------------------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------------|-----------------------------------|
| <b>Project Description</b>                                                                                           | <b>Client name and contact details</b> | <b>contract value and duration</b> | <b>Date of project completion</b> |
|                                                                                                                      |                                        |                                    |                                   |
|                                                                                                                      |                                        |                                    |                                   |
|                                                                                                                      |                                        |                                    |                                   |
|                                                                                                                      |                                        |                                    |                                   |
|                                                                                                                      |                                        |                                    |                                   |

**Fire Services (Fire detection, alarms, and fire protection)**

| Project Description | Client name and contact details | Contract value and duration | Date of project completion |
|---------------------|---------------------------------|-----------------------------|----------------------------|
|                     |                                 |                             |                            |
|                     |                                 |                             |                            |
|                     |                                 |                             |                            |
|                     |                                 |                             |                            |
|                     |                                 |                             |                            |

**Heating Ventilation Air conditioning and cooling plant**

| Project Description | Client name and contact details | Contract value and duration | Date of project completion |
|---------------------|---------------------------------|-----------------------------|----------------------------|
|                     |                                 |                             |                            |
|                     |                                 |                             |                            |
|                     |                                 |                             |                            |
|                     |                                 |                             |                            |
|                     |                                 |                             |                            |

**Attach the index of documentation to this schedule to substantiate your submission:**

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The table below indicates the method of scoring that will be followed to evaluate the previous experience submitted by the Tenderer:

| <b>Points (20)</b> | <b>Previous Experience 10</b>                                                                                 | <b>References 10</b>                                                                                  |
|--------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <b>score 0</b>     | Failed to provide any information                                                                             | Failed to provide any information                                                                     |
| <b>score 20</b>    | The Tenderer has $\leq 5$ years of experience and has undertaken more than 3 projects of a similar nature.    | < 2 references provided to substantiate experience (in relevant field) indicated.                     |
| <b>score 40</b>    | The Tenderer has $\leq 6$ years of experience and has undertaken more than 4 projects of a similar nature.    | > 2 to $\leq 4$ references provided to substantiate experience (in relevant field) indicated.         |
| <b>score 60</b>    | The Tenderer has $\leq 7$ years of experience and has undertaken more than 5 projects of a similar nature.    | Between >4 to $\leq 6$ references provided to substantiate experience (in relevant field) indicated.  |
| <b>score 80</b>    | The Tenderer has $\leq 8$ years of experience and has undertaken more than 6 projects of a similar nature.    | Between >6 to $\leq 8$ references provided to substantiate experience (in relevant field) indicated.  |
| <b>score 100</b>   | The Tenderer has more than 9 years of experience and has undertaken more than 9 projects of a similar nature. | Between >8 to $\leq 10$ references provided to substantiate experience (in relevant field) indicated. |



## **T2.2-09: Evaluation Schedule - Method Statement**

Submit a method statement which responds to the scope of work and outlines construction methodology including that relating but not limited to programme, quality, safety and an understanding of the project objective.

The method statement should articulate what the Tenderer will provide in achieving the stated objectives for the project and demonstrate alignment to Programme as contained under T2.2-04. Tenderers also exhibit a clear understanding of the project and has shown a concise method statement for all activities incorporating best practice.

The Tenderer must as such explain his / her understanding of the objectives of the works and the Employer's stated and implied requirements, highlight the issues of importance, and explain the construction sequencing they would adopt to address them. The method statement should explain the methodologies which are to be adopted and demonstrate their compatibility. The approach should also include and outline processes, procedures and associated resources, to meet the requirements and indicate how risks will be managed.

The Method statement should cover:

- Outline of the proposed approach
- Narrative related to the programme
- Detailed method statement, technical approach and construction sequencing in terms of the Works Information (design philosophy)
- Demonstrate an understanding of the project objectives
- Detailed list of equipment and number thereof to execute the works, and areas it will be utilised

The Tenderer must attach his / her method statement to this page.



The method statement shall include as a minimum but not limited to the following (the contractor must refer to the works information for a full description of the scope of the works):

1. Structural building works
  - i. Methodology for demolition,
  - ii. temporary works,
  - iii. structural concrete works,
  - iv. building works
  - v. electrical,
  - vi. Mechanical works including fire systems and HVAC
  - vii. Commissioning
2. Schedule for works (including construction sequencing).
3. Details of equipment to be used for the works.



The method statement shall include as a minimum but not limited to the following (the contractor must refer to the works information for a full description of the scope of the works):

|                            | <b>Structural building works:</b><br><b>1. Methodology for demolition,</b><br><b>2. temporary works,</b><br><b>3. structural concrete works,</b><br><b>4. building works</b><br><b>5. electrical,</b><br><b>6. Mechanical works including fire systems and HVAC</b><br><b>7. Commissioning</b> | <b>Schedule for works (including construction sequencing)</b>                                                   | <b>Details of equipment to be used for the works</b>                                                                 |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Points</b><br><b>13</b> | <b>5</b>                                                                                                                                                                                                                                                                                       | <b>6</b>                                                                                                        | <b>2</b>                                                                                                             |
| <b>Score 0</b>             | The tenderer has submitted no information.                                                                                                                                                                                                                                                     | The tenderer has submitted no information or has not detailed any of the items under this aspect of the project | The tenderer has submitted no information or has not detailed any of the equipment under this aspect of the project. |
| <b>Score 20</b>            | The method statement is generic (not site-specific). The tenderer does not detail any of the items under this aspect of the project.                                                                                                                                                           | The tenderer's method statement is not linked to the schedule.                                                  | The tenderer's method statement shows no detail on the equipment under this aspect of the project.                   |



|                  |                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                     |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Score 40</b>  | The tenderer's method statement addresses four (4) of seven (7) items under this aspect of the project.                                                                                                                                                                                                 | The tenderer's method statement addresses four (4) items in detail under this aspect of the project.                                                                                                                                                                                                             | The tenderer's method statement only addresses some equipment items in detail under this aspect of the project.                                                                                                                                                                                                                                     |
| <b>Score 60</b>  | The method statement is specifically tailored to address five (5) of the seven (7) items under this aspect of the project. The approach paper is linked to the project programme.                                                                                                                       | The method statement is specifically tailored to address five (5) items in detail under this aspect of the project.                                                                                                                                                                                              | The method statement is specifically tailored to address equipment detail under this aspect of the project. The equipment is linked to the project programme.                                                                                                                                                                                       |
| <b>Score 80</b>  | The method statement is specifically tailored to address six (6) of the seven (7) items under this aspect of the project. Besides being linked to the project programme, the method statement describes in detail the technical approach and construction sequencing in terms of the Works Information. | The method statement is specifically tailored to address six (6) items in detail under this aspect of the project. Besides being linked to the project programme, the approach paper describes in detail the method statement, technical approach and construction sequencing in terms of the Works Information. | The method statement is specifically tailored to address the equipment items in detail under this aspect of the project. Each piece of equipment is linked to the programme and covers all technical and construction sequencing in terms of the Works Information.                                                                                 |
| <b>Score 100</b> | Besides meeting the "80" rating, the method statement details all seven (7) items under this aspect of the project. Besides being linked to the project programme, the method statement describes in detail the technical approach and construction sequencing in terms of the Works Information.       | Besides meeting the "80" rating, the method statement is specifically tailored to address all seven (7) items in detail under this aspect of the project.                                                                                                                                                        | Besides meeting the "80" rating, the method statement is specifically tailored to address equipment items in detail under this aspect of the project. Besides being linked to the project programme, the approach paper describes in detail the method statement, technical approach and construction sequencing in terms of the Works Information. |



**Index of documentation attached to this schedule:**

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## **General Returnable Schedules**

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**T2.2-10: Intention to Tender**

|       |                                          |                                        |
|-------|------------------------------------------|----------------------------------------|
| EMAIL | Transnet National Ports Authority        | Tender No: TNPA/2023/08/0010/38485/RFP |
| TO:   | Attention: Selina Mojaki                 |                                        |
|       | Email: <b>Selina.Mojaki@transnet.net</b> | Closing Date: <b>24 November 2023</b>  |

**THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT OF RICHARDS BAY,  
PHASE 1 FOR A PERIOD OF NINE (9) MONTHS**

**Check**

**We: Do wish to tender** for the work and shall return our tender by the due date above      **Yes** ☐      **No** ☐

Any clarifications are to be mailed to: Selina.Mojaki@transnet.net, and all responses will be communicated to all tenderers in writing via e-mail.

Company: .....  
Contact: .....  
Phone No: .....  
e-mail Address: .....

REASON FOR NOT TENDERING:  
\_\_\_\_\_  
\_\_\_\_\_

SIGNATURE: \_\_\_\_\_  
  
DATE: \_\_\_\_\_

## T2.2-11: Authority to submit a Tender

Indicate the status of the tenderer by ticking the appropriate box hereunder. The tenderer must complete the certificate set out below for his category of organisation or alternatively attach a certified copy of a company / organisation document which provides the same information for the relevant category as requested here.

| A - COMPANY | B - PARTNERSHIP | C - JOINT VENTURE | D - SOLE PROPRIETOR |
|-------------|-----------------|-------------------|---------------------|
|             |                 |                   |                     |

### A. Certificate for Company

I, \_\_\_\_\_ chairperson of the board of directors \_\_\_\_\_  
\_\_\_\_\_, hereby confirm that by resolution of the board  
taken on \_\_\_\_\_ (date), Mr/Ms \_\_\_\_\_, acting in  
the capacity of \_\_\_\_\_, was authorised to sign all  
documents in connection with this tender offer and any contract resulting from it on behalf of  
the company.

Signed

Date

Name

Position

Chairman of the Board of Directors

## B. Certificate for Partnership

We, the undersigned, being the **key partners** in the business trading as \_\_\_\_\_

\_\_\_\_\_ hereby authorise Mr/Ms \_\_\_\_\_

acting in the capacity of \_\_\_\_\_, to sign all documents in  
connection with the tender offer for Contract \_\_\_\_\_ and any  
contract resulting from it on our behalf.

| Name | Address | Signature | Date |
|------|---------|-----------|------|
|      |         |           |      |
|      |         |           |      |
|      |         |           |      |
|      |         |           |      |

**NOTE:** This certificate is to be completed and signed by the full number of Partners necessary  
to commit the Partnership. Attach additional pages if more space is required.

## C. Certificate for Joint Venture

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise

Mr/Ms \_\_\_\_\_, an authorised signatory of the company

\_\_\_\_\_, acting in the capacity of lead partner, to sign all

documents in connection with the tender offer for Contract \_\_\_\_\_

\_\_\_\_\_ and any contract resulting from it on our behalf.

This authorisation is evidenced by the attached power of attorney signed by legally authorised  
signatories of all the partners to the Joint Venture.

Furthermore, we attach to this Schedule a copy of the joint venture agreement which  
incorporates a statement that all partners are liable jointly and severally for the execution of

the contract and that the lead partner is authorised to incur liabilities, receive instructions and payments and be responsible for the entire execution of the contract for and on behalf of any and all the partners.

| Name of firm | Address | Authorising signature,<br>name (in caps) and<br>capacity |
|--------------|---------|----------------------------------------------------------|
|              |         |                                                          |
|              |         |                                                          |
|              |         |                                                          |
|              |         |                                                          |

#### D. Certificate for Sole Proprietor

I, \_\_\_\_\_, hereby confirm that I am the sole owner of the  
business trading as \_\_\_\_\_.

Signed

Date

Name

Position

Sole Proprietor

**T2.2-12: Record of Addenda to Tender Documents**

This schedule as submitted confirms that the following communications received from the Employer before the submission of this tender offer, amending the tender documents, have been taken into account in this specific tender offer:

|    | <b>Date</b> | <b>Title or Details</b> |
|----|-------------|-------------------------|
| 1  |             |                         |
| 2  |             |                         |
| 3  |             |                         |
| 4  |             |                         |
| 5  |             |                         |
| 6  |             |                         |
| 7  |             |                         |
| 8  |             |                         |
| 9  |             |                         |
| 10 |             |                         |
| 11 |             |                         |
| 12 |             |                         |
| 13 |             |                         |
| 14 |             |                         |
| 15 |             |                         |

## **T2.2-13: Letter/s of Good Standing with the Workmen's Compensation Fund**

Attached to this schedule is the Letter/s of Good Standing.

- 1.
- 2.
- 3.
- 4.

Name of Company/Members of Joint Venture:

|       |
|-------|
| ..... |
| ..... |
| ..... |
| ..... |
| ..... |
| ..... |
| ..... |
| ..... |
| ..... |
| ..... |

## **T2.2-14: Risk Elements**

Tenderers to identify and evaluate the potential risk elements associated with the Works and possible mitigation thereof. The risk elements and the mitigation as identified thereof by the Tenderer are to be submitted.

If No Risks are identified "No Risks" must be stated on this schedule.

Tenderers are also to evaluate any risk/s stated by the Employer in Contract Data Part C1 and provide possible mitigation thereof.

|  |
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Tenders to note: Notwithstanding this information, all costs related to risk elements which are at the Contractor's risk are deemed to be included in the tenderer's offered total of the Prices.

## **T2.2-15: Proposed Organisation and staffing**

### **Attached submissions to this schedule:**

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.....

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Tenderers to indicate their Site establishment area requirements:

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

## T2.2-17: Availability of Equipment and Other Resources

The Tenderer to submit a list of all Equipment and other resources that will be used to execute the works as described in the Works Information.

| Equipment Type and Availability –<br>Description | Hourly Rate | Number of<br>Equipment | Details of<br>Ownership |
|--------------------------------------------------|-------------|------------------------|-------------------------|
|                                                  |             |                        |                         |
|                                                  |             |                        |                         |
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|                                                  |             |                        |                         |
|                                                  |             |                        |                         |

## **T2.2-18: Capacity and Ability to meet Delivery Schedule**

### **Note to tenderers:**

The Tenderer is required to demonstrate to the Employer that the tenderer has sufficient current and future capacity to carry out the work as detailed in the Works Information and that the tenderer has the capacity and plans in place to meet the required delivery schedule as required. To this end, the following must be provided by the Tenderer:

A schedule detailing the following:

- Maximum quantity of work concurrently performed by the Tenderer in the recent past in order to illustrate his potential capacity to design, fabricate and/or construct work of a similar nature;
- Current and future work on his order book, showing quantity and type of equipment;
- Quantity of work for which the Tenderer has tenders in the market or is currently tendering on;
- The work as covered in this Works Information, planned and scheduled as per the Tenderer's capacities and methods but meeting the required delivery schedule.

### **Index of documentation attached to this schedule:**

|       |
|-------|
| ..... |
| ..... |
| ..... |
| ..... |
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## T2.2-19: Schedule of Proposed Subcontractors

The tenderer is required to provide details of all the sub-contractors that will be utilised in the execution of the works.

### Note to tenderers:

- 1.1 A person will not be awarded points for B-BBEE status level if it is indicated in the bid documents that such a bidder intends sub-contracting more than 25% of the value of the contract to any other enterprise that does not qualify for at least the points that such a bidder qualifies for, unless the intended sub-contractor is an EME that has the capability and ability to execute the sub-contract.
- 1.2 A person awarded a contract may not sub-contract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is sub-contracted to an EME that has the capability and ability to execute the sub-contract.

**Tenderer to note that after award, any deviations from this list of proposed sub-contractors will be subject to acceptance by the Project Manager in terms of the Conditions of Contract.**

Provide information of the Sub-contractors below:

| Name of Proposed Subcontractor |                          |                          | Address                  |                          | Nature of work           |                                        | Amount of Worked         | Percentage of work |
|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------------------|--------------------------|--------------------|
|                                |                          |                          |                          |                          |                          |                                        |                          |                    |
| % Black Owned                  | EME                      | QSE                      | Youth                    | Women                    | Disabilities             | Rural/ Underdeveloped areas/ Townships | Military Veterans        |                    |
|                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>               | <input type="checkbox"/> |                    |

| Name of Proposed Subcontractor |     |     | Address |       | Nature of work |                                        | Amount of Worked  | Percentage of work |
|--------------------------------|-----|-----|---------|-------|----------------|----------------------------------------|-------------------|--------------------|
|                                |     |     |         |       |                |                                        |                   |                    |
| % Black Owned                  | EME | QSE | Youth   | Women | Disabilities   | Rural/ Underdeveloped areas/ Townships | Military Veterans |                    |
|                                |     |     |         |       |                |                                        |                   |                    |

|                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                     | <input type="checkbox"/> |
|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------------------------|--------------------------|
| Name of Proposed Subcontractor |                          |                          | Address                  |                          | Nature of work           |                                              | Percentage of work       |
|                                |                          |                          |                          |                          |                          |                                              |                          |
| % Black Owned                  | EME                      | QSE                      | Youth                    | Women                    | Disabilities             | Rural/<br>Underdeveloped areas/<br>Townships | Military Veterans        |
|                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                     | <input type="checkbox"/> |

| Name of Proposed Subcontractor |                          |                          | Address                  |                          | Nature of work           |                                              | Percentage of work       |
|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------------------------|--------------------------|
|                                |                          |                          |                          |                          |                          |                                              |                          |
| % Black Owned                  | EME                      | QSE                      | Youth                    | Women                    | Disabilities             | Rural/<br>Underdeveloped areas/<br>Townships | Military Veterans        |
|                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                     | <input type="checkbox"/> |

## T2.2-20: Domestic Prominent Influential Persons (DPIP) Or Foreign Prominent Public Officials (FPPO)

Transnet is free to procure the services of any person within or outside the Republic of South Africa in accordance with applicable legislation. Transnet shall not conduct or conclude business transactions, with any Respondents without having:

- Considered relevant governance protocols;
- Determined the DPIP or FPPO status of that counterparty; and
- Conducted a risk assessment and due diligence to assess the potential risks that may be posed by the business relationship.

As per the Transnet Domestic Prominent Influential Persons (DPIP) and Foreign Prominent Public Officials (FPPO) and Related Individuals Policy available on Transnet website

<https://www.transnet.net/search/pages/results.aspx?k=FPIDP#k=DPIP>, Respondents are required to disclose any commercial relationship with a DPIP or FPPO (as defined in the Policy) by completing the following section:

| The below form contains personal information as defined in the Protection of Personal Information Act, 2013 (the "Act"). By completing the form, the signatory consents to the processing of her/his personal information in accordance with the requirements of the Act. Consent cannot unreasonably be withheld. |                           |                                                                       |                |                                            |                                                  |            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------|----------------|--------------------------------------------|--------------------------------------------------|------------|
| <b>Is the Respondent</b><br>(Complete with a "Yes" or "No")                                                                                                                                                                                                                                                        |                           |                                                                       |                |                                            |                                                  |            |
| <b>A DPIP/FPPO</b>                                                                                                                                                                                                                                                                                                 |                           | <b>Closely Related to a DPIP/FPPO</b>                                 |                | <b>Closely Associated to a DPIP / FPPO</b> |                                                  |            |
| <b>List all known business interests, in which a DPIP/FPPO may have a direct/indirect interest or significant participation or involvement.</b>                                                                                                                                                                    |                           |                                                                       |                |                                            |                                                  |            |
| No                                                                                                                                                                                                                                                                                                                 | Name of Entity / Business | Role in the entity / Business<br>(Nature of interest / Participation) | Shareholding % | Registration Number                        | Status<br>(Mark the applicable option with an X) |            |
|                                                                                                                                                                                                                                                                                                                    |                           |                                                                       |                |                                            | Active                                           | Non-Active |
| 1                                                                                                                                                                                                                                                                                                                  |                           |                                                                       |                |                                            |                                                  |            |
| 2                                                                                                                                                                                                                                                                                                                  |                           |                                                                       |                |                                            |                                                  |            |
| 3                                                                                                                                                                                                                                                                                                                  |                           |                                                                       |                |                                            |                                                  |            |

Respondents declaring a commercial relationship with a DPIP or FPPO are to note that Transnet is required to annually publish on its website a list of all business contracts entered with DPIP or FPPO. This list will include successful Respondents, if applicable.

## 2. SERVICE LEVELS

2.1 Transnet reserves the right to request that any member of the Service provider's team involved on the Transnet account be replaced if deemed not to be adding value for Transnet.

2.2 The Service provider guarantees that it will achieve a 95% [ninety-five per cent] service level on the following measures:

- a) Random checks on compliance with quality/quantity/specifications
- b) On-time delivery

2.3 The Service provider must provide a telephone number for customer service calls.

2.4 Failure of the Service provider to comply with stated service level requirements will give Transnet the right to cancel the contract in whole, without penalty to Transnet, giving 30 [thirty] calendar days' notice to the Service provider of its intention to do so.

### Acceptance of Service Levels:

|     |  |
|-----|--|
| YES |  |
|-----|--|

|    |  |
|----|--|
| NO |  |
|----|--|

## **T2.2-21: Agreement in terms of Protection of Personal Information Act, 4 of 2013 ("POPIA")**

### **1. PREAMBLE AND INTRODUCTION**

- 1.1. The rights and obligation of the Parties in terms of the Protection of Personal Information Act, 4 of 2013 ("POPIA") are included as forming part of the terms and conditions of this contract.

### **2. PROTECTION OF PERSONAL INFORMATION**

- 2.1. The following terms shall bear the same meaning as contemplated in Section 1 of the Protection of Person information act, No. of 2013"(POPIA"):

consent; data subject; electronic communication; information officer; operator; person; personal information; processing; record; Regulator; responsible party; special information; as well as any terms derived from these terms.

- 2.2. The Operator will process all information by the Transnet in terms of the requirements contemplated in Section 4(1) of the POPIA:

Accountability; Processing limitation; Purpose specification; Further processing limitation; Information quality; Openness; Security safeguards and Data subject participation.

- 2.3. The Parties acknowledge and agree that, in relation to personal information of Transnet and the information of a third party that will be processed pursuant to this Agreement, the Operator is

(.....)

.....insert name of Tenderer/Contractor) hereinafter Operator and the Data subject is "Transnet". Operator will process personal information only with the knowledge and authorisation of Transnet and will treat personal information and the information of a third party which comes to its knowledge as confidential and will not disclose it, unless so required by law or subject to the exceptions contained in the POPIA.

- 2.4. Transnet reserves all the rights afforded to it by the POPIA in the processing of any of its information as contained in this Agreement and the Operator is required to comply with all prescripts as detailed in the POPIA relating to all information concerning Transnet.

- 2.5. In terms of this Agreement, the Operator acknowledges that it will obtain and have access to personal information of Transnet and the information of a third party and agrees that it shall only process the information disclosed by Transnet in terms of this Agreement and only for the purposes as detailed in this Agreement and in accordance with any applicable law.
- 2.6. Should there be a need for the Operator to process the personal information and the information of a third party in a way that is not agreed to in this Agreement, the Operator must request consent from Transnet to the processing of its personal information or and the information of a third party in a manner other than that it was collected for, which consent cannot be unreasonably withheld.
- 2.7. Furthermore, the Operator will not otherwise modify, amend or alter any personal information and the information of a third party submitted by Transnet or disclose or permit the disclosure of any personal information and the information of a third party to any third party without prior written consent from Transnet.
- 2.8. The Operator shall, at all times, ensure compliance with any applicable laws put in place and maintain sufficient measures, policies and systems to manage and secure against all forms of risks to any information that may be shared or accessed pursuant to the services offered to Transnet in terms of this Agreement (physically, through a computer or any other form of electronic communication).
- 2.9. The Operator shall notify Transnet in writing of any unauthorised access to personal information and the information of a third party, cybercrimes or suspected cybercrimes, in its knowledge and report such crimes or suspected crimes to the relevant authorities in accordance with applicable laws, after becoming aware of such crimes or suspected crime. The Operator must inform Transnet of the breach as soon as it has occurred to allow Transnet to take all necessary remedial steps to mitigate the extent of the loss or compromise of personal information and the information of a third party and to restore the integrity of the affected personal information as quickly as is possible.
- 2.10. Transnet may, in writing, request the Operator to confirm and/or make available any personal information and the information of a third party in its possession in relation to Transnet and if such personal information has been accessed by third parties and the identity thereof in terms of the POPIA.

2.11. Transnet may further request that the Operator correct, delete, destroy, withdraw consent or object to the processing of any personal information and the information of a third party relating to the Transnet or a third party in the Operator's possession in terms of the provision of the POPIA and utilizing Form 2 of the POPIA Regulations.

2.12. In signing this addendum that is in terms of the POPIA, the Operator hereby agrees that it has adequate measures in place to provide protection of the personal information and the information of a third party given to it by Transnet in line with the 8 conditions of the POPIA and that it will provide to Transnet satisfactory evidence of these measures whenever called upon to do so by Transnet.

**The Operator is required to provide confirmation that all measures in terms of the POPIA are in place when processing personal information and the information of a third party received from Transnet:**

|     |  |
|-----|--|
| YES |  |
|-----|--|

|    |  |
|----|--|
| NO |  |
|----|--|

2.13. Further, the Operator acknowledges that it will be held liable by Transnet should it fail to process personal information in line with the requirements of the POPIA. The Operator will be subject to any civil or criminal action, administrative fines or other penalty or loss that may arise as a result of the processing of any personal information that Transnet submitted to it.

2.14. Should a Tenderer have any complaints or objections to processing of its personal information, by Transnet, the Tenderer can submit a complaint to the Information Regulator on <https://www.justice.gov.za/inforeg/>, click on contact us, click on complaints.IR@justice.gov.za

### 3. **SOLE AGREEMENT**

3.1. The Agreement constitute the sole agreement between the parties relating to the subject matter referred to in paragraph 1.1 of this and no amendment/variation/change shall be of any force and effect unless reduced to writing and signed by or on behalf of both parties.

Signed at \_\_\_\_\_ on this \_\_\_\_\_ day of \_\_\_\_\_ 2021

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

... (insert name of  
Tenderer/Contractor)

Authorised signatory for and on behalf of

... (insert name of Tenderer/Contractor)

who warrants that he/she is duly authorised to sign this Agreement.

#### AS WITNESSES:

1. Name: \_\_\_\_\_

Signature: \_\_\_\_\_

2. Name: \_\_\_\_\_

Signature: \_\_\_\_\_

## T2.2-22: Non-Disclosure Agreement

**Note to tenderers: This Non-Disclosure Agreement is to be completed and signed by an authorised signatory:**

**THIS AGREEMENT** is made effective as of ..... day of ..... 20..... by and between:

### **TRANSNET SOC LTD**

(Registration No. 1990/000900/30), a company incorporated and existing under the laws of South Africa, having its principal place of business at 2nd Floor, Waterfall Business Estate, 9 Country Estate Drive, Midrand, 1662, South Africa

**and**

.....  
(Registration No .....), a private company incorporated and existing under the laws of South Africa having its principal place of business at  
.....  
.....

### **WHEREAS**

Transnet and the Company wish to exchange Information [as defined below] and it is envisaged that each party may from time to time receive Information relating to the other in respect thereof. In consideration of each party making available to the other such Information, the parties jointly agree that any dealings between them shall be subject to the terms and conditions of this Agreement which themselves will be subject to the parameters of the Tender Document. **IT IS HEREBY AGREED**

### **1. INTERPRETATION**

In this Agreement:

- 1.1 **Agents** mean directors, officers, employees, agents, professional advisers, contractors or sub-contractors, or any Group member;
- 1.2 **Bid or Bid Document** (hereinafter Tender) means Transnet's Request for Information [RFI] Request for Proposal [RFP] or Request for Quotation [RFQ], as the case may be;
- 1.3 **Confidential Information** means any information or other data relating to one party [the **Disclosing Party**] and/or the business carried on or proposed or intended to be carried on by that party and which is made available for the purposes of the Bid to the other party [the **Receiving Party**] or its Agents by the Disclosing Party or its Agents or recorded in agreed minutes following oral disclosure and any other information

otherwise made available by the Disclosing Party or its Agents to the Receiving Party or its Agents, whether before, on or after the date of this Agreement, and whether in writing or otherwise, including any information, analysis or specifications derived from, containing or reflecting such information but excluding information which:

- 1.3.1 is publicly available at the time of its disclosure or becomes publicly available [other than as a result of disclosure by the Receiving Party or any of its Agents contrary to the terms of this Agreement]; or
- 1.3.2 was lawfully in the possession of the Receiving Party or its Agents [as can be demonstrated by its written records or other reasonable evidence] free of any restriction as to its use or disclosure prior to its being so disclosed; or
- 1.3.3 following such disclosure, becomes available to the Receiving Party or its Agents [as can be demonstrated by its written records or other reasonable evidence] from a source other than the Disclosing Party or its Agents, which source is not bound by any duty of confidentiality owed, directly or indirectly, to the Disclosing Party in relation to such information;
- 1.4 **Group** means any subsidiary, any holding company and any subsidiary of any holding company of either party; or
- 1.5 **Information** means all information in whatever form including, without limitation, any information relating to systems, operations, plans, intentions, market opportunities, know-how, trade secrets and business affairs whether in writing, conveyed orally or by machine-readable medium.

## 2. CONFIDENTIAL INFORMATION

- 2.1 All Confidential Information given by one party to this Agreement [the **Disclosing Party**] to the other party [the **Receiving Party**] will be treated by the Receiving Party as secret and confidential and will not, without the Disclosing Party's written consent, directly or indirectly communicate or disclose [whether in writing or orally or in any other manner] Confidential Information to any other person other than in accordance with the terms of this Agreement.
- 2.2 The Receiving Party will only use the Confidential Information for the sole purpose of technical and commercial discussions between the parties in relation to the Tender or for the subsequent performance of any contract between the parties in relation to the Tender.
- 2.3 Notwithstanding clause 2.1 above, the Receiving Party may disclose Confidential Information:

- 2.3.1 to those of its Agents who strictly need to know the Confidential Information for the sole purpose set out in clause 2.2 above, provided that the Receiving Party shall ensure that such Agents are made aware prior to the disclosure of any part of the Confidential Information that the same is confidential and that they owe a duty of confidence to the Disclosing Party. The Receiving Party shall at all times remain liable for any actions of such Agents that would constitute a breach of this Agreement; or
- 2.3.2 to the extent required by law or the rules of any applicable regulatory authority, subject to clause 2.4 below.
- 2.4 In the event that the Receiving Party is required to disclose any Confidential Information in accordance with clause 2.3.2 above, it shall promptly notify the Disclosing Party and cooperate with the Disclosing Party regarding the form, nature, content and purpose of such disclosure or any action which the Disclosing Party may reasonably take to challenge the validity of such requirement.
- 2.5 In the event that any Confidential Information shall be copied, disclosed or used otherwise than as permitted under this Agreement then, upon becoming aware of the same, without prejudice to any rights or remedies of the Disclosing Party, the Receiving Party shall as soon as practicable notify the Disclosing Party of such event and if requested take such steps [including the institution of legal proceedings] as shall be necessary to remedy [if capable of remedy] the default and/or to prevent further unauthorised copying, disclosure or use.
- 2.6 All Confidential Information shall remain the property of the Disclosing Party and its disclosure shall not confer on the Receiving Party any rights, including intellectual property rights over the Confidential Information whatsoever, beyond those contained in this Agreement.

### **3. RECORDS AND RETURN OF INFORMATION**

- 3.1 The Receiving Party agrees to ensure proper and secure storage of all Information and any copies thereof.
- 3.2 The Receiving Party shall keep a written record, to be supplied to the Disclosing Party upon request, of the Confidential Information provided and any copies made thereof and so far, as is reasonably practicable, of the location of such Confidential Information and any copies thereof.
- 3.3 The Company shall, within 7 [seven] days of receipt of a written demand from Transnet:
- 3.3.1 return all written Confidential Information [including all copies]; and

3.3.2 expunge or destroy any Confidential Information from any computer, word processor or other device whatsoever into which it was copied, read or programmed by the Company or on its behalf.

3.4 The Company shall on request supply a certificate signed by a director as to its full compliance with the requirements of clause 3.3.2 above.

#### **4. ANNOUNCEMENTS**

4.1 Neither party will make or permit to be made any announcement or disclosure of its prospective interest in the Tender without the prior written consent of the other party.

4.2 Neither party shall make use of the other party's name, or any information acquired through its dealings with the other party for publicity or marketing purposes without the prior written consent of the other party.

#### **5. DURATION**

The obligations of each party and its Agents under this Agreement shall survive the termination of any discussions or negotiations between the parties regarding the Tender and continue thereafter for a period of 5 [five] years.

#### **6. PRINCIPAL**

Each party confirms that it is acting as principal and not as nominee, agent or broker for any other person and that it will be responsible for any costs incurred by it or its advisers in considering or pursuing the Tender and in complying with the terms of this Agreement.

#### **7. ADEQUACY OF DAMAGES**

Nothing contained in this Agreement shall be construed as prohibiting the Disclosing Party from pursuing any other remedies available to it, either at law or in equity, for any such threatened or actual breach of this Agreement, including specific performance, recovery of damages or otherwise.

#### **8. PRIVACY AND DATA PROTECTION**

8.1 The Receiving Party undertakes to comply with South Africa's general privacy protection in terms Section 14 of the Bill of Rights in connection with this Tender and shall procure that its personnel shall observe the provisions of such Act [as applicable] or any amendments and re-enactments thereof and any regulations made pursuant thereto.

8.2 The Receiving Party warrants that it and its Agents have the appropriate technical and organisational measures in place against unauthorised or unlawful processing of data relating to the Tender and against accidental loss or destruction of, or damage to such data held or processed by them.

## 9. GENERAL

- 9.1 Neither party may assign the benefit of this Agreement, or any interest hereunder, except with the prior written consent of the other, save that Transnet may assign this Agreement at any time to any member of the Transnet Group.
- 9.2 No failure or delay in exercising any right, power or privilege under this Agreement will operate as a waiver of it, nor will any single or partial exercise of it preclude any further exercise or the exercise of any right, power or privilege under this Agreement or otherwise.
- 9.3 The provisions of this Agreement shall be severable in the event that any of its provisions are held by a court of competent jurisdiction or other applicable authority to be invalid, void or otherwise unenforceable, and the remaining provisions shall remain enforceable to the fullest extent permitted by law.
- 9.4 This Agreement may only be modified by a written agreement duly signed by persons authorised on behalf of each party.
- 9.5 Nothing in this Agreement shall constitute the creation of a partnership, joint venture or agency between the parties.
- 9.6 This Agreement will be governed by and construed in accordance with South African law and the parties irrevocably submit to the exclusive jurisdiction of the South African courts.

Signed

Date

Name

Position

Tenderer

## T2.2-23: RFP Declaration Form

NAME OF COMPANY: \_\_\_\_\_

We \_\_\_\_\_ do hereby certify  
that:

1. Transnet has supplied and we have received appropriate tender offers to any/all questions (as applicable) which were submitted by ourselves for tender clarification purposes;
2. we have received all information we deemed necessary for the completion of this Tender;
3. at no stage have we received additional information relating to the subject matter of this tender from Transnet sources, other than information formally received from the designated Transnet contact(s) as nominated in the tender documents;
4. we are satisfied, insofar as our company is concerned, that the processes and procedures adopted by Transnet in issuing this TENDER and the requirements requested from tenderers in responding to this TENDER have been conducted in a fair and transparent manner; and
5. furthermore, we acknowledge that a direct relationship exists between a family member and/or an owner / member / director / partner / shareholder (unlisted companies) of our company and an employee or board member of the Transnet Group as indicated below:  
[Respondent to indicate if this section is not applicable]

6.

FULL NAME OF OWNER/MEMBER/DIRECTOR/

PARTNER/SHAREHOLDER:

ADDRESS:

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Indicate nature of relationship with Transnet:

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[Failure to furnish complete and accurate information in this regard may lead to the disqualification of your response and may preclude a Respondent from doing future business with Transnet]

We declare, to the extent that we are aware or become aware of any relationship between ourselves and Transnet (other than any existing and appropriate business relationship with Transnet) which could unfairly advantage our company in the forthcoming adjudication process, we shall notify Transnet immediately in writing of such circumstances.

7. We accept that any dispute pertaining to this tender will be resolved through the Ombudsman process and will be subject to the Terms of Reference of the Ombudsman. The Ombudsman process must first be exhausted before judicial review of a decision is sought. (Refer "Important Notice to respondents" below).
8. We further accept that Transnet reserves the right to reverse a tender award or decision based on the recommendations of the Ombudsman without having to follow a formal court process to have such award or decision set aside.

For and on behalf of

.....

duly authorised thereto

Name:

Signature:

Date:

## **IMPORTANT NOTICE TO RESPONDENTS**

- Transnet has appointed a Procurement Ombudsman to investigate any material complaint in respect of tenders exceeding R5,000,000.00 (five million S.A. Rand) in value. Should a Respondent have any material concern regarding an tender process which meets this value threshold, a complaint may be lodged with Transnet's Procurement Ombudsman for further investigation.
- It is incumbent on the Respondent to familiarise himself/herself with the Terms of Reference for the Transnet Procurement Ombudsman, details of which are available for review at Transnet's website [www.transnet.net](http://www.transnet.net).
- An official complaint form may be downloaded from this website and submitted, together with any supporting documentation, within the prescribed period, to [procurement.ombud@transnet.net](mailto:procurement.ombud@transnet.net)
- For transactions below the R5, 000,000.00 (five million S.A. Rand) threshold, a complaint may be lodged with the Chief Procurement Officer of the relevant Transnet Operating Division.
- All Respondents should note that a complaint must be made in good faith. If a complaint is made in bad faith, Transnet reserves the right to place such a bidder on its List of Excluded Bidders.

---

## **T2.2-24: Service Provider Integrity Pact**

**Important Note: All potential tenderers must read this document and certify in the RFP Declaration Form that that have acquainted themselves with and agree with the content.**

**The contract with the successful tenderer will automatically incorporate this Integrity Pact and shall be deemed as part of the final concluded contract.**

### **INTEGRITY PACT**

Between

**TRANSNET SOC LTD**

Registration Number: 1990/000900/30

("Transnet")

and

The Contractor (hereinafter referred to as the "Tenderer/Service Providers/Contractor")

## **PREAMBLE**

Transnet values full compliance with all relevant laws and regulations, ethical standards, and the principles of economical use of resources, fairness and transparency in its relations with its Tenderers/Service Providers/Contractors.

In order to achieve these goals, Transnet and the Tenderer/Service Provider/Contractor hereby enter into this agreement hereinafter referred to as the "Integrity Pact" which will form part of the Tenderer's/Service Provider's/Contractor's application for registration with Transnet as a vendor.

The general purpose of this Integrity Pact is to agree on avoiding all forms of dishonesty, fraud and corruption by following a system that is fair, transparent and free from any undue influence prior to, during and subsequent to the currency of any procurement and/or reverse logistics event and any further contract to be entered into between the Parties, relating to such event. All Tenderers/Service Providers/Contractor's will be required to sign and comply with undertakings contained in this Integrity Pact, should they want to be registered as a Transnet vendor.

## **1 OBJECTIVES**

- 1.1 Transnet and the Tenderer/Service Provider/Contractor agree to enter into this Integrity Pact, to avoid all forms of dishonesty, fraud and corruption including practices that are anti-competitive in nature, negotiations made in bad faith and under-pricing by following a system that is fair, transparent and free from any influence/unprejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:
  - a) Enable Transnet to obtain the desired contract at a reasonable and competitive price in conformity to the defined specifications of the works, goods and services; and
  - b) Enable Tenderers/Service Providers/Contractors to abstain from bribing or participating in any corrupt practice in order to secure the contract.

## 2 COMMITMENTS OF TRANSNET

Transnet commits to take all measures necessary to prevent dishonesty, fraud and corruption and to observe the following principles:

- 2.1 Transnet hereby undertakes that no employee of Transnet connected directly or indirectly with the sourcing event and ensuing contract, will demand, take a promise for or accept directly or through intermediaries any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the Tenderer, either for themselves or for any person, organisation or third party related to the contract in exchange for an advantage in the tendering process, Tender evaluation, contracting or implementation process related to any contract.
- 2.2 Transnet will, during the registration and tendering process treat all Tenderers/Service Providers/Contractor with equity, transparency and fairness. Transnet will in particular, before and during the registration process, provide to all Tenderers/Service Providers/Contractors the same information and will not provide to any Tenderers/Service Providers/Contractors confidential/additional information through which the Tenderers/Service Providers/Contractors could obtain an advantage in relation to any tendering process.
- 2.3 Transnet further confirms that its employees will not favour any prospective Tenderers/Service Providers/Contractors in any form that could afford an undue advantage to a particular Tenderer during the tendering stage and will further treat all Tenderers/Service Providers/Contractors participating in the tendering process in a fair manner.
- 2.4 Transnet will exclude from the tender process such employees who have any personal interest in the Tenderers/Service Providers/Contractors participating in the tendering process.

## 3 OBLIGATIONS OF THE TENDERER / SERVICE PROVIDER

- 3.1 Transnet has a '**Zero Gifts**' Policy. No employee is allowed to accept gifts, favours, or benefits.
  - a) Transnet officials and employees **shall not** solicit, give or accept, or from agreeing to solicit, give, accept or receive directly or indirectly, any gift, gratuity, favour, entertainment, loan, or anything of monetary value, from any

person or juridical entities in the course of official duties or in connection with any operation being managed by, or any transaction which may be affected by the functions of their office.

- b) Transnet officials and employees **shall not** solicit or accept gifts of any kind, from vendors, suppliers, customers, potential employees, potential vendors, and suppliers, or any other individual or organisation irrespective of the value.
  - c) Under **no circumstances** should gifts, business courtesies or hospitality packages be accepted from or given to prospective suppliers participating in a tender process at the respective employee's Operating Division, regardless of retail value.
  - d) Gratuities, bribes or kickbacks of any kind must never be solicited, accepted or offered, either directly or indirectly. This includes money, loans, equity, special privileges, personal favours, benefit or services. Such favours will be considered to constitute corruption.
- 3.2 The Tenderer/Service Provider/Contractor commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its Tender or during any ensuing contract stage in order to secure the contract or in furtherance to secure it and in particular the Tenderer/Service Provider/Contractor commits to the following:
- a) The Tenderer/Service Provider/Contractor will not, directly or through any other person or firm, offer, promise or give to Transnet or to any of Transnet's employees involved in the tendering process or to any third person any material or other benefit or payment, in order to obtain in exchange an advantage during the tendering process; and
  - b) The Tenderer/Service Provider/Contractor will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any employee of Transnet, connected directly or indirectly with the tendering process, or to any person, organisation or third party related to the contract in exchange for any advantage in the tendering, evaluation, contracting and implementation of the contract.
- 3.3 The Tenderer/Service Provider/Contractor will not collude with other parties interested in the contract to preclude a competitive Tender price, impair the

transparency, fairness and progress of the tendering process, Tender evaluation, contracting and implementation of the contract. The Tenderer / Service Provider further commits itself to delivering against all agreed upon conditions as stipulated within the contract.

- 3.4 The Tenderer/Service Provider/Contractor will not enter into any illegal or dishonest agreement or understanding, whether formal or informal with other Tenderers/Service Providers/Contractors. This applies in particular to certifications, submissions or non-submission of documents or actions that are restrictive or to introduce cartels into the tendering process.
- 3.5 The Tenderer/Service Provider/Contractor will not commit any criminal offence under the relevant anti-corruption laws of South Africa or any other country. Furthermore, the Tenderer/Service Provider/Contractor will not use for illegitimate purposes or for restrictive purposes or personal gain, or pass on to others, any information provided by Transnet as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 3.6 A Tenderer/Service Provider/Contractor of foreign origin shall disclose the name and address of its agents or representatives in South Africa, if any, involved directly or indirectly in the registration or tendering process. Similarly, the Tenderer / Service Provider / Contractor of South African nationality shall furnish the name and address of the foreign principals, if any, involved directly or indirectly in the registration or tendering process.
- 3.7 The Tenderer/Service Provider/Contractor will not misrepresent facts or furnish false or forged documents or information in order to influence the tendering process to the advantage of the Tenderer/Service Provider/Contractor or detriment of Transnet or other competitors.
- 3.8 Transnet may require the Tenderer/Service Provider/Contractor to furnish Transnet with a copy of its code of conduct. Such code of conduct must address the compliance programme for the implementation of the code of conduct and reject the use of bribes and other dishonest and unethical conduct.
- 3.9 The Tenderer/Service Provider/Contractor will not instigate third persons to commit offences outlined above or be an accessory to such offences.

3.10 The Tenderer/Service Provider/Contractor confirms that they will uphold the ten principles of the United Nations Global Compact (UNGC) in the fields of Human Rights, Labour, Anti-Corruption and the Environment when undertaking business with Transnet as follows:

a) Human Rights

- Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
- Principle 2: make sure that they are not complicit in human rights abuses.

b) Labour

- Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- Principle 4: the elimination of all forms of forced and compulsory labour;
- Principle 5: the effective abolition of child labour; and
- Principle 6: the elimination of discrimination in respect of employment and occupation.

c) Environment

- Principle 7: Businesses should support a precautionary approach to environmental challenges;
- Principle 8: undertake initiatives to promote greater environmental responsibility; and
- Principle 9: encourage the development and diffusion of environmentally friendly technologies.

d) Anti-Corruption

- Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

## 4 INDEPENDENT TENDERING

4.1 For the purposes of that Certificate in relation to any submitted Tender, the Tenderer declares to fully understand that the word "competitor" shall include any individual or organisation, other than the Tenderer, whether or not affiliated with the Tenderer, who:

- a) has been requested to submit a Tender in response to this Tender invitation;

- b) could potentially submit a Tender in response to this Tender invitation, based on their qualifications, abilities or experience; and
  - c) provides the same Goods and Services as the Tenderer and/or is in the same line of business as the Tenderer.
- 4.2 The Tenderer has arrived at his submitted Tender independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium will not be construed as collusive tendering.
- 4.3 In particular, without limiting the generality of paragraph 5 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
- a) prices;
  - b) geographical area where Goods or Services will be rendered [market allocation].
  - c) methods, factors, or formulas used to calculate prices;
  - d) the intention or decision to submit or not to submit, a Tender;
  - e) the submission of a Tender which does not meet the specifications and conditions of the RFP; or
  - f) tendering with the intention of not winning the Tender.
- 4.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the Goods or Services to which his/her tender relates.
- 4.5 The terms of the Tender as submitted have not been, and will not be, disclosed by the Tenderer, directly or indirectly, to any competitor, prior to the date and time of the official Tender opening or of the awarding of the contract.
- 4.6 Tenderers are aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to Tenders and contracts, Tenders that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and/or may be reported to the National Prosecuting Authority [**NPA**] for criminal investigation and/or may be restricted from conducting business with the public sector for a period not

exceeding 10 [ten] years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

- 4.7 Should the Tenderer find any terms or conditions stipulated in any of the relevant documents quoted in the Tender unacceptable, it should indicate which conditions are unacceptable and offer alternatives by written submission on its company letterhead, attached to its submitted Tender. Any such submission shall be subject to review by Transnet's Legal Counsel who shall determine whether the proposed alternative(s) are acceptable or otherwise, as the case may be.

## **5 DISQUALIFICATION FROM TENDERING PROCESS**

- 5.1 If the Tenderer/Service Provider/Contractor has committed a transgression through a violation of section 3 of this Integrity Pact or in any other form such as to put its reliability or credibility as a Tenderer/Service Provider/Contractor into question, Transnet may reject the Tenderer's / Service Provider's / Contractor's application from the registration or tendering process and remove the Tenderer/Service Provider/Contractor from its database, if already registered.
- 5.2 If the Tenderer/Service Provider/Contractor has committed a transgression through a violation of section 3, or any material violation, such as to put its reliability or credibility into question. Transnet may after following due procedures and at its own discretion also exclude the Tenderer/Service Provider /Contractor from future tendering processes. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the circumstances of the case, which will include amongst others the number of transgressions, the position of the transgressors within the company hierarchy of the Tenderer/Service Provider/Contractor and the amount of the damage. The exclusion will be imposed for up to a maximum of 10 (ten) years. However, Transnet reserves the right to impose a longer period of exclusion, depending on the gravity of the misconduct.
- 5.3 If the Tenderer/Service Provider/Contractor can prove that it has restored the damage caused by it and has installed a suitable corruption prevention system or taken other remedial measures as the circumstances of the case may require,

Transnet may at its own discretion revoke the exclusion or suspend the imposed penalty.

## **6 TRANSNET'S LIST OF EXCLUDED TENDERERS (BLACKLIST)**

- 6.1 The process of restriction is used to exclude a company/person from conducting future business with Transnet and other organs of state for a specified period. No Tender shall be awarded to a Tenderer whose name (or any of its members, directors, partners or trustees) appear on the Register of Tender Defaulters kept by National Treasury, or who have been placed on National Treasury's List of Restricted Suppliers. Transnet reserves the right to withdraw an award, or cancel a contract concluded with a Tenderer should it be established, at any time, that a tenderer has been restricted with National Treasury by another government institution.
- 6.2 All the stipulations on Transnet's restriction process as laid down in Transnet's Supply Chain Policy and Procurement Procedures Manual (CPM included) are included herein by way of reference. Below follows a condensed summary of this restriction procedure.
- 6.3 On completion of the restriction procedure, Transnet will submit the restricted entity's details (including the identity number of the individuals and registration number of the entity) to National Treasury for placement on National Treasury's Database of Restricted Suppliers for the specified period of exclusion. National Treasury will make the final decision on whether to restrict an entity from doing business with any organ of state for a period not exceeding 10 years and place the entity concerned on the Database of Restricted Suppliers published on its official website.
- 6.4 The decision to restrict is based on one of the grounds for restriction. The standard of proof to commence the restriction process is whether a "prima facie" (i.e., on the face of it) case has been established.
- 6.5 Depending on the seriousness of the misconduct and the strategic importance of the Goods/Services, in addition to restricting a company/person from future business, Transnet may decide to terminate some or all existing contracts with the company/person as well.

- 6.6 A Service Provider or Contractor to Transnet may not subcontract any portion of the contract to a blacklisted company.
- 6.7 Grounds for blacklisting include: If any person/Enterprise which has submitted a Tender, concluded a contract, or, in the capacity of agent or subcontractor, has been associated with such Tender or contract:
- a) Has, in bad faith, withdrawn such Tender after the advertised closing date and time for the receipt of Tenders;
  - b) has, after being notified of the acceptance of his Tender, failed or refused to sign a contract when called upon to do so in terms of any condition forming part of the Tender documents;
  - c) has carried out any contract resulting from such Tender in an unsatisfactory manner or has breached any condition of the contract;
  - d) has offered, promised or given a bribe in relation to the obtaining or execution of the contract;
  - e) has acted in a fraudulent or improper manner or in bad faith towards Transnet or any Government Department or towards any public body, Enterprise or person;
  - f) has made any incorrect statement in a certificate or other communication with regard to the Local Content of his Goods or his B-BBEE status and is unable to prove to the satisfaction of Transnet that:
    - (i) he made the statement in good faith honestly believing it to be correct; and
    - (ii) before making such statement, he took all reasonable steps to satisfy himself of its correctness;
  - g) caused Transnet damage, or to incur costs in order to meet the contractor's requirements and which could not be recovered from the contractor;
  - h) has litigated against Transnet in bad faith.
- 6.8 Grounds for blacklisting include a company/person recorded as being a company or person prohibited from doing business with the public sector on National Treasury's database of Restricted Service Providers or Register of Tender Defaulters.
- 6.9 Companies associated with the person/s guilty of misconduct (i.e., entities owned, controlled, or managed by such persons), any companies subsequently formed by the person(s) guilty of the misconduct and/or an

existing company where such person(s) acquires a controlling stake may be considered for blacklisting. The decision to extend the blacklist to associated companies will be at the sole discretion of Transnet.

## **7 PREVIOUS TRANSGRESSIONS**

- 7.1 The Tenderer/Service Provider/Contractor hereby declares that no previous transgressions resulting in a serious breach of any law, including but not limited to, corruption, fraud, theft, extortion and contraventions of the Competition Act 89 of 1998, which occurred in the last 5 (five) years with any other public sector undertaking, government department or private sector company that could justify its exclusion from its registration on the Tenderer's/Service Provider's/Contractor's database or any tendering process.
- 7.2 If it is found to be that the Tenderer/Service Provider/Contractor made an incorrect statement on this subject, the Tenderer/Service Provider/Contractor can be rejected from the registration process or removed from the Tenderer/ Service Provider/Contractor database, if already registered, for such reason (refer to the Breach of Law Returnable Form contained in the document.)

## **8 SANCTIONS FOR VIOLATIONS**

- 8.1 Transnet shall also take all or any one of the following actions, wherever required to:
- a) Immediately exclude the Tenderer/Service Provider/Contractor from the tendering process or call off the pre-contract negotiations without giving any compensation the Tenderer/Service Provider/Contractor. However, the proceedings with the other Tenderer/ Service Provider/Contractor may continue;
  - b) Immediately cancel the contract, if already awarded or signed, without giving any compensation to the Tenderer/Service Provider/Contractor;
  - c) Recover all sums already paid by Transnet;
  - d) Encash the advance bank guarantee and performance bond or warranty bond, if furnished by the Tenderer/Service Provider/Contractor, in order to recover the payments, already made by Transnet, along with interest;
  - e) Cancel all or any other contracts with the Tenderer/Service Provider/Contractor; and

- f) Exclude the Tenderer/ Service Provider/Contractor from entering into any Tender with Transnet in future.

## **9 CONFLICTS OF INTEREST**

9.1 A conflict of interest includes, inter alia, a situation in which:

- a) A Transnet employee has a personal financial interest in a tendering / supplying entity; and
- b) A Transnet employee has private interests or personal considerations or has an affiliation or a relationship which affects, or may affect, or may be perceived to affect his / her judgment in action in the best interest of Transnet or could affect the employee's motivations for acting in a particular manner, or which could result in, or be perceived as favouritism or nepotism.

9.2 A Transnet employee uses his / her position, or privileges or information obtained while acting in the capacity as an employee for:

- a) Private gain or advancement; or
- b) The expectation of private gain, or advancement, or any other advantage accruing to the employee must be declared in a prescribed form.

Thus, conflicts of interest of any Tender committee member or any person involved in the sourcing process must be declared in a prescribed form.

9.3 If a Tenderer/Service Provider/Contractor has or becomes aware of a conflict of interest i.e., a family, business and / or social relationship between its owner(s)/ member(s)/director(s)/partner(s)/shareholder(s) and a Transnet employee/ member of Transnet's Board of Directors in respect of a Tender which will be considered for the Tender process, the Tenderer/Service Provider/ Contractor:

- a) must disclose the interest and its general nature, in the Request for Proposal ("RFX") declaration form; or
- b) must notify Transnet immediately in writing once the circumstances have arisen.

9.4 The Tenderer/Service Provider/Contractor shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any committee member or any person involved in the sourcing process, where this is done, Transnet shall be entitled forthwith to rescind the contract and all other contracts with the Tenderer/Service Provider/Contractor.

## 10 DISPUTE RESOLUTION

- 10.1 Transnet recognises that trust and good faith are pivotal to its relationship with its Tenderer / Service Provider / Contractor. When a dispute arises between Transnet and its Tenderer / Service Provider / Contractor, the parties should use their best endeavours to resolve the dispute in an amicable manner, whenever possible. Litigation in bad faith negates the principles of trust and good faith on which commercial relationships are based. Accordingly, following a blacklisting process as mentioned in paragraph 6 above, Transnet will not do business with a company that litigates against it in bad faith or is involved in any action that reflects bad faith on its part. Litigation in bad faith includes, but is not limited to the following instances:
- a) **Vexatious proceedings:** these are frivolous proceedings which have been instituted without proper grounds;
  - b) **Perjury:** where a Tenderer / Service Provider / Contractor make a false statement either in giving evidence or on an affidavit;
  - c) **Scurrilous allegations:** where a Tenderer / Service Provider / Contractor makes allegations regarding a senior Transnet employee which are without proper foundation, scandalous, abusive or defamatory; and
  - d) **Abuse of court process:** when a Tenderer / Service Provider / Contractor abuses the court process in order to gain a competitive advantage during a Tender process.

## 11 GENERAL

- 11.1 This Integrity Pact is governed by and interpreted in accordance with the laws of the Republic of South Africa.
- 11.2 The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the law relating to any civil or criminal proceedings.
- 11.3 The validity of this Integrity Pact shall cover all the tendering processes and will be valid for an indefinite period unless cancelled by either Party.
- 11.4 Should one or several provisions of this Integrity Pact turn out to be invalid the remainder of this Integrity Pact remains valid.

- 11.5 Should a Tenderer/Service Provider/Contractor be confronted with dishonest, fraudulent or corruptive behaviour of one or more Transnet employees, Transnet expects its Tenderer/Service Provider/Contractor to report this behaviour directly to a senior Transnet official/employee or alternatively by using Transnet's "Tip-Off Anonymous" hotline number 0800 003 056, whereby your confidentiality is guaranteed.

The Parties hereby declare that each of them has read and understood the clauses of this Integrity Pact and shall abide by it. To the best of the Parties' knowledge and belief, the information provided in this Integrity Pact is true and correct.

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I.....duly authorised by the tendering entity, hereby certify that the tendering entity are **fully acquainted** with the contents of the Integrity Pact and further **agree to abide by it** in full.

Signature .....

Date .....

## **T2.2-25: Certificate of Acquaintance with Tender Documents**

NAME OF TENDERING ENTITY:

---

1. By signing this certificate, I/we acknowledge that I/we have made myself/ourselves thoroughly familiar with and agree with all the conditions governing this RFP. This includes those terms and conditions of the Contract, the Supplier Integrity Pact, Non-Disclosure Agreement etc. contained in any printed form stated to form part of the documents thereof, but not limited to those listed in this clause.
2. I/we furthermore agree that Transnet SOC Ltd shall recognise no claim from me/us for relief based on an allegation that I/we overlooked any tender/contract condition or failed to take it into account for the purpose of calculating my/our offered prices or otherwise.
3. I/we understand that the accompanying Tender will be disqualified if this Certificate is found not to be true and complete in every respect.
4. For the purposes of this Certificate and the accompanying Tender, I/we understand that the word "competitor" shall include any individual or organisation, other than the Tenderer, whether or not affiliated with the Tenderer, who:
  - a) has been requested to submit a Tender in response to this Tender invitation;
  - b) could potentially submit a Tender in response to this Tender invitation, based on their qualifications, abilities or experience; and
  - c) provides the same Services as the Tenderer and/or is in the same line of business as the Tenderer
5. The Tenderer has arrived at the accompanying Tender independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium will not be construed as collusive Tendering.
6. In particular, without limiting the generality of paragraph 5 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
  - a) prices;
  - b) geographical area where Services will be rendered [market allocation]
  - c) methods, factors, or formulas used to calculate prices;
  - d) the intention or decision to submit or not to submit, a Tender;

- e) the submission of a tender which does not meet the specifications and conditions of the tender; or
  - f) Tendering with the intention not winning the tender.
7. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the Services to which this tender relates.
8. The terms of the accompanying tender have not been, and will not be, disclosed by the Tenderer, directly or indirectly, to any competitor, prior to the date and time of the official tender opening or of the awarding of the contract.
9. I/We am/are aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to tenders and contracts, tenders that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and/or may be reported to the National Prosecuting Authority [NPA] for criminal investigation. In addition, Tenderers that submit suspicious tenders may be restricted from conducting business with the public sector for a period not exceeding 10 [ten] years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

Signed on this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

\_\_\_\_\_  
SIGNATURE OF TENDERER

## T2.2-26: Request for Proposal – Breach of Law

NAME OF COMPANY: \_\_\_\_\_

I / We \_\_\_\_\_ do hereby  
certify that **I/we have/have not been** found guilty during the preceding 5 (five) years of a  
serious breach of law, including but not limited to a breach of the Competition Act, 89 of  
1998, by a court of law, tribunal or other administrative body. The type of breach that the  
Tenderer is required to disclose excludes relatively minor offences or misdemeanours, e.g.  
traffic offences.

Where found guilty of such a serious breach, please disclose:

NATURE OF BREACH:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DATE OF BREACH:

\_\_\_\_\_

Furthermore, I/we acknowledge that Transnet SOC Ltd reserves the right to exclude any  
Tenderer from the tendering process, should that person or company have been found guilty  
of a serious breach of law, tribunal or regulatory obligation.

Signed on this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

\_\_\_\_\_  
SIGNATURE OF TENDER

## **T2.2-27: CIDB SFU ANNEX G Compulsory Enterprise**

The following particulars hereunder must be furnished.

In the case of a Joint Venture, separate enterprise questionnaires in respect of each partner/member must be completed and submitted.

**Section 1: Name of enterprise:** \_\_\_\_\_

**Section 2: VAT registration number, if any:** \_\_\_\_\_

**Section 3: CIDB registration number, if any:** \_\_\_\_\_

**Section 4: CSD number:** \_\_\_\_\_

**Section 5: Particulars of sole proprietors and partners in partnerships**

| Name | Identity number | Personal income tax number |
|------|-----------------|----------------------------|
|      |                 |                            |
|      |                 |                            |
|      |                 |                            |

\* Complete only if sole proprietor or partnership and attach separate page if more than 3 partners

**Section 6: Particulars of companies and close corporations**

Company registration number \_\_\_\_\_

Close corporation number \_\_\_\_\_

Tax reference number: \_\_\_\_\_

**Section 7: The attached SBD4 must be completed for each tender and be attached as a tender requirement.**

**Section 8: The attached SBD6.1 must be completed for each tender and be attached as a requirement.**

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise:

- i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;
- ii) confirms that the neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;
- iv) confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and
- v) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed

Date

Name

Position

Enterprise  
name

## **PREFERENCE POINTS CLAIM FORM**

This preference form must form part of all bids invited. It contains general information and serves as a claim for preference points for Specific Goals contribution. Transnet will award preference points to companies who provide valid proof of evidence as per the table of evidence in paragraph 4.1 below.

### **1. GENERAL CONDITIONS**

- 1.1 The following preference point systems are applicable to all bids:
- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- 1.2 The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 preference point system shall be applicable. Despite the stipulated preference point system, Transnet shall use the lowest acceptable bid to determine the applicable preference point system in a situation where all received acceptable bids are received outside the stated preference point system.
- 1.3 Preference points for this bid shall be awarded for:
- (a) Price;
  - (b) B-BBEE Status Level of Contribution; and
  - (c) Any other specific goal determined in the Transnet preferential procurement policy
- 1.4 The maximum points for this bid are allocated as follows:

| DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | POINTS    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>PRICE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>80</b> |
| <b>B-B BEE Status Level of Contributor 1 or 2 = 5 points</b><br><b>30% Black Women Owned Entities = 2 points</b><br>The promotion of enterprises located in uMhlathuze Local Municipality for work to be done or services to be rendered in that municipal area = <b>3 points</b><br>The creation of 21 new jobs in uMhlathuze Local Municipality = <b>2 points</b> <ul style="list-style-type: none"> <li>4 Skilled jobs</li> <li>6 Semi-skilled jobs</li> <li>11 Unskilled jobs</li> </ul> The promotion of supplier development through subcontracting a minimum of 30% of the value of the <ul style="list-style-type: none"> <li>HVAC and associated plan</li> <li>Fire Detection and Alarm System;</li> </ul> | <b>20</b> |

|                                                                                                                                                                                                                                                                                                                                                 |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <ul style="list-style-type: none"> <li>• Fire Suppression Systems and</li> <li>• New data and communication infrastructure</li> </ul> <p>portions of a contract to/with EMEs and/or QSEs<br/>51% owned by black people, youth, women or disabled people = <b>8 points</b><br/>Non-compliant and/or level 3-8 contributors = <b>0 points</b></p> |            |
| <b>Total points for Price and Specific Goals must not exceed</b>                                                                                                                                                                                                                                                                                | <b>100</b> |

1.5 Failure on the part of a bidder to submit proof of evidence required for any of the specific goals together with the bid will be interpreted to mean that preference points for that specific goal are not claimed.

1.6 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

## 2. DEFINITIONS

- (a) **"all applicable taxes"** includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;
- (b) **"B-BBEE"** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (c) **"B-BBEE status level of contributor"** means the B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- (d) **"bid"** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the supply/provision of services, works or goods, through price quotations, advertised competitive bidding processes or proposals;
- (e) **"Broad-Based Black Economic Empowerment Act"** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (f) **"EME"** means an Exempted Micro Enterprise as defines by Codes of Good Practice under section 9 (1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (g) **"functionality"** means the ability of a bidder to provide goods or services in accordance with specification as set out in the bid documents
- (h) **"Price"** includes all applicable taxes less all unconditional discounts.
- (i) **"Proof of B-BBEE Status Level of Contributor"**
- i) the B-BBBEE status level certificate issued by an authorised body or person;
  - ii) a sworn affidavit as prescribed by the B-BBEE Codes of Good Practice; or
  - iii) any other requirement prescribed in terms of the B-BBEE Act.

- (j) **"QSE"** means a Qualifying Small Enterprise as defines by Codes of Good Practice under section 9 (1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (k) **"rand value"** means the total estimated value of a contract in South African currency, calculated at the time of bid invitations, and includes all applicable taxes and excise duties.
- (l) **"Specific goals"** means targeted advancement areas or categories of persons or groups either previously disadvantaged or falling within the scope of the Reconstruction and Development Programme identified by Transnet to be given preference in allocation of procurement contracts in line with section 2(1) of the PPPFA.

### 3. POINTS AWARDED FOR PRICE

#### 3.1 THE 80/20 PREFERENCE POINT SYSTEMS

A maximum of 80 points is allocated for price on the following basis:

$$P_s = \frac{80}{80} \left( 1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where

- $P_s$  = Points scored for comparative price of bid under consideration
- $P_t$  = Comparative price of bid under consideration
- $P_{\min}$  = Comparative price of lowest acceptable bid

### 4. EVIDENCE REQUIRED FOR CLAIMING SPECIFIC GOALS

- 4.1 In terms of Transnet Preferential Procurement Policy (TPPP) and Procurement Manuals, preference points must be awarded to a bidder for providing evidence in accordance with the table below:

| Specific Goals                                                                                                                               | Acceptable Evidence                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B-BBEE Status Level of Contributor 1 or 2.                                                                                                   | Valid B-BBEE Certificate / Sworn- Affidavit / CIPC B-BBEE Certificate (in case of JV, a consolidated scorecard will be accepted) as per DTIC guidelines.                                                                                                                         |
| 30% Black Women Owned Entities.                                                                                                              | Valid B-BBEE Certificate / Sworn- Affidavit / CIPC B-BBEE Certificate (in case of JV, a consolidated scorecard will be accepted) as per DTIC guidelines.                                                                                                                         |
| The promotion of enterprises located in uMhlathuze Local Municipality for work to be done or services to be rendered in that municipal area. | <ul style="list-style-type: none"> <li>CIPC registration documents</li> <li>B-BBEE Certificate / Sworn- Affidavit / CIPC B-BBEE Certificate (in case of JV, a consolidated scorecard will be accepted) as per DTIC guidelines and Proof Registered address of entity.</li> </ul> |
| The creation of 21 new jobs in uMhlathuze Local Municipality.                                                                                | Section T2.2-28 Job Creation Schedule Returnable documents.                                                                                                                                                                                                                      |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The promotion of supplier development through subcontracting a minimum of 30% of the value of the</p> <ul style="list-style-type: none"> <li>• HVAC and associated plan</li> <li>• Fire Detection and Alarm System</li> <li>• Fire Suppression Systems and</li> <li>• New data and communication infrastructure</li> </ul> <p>portions of a contract to/with EMEs and/or QSEs 51% owned by black people, youth, women or disabled people.</p> | <ul style="list-style-type: none"> <li>• Sub-contracting agreements and Declaration</li> <li>• CIPC registration documents</li> <li>• Valid B-BBEE Certificate / Sworn-Affidavit / CIPC B-BBEE Certificate as per DTIC guidelines.</li> </ul> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

4.2 The table below indicates the required proof of B-BBEE status depending on the category of enterprises:

| Enterprise       | B-BBEE Certificate & Sworn Affidavit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Large            | Certificate issued by SANAS accredited verification agency                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| QSE              | <p>Certificate issued by SANAS accredited verification agency</p> <p>Sworn Affidavit signed by the authorised QSE representative and attested by a Commissioner of Oaths confirming annual turnover and black ownership (only black-owned QSEs - 51% to 100% Black owned)</p> <p>[Sworn affidavits must substantially comply with the format that can be obtained on the DTI's website at <a href="http://www.dti.gov.za/economic_empowerment/bee_codes.jsp">www.dti.gov.za/economic_empowerment/bee_codes.jsp</a>.]</p> |
| EME <sup>1</sup> | <p>Sworn Affidavit signed by the authorised EME representative and attested by a Commissioner of Oaths confirming annual turnover and black ownership</p> <p>Certificate issued by CIPC (formerly CIPRO) confirming annual turnover and black ownership</p> <p>Certificate issued by SANAS accredited verification agency only if the EME is being measured on the QSE scorecard</p>                                                                                                                                     |

4.3 A trust, consortium or joint venture (including unincorporated consortia and joint ventures) must submit a consolidated B-BBEE Status Level verification certificate for every separate bid.

4.4 Tertiary Institutions and Public Entities will be required to submit their B-BBEE status level certificates in terms of the specialized scorecard contained in the B-BBEE Codes of Good Practice.

<sup>1</sup> In terms of the Implementation Guide: Preferential Procurement Regulations, 2017, Version 2, paragraph 11.11 provides that in the Transport Sector, EMEs can provide a letter from accounting officer or get verified and be issued with a B-BBEE certificate by SANAS accredited professional or agency as the Transport Sector Code has not been aligned to the generic Codes. EMEs in the Transport Sector are not allowed to provide a sworn affidavit as the generic codes are not applicable to them.

- 4.5 A person will not be awarded points for B-BBEE status level if it is indicated in the bid documents that such a bidder intends sub-contracting more than 25% of the value of the contract to any other enterprise that does not qualify for at least the points that such a bidder qualifies for, unless the intended sub-contractor is an EME that has the capability and ability to execute the sub-contract.
- 4.6 A person awarded a contract may not sub-contract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is sub-contracted to an EME that has the capability and ability to execute the sub-contract.
- 4.7 Bidders are to note that the rules pertaining to B-BBEE verification and other B-BBEE requirements may be changed from time to time by regulatory bodies such as National Treasury or the DTI. It is the Bidder's responsibility to ensure that his/her bid complies fully with all B-BBEE requirements at the time of the submission of the bid.

## 5. BID DECLARATION

- 5.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

## 6. B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 6.1

- 6.1 B-BBEE Status Level of Contribution: = .....(maximum of 10 points)
- (Points claimed in respect of paragraph 6.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

## 7. SUB-CONTRACTING

- 7.1 Will any portion of the contract be sub-contracted?

(Tick applicable box)

|     |                          |    |                          |
|-----|--------------------------|----|--------------------------|
| YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
|-----|--------------------------|----|--------------------------|

- (a) If yes, indicate:

- i) What percentage of the contract will be subcontracted. .... %
- ii) The name of the sub-contractor.....
- iii) The B-BBEE status level of the sub-contractor.....
- iv) Whether the sub-contractor is an EME or QSE.

(Tick applicable box)

|     |                          |    |                          |
|-----|--------------------------|----|--------------------------|
| YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
|-----|--------------------------|----|--------------------------|

|  |  |  |
|--|--|--|
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## 8. DECLARATION WITH REGARD TO COMPANY/FIRM

8.1 Name of company/firm:.....

8.2 VAT registration number:.....

8.3 Company registration number:.....

8.4 TYPE OF COMPANY/ FIRM

☐ Partnership/Joint Venture / Consortium

☐ One person business/sole propriety

☐ Close corporation

☐ Company

☐ (Pty) Limited

[TICK APPLICABLE BOX]

8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....  
.....  
.....

8.6 COMPANY CLASSIFICATION

☐ Manufacturer

☐ Supplier

☐ Professional Supplier/Service provider

☐ Other Suppliers/Service providers, e.g., transporter, etc.

[TICK APPLICABLE BOX]

8.7 Total number of years the company/firm has been in business:.....

8.8 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contribution indicated in paragraphs 1.4 and 6.1 of the foregoing certificates, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

(a) The information furnished is true and correct;

(b) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;

(c) In the event of a contract being awarded as a result of points claimed as shown in paragraph 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;

- (d) If a bidder submitted false information regarding its B-BBEE status level of contributor, which will affect or has affected the evaluation of a bid, or where a bidder has failed to declare any subcontracting arrangements or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have
- (a) disqualify the person from the bidding process;
  - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
  - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
  - (d) if the successful bidder subcontracted a portion of the bid to another person without disclosing it, Transnet reserves the right to penalise the bidder up to 10 percent of the value of the contract;
  - (e) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the audi alteram partem (hear the other side) rule has been applied; and
  - (f) forward the matter for criminal prosecution.

|                                                |                                                                                        |
|------------------------------------------------|----------------------------------------------------------------------------------------|
| <p>WITNESSES</p> <p>1. ....</p> <p>2. ....</p> | <p>.....</p> <p>SIGNATURE(S) OF BIDDERS(S)</p> <p>DATE: .....</p> <p>ADDRESS .....</p> |
|------------------------------------------------|----------------------------------------------------------------------------------------|

#### **BIDDER'S DISCLOSURE (SBD 4)**

### **1. PURPOSE OF THE FORM**

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

### **2. Bidder's declaration**

2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or

any person having a controlling interest<sup>2</sup> in the enterprise,  
employed by the state?

**YES/NO**

- 2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

| Full Name | Identity Number | Name of State institution |
|-----------|-----------------|---------------------------|
|           |                 |                           |
|           |                 |                           |
|           |                 |                           |
|           |                 |                           |
|           |                 |                           |
|           |                 |                           |
|           |                 |                           |

- 2.2 Do you, or any person connected with the bidder, have a relationship with any person who is employed by the procuring institution? **YES/NO**

- 2.2.1 If so, furnish particulars:

.....  
.....

- 2.3 Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract?  
**YES/NO**

- 2.3.1 If so, furnish particulars:

.....  
.....

### 3 DECLARATION

I, the undersigned, (name)... .. in

<sup>2</sup> the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

submitting the accompanying bid, do hereby make the following statements that I  
certify to be true and complete in every respect:

- 3.1 I have read, and I understand the contents of this disclosure;
- 3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium<sup>3</sup> will not be construed as collusive bidding.
- 3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.4 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
- 3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.
- 3.6 I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE  
IS CORRECT.

I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF  
PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND  
COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS  
DECLARATION PROVE TO BE FALSE.

.....  
Signature

.....  
Date

<sup>3</sup> Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract

.....  
Position

.....  
Name of bidder

## **T2.2-28: Supplier Code of Conduct**

Transnet SOC Limited 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:

- The Transnet Procurement Policy – A guide for Tenderers.
- Section 217 of the Constitution - the five pillars of Public PSCM (Procurement and Supply Chain Management): fair, equitable, transparent, competitive and cost effective;
- The Public Finance Management Act (PFMA);
- The Broad Based Black Economic Empowerment Act (BBBEE)
- The Prevention and Combating of Corrupt Activities Act (PRECCA); and
- The Construction Industry Development Board Act (CIDB Act).

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

### **Prohibition of Bribes, Kickbacks, Unlawful Payments, and Other Corrupt Practices**

Transnet is in the process of transforming itself into a self-sustaining State Owned Enterprise, actively competing in the logistics industry. Our aim is to become a world class, profitable, logistics organisation. As such, our transformation is focused on adopting a performance culture and to adopt behaviours that will enable this transformation.

#### **1. Transnet SOC Limited will not participate in corrupt practices. Therefore, it expects its suppliers to act in a similar manner.**

- Transnet and its employees will follow the laws of this country and keep accurate business records that reflect actual transactions with, and payments to, our suppliers.
- Employees must not accept or request money or anything of value, directly or indirectly, from suppliers.
- Employees may not receive anything that is calculated to:
  - Illegally influence their judgement or conduct or to ensure the desired outcome of a sourcing activity;
  - Win or retain business or to influence any act or decision of any person involved in sourcing decisions; or
  - Gain an improper advantage.
- There may be times when a supplier is confronted with fraudulent or corrupt behaviour of Transnet employees. We expect our Suppliers to use our "Tip-offs Anonymous" Hot line to report these acts. (0800 003 056).

**2. Transnet SOC Limited is firmly committed to the ideas of free and competitive enterprise.**

- Suppliers are expected to comply with all applicable laws and regulations regarding fair competition and antitrust practices.
- Transnet does not engage with non-value adding agents or representatives solely for the purpose of increasing BBBEE spend (fronting).

**3. Transnet's relationship with suppliers requires us to clearly define requirements, to exchange information and share mutual benefits.**

- Generally, suppliers have their own business standards and regulations. Although Transnet cannot control the actions of our suppliers, we will not tolerate any illegal activities. These include, but are not limited to:
  - Misrepresentation of their product (origin of manufacture, specifications, intellectual property rights, etc);
  - Collusion;
  - Failure to disclose accurate information required during the sourcing activity (ownership, financial situation, BBBEE status, etc.);
  - Corrupt activities listed above; and
  - Harassment, intimidation or other aggressive actions towards Transnet employees.
- Suppliers must be evaluated and approved before any materials, components, products or services are purchased from them. Rigorous due diligence is conducted and the supplier is expected to participate in an honest and straight forward manner.
- Suppliers must record and report facts accurately, honestly and objectively. Financial records must be accurate in all material respects.

**Conflicts of Interest**

A conflict of interest arises when personal interests or activities influence (or appear to influence) the ability to act in the best interests of Transnet SOC Limited.

- Doing business with family members.
- Having a financial interest in another company in our industry

Where possible, contracts will be negotiated to include the above in the terms of such contracts. To the extent such terms are not included in contractual obligations and any of the above code is breached, then Transnet reserves its right to review doing business with these suppliers.

I,

of

(insert name of Director or as per

(insert name of Company)

Authority Resolution from Board of  
Directors)

hereby acknowledge having read, understood and agree to the terms and conditions set out in the "Transnet Supplier Code of Conduct."

Signed this on day \_\_\_\_\_ at \_\_\_\_\_

\_\_\_\_\_  
Signature

## T2.2-29: Job-Creation Schedule

The Government has identified State Owned Enterprises sourcing activities as a key enabler to achieve the National Development Plan (NDP) objective of reducing unemployment from the current baseline of 28% to 6%.

In order to give effect to these job creation objectives, Tenderers are required to provide the following undertaking of new jobs that will be created (either by them or by their subcontractors) should they be awarded this tender.

**Tenderers to note, that if successful, any deviations from the Job creation Schedule in the contract phase will be subject to acceptance by the Project Manager in terms of the Conditions of Contract. Please also note the applicable Z clauses in Contract Data by Employer.**

(a) Please indicate total number of new jobs that will be created over the term of the contract:

| Total number and value of new jobs created | Total number of new jobs | Total rand value of new jobs created |
|--------------------------------------------|--------------------------|--------------------------------------|
|                                            |                          |                                      |

(b) Of the total number of new jobs created, please indicate the number and value of new jobs to be created for the following designated groups:

|                                                                   | Total number of new jobs | Total rand value of new jobs |
|-------------------------------------------------------------------|--------------------------|------------------------------|
| Black men                                                         |                          |                              |
| Black women                                                       |                          |                              |
| Black Youth                                                       |                          |                              |
| Black people living in rural or underdeveloped areas or townships |                          |                              |
| Black People with Disabilities                                    |                          |                              |

- (c) Of the total number of new jobs created, please indicate the number of skilled, semi-skilled and unskilled new jobs that will be created over the term of the contract:

|                                                                   | <b>Total number of Skilled jobs</b> | <b>Total number of Semi-skilled jobs</b> | <b>Total number of Unskilled jobs</b> |
|-------------------------------------------------------------------|-------------------------------------|------------------------------------------|---------------------------------------|
| Black men                                                         |                                     |                                          |                                       |
| Black women                                                       |                                     |                                          |                                       |
| Black Youth                                                       |                                     |                                          |                                       |
| Black people living in rural or underdeveloped areas or townships |                                     |                                          |                                       |
| Black People with Disabilities                                    |                                     |                                          |                                       |
| Other                                                             |                                     |                                          |                                       |

- (d) Please indicate the number of new jobs to be created, broken down per quarter over the term of the contract.

| <b>9 Months</b>                                                                          | <b>Week 1</b> | <b>Week 2</b> | <b>Week 3</b> | <b>Week 4</b> |
|------------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|
| Total number of new jobs                                                                 |               |               |               |               |
| Number of new jobs for Black men                                                         |               |               |               |               |
| Number of new jobs for black women                                                       |               |               |               |               |
| Number of new jobs for black youth                                                       |               |               |               |               |
| Number of new jobs for black people living in rural or underdeveloped areas or townships |               |               |               |               |
| Number of new jobs for black People with Disabilities                                    |               |               |               |               |
| Number of new jobs for other categories                                                  |               |               |               |               |
| Number of new skilled jobs                                                               |               |               |               |               |
| Number of new semi-skilled jobs                                                          |               |               |               |               |
| Number of new unskilled jobs                                                             |               |               |               |               |

## 2.2-30: Insurance provided by the Contractor

Clause 84.1 in NEC3 Engineering & Construction Contract (June 2005) (amended June 2006 and April 2013) requires that the Contractor provides the insurance stated in the insurance table except any insurance which the Employer is to provide as stated in the Contract Data.

Please provide the following details for insurance which the Contractor is still to provide. Notwithstanding this information all costs related to insurance are deemed included in the tenderer's rates and prices.

| <b>Insurance against<br/>(See clause 84.2 of the ECC)</b>                                                                                                                                                   | <b>Name of Insurance<br/>Company</b> | <b>Cover</b> | <b>Premium</b> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------|----------------|
| Liability for death of or bodily injury to employees of the Contractor arising out of and in the course of their employment in connection with this contract                                                |                                      |              |                |
| Motor Vehicle Liability Insurance comprising (as a minimum) "Balance of Third Party" Risks including Passenger and Unauthorised Passenger Liability indemnity with a minimum indemnity limit of R5 000 000. |                                      |              |                |
| Insurance in respect of loss of or damage to own property and equipment.                                                                                                                                    |                                      |              |                |
| (Other)                                                                                                                                                                                                     |                                      |              |                |

## T2.2-31: Form of Intent to Provide a Performance Guarantee

It is hereby agreed by the Tenderer that a Performance Guarantee drafted **exactly** as provided in the tender documents will be provided by the Guarantor named below, which is a **bank or insurer registered in South Africa**:

Name of Guarantor

(Bank/Insurer)

Address

The Performance Guarantee shall be provided within **2 (Two)** weeks after the Contract Date defined in the contract unless otherwise agreed to by the parties.

Signed

Name

Capacity

On behalf of (name of  
tenderer)

Date

### Confirmed by Guarantor's Authorised Representative

Signature(s)

Name (print)

Capacity

On behalf of Guarantor  
(Bank/insurer)

Date

## **T2.2-32: Forecast Rate of Invoicing**

Tenderer to submit the forecast rate of invoicing (cash-flow) based on the Tender Price and Tender Programme.

### **Index of documentation attached to this schedule:**

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.....

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.....

## T2.2-33: Three (3) years audited financial statements

Attached to this schedule is the last three (3) years audited financial statements of the single tenderer/members of the Joint Venture.

NAME OF COMPANY/IES and INDEX OF ATTACHMENTS:

.....

.....

.....

.....

.....

.....

.....

.....

**Contractor:**

| Date of audited financial statement | Total Revenue for year |
|-------------------------------------|------------------------|
|                                     | R                      |
|                                     | R                      |
|                                     | R                      |

**Contractor:**

| Date of audited financial statement | Total Revenue for year |
|-------------------------------------|------------------------|
|                                     | R                      |
|                                     | R                      |
|                                     | R                      |

**Contractor:**

| Date of audited financial statement | Total Revenue for year |
|-------------------------------------|------------------------|
|                                     | R                      |
|                                     | R                      |
|                                     | R                      |

**Proposed Sub-contractor 1:**

| Date of audited financial statement | Total Revenue for year |
|-------------------------------------|------------------------|
|                                     | R                      |
|                                     | R                      |
|                                     | R                      |

**Proposed Sub-contractor 2:**

| Date of audited financial statement | Total Revenue for year |
|-------------------------------------|------------------------|
|                                     | R                      |
|                                     | R                      |
|                                     | R                      |

**Proposed Sub-contractor 3:**

| Date of audited financial statement | Total Revenue for year |
|-------------------------------------|------------------------|
|                                     | R                      |
|                                     | R                      |
|                                     | R                      |

**Proposed Sub-contractor 4:**

| Date of audited financial statement | Total Revenue for year |
|-------------------------------------|------------------------|
|                                     | R                      |
|                                     | R                      |
|                                     | R                      |

**Proposed Sub-contractor 5:**

| Date of audited financial statement | Total Revenue for year |
|-------------------------------------|------------------------|
|                                     | R                      |
|                                     | R                      |
|                                     | R                      |

**Proposed Sub-contractor 6:**

| Date of audited financial statement | Total Revenue for year |
|-------------------------------------|------------------------|
|                                     | R                      |
|                                     | R                      |
|                                     | R                      |

**Proposed Sub-contractor 7:**

| Date of audited financial statement | Total Revenue for year |
|-------------------------------------|------------------------|
|                                     | R                      |
|                                     | R                      |
|                                     | R                      |

**Proposed Sub-contractor 8:**

| Date of audited financial statement | Total Revenue for year |
|-------------------------------------|------------------------|
|                                     | R                      |
|                                     | R                      |
|                                     | R                      |

**Proposed Sub-contractor 9:**

| Date of audited financial statement | Total Revenue for year |
|-------------------------------------|------------------------|
|                                     | R                      |
|                                     | R                      |
|                                     | R                      |

## T2.2-34 Supplier Declaration Form

Transnet Vendor Management has received a request to load / change your company details onto the Transnet vendor master database. Please return the completed Supplier Declaration Form (SDF) together with the required supporting documents as per Appendix A to the Transnet Official who is intending to procure your company's services / products, to enable us to process this request. Please only submit the documentation relevant to your request.

**Please Note:** all organisations, institutions and individuals who wish to provide goods and/or services to organs of the State must be registered on the National Treasury's Central Supplier Database (CSD). This needs to be done via their portal at <https://secure.csd.gov.za/> **before applying to Transnet.**

### General Terms and Conditions:

**Please Note:** Failure to submit the relevant documentation will delay the vendor creation / change process.

Where applicable, the respective Transnet Operating Division processing your application may request further or additional information from your company.

The Service Provider warrants that the details of its bank account ("the nominated account") provided herein, are correct and acknowledges that payments due to the Supplier will be made into the nominated account. If details of the nominated account should change, the Service Provider must notify Transnet in writing of such change, failing which any payments made by Transnet into the nominated account will constitute a full discharge of the indebtedness of Transnet to the Supplier in respect of the payment so made. Transnet will incur no liability for any payments made to the incorrect account or any costs associated therewith. In such an event, the Service Provider indemnifies and holds Transnet harmless in respect of any payments made to an incorrect bank account and will, on demand, pay Transnet any costs associated herewith.

Transnet expects its suppliers to timeously renew their Tax Clearance and B-BBEE certificates (Large Enterprises and QSEs less than 51% black owned) as well as sworn affidavits in the case of EMEs and QSEs with more than 51% black ownership as per Appendices C and D.

**In addition, please take note of the following very important information:**

**1. If your annual turnover is R10 million or less**, then in terms of the DTI Generic Codes of Good Practice, you are classified as an Exempted Micro Enterprise (EME). If your company is classified as an EME, please include in your submission a sworn affidavit confirming your company's most recent annual turnover is less than R10 million and percentage of black ownership and black female ownership in the company (Appendix C) OR B-BBEE certificate issued by a verification agency accredited by SANAS in terms of the EME scorecard should you feel you will be able to attain a better B-BBEE score. It is only in this context that an EME may submit a B-BBEE verification certificate. These EME sworn affidavits must be accepted by the . Government introduced this mechanism specifically to reduce the cost of doing business and regulatory burden for these entities and the template for the sworn affidavit is available at no cost on the website [www.thedti.gov.za](http://www.thedti.gov.za) or EME certificates at CIPC from [www.cipic.co.za](http://www.cipic.co.za).

The B-BBEE Commission said "that only time an EME can be verified by a SANAS accredited verification professional is when it wishes to maximise its B-BBEE points and move to a higher B- BBEEE recognition level, and that must be done use the QSE Scorecard".

**2. If your annual turnover is between R10 million and R50 million**, then in terms of the DTI codes, you are classified as a Qualifying Small Enterprise (QSE). A QSE which is at least 51% black owned, is required to submit a sworn affidavit confirming their annual total revenue of between R10 million and R50 million and level of black ownership (Appendix D). QSE 'that does not qualify for 51% of black ownership, are required to submit a B-BBEE verification certificate issued by a verification agency accredited by SANAS their QSEs are required to submit a B-BBEE verification certificate issued by a verification agency accredited by SANAS.

**Please Note:** B-BBEE certificate and detailed scorecard should be obtained from an accredited rating agency (e.g. SANAS Member).

**3. If your annual turnover exceeds R50 million**, then in terms of the DTI codes, you are classified as a Large Enterprise. Large Enterprises are required to submit a B-BBEE level verification certificate issued by a verification agency accredited by SANAS.

**Please Note:** B-BBEE certificate and detailed scorecard should be obtained from an accredited rating agency (e.g. SANAS Member).

**4. The supplier to furnish proof to the procurement department as required in the Fourth Schedule of the Income Tax Act. 58 of 1962** whether a supplier of service is to be classified as an "employee", "personal service provider" or "labour broker". Failure to do so will result in the supplier being subject to employee's tax.

**5. No payments can be made to a vendor until the** vendor has been registered / updated, and no vendor can be registered / updated until the vendor application form, together with its supporting documentation, has been received and processed. No payments can be made to a vendor until the vendor has met / comply with the procurement requirements.

6. It is in line with PPPFA Regulations, only valid B-BBEE status level certificate issued by an unauthorised body or person OR a sworn affidavit as prescribed by the B-BBEE Codes of Good Practice, OR any other requirement prescribed in terms of the Broad- Based Black Economic Empowerment Act.

7. The B-BBEE Commission advises entities and organs of state to reject B-BBEE certificates that have been issued by verification agencies or professionals who are not accredited by South African National Accreditation Systems ("SANAS") as such B-BBEE certificates are invalid for lack of authority and mandate to issue them. A list of SANAS Accredited agencies is available on the SANAS website at [www.sanas.co.za](http://www.sanas.co.za).

8. Presenting banking details. Please note: Banks have decided to enable the customers and provide the ability for customers to generate Account Confirmation/Bank Account letters via their online platform; this is a digital approach to the authentication of banking details.

## SUPPLIER DECLARATION FORM

### Supplier Declaration Form

**Important Notice:** all organisations, institutions and individuals who wish to provide goods and/or services to organs of the State must be registered on the National Treasury Central Supplier Database (CSD). This needs to be done via their portal at <https://secure.csd.gov.za/> **before applying to Transnet.**

CSD Number (MAAA xxxxxxxx):

|                                                          |                              |                        |                       |               |                       |                       |
|----------------------------------------------------------|------------------------------|------------------------|-----------------------|---------------|-----------------------|-----------------------|
| Company Trading Name                                     |                              |                        |                       |               |                       |                       |
| Company Registered Name                                  |                              |                        |                       |               |                       |                       |
| Company Registration No Or ID<br>No If a Sole Proprietor |                              |                        |                       |               |                       |                       |
| Company Income Tax Number                                |                              |                        |                       |               |                       |                       |
| Form of Entity                                           | CC                           | Trust                  | Pty Ltd               | Limited       | Partnership           | Sole Proprietor       |
|                                                          | Non-profit<br>(NPO's or NPC) | Personal Liability Co  | State Owned Co        | National Govt | Provincial Govt       | Local Govt            |
|                                                          | Educational Institution      | Specialised Profession | Financial Institution | Joint Venture | Foreign International | Foreign Branch Office |

|                                                          |                              |                        |                       |               |                       |                       |    |  |
|----------------------------------------------------------|------------------------------|------------------------|-----------------------|---------------|-----------------------|-----------------------|----|--|
| Did your company previously operate under another name?  |                              |                        |                       |               | Yes                   |                       | No |  |
| If <b>YES</b> state the previous details below:          |                              |                        |                       |               |                       |                       |    |  |
| Trading Name                                             |                              |                        |                       |               |                       |                       |    |  |
| Registered Name                                          |                              |                        |                       |               |                       |                       |    |  |
| Company Registration No Or ID<br>No If a Sole Proprietor |                              |                        |                       |               |                       |                       |    |  |
| Form of Entity                                           | CC                           | Trust                  | Pty Ltd               | Limited       | Partnership           | Sole Proprietor       |    |  |
|                                                          | Non-profit<br>(NPO's or NPC) | Personal Liability Co  | State Owned Co        | National Govt | Provincial Govt       | Local Govt            |    |  |
|                                                          | Educational Institution      | Specialised Profession | Financial Institution | Joint Venture | Foreign International | Foreign Branch Office |    |  |

|                                                                                                                                                                                    |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Your Current Company's VAT Registration Status                                                                                                                                     |  |
| VAT Registration Number                                                                                                                                                            |  |
| If <b>Exempted from VAT registration</b> , state reason and submit proof from SARS in confirming the exemption status                                                              |  |
| If your business entity is not VAT Registered, please submit a current original sworn affidavit (see example in Appendix I). Your Non VAT Registration must be confirmed annually. |  |

|                         |  |                     |  |
|-------------------------|--|---------------------|--|
| Company Banking Details |  | Bank Name           |  |
| Universal Branch Code   |  | Bank Account Number |  |

|                             |  |      |  |
|-----------------------------|--|------|--|
| Company Physical Address    |  | Code |  |
| Company Postal Address      |  | Code |  |
| Company Telephone number    |  |      |  |
| Company Fax Number          |  |      |  |
| Company E-Mail Address      |  |      |  |
| Company Website Address     |  |      |  |
| Company Contact Person Name |  |      |  |
| Designation                 |  |      |  |
| Telephone                   |  |      |  |
| Email                       |  |      |  |

|                                                                                                                                                                                               |           |  |           |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--|-----------|--|
| Is your company a Labour Broker?                                                                                                                                                              | Yes       |  | No        |  |
| Main Product / Service Supplied e.g. Stationery / Consulting / Labour etc.                                                                                                                    |           |  |           |  |
| How many personnel does the business employ?                                                                                                                                                  | Full Time |  | Part Time |  |
| Please Note: Should your business employ more than 2 full time employees who are not connected persons as defined in the Income Tax Act, please submit a sworn affidavit, as per Appendix II. |           |  |           |  |

|                                              |                           |  |                                          |  |                                        |  |
|----------------------------------------------|---------------------------|--|------------------------------------------|--|----------------------------------------|--|
| Most recent Financial Year's Annual Turnover | <R10Million<br><b>EME</b> |  | >R10Million<br><R50Million<br><b>QSE</b> |  | >R50Million<br><b>Large Enterprise</b> |  |
|----------------------------------------------|---------------------------|--|------------------------------------------|--|----------------------------------------|--|

|                                                            |  |                                      |  |                                      |          |                         |          |          |          |          |          |          |          |
|------------------------------------------------------------|--|--------------------------------------|--|--------------------------------------|----------|-------------------------|----------|----------|----------|----------|----------|----------|----------|
| Does your company have a valid proof of B-BBEE status?     |  |                                      |  |                                      | Yes      |                         | No       |          |          |          |          |          |          |
| Please indicate your Broad Based BEE status (Level 1 to 9) |  |                                      |  |                                      | <b>1</b> | <b>2</b>                | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> |
| Majority Race of Ownership                                 |  |                                      |  |                                      |          |                         |          |          |          |          |          |          |          |
| % Black Ownership                                          |  | % Black Women Ownership              |  | % Black Disabled person(s) Ownership |          | % Black Youth Ownership |          |          |          |          |          |          |          |
| % Black Unemployed                                         |  | % Black People Living in Rural Areas |  | % Black Military Veterans            |          |                         |          |          |          |          |          |          |          |

**Please Note:** Please provide proof of B-BBEE status as per Appendix C and D:

- Large Enterprise and QSEs with less than 51% black ownership need to obtain a B-BBEE certificate and detailed scorecard from an accredited rating agency;
- EMEs and QSEs with at least 51% black ownership may provide an affidavit using the templates provided in Appendix C and D respectively;
- Black Disabled person(s) ownership will only be accepted if accompanied with a certified letter signed by a physician on the physician's letterhead confirming the disability;
- A certified South African identification document will be required for all Black Youth Ownership.

| Supplier Development Information Required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| <p><b>EMPOWERING SUPPLIER</b></p> <p>An Empowering Supplier is a B-BBEE compliant Entity which complies with at least three criteria if it is a large Entity, or one criterion if it is a Qualifying Small Enterprise ("QSE"), as detailed in Statement 400 of the New Codes.</p> <p>In terms of the requirements of an Empowering Supplier, numerous companies found it challenging to meet the target of 25% transformation of raw materials or beneficiation including local manufacturing, particularly so, if these companies imported goods or products from offshore. The matter was further compounded by the requirement for 25% of Cost of Sales, excluding labour cost and depreciation, to be procured from local producers or suppliers.</p> | <p>YES   <input type="radio"/>   NO   <input type="radio"/></p> |
| <p><b>FIRST TIME SUPPLIER</b></p> <p>A supplier that we haven't as yet Traded within Transnet and will be registered via our database for the 1<sup>st</sup> time.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>YES   <input type="radio"/>   NO   <input type="radio"/></p> |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <p><b>SUPPLIER DEVELOPMENT PLAN</b></p> <p>Supplier Development Plan is a plan that when we as Transnet award a supplier a long term contract depending on the complexity of the Transaction. We will negotiate supplier development obligations that they must meet throughout the contract duration. e.g. we might request that they (create jobs or do skills development or encourage procurement from designated groups. (BWO, BYO &amp; BDO etc.).</p> | <p>YES   <input type="radio"/>   NO   <input type="radio"/></p>                                             |
| <p><b>DEVELOPMENT PLAN DOCUMENT</b></p> <p>Agreed plan that will be crafted with the supplier in regard to their development (It could be for ED OR SD in terms of their developmental needs they may require with the company.</p>                                                                                                                                                                                                                          | <p>YES   <input type="radio"/>   NO   <input type="radio"/></p> <p>*If Yes- Attach supporting documents</p> |
| <p><b>ENTERPRISE DEVELOPMENT BENEFICIARY</b></p> <p>A supplier that is not as yet in our value chain that we are assisting in their developmental area.</p>                                                                                                                                                                                                                                                                                                  | <p>YES   <input type="radio"/>   NO   <input type="radio"/></p>                                             |
| <p><b>SUPPLIER DEVELOPMENT BENEFICIARY</b></p> <p>A supplier that we are already doing business with or transacting with and we are also assisting them assisting them in their developmental area e.g. (They might require training or financial assistance etc.)</p>                                                                                                                                                                                       | <p>YES   <input type="radio"/>   NO   <input type="radio"/></p>                                             |
| <p><b>GRADUATION FROM ED TO SD BENEFICIARY</b></p> <p>When a supplier that we assisted with as an ED beneficiary then gets awarded a business and we start Transacting with.</p>                                                                                                                                                                                                                                                                             | <p>YES   <input type="radio"/>   NO   <input type="radio"/></p>                                             |



|                                                                                                                                                          |                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <p><b>ENTERPRISE DEVELOPMENT RECIPIENT</b></p> <p>A supplier that isn't in our value chain as yet, but we have assisted them with an ED intervention</p> | <p>YES    <input type="radio"/>    NO    <input type="radio"/></p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|

|                                                                                                                                                                                                                 |  |             |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------|--|
| <p><b>By signing below, I hereby verify that I am duly authorised to sign for and on behalf of firm / organisation and that all information contained herein and attached herewith are true and correct</b></p> |  |             |  |
| Name and Surname                                                                                                                                                                                                |  | Designation |  |
| Signature                                                                                                                                                                                                       |  | Date        |  |

## APPENDIX B

Affidavit or Solemn Declaration as to VAT registration status

### Affidavit or Solemn Declaration

I, \_\_\_\_\_ solemnly swear/declare  
that \_\_\_\_\_ is not a registered VAT  
vendor and is not required to register as a VAT vendor because the combined value of taxable supplies  
made by the provider in any 12-month period has not exceeded or is not expected to exceed R1million  
threshold, as required in terms of the Value Added Tax Act.

Signature: \_\_\_\_\_

Designation: \_\_\_\_\_

Date: \_\_\_\_\_

### Commissioner of Oaths

Thus signed and sworn to before me at \_\_\_\_\_ on this the \_\_\_\_\_  
day of \_\_\_\_\_ 20\_\_\_\_,

the Deponent having knowledge that he/she knows and understands the contents of this Affidavit,  
and that he/she has no objection to taking the prescribed oath, which he/she regards binding on  
his/her conscience and that the allegations herein contained are all true and correct.

\_\_\_\_\_  
Commissioner of Oaths

## APPENDIX C

### SWORN AFFIDAVIT – B-BBEE QUALIFYING SMALL ENTERPRISE – GENERAL

I, the undersigned,

|                                |  |
|--------------------------------|--|
| <b>Full name &amp; Surname</b> |  |
| <b>Identity number</b>         |  |

Hereby declare under oath as follows:

1. The contents of this statement are to the best of my knowledge a true reflection of the facts.
2. I am a Member / Director / Owner of the following enterprise and am duly authorised to act on its behalf:

|                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Enterprise Name:</b>                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Trading Name (If Applicable):</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Registration Number:</b>                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Enterprise Physical Address:</b>                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Type of Entity (CC, (Pty) Ltd, Sole Prop etc.):</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Nature of Business:</b>                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Definition of "Black People"</b>                    | <p>As per the Broad-Based Black Economic Empowerment Act 53 of 2003 as Amended by Act No 46 of 2013 "Black People" is a generic term which means Africans, Coloureds and Indians –</p> <p>(a) who are citizens of the Republic of South Africa by birth or descent; or</p> <p>(b) who became citizens of the Republic of South Africa by naturalisation-</p> <p>i. before 27 April 1994; or</p> <p>ii. on or after 27 April 1994 and who would have been entitled to acquire citizenship by naturalization prior to that date;"</p> |
| <b>Definition of "Black"</b>                           | Black Designated Groups means:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Designated Groups"</b> | <p>(a) unemployed black people not attending and not required by law to attend an educational institution and not awaiting admission to an educational institution;</p> <p>(b) Black people who are youth as defined in the National Youth Commission Act of 1996;</p> <p>(c) Black people who are persons with disabilities as defined in the Code of Good Practice on employment of people with disabilities issued under the Employment Equity Act;</p> <p>(d) Black people living in rural and underdeveloped areas;</p> <p>(e) Black military veterans who qualifies to be called a military veteran in terms of the Military Veterans Act 18 of 2011;"</p> |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

3. I hereby declare under Oath that:

- The Enterprise is \_\_\_\_\_% Black Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- The Enterprise is \_\_\_\_\_% Black Female Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- The Enterprise is \_\_\_\_\_% Black Designated Group Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- Black Designated Group Owned % Breakdown as per the definition stated above:
- Black Youth % = \_\_\_\_\_%
- Black Disabled % = \_\_\_\_\_%
- Black Unemployed % = \_\_\_\_\_%
- Black People living in Rural areas % = \_\_\_\_\_%
- Black Military Veterans % = \_\_\_\_\_%
- Based on the Financial Statements/Management Accounts and other information available on the latest financial year-end of \_\_\_\_\_, the annual Total Revenue was between R10,000,000.00 (Ten Million Rands) and R50,000,000.00 (Fifty Million Rands),



- Please confirm on the table below the B-BBEE level contributor, **by ticking the applicable box.**

|                          |                                                              |  |
|--------------------------|--------------------------------------------------------------|--|
| 100% Black Owned         | <b>Level One</b> (135% B-BBEE procurement recognition level) |  |
| At Least 51% black owned | <b>Level Two</b> (125% B-BBEE procurement recognition level) |  |

4. I know and understand the contents of this affidavit and I have no objection to take the prescribed oath and consider the oath binding on my conscience and on the owners of the enterprise which I represent in this matter.

5. The sworn affidavit will be valid for a period of 12 months from the date signed by commissioner.

### Deponent Signature

.....

**Date** .....

\_\_\_\_\_  
**Commissioner of Oaths**

Signature & stamp

**SWORN AFFIDAVIT – B-BBEE EXEMPTED MICRO ENTERPRISE – GENERAL**

I, the undersigned,

|                                |  |
|--------------------------------|--|
| <b>Full name &amp; Surname</b> |  |
| <b>Identity number</b>         |  |

Hereby declare under oath as follows:

1. The contents of this statement are to the best of my knowledge a true reflection of the facts.
2. I am a Member / Director / Owner of the following enterprise and am duly authorised to act on its behalf:

|                                                        |                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Enterprise Name:</b>                                |                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Trading Name (If Applicable):</b>                   |                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Registration Number:</b>                            |                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Enterprise Physical Address:</b>                    |                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Type of Entity (CC, (Pty) Ltd, Sole Prop etc.):</b> |                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Nature of Business:</b>                             |                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Definition of "Black People"</b>                    | <p>As per the Broad-Based Black Economic Empowerment Act 53 of 2003 as Amended by Act No 46 of 2013 "Black People" is a generic term which means Africans, Coloureds and Indians –</p> <p>(a) who are citizens of the Republic of South Africa by birth or descent;</p> <p>or</p> <p>(b) who became citizens of the Republic of South Africa by naturalisation-</p> |

|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                | <p>i. before 27 April 1994; or</p> <p>ii. on or after 27 April 1994 and who would have been entitled to acquire citizenship by naturalization prior to that date;”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Definition of “Black Designated Groups”</b> | <p>“Black Designated Groups means:</p> <p>(a) unemployed black people not attending and not required by law to attend an educational institution and not awaiting admission to an educational institution;</p> <p>(b) Black people who are youth as defined in the National Youth Commission Act of 1996;</p> <p>(c) Black people who are persons with disabilities as defined in the Code of Good Practice on employment of people with disabilities issued under the Employment Equity Act;</p> <p>(d) Black people living in rural and under developed areas;</p> <p>(e) Black military veterans who qualifies to be called a military veteran in terms of the Military Veterans Act 18 of 2011;”</p> |

3. I hereby declare under Oath that:

- The Enterprise is \_\_\_\_\_ % Black Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- The Enterprise is \_\_\_\_\_ % Black Female Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- The Enterprise is \_\_\_\_\_ % Black Designated Group Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- Black Designated Group Owned % Breakdown as per the definition stated above:
- Black Youth % = \_\_\_\_\_ %
- Black Disabled % = \_\_\_\_\_ %
- Black Unemployed % = \_\_\_\_\_ %
- Black People living in Rural areas % = \_\_\_\_\_ %



- Black Military Veterans % = \_\_\_\_\_%
- Based on the Financial Statements/Management Accounts and other information available on the latest financial year-end of \_\_\_\_\_, the annual Total Revenue was R10,000,000.00 (Ten Million Rands) or less
- Please Confirm on the below table the B-BBEE Level Contributor, **by ticking the applicable box.**

|                           |                                                               |  |
|---------------------------|---------------------------------------------------------------|--|
| 100% Black Owned          | <b>Level One</b> (135% B-BBEE procurement recognition)        |  |
| At least 51% Black Owned  | <b>Level Two</b> (125% B-BBEE procurement recognition level)  |  |
| Less than 51% Black Owned | <b>Level Four</b> (100% B-BBEE procurement recognition level) |  |

4. I know and understand the contents of this affidavit and I have no objection to take the prescribed oath and consider the oath binding on my conscience and on the Owners of the Enterprise which I represent in this matter.

5. The sworn affidavit will be valid for a period of 12 months from the date signed by commissioner.

**Deponent Signature .....**

**Date .....**

\_\_\_\_\_  
**Commissioner of Oaths**

Signature & stamp

## VENDOR REGISTRATION DOCUMENTS CHECKLIST

**Please note that you will have to provide the first two documents on the list (highlighted in red) and the rest will be provided by the supplier:**

|                                                                                                                                                            | Yes | No |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| 1. Complete the "Supplier Declaration Form" (SDF) (commissioned). See attachment.                                                                          |     |    |
| 2. Complete the "Supplier Code of Conduct" (SCC). See attachment.                                                                                          |     |    |
| 3. Copy of cancelled cheque OR letter from the bank verifying banking details (with <b>bank stamp not older than 3 Months &amp; sign by Bank Teller</b> ). |     |    |
| 4. Certified ( <b>Not Older than 3 Months</b> ) copy of Identity document of Shareholders/Directors/Members (where applicable).                            |     |    |
| 5. Certified copy of certificate of incorporation, CM29 / CM9 (name change).                                                                               |     |    |
| 6. Certified copy of share Certificates of Shareholders, CK1 / CK2 (if CC).                                                                                |     |    |
| 7. A letter with the company's letterhead confirming both <b>Physical</b> and <b>Postal</b> address.                                                       |     |    |
| 8. Original or certified copy of SARS Tax Clearance certificate and Vat registration certificate.                                                          |     |    |
| 9. BBBEE certificate and detailed scorecard from a <b>SANAS</b> Accredited Verification Agency and/or Sworn Certified Affidavit.                           |     |    |
| 10. Central Supplier Database (CSD) Summary Registration Report.                                                                                           |     |    |

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# **The Contract**

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## **Part C1: Agreements and Contract Data**

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## **C1.1: Form of Offer and Acceptance**

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## C1.1: Form of Offer & Acceptance

### Offer

The Employer, identified in the Acceptance signature block, has solicited offers has solicited to enter into a contract for the procurement of:

### **The Upgrade of the Workshop at the Waterfront in the Port of Richards Bay, Phase 1 for the period of nine (9) months**

The tenderer, identified in the Offer signature block, has examined the documents listed in the Tender Data and addenda thereto as listed in the Returnable Schedules, and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance, the tenderer offers to perform all of the obligations and liabilities of the Contractor under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the Contract Data.

|                                                     |          |
|-----------------------------------------------------|----------|
| The offered total of the Prices exclusive of VAT is | <b>R</b> |
| Value Added Tax @ 15% is                            | <b>R</b> |
| The offered total of the Prices inclusive of VAT is | <b>R</b> |
| (in words)                                          |          |

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document including the Schedule of Deviations (if any) to the tenderer before the end of the period of validity stated in the Tender Data, or other period as agreed, whereupon the tenderer becomes the party named as the Contractor in the conditions of contract identified in the Contract Data.

Signature(s)

Name(s)

Capacity

**For the  
tenderer:**

(Insert name and address  
of organisation)

Name &  
signature of  
witness

Date

Tenderer's CIDB registration number:



## Acceptance

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the conditions of contract identified in the Contract Data. Acceptance of the tenderer's Offer shall form an agreement between the Employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement. The terms of the contract, are contained in:

|         |                                                                                  |
|---------|----------------------------------------------------------------------------------|
| Part C1 | Agreements and Contract Data, (which includes this Form of Offer and Acceptance) |
| Part C2 | Pricing Data                                                                     |
| Part C3 | Scope of Work: Works Information                                                 |
| Part C4 | Site Information                                                                 |

and drawings and documents (or parts thereof), which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Returnable Schedules as well as any changes to the terms of the Offer agreed by the tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Form of Offer and Acceptance. No amendments to or deviations from said documents are valid unless contained in this Schedule.

The tenderer shall within two weeks of receiving a completed copy of this agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the Contract Data at, or just after, the date this agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any).

Unless the tenderer (now Contractor) within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the Parties.

Signature(s) .....

Name(s) .....

Capacity .....

**for the Employer**  
Name & signature of  
(Insert name and address of organisation)  
Date

witness .....

## Schedule of Deviations

Note:

1. To be completed by the Employer prior to award of contract. This part of the Offer & Acceptance would not be required if the contract has been developed by negotiation between the Parties and is not the result of a process of competitive tendering.
2. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender.
3. A tenderer's covering letter must not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid be the subject of agreement reached during the process of Offer and Acceptance, the outcome of such agreement shall be recorded here, and the final draft of the contract documents shall be revised to incorporate the effect of it.

| No. | Subject | Details |
|-----|---------|---------|
| 1   |         |         |
| 2   |         |         |
| 3   |         |         |
| 4   |         |         |
| 5   |         |         |

By the duly authorised representatives signing this Schedule of Deviations below, the Employer and the tenderer agree to and accept this Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules, as well as any confirmation, clarification or changes to the terms of the Offer agreed by the tenderer and the Employer during this process of Offer and Acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this Form shall have any meaning or effect in the contract between the parties arising from this Agreement.

### For the tenderer:

### For the Employer

|                             |                                           |                  |
|-----------------------------|-------------------------------------------|------------------|
| Signature                   | _____                                     | _____            |
| Name                        | _____                                     | _____            |
| Capacity                    | _____                                     | _____            |
| On behalf of                | (Insert name and address of organisation) | Transnet SOC Ltd |
| Name & signature of witness | _____                                     | _____            |
| Date                        | _____                                     | _____            |

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## **C1.2: Contract Data Part 1 and 2**

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## C1.2: Contract Data

### Part one - Data provided by the Employer

| Clause | Statement                                                                                                                                                | Data                                                                                                                                                                                                                                                                                                        |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | <b>General</b><br>The conditions of contract are the core clauses and the clauses for main Option<br><br>dispute resolution Option and secondary Options | <b>B: Priced contract with bill of quantities</b><br><b>W1: Dispute resolution procedure</b><br><br><b>X2 Changes in the law</b><br><b>X7: Delay damages</b><br><b>X13: Performance Bond</b><br><b>X16: Retention</b><br><b>X18: Limitation of liability</b><br><b>Z: Additional conditions of contract</b> |
|        | of the NEC3 Engineering and Construction Contract June 2005 (amended June 2006 and April 2013)                                                           |                                                                                                                                                                                                                                                                                                             |

|          |                                                                              |                                                                                                                                                                  |
|----------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.1     | The Employer is:                                                             | <b>Transnet SOC Ltd</b><br><b>(Registration No. 1990/000900/30)</b>                                                                                              |
|          | Address                                                                      | Registered address:<br><b>Transnet Corporate Centre</b><br><b>138 Eloff Street,</b><br><b>Braamfontein,</b><br><b>JOHANNESBURG,</b><br><b>2000</b>               |
|          | Having elected its Contractual Address for the purposes of this contract as: | <b>Transnet National Ports Authority</b><br><b>Venture Road, 1st Floor, Open plan,</b><br><b>Bayvue Building, Port of</b><br><b>Richards Bay,</b><br><b>3900</b> |
| 10.1     | The Project Manager is:                                                      | <b>TBA</b>                                                                                                                                                       |
|          | (Name)                                                                       |                                                                                                                                                                  |
|          | Address                                                                      | <b>Transnet National Ports Authority</b><br><b>Pioneer Centre, San Thom Road, Port of</b><br><b>Richards Bay,</b><br><b>3900</b>                                 |
|          | Tel                                                                          | <b>TBA</b>                                                                                                                                                       |
|          | e-mail                                                                       | <b><a href="#">TBA</a></b>                                                                                                                                       |
| 10.1     | The Supervisor is: (Name)                                                    | <b>TBA</b>                                                                                                                                                       |
|          | Address                                                                      | <b>Transnet National Ports Authority</b><br><b>Pioneer Centre, San Thom Road, Port of</b><br><b>Richards Bay,</b><br><b>3900</b>                                 |
|          | Tel No.                                                                      | <b>TBA</b>                                                                                                                                                       |
|          | e-mail                                                                       | <b><a href="#">TBA</a></b>                                                                                                                                       |
| 11.2(13) | The works are                                                                | <b>The Upgrade of the Workshop at the Waterfront at the Port of Richards Bay, Phase 1</b>                                                                        |
| 11.2(14) | The following matters will be included in the Risk Register                  | <b>None</b>                                                                                                                                                      |
| 11.2(15) | The boundaries of the site are                                               | <b>As stated in Part C4.1." Description of the Site and it's surroundings"</b>                                                                                   |
| 11.2(16) | The Site Information is in                                                   | <b>Part C4</b>                                                                                                                                                   |
| 11.2(19) | The Works Information is in                                                  | <b>Part C3</b>                                                                                                                                                   |
| 12.2     | The law of the contract is the law of                                        | <b>the Republic of South Africa subject to the jurisdiction of the Courts of South Africa.</b>                                                                   |
| 13.1     | The language of this contract is                                             | <b>English</b>                                                                                                                                                   |
| 13.3     | The period for reply is                                                      | <b>2 weeks</b>                                                                                                                                                   |
| <b>2</b> | <b>The Contractor's main responsibilities</b>                                | <b>No additional data is required for this section of the conditions of contract.</b>                                                                            |

|          |                                                                                                              |                                                                                                                                                                                                                                                                                                               |                      |
|----------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <b>3</b> | <b>Time</b>                                                                                                  |                                                                                                                                                                                                                                                                                                               |                      |
| 11.2(3)  | The completion date for the whole of the works is                                                            | <b>29 November 2024</b>                                                                                                                                                                                                                                                                                       |                      |
| 30.1     | The access dates are                                                                                         | <b>Part of the Site</b>                                                                                                                                                                                                                                                                                       | <b>Access Date</b>   |
|          |                                                                                                              | <b>1 Whole of the Works</b>                                                                                                                                                                                                                                                                                   | <b>04 March 2024</b> |
| 31.1     | The Contractor is to submit a first programme for acceptance within                                          | <b>2 weeks of the Contract Date.</b>                                                                                                                                                                                                                                                                          |                      |
| 31.2     | The starting date is                                                                                         | <b>19 February 2024</b>                                                                                                                                                                                                                                                                                       |                      |
| 32.2     | The Contractor submits revised programmes at intervals no longer than                                        | <b>2 weeks.</b>                                                                                                                                                                                                                                                                                               |                      |
| 35.1     | The Employer is not willing to take over the works before the Completion Date.                               |                                                                                                                                                                                                                                                                                                               |                      |
| <b>4</b> | <b>Testing and Defects</b>                                                                                   |                                                                                                                                                                                                                                                                                                               |                      |
| 42.2     | The defects date is                                                                                          | <b>52 (fifty-two) weeks after Completion of the whole of the works.</b>                                                                                                                                                                                                                                       |                      |
| 43.2     | The defect correction period is                                                                              | <b>2 weeks</b>                                                                                                                                                                                                                                                                                                |                      |
| <b>5</b> | <b>Payment</b>                                                                                               |                                                                                                                                                                                                                                                                                                               |                      |
| 50.1     | The assessment interval is monthly on the                                                                    | <b>25<sup>th</sup> (twenty-five) day of each successive month.</b>                                                                                                                                                                                                                                            |                      |
| 51.1     | The currency of this contract is the                                                                         | <b>South African Rand.</b>                                                                                                                                                                                                                                                                                    |                      |
| 51.2     | The period within which payments are made is                                                                 | <b>Payment will be affected on or before the last day of the month following the month during which a valid Tax Invoice and Statement were received.</b>                                                                                                                                                      |                      |
| 51.4     | The interest rate is                                                                                         | <b>the prime lending rate of Standard Bank of South Africa.</b>                                                                                                                                                                                                                                               |                      |
| <b>6</b> | <b>Compensation events</b>                                                                                   |                                                                                                                                                                                                                                                                                                               |                      |
| 60.1(13) | The weather measurements to be recorded for each calendar month are,                                         | <b>the cumulative rainfall (mm)</b><br><br><b>the number of days with rainfall more than 10 mm</b><br><b>the number of days with minimum air temperature less than 0 degrees Celsius</b><br><b>the number of days with snow lying at 08:00 hours South African Time</b><br><b>and these measurements: N/a</b> |                      |
|          | The place where weather is to be recorded (on the Site) is: The weather data are the records of past weather | <b>The Contractor's Site establishment area</b>                                                                                                                                                                                                                                                               |                      |

|          |                                                                                               |                                                                                                                                                                                                                                                                                                                                       |
|----------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | measurements for each calendar month which were recorded at:<br>and which are available from: | <b>Richards Bay, KwaZulu Natal</b><br><br><b>South African Weather Service 012 367 6023 or <a href="mailto:info3@weathersa.co.za">info3@weathersa.co.za</a>.</b>                                                                                                                                                                      |
| <b>7</b> | <b>Title</b>                                                                                  | <b>No additional data is required for this section of the conditions of contract.</b>                                                                                                                                                                                                                                                 |
| <b>8</b> | <b>Risks and insurance</b>                                                                    |                                                                                                                                                                                                                                                                                                                                       |
| 80.1     | These are additional Employer's risks                                                         | <b>None</b>                                                                                                                                                                                                                                                                                                                           |
| 84.1     | The Employer provides these insurances from the Insurance Table                               |                                                                                                                                                                                                                                                                                                                                       |
|          | 1 Insurance against:                                                                          | <b>Loss of or damage to the works, Plant and Materials is as stated in the Insurance policy for Contract Works/ Public Liability.</b>                                                                                                                                                                                                 |
|          | Cover / indemnity:                                                                            | <b>to the extent as stated in the insurance policy for Contract Works / Public Liability</b>                                                                                                                                                                                                                                          |
|          | The deductibles are:                                                                          | <b>as stated in the insurance policy for Contract Works / Public Liability</b>                                                                                                                                                                                                                                                        |
|          | 2 Insurance against:                                                                          | <b>Loss of or damage to property (except the works, Plant and Materials &amp; Equipment) and liability for bodily injury to or death of a person (not an employee of the Contractor) arising out of or in connection with the performance of the Contract as stated in the insurance policy for Contract Works / Public Liability</b> |
|          | Cover / indemnity                                                                             | <b>Is to the extent as stated in the insurance policy for Contract Works / Public Liability</b>                                                                                                                                                                                                                                       |
|          | The deductibles are                                                                           | <b>as stated in the insurance policy for Contract Works / Public Liability</b>                                                                                                                                                                                                                                                        |
|          | 3 Insurance against:                                                                          | <b>Loss of or damage to Equipment (Temporary Works only) as stated in the insurance policy for contract Works and Public Liability</b>                                                                                                                                                                                                |
|          | Cover / indemnity                                                                             | <b>Is to the extent as stated in the insurance policy for Contract Works / Public Liability</b>                                                                                                                                                                                                                                       |
|          | The deductibles are:                                                                          | <b>As stated in the insurance policy for Contract Works / Public Liability</b>                                                                                                                                                                                                                                                        |
|          | 4 Insurance against:                                                                          | <b>Contract Works SASRIA insurance subject to the terms, exceptions and conditions of the SASRIA coupon</b>                                                                                                                                                                                                                           |

|      |                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | Cover / indemnity                                                                                                                                                                                                                                                                                | <b>Cover / indemnity is to the extent provided by the SASRIA coupon</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|      | The deductibles are                                                                                                                                                                                                                                                                              | <b>The deductibles are, in respect of each and every theft claim, 0,1% of the contract value subject to a minimum of R2,500 and a maximum of R25,000.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|      | Note:                                                                                                                                                                                                                                                                                            | <b>The deductibles for the insurance as stated above are listed in the document titled "Certificate of Insurance: Transnet (SOC) Limited Principal Controlled Insurance."</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 84.1 | <p>The minimum limit of indemnity for insurance in respect of death of or bodily injury to employees of the Contractor arising out of and in the course of their employment in connection with this contract for any one event is</p> <p>The Contractor provides these additional Insurances</p> | <p><b>The Contractor must comply at a minimum with the provisions of the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 as amended.</b></p> <ol style="list-style-type: none"> <li><b>1 Where the contract requires that the design of any part of the works shall be provided by the Contractor the Contractor shall satisfy the Employer that professional indemnity insurance cover in connection therewith has been affected</b></li> <li><b>2 Where the contract involves manufacture, and/or fabrication of Plant &amp; Materials, components or other goods to be incorporated into the works at premises other than the site, the Contractor shall satisfy the Employer that such plant &amp; materials, components or other goods for incorporation in the works are adequately insured during manufacture and/or fabrication and transportation to the site.</b></li> <li><b>3 Should the Employer have an insurable interest in such items during manufacture, and/or fabrication, such interest shall be noted by endorsement to the Contractor's policies of insurance as well as those of any sub-contractor</b></li> <li><b>4 Motor Vehicle Liability Insurance comprising (as a minimum) "Balance of Third Party" Risks including Passenger and Unauthorised Passenger Liability indemnity with a minimum indemnity limit of R 5 000 000.</b></li> </ol> |

- 5 The insurance coverage referred to in 1, 2, 3 and 4 above shall be obtained from an insurer(s) in terms of an insurance policy approved by the Employer. The Contractor shall arrange with the insurer to submit to the Project Manager the original and the duplicate original of the policy or policies of insurance and the receipts for payment of current premiums, together with a certificate from the insurer or insurance broker concerned, confirming that the policy or policies provide the full coverage as required. The original policy will be returned to the Contractor.**

|      |                                                                                                                                                                                                                                                                                                                  |                                                                                                                             |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 84.2 | The minimum limit of indemnity for insurance in respect of loss of or damage to property (except the works, Plant, Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the Contractor) caused by activity in connection with this contract for any one event is | <b>Whatever the Contractor requires in addition to the amount of insurance taken out by the Employer for the same risk.</b> |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|

|      |                                                                                                                                                                    |                                             |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| 84.3 | The insurance against loss of or damage to the works, Plant and Materials as stated in the insurance policy for contract works and public liability selected from: | <b>Principal Controlled Insurance (PCI)</b> |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|

|           |                                                |                                                                                                                               |
|-----------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>9</b>  | <b>Termination</b>                             | <b>Additional Conditions of Contract Clause Z3</b>                                                                            |
| <b>10</b> | <b>Data for main Option clause</b>             |                                                                                                                               |
| <b>B</b>  | <b>Priced contract with Bill of Quantities</b> | <b>No additional data is required for this Option.</b>                                                                        |
| 60.6      | The method of measurement is                   | <b>The Bill of Quantities have been measured in accordance with the standard system of measuring building works SANS 1200</b> |

**11 Data for Option W1**

|              |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                   |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W1.1         | The Adjudicator is                                                                                                                                                                                                                                                       | <b>Both parties will agree as and when a dispute arises. If the parties cannot reach an agreement on the Adjudicator, the Chairman of the Association of Arbitrators will appoint an Adjudicator.</b>                                             |
| W1.2(3)      | The Adjudicator nominating body is:<br>If no Adjudicator nominating body is entered, it is:                                                                                                                                                                              | <b>The Chairman of the Association of Arbitrators (Southern Africa)</b><br><b>the Association of Arbitrators (Southern Africa)</b>                                                                                                                |
| W1.4(2)      | The tribunal is:                                                                                                                                                                                                                                                         | <b>Arbitration</b>                                                                                                                                                                                                                                |
| W1.4(5)      | The arbitration procedure is<br><br>The place where arbitration is to be held is<br>The person or organisation who will choose an arbitrator<br>- if the Parties cannot agree a choice or<br>- if the arbitration procedure does not state who selects an arbitrator, is | <b>The Rules for the Conduct of Arbitrations of the Association of Arbitrators (Southern Africa)</b><br><b>Richards Bay, Kwazulu Natal, South Africa, South Africa</b><br><b>The Chairman of the Association of Arbitrators (Southern Africa)</b> |
| <b>12</b>    | <b>Data for secondary Option clauses</b>                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                   |
| <b>X2</b>    | <b>Changes in the law</b>                                                                                                                                                                                                                                                | <b>No additional data is required for this Option</b>                                                                                                                                                                                             |
| X2.1         | The law of the project is                                                                                                                                                                                                                                                | <b>South African Law</b>                                                                                                                                                                                                                          |
| <b>X7</b>    | <b>Delay damages</b>                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                   |
| X7.1         | Delay damages for Completion of the whole of the works are                                                                                                                                                                                                               | <b>R10 000 per day</b>                                                                                                                                                                                                                            |
| <b>X13</b>   | <b>Performance bond</b>                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                   |
| X13.1        | The amount of the performance bond is                                                                                                                                                                                                                                    | <b>5% of the offered total of the Prices (including VAT)</b>                                                                                                                                                                                      |
| <b>X16</b>   | <b>Retention</b>                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                   |
| X16.1        | The retention free amount is                                                                                                                                                                                                                                             | <b>Nil</b>                                                                                                                                                                                                                                        |
|              | The retention percentage is                                                                                                                                                                                                                                              | <b>10% on all payments certified.</b>                                                                                                                                                                                                             |
| <b>X18</b>   | <b>Limitation of liability</b>                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                   |
| <b>X18.1</b> | The Contractor's liability to the Employer for indirect or consequential loss is limited to:                                                                                                                                                                             | <b>Nil</b>                                                                                                                                                                                                                                        |

|              |                                                                                                                                                                                                                                                                                                                                         |                                                           |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| <b>X18.2</b> | For any one event, the Contractor's liability to the Employer for loss of or damage to the Employer's property is limited to:                                                                                                                                                                                                           | <b>The deductible of the relevant insurance policy</b>    |
| <b>X18.3</b> | The Contractor's liability for Defects due to his design which are not listed on the Defects Certificate is limited to:                                                                                                                                                                                                                 | <b>The cost of correcting the Defect</b>                  |
| <b>X18.4</b> | The Contractor's total liability to the Employer for all matters arising under or in connection with this contract, other than excluded matters, is limited to:                                                                                                                                                                         | <b>The Total of the Prices</b>                            |
| <b>X18.5</b> | The end of liability date is                                                                                                                                                                                                                                                                                                            | <b>5 years after Completion of the whole of the works</b> |
| <b>Z</b>     | <b><i>Additional conditions of contract are:</i></b>                                                                                                                                                                                                                                                                                    |                                                           |
| <b>Z1</b>    | <b>Additional clause relating to Performance Bonds and/or Guarantees</b>                                                                                                                                                                                                                                                                |                                                           |
| <b>Z1.1</b>  | <b>The Performance Guarantee under X13 above shall be an irrevocable, on-demand performance guarantee, to be issued exactly in the form of the Pro Forma documents provided for this purpose under C1.3 (Forms of Securities), in favour of the Employer by a financial institution reasonably acceptable to the Employer.</b>          |                                                           |
| <b>Z2</b>    | <b>Additional clauses relating to Joint Venture</b>                                                                                                                                                                                                                                                                                     |                                                           |
| <b>Z2.1</b>  | <b>Insert the additional core clause 27.5</b>                                                                                                                                                                                                                                                                                           |                                                           |
|              | <b>27.5. In the instance that the Contractor is a joint venture, the Contractor shall provide the Employer with a certified copy of its signed joint venture agreement, and in the instance that the joint venture is an 'Incorporated Joint Venture,' the Memorandum of Incorporation, within 4 (four) weeks of the Contract Date.</b> |                                                           |

**The Joint Venture agreement shall contain but not be limited to the following:**

- **A brief description of the Contract and the Deliverables;**
- **The name, physical address, communications addresses and domicilium citandi et executandi of each of the constituents and of the Joint Venture;**
- **The constituent's interests;**
- **A schedule of the insurance policies, sureties, indemnities and guarantees which must be taken out by the Joint Venture and by the individual constituents;**
- **Details of an internal dispute resolution procedure;**
- **Written confirmation by all of the constituents:**
  - i. **of their joint and several liabilities to the Employer to Provide the Works;**
  - ii. **identification of the lead partner in the joint venture confirming the authority of the lead partner to bind the joint venture through the Contractor's representative;**
  - iii. **Identification of the roles and responsibilities of the constituents to provide the Works.**
- **Financial requirements for the Joint Venture:**
  - iv. **the working capital requirements for the Joint Venture and the extent to which and manner whereby this will be provided and/or guaranteed by the constituents from time to time;**
  - v. **the names of the auditors and others, if any, who will provide auditing and accounting services to the Joint Venture.**

## **Z2.2**

**Insert additional core clause 27.6**

|             |                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                      | <b>27.6. The Contractor shall not alter its composition or legal status of the Joint Venture without the prior approval of the Employer.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Z3</b>   | <b>Additional obligations in respect of Termination</b>              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Z3.1</b> |                                                                      | <p>The following will be included under core clause 91.1:</p> <p>In the second main bullet, after the word 'partnership' add 'joint venture whether incorporate or otherwise (including any constituent of the joint venture)' and</p> <p>Under the second main bullet, insert the following additional bullets after the last sub-bullet:</p> <ul style="list-style-type: none"> <li>• commenced business rescue proceedings (R22)</li> <li>• repudiated this Contract (R23)</li> </ul>                                                                                                                                                          |
| <b>Z3.2</b> | <b>Termination Table</b>                                             | <p>The following will be included under core clause 90.2 Termination Table as follows:</p> <p>Amend "A reason other than R1 – R21" to "A reason other than R1 – R23"</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Z3.3</b> |                                                                      | Amend "R1 – R15 or R18" to "R1 – R15, R18, R22 or R23."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Z4</b>   | <b>Right Reserved by the Employer to Conduct Vetting through SSA</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Z4.1</b> |                                                                      | <p>The Employer reserves the right to conduct vetting through State Security Agency (SSA) for security clearances of any Contractor who has access to National Key Points for the following without limitations:</p> <ol style="list-style-type: none"> <li>1. Confidential – this clearance is based on any information which may be used by malicious, opposing or hostile elements to harm the objectives and functions of an organ of state.</li> <li>2. Secret – clearance is based on any information which may be used by malicious, opposing or hostile elements to disrupt the objectives and functions of an organ of state.</li> </ol> |

**3. Top Secret – this clearance is based on information which may be used by malicious, opposing or hostile elements to neutralise the objectives and functions of an organ of state.**

|             |                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Z5</b>   | <b>Additional Clause<br/>Relating to Collusion in<br/>the Construction<br/>Industry</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Z5.1</b> |                                                                                         | <b>The contract award is made without prejudice to any rights the Employer may have to take appropriate action later with regard to any declared tender rigging including blacklisting.</b>                                                                                                                                                                                                                                                          |
| <b>Z6</b>   | <b>Protection of Personal<br/>Information Act</b>                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Z6.1</b> |                                                                                         | <b>The Employer and the Contractor are required to process information obtained for the duration of the Agreement in a manner that is aligned to the Protection of Personal Information Act.</b>                                                                                                                                                                                                                                                     |
| <b>Z7</b>   | <b>The first assessment<br/>interval</b>                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Z7.1</b> |                                                                                         | <b>In the event the Contractor is not loaded on the Employers data base, the Project Manager's first assessment of the amount due will be done once the Contractor has been successfully loaded as a vendor on the Employers data base following submitting all valid updated documents. Therefore, on NEC ECC Clause 50.1 the following text is removed in its entirety "and is no later than the assessment interval after the starting date".</b> |
| <b>Z9</b>   | <b>Obligations in respect of<br/>Subcontracting</b>                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Z9.1</b> |                                                                                         | <b>The <i>Contractor's</i> Subcontracting percentage as detailed in the tender submission Returnable T2.2-19 will constitute a binding agreement throughout the duration of the contract until Completion, if not, it will be deemed that the <i>Contractor</i> has failed in full to meet the material term of the contract, which may constitute a reason for termination.</b>                                                                     |
| <b>Z9.2</b> |                                                                                         | <b>The <i>Contractor</i> shall report to the <i>Employer</i> on a monthly basis during the term of the Contract, the amounts spent on each sub-contractor.</b>                                                                                                                                                                                                                                                                                       |

**Z9.3**

**Insert addition to Clause 26.2. The *Contractor* may not replace any sub-contractor without acceptance of the *Project Manager*. The *Project Manager* shall before acceptance of a replacement by the *Contractor* of any sub-contractor as detailed in the tender submission Returnable T2.2-19, obtain representations or input from the initial sub-contractor to make an informed decision as to the proposed replacement. The sub-contracting arrangement/contract remains between the *Contractor* and sub-contractor.**

**Z9.4**

**The Contractor shall provide to the Employer, upon receiving an instruction to do so, any documentation and/or evidence required by the Employer, which in the Employer's opinion would be necessary to verify whether the Contractor has maintained the subcontracting percentage. The Contractor shall provide the said documentation and/or evidence within the period stated in the instruction. The provision of the documentation and/or evidence shall not constitute a compensation event.**

**Z9.5**

**The *Contractor's* Subcontracting percentage as detailed in the tender submission Returnable T2.2-19 will constitute a binding agreement throughout the duration of the contract until Completion, if not, it will be deemed that the *Contractor* has failed in full to meet the material term of the contract, which may constitute a reason for termination.**

**Z10 Obligations in respect of Job Creation**

**Z10.1**

**It will be a material term of this contract that the Contractor must contribute to the**

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***Employer's* job-creation objectives as set out in  
Returnable Schedule T2.2-29.**

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**Z10.2**

The *Contractor's* undertaking as to the number of new jobs created due to the award of this contract as set out in Returnable Schedule T.2.2-29 will constitute a binding agreement throughout the duration of the contract until Completion, if not, it will be deemed that the Contractor has failed in full to meet this specific material term of the contract, which may constitute a reason for termination.

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**Z10.3**

The *Contractor* shall provide to the *Employer*, on a monthly basis or upon receiving an instruction to do so by the *Project Manager*, any documentation and/or evidence required by the Employer, which in the *Employer's* opinion would be necessary to verify whether the *Contractor* has maintained the job-creation undertaking as stipulated in Returnable Schedule T.2.2-29 The *Contractor* shall provide the said documentation and/or evidence within the period stated or as instructed. The provision of the documentation and/or evidence shall not constitute a compensation event.

## C1.2 Contract Data

### Part two - Data provided by the Contractor

The tendering Contractor is advised to read both the NEC3 Engineering and Construction Contract - June 2005 (with amendments June 2006 and April 2013) and the relevant parts of its Guidance Notes (ECC3-GN) in order to understand the implications of this Data which the tenderer is required to complete. An example of the completed Data is provided on pages 156 to 158 of the ECC3 Guidance Notes.

Completion of the data in full, according to Options chosen, is essential to create a complete contract.

| Clause   | Statement                           | Data |
|----------|-------------------------------------|------|
| 10.1     | The Contractor is (Name):           |      |
|          | Address                             |      |
|          | Tel No.                             |      |
|          | Fax No.                             |      |
| 11.2(8)  | The direct fee percentage is        | %    |
|          | The subcontracted fee percentage is | %    |
| 11.2(18) | The working areas are the Site and  |      |
| 24.1     | The Contractor's key persons are:   |      |
|          | 1 Name:                             |      |
|          | Job:                                |      |
|          | Responsibilities:                   |      |
|          | Qualifications:                     |      |
|          | Experience:                         |      |
|          | 2 Name:                             |      |
|          | Job                                 |      |
|          | Responsibilities:                   |      |
|          | Qualifications:                     |      |
|          | Experience:                         |      |

|            |                                                                              |                                                                                                    |                         |             |
|------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------|-------------|
|            |                                                                              | <b>CV's (and further key persons data including CVs) are appended to Tender Schedule entitled.</b> |                         |             |
| 11.2(14)   | The following matters will be included in the Risk Register                  |                                                                                                    |                         |             |
| 31.1       | The programme identified in the Contract Data is                             |                                                                                                    |                         |             |
| <b>B</b>   | <b>Priced contract with bill of quantities</b>                               |                                                                                                    |                         |             |
| 11.2(21)   | The bill of quantities is in                                                 |                                                                                                    |                         |             |
| 11.2(31)   | The tendered total of the Prices is                                          | (in figures)<br>(in words), excluding VAT                                                          |                         |             |
| 41 in SCCC | The percentage for people overheads is:                                      | <b>%</b>                                                                                           |                         |             |
| 21 in SCCC | The published list of Equipment is the last edition of the list published by |                                                                                                    |                         |             |
|            | The percentage for adjustment for Equipment in the published list is         | <b>% (state plus or minus)</b>                                                                     |                         |             |
| 22 in SCCC | The rates of other Equipment are:                                            | <b>Equipment</b>                                                                                   | <b>Size or capacity</b> | <b>Rate</b> |
|            |                                                                              |                                                                                                    |                         |             |
|            |                                                                              |                                                                                                    |                         |             |
|            |                                                                              |                                                                                                    |                         |             |
|            |                                                                              |                                                                                                    |                         |             |
| 61 in SCCC | The hourly rates for Defined Cost of design outside the Working Areas are    | <b>Category of employee</b>                                                                        | <b>Hourly rate</b>      |             |
|            |                                                                              |                                                                                                    |                         |             |
|            |                                                                              |                                                                                                    |                         |             |
|            |                                                                              |                                                                                                    |                         |             |

|            |    |                                                                                                                              |   |
|------------|----|------------------------------------------------------------------------------------------------------------------------------|---|
| 62<br>SSCC | in | The percentage for design overheads is                                                                                       | % |
| 63<br>SSCC | in | The categories of design employees whose travelling expenses to and from the Working Areas are included in Defined Cost are: |   |

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## **C1.3: Form of Guarantee**

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## **C1.3 Forms of Securities**

### **Pro forma Performance Guarantee**

For use with the NEC3 Engineering & Construction Contract - June 2005 (with amendments June 2006 and April 2013).

The conditions of contract stated in the Contract Data Part 1 include the following

Secondary Option: Option X13:      Performance bond

The pro forma document for this Performance Guarantee is provided here for convenience but is to be treated as part of the Works Information.

The organisation providing the Performance Guarantee does so by copying the pro forma document onto its letterhead without any change to the text or format and completing the required details. The completed document is then given to the Employer within the time stated in the contract.

**Pro forma Performance Guarantee (for use with Option X13)**

(to be reproduced exactly as shown below on the letterhead of the Guarantor)

Transnet National Ports Authority, a division of Transnet  
SOC Limited  
eMendhi Building  
Port of Ngqura  
Gqeberha

Date:

Dear Sirs,

**Performance Guarantee for Contract No:**

With reference to the above numbered contract made or to be made between

**{Transnet SOC Ltd, Registration No. 1990/000900/30}**

(the Employer) and

**{Insert registered name and address of the Contractor}**

(the Contractor),  
for

**{Insert details of the works from the Contract Data}**

(the works).

.....  
I/We the  
undersigned

.....  
on behalf of  
the Guarantor  
of physical address  
.....

and duly authorised thereto do hereby provide the following Performance Guarantee, as required under the above Contract, subject to the following conditions:

1. Any reference in this Performance Guarantee to the above Contract / works is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a Suretyship.
2. The Guarantor's obligation under this Performance Guarantee is restricted to the payment of money.
3. The terms Employer, Contractor, Project Manager, works and Completion have the meaning as assigned to them by the conditions of contract stated in the Contract Data for the aforesaid Contract.
4. We renounce all benefits from any legal exceptions which might or could be pleaded against the validity of this Performance Guarantee.
5. The Employer has the absolute right to arrange his affairs with the Contractor in any manner which the Employer deems fit and without being advised thereof the Guarantor shall not have the right to claim his release on account of any conduct alleged to be prejudicial to the Guarantor. Without derogating from the foregoing compromise, extension of the construction period, indulgence, release or variation of the Contractor's obligation shall not affect the validity of this Performance Guarantee.

6. This Performance Guarantee will lapse on the earlier of:
- the date that the Guarantor receives a notice from the Project Manager stating that the Completion Certificate for the whole of the works has been issued, that all amounts due from the Contractor as certified in terms of the Contract have been received by the Employer and that the Contractor has fulfilled its obligations under the Contract, or
  - the date that the Guarantor issues a replacement Performance Guarantee for such lesser or higher amount as may be required by the Project Manager.
7. Always provided that this Performance Guarantee will not lapse in the event the Guarantor is notified by the Project Manager, (before the dates above), of the Employer's intention to institute claims and the particulars thereof, in which event this Guarantee shall remain in force until all such claims are paid and settled.
8. Subject to the Guarantor's total liability referred to in clause 9 below, the Guarantor undertakes to pay the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Project Manager to the Guarantor calling up this Performance Guarantee stating that:
- 8.1 The Contract has been terminated due to the Contractor's default or failure to fulfil its obligations under the Contract and that the Performance Guarantee is called up in terms of this clause 8. A copy of the termination certificate shall be enclosed with the demand;
9. Our total liability hereunder shall not exceed the Guaranteed Sum of:
- (say) \_\_\_\_\_
- R \_\_\_\_\_
10. This Performance Guarantee is neither negotiable nor transferable and is governed by the laws of the Republic of South Africa, subject to the jurisdiction of the courts of the Republic of South Africa.
11. This Performance Guarantee, accompanied by the required demand notice and termination certificate as per clause 8, shall be regarded as a liquid document for the purpose of obtaining a court order.

Signed at \_\_\_\_\_ on this \_\_\_\_\_ day of \_\_\_\_\_ 201\_

Signature(s)

Name(s) (printed)

Position in Guarantor  
company

Signature of Witness(s)

Name(s) (printed)

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## **Part C2: Pricing Data**

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## **C2.1 Pricing Instructions – Option B**

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## **PART 2: PRICING DATA**

| <b>Document reference</b> | <b>Title</b>                            | <b>No of pages</b> |
|---------------------------|-----------------------------------------|--------------------|
| C2.1                      | Pricing instructions: Option B          | 8                  |
| C2.2                      | Priced contract with Bill of quantities | 9 - 112            |

## **C2.1 Pricing Instructions: Option B**

### **1. The conditions of contract**

#### **1.1. How the contract prices work and assesses it for progress payments**

Clause 11 in NEC3 Engineering and Construction Contract, June 2005, (with amendments June 2006 and April 2013) (ECC) Option B states:

**Identified** 11

**and  
defined  
terms**

11.2

(21) The Bill of Quantities is the bill of quantities changed in accordance with the contract to accommodate implemented compensation events and for accepted quotations for acceleration.

(22) Defined Cost is the cost of the components in the Shorter Schedule of Cost Components whether work is subcontracted or not excluding the cost of preparing quotations for compensation events.

(28) The Price for Work Done to Date is the total of the Prices for

- the quantity of work which the Contractor completed for each item in the Bill of Quantities multiply by the rate and
- a proportion of each lump sum which is the proportion of the work covered by the item which the Contractor has completed.

A completed work is work without Defects which would either delay or be covered by immediately following work.

(31) The Prices are the lump sums and the amounts obtained by multiplying the rates by quantities for the items in the Bill of Quantities.

This confirms that Option B is a re-measurement contract, and the bill comprises only items measured using quantities and rates or stated as lump sums. Value related items are not used. Time related items are items measured using rates where the rate is a unit of time.

#### **1.2. Function of the Bill of Quantities**

Clause 55.1 in Option B states, "Information in the Bill of Quantities is not Works Information or Site Information". This confirms that instructions to do work or how it is to be done are not

included in the Bill, but in the Works Information. This is further confirmed by Clause 20.1 which states, "The Contractor Provides the Works in accordance with the Works Information". Hence the Contractor does **not** Provide the Works in accordance with the Bill of Quantities. The Bill of Quantities is only a pricing document.

### 1.3. Guidance before pricing and measuring

Employers preparing tenders or contract documents, and tendering contractors are advised to consult the sections dealing with the bill of quantities in the NEC3 Engineering and Construction Contract (June 2005) Guidance Notes before preparing the bill of quantities or before entering rates and lump sums into the bill.

Historically bill of quantities-based contracts in South Africa have been influenced by the different approaches of the civil engineering and building sectors of the industry through their respective discipline based standard forms of contract and methods of measurement. This is particularly apparent in the approach to the Preliminary and General bill. On the other hand, because ECC3 caters for a number of disciplines in the same contract, including electrical works, a different approach not currently found in local methods of measurement to the Preliminary & General bill items may have been used.

The NEC approach to the P & G bill assumes use will be made of method related charges for Equipment applied to Providing the Works based on durations shown in the Accepted Programme, fixed charges for the use of Equipment that is required throughout the construction phase, time related charges for people working in a supervisory capacity for the period required, and lump sum charges for other facilities or services not directly related to performing work items typically included in other parts of the bill.

## 2. Measurement and payment

### 2.1. Symbols

The units of measurement described in the Bill of Quantities are metric units abbreviated as follows:

| Abbreviation | Unit    |
|--------------|---------|
| %            | percent |
| h            | hour    |

|                       |                       |
|-----------------------|-----------------------|
| ha                    | hectare               |
| kg                    | kilogram              |
| kl                    | kilolitre             |
| km                    | kilometre             |
| km-pass               | kilometre-pass        |
| kPa                   | kilopascal            |
| kW                    | kilowatt              |
| l                     | litre                 |
| m                     | metre                 |
| mm                    | millimetre            |
| m <sup>2</sup>        | square metre          |
| m <sup>2</sup> -pass  | square metre pass     |
| m <sup>3</sup>        | cubic metre           |
| m <sup>3</sup> -km    | cubic metre-kilometre |
| MN                    | meganewton            |
| MN.m                  | meganewton-metre      |
| MPa                   | megapascal            |
| No.                   | number                |
| Prov sum <sup>1</sup> | provisional sum       |
| PC-sum                | prime cost sum        |
| R/only                | Rate only             |
| sum                   | Lump sum              |
| t                     | ton (1000kg)          |
| W/day                 | Workday               |

Provisional Sums should not be used unless absolutely unavoidable. Rather include specifications and associated bill items for the most likely scope of work, and then change later using the compensation event procedure if necessary. This is because tenderers cannot programme effectively for unknown scopes

## **2.2. General assumptions**

<sup>1</sup> Provisional Sums should not be used unless absolutely unavoidable. Rather include specifications and associated bill items for the most likely scope of work, and then change later using the compensation event procedure if necessary. This is because tenderers cannot programme effectively for unknown scopes of work

- 2.2.1. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made in the quantities for waste.
- 2.2.2. The Prices and rates stated for each item in the Bill of Quantities shall be treated as being fully inclusive of all work, risks, liabilities, obligations, overheads, profit and everything necessary as incurred or required by the Contractor in carrying out or providing that item.
- 2.2.3. Clause 63.13 in Option B provides that these rates and Prices may be used as a basis for assessment of compensation events instead of Defined Cost.
- 2.2.4. Where this contract requires detailed drawings, designs or other information to be provided, and no rates or prices are included in the bill specifically for such matters, then the Contractor is deemed to have allowed for all costs associated with such requirements within the tendered rates and Prices in the Bill of Quantities.
- 2.2.5. An item against which no Price is entered will be treated as covered by other Prices or rates in the bill of quantities. If a number of items are grouped together for pricing purposes, this will be treated as a single lump sum.
- 2.2.6. The quantities contained in the Bill of Quantities may not be final and do not necessarily represent the actual amount of work to be done. The quantities of work assessed and certified for payment by the Project Manager at each assessment date will be used for determining payments due and not the quantities given in the Bill of Quantities.
- 2.2.7. The short descriptions of the items of payment given in the bill of quantities are only for the purposes of identifying the items. More detail regarding the extent of the work entailed under each item is provided in the Works Information.

## **2.3. Departures from the method of measurement**

### 3. General

- 3.1.** The short descriptions given in the Bill of Quantities in C2.2 are brief descriptions used to identify the activities for which prices are required. Detailed descriptions of the activities to be priced are provided in the Scope of Work, Part C3.
- 3.2.** For the purpose of the Bill of Quantities, the following words shall have the meanings hereby assigned to them:
- Unit:** The unit of measurement for each item of work.
- Quantity:** The number of units of work for each item.
- Rate:** The agreed payment per unit of measurement.
- Amount:** The product of the quantity and the agreed rate for an item.
- Sum:** An agreed lump sum payment amount for an item, the extent of which is described in the Scope of Work, but the quantity of work which is not measured in any units.
- 3.3.** A rate, sum, and/or price as applicable, is to be entered against each item in the Bill of Quantities. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bill of Quantities.
- 3.4.** The rates, sums and prices in the Bill of Quantities are to be fully inclusive prices for the work described under the several items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Conditions of Contract, as well as overhead charges and profit.
- 3.5.** The quantities set out in the Bills of Quantities are the estimated quantities of the Contract Works, but the Contractor will be required to undertake whatever quantities may be directed by the Supervisor from time to time. The Contract Price for the completed contract shall be computed from the actual quantities of work done, valued at the relevant unit rates and prices.
- 3.6.** Contractors are to note that no reimbursement of costs for subsistence, typing, printing/copying, communications or computer hardware and/or software will be

made and these costs will be deemed to be included in rates, sums, percentage fees and prices for normal and additional works.

- 3.7.** All rates and prices offered shall price in South African Rand and shall be exclusive of VAT or other similar taxes.
- 3.8.** The Rates and prices shall not be subject to escalation and shall remain fixed for the duration of the Contact.

#### **4. PARTICULAR PRICING ASSUMPTIONS**

##### **4.1. Fixed P&G**

The unit of measurement shall be the sum.

The price shall include for all fixed preliminary and general costs including but not limited to contractual provisions, permitting and approvals, insurances, site establishment costs other than the mobilization of equipment which is provided for separately and any other general cost and expenses that remain constant for the duration of the contract irrespective of the contract period.

##### **4.2. Time Related P&G**

The unit of measurement shall be the sum.

The rate shall include for all time related preliminary and general costs including but not limited to contractual provisions, company overheads, supervision and equipment hire not included elsewhere in the Bill of Quantities, and any other general cost and expenses that are variable in terms of the contract period.

##### **4.3. Establishment on Site**

The unit of measurement shall be the sum.

The price shall cover the cost of establishment on site of the vessel(s) and all associated equipment, tools, and materials to be used during the contract. This shall include all facilities necessary for the Contractor to undertake the works. No additional payment will be made for the establishment of additional equipment that the

Contractor may subsequently elect to mobilise in order to meet the requirements of the Contract.

**4.4. De-establishment from Site**

The unit of measurement shall be the sum.

The price shall cover the cost to remove from site the vessel(s) and all associated equipment, tools, and materials which will be established during the contract. No additional payment will be made for the removal of equipment subsequently mobilised as per 4.3.

**4.5. Health, Safety, Environmental, Quality and Document Control Requirements**

The unit of measurement shall be the sum.

The price shall cover all costs associated with meeting the requirements of the OSH Act, Transnet Health and Safety Specifications, Environmental, Quality Assurance and Document Control Specifications as set out in Part C3 Annexures A, B, C, D, J, K, L and N.

Description of the works: The Upgrade of the Workshop at the Workshop at the Waterfront in the Port of Richards Bay,  
Phase 1 for a period of nine (9) months

**PART C2.2 BILL OF QUANTITIES**

| Bill No. | Description                                      | Pg  | AMOUNT     |
|----------|--------------------------------------------------|-----|------------|
|          | <b>SUMMARY OF TRADES</b>                         |     |            |
|          | <b><u>SECTION 1</u></b>                          |     |            |
| 1        | PRELIMINARIES & GENERAL                          | 3   |            |
|          | <b><u>SECTION 2</u></b>                          |     |            |
| 1        | ALTERATIONS                                      | 9   |            |
| 2        | EARTHWORKS                                       | 12  |            |
| 3        | CONCRETE, FORMWORK AND REINFORCEMENT             | 14  |            |
| 4        | MASONRY                                          | 17  |            |
| 5        | WATERPROOFING                                    | 19  |            |
| 6        | ROOF COVERINGS                                   | 22  |            |
| 7        | CARPENTRY AND JOINERY                            | 26  |            |
| 8        | FURNITURE                                        | 29  |            |
| 9        | CEILINGS, PARTITIONS AND ACCESS FLOORING         | 32  |            |
| 10       | FLOOR COVERINGS, WALL LININGS, ETC               | 34  |            |
| 11       | IRONMONGERY                                      | 37  |            |
| 12       | STRUCTURAL STEELWORK                             | 40  |            |
| 13       | METALWORK                                        | 46  |            |
| 14       | PLASTERING                                       | 48  |            |
| 15       | TILING                                           | 50  |            |
| 16       | PLUMBING AND DRAINAGE                            | 55  |            |
| 17       | GLAZING                                          | 57  |            |
| 18       | PAINTWORK                                        | 60  |            |
| 19       | PAPERHANGING                                     | 62  |            |
| 20       | EXTERNAL WORKS                                   | 69  |            |
|          | <b><u>SECTION 3</u></b>                          |     |            |
| 1        | ELECTRICAL WORK: GUARD HOUSE AND PARKING         | 73  |            |
| 2        | ELECTRICAL WORK: OFFICES                         | 79  |            |
| 3        | ELECTRICAL WORKS: EXISTING SUBSTATION EQUIPMENT  | 82  |            |
| 4        | ELECTRICAL WORKS: SOLAR PANELS                   | 84  |            |
|          | <b><u>SECTION 4</u></b>                          |     |            |
| 1        | CONTROLS AND INSTRUMENTATION: ACCESS CONTROL     | 86  |            |
| 2        | CONTROLS AND INSTRUMENTATION: CCTV               | 88  |            |
| 3        | CONTROLS AND INSTRUMENTATION: ICT PROVISION      | 90  |            |
| 4        | CONTROLS AND INSTRUMENTATION: PA SYSTEM          | 92  |            |
|          | <b><u>SECTION 5 : MECHANICAL WORKS</u></b>       |     |            |
| 1        | MECHANICAL WORK: PREAMBLES                       | 95  |            |
| 2        | HVAC (HEATING, VENTILATION AND AIR CONDITIONING) | 102 |            |
| 3        | FIRE PROTECTION SYSTEM                           | 106 |            |
| 4        | WATER RETICULATION                               | 110 |            |
|          | <b><u>SECTION 6 :PROVISIONAL SUMS</u></b>        |     |            |
| 1        | BUDGETARY ALLOWANCES                             | 112 |            |
|          | <b>TOTAL CARRIED TO FORM OF OFFER</b>            |     | <b>R -</b> |

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## **C2.2 Bill of Quantities**

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| Item No.                   | Payment Ref. | Description                                                                                                                                                                                                                                                                                   | Unit | Quantity | Rate | Price |
|----------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 1                          | 1200A        | <b>SECTION 1:</b>                                                                                                                                                                                                                                                                             |      |          |      |       |
| 1.1                        |              | <b><u>PRELIMINARIES &amp; GENERAL</u></b>                                                                                                                                                                                                                                                     |      |          |      |       |
|                            |              | <b><u>BILL NO: 1</u></b>                                                                                                                                                                                                                                                                      |      |          |      |       |
|                            |              | <b><u>PREAMBLES</u></b>                                                                                                                                                                                                                                                                       |      |          |      |       |
|                            |              | <b><u>Fixed preliminary items</u></b>                                                                                                                                                                                                                                                         |      |          |      |       |
|                            |              | Fixed preliminary items will be valuated and paid on a proven cost basis up to the total value                                                                                                                                                                                                |      |          |      |       |
|                            |              | <b><u>Time related preliminary items</u></b>                                                                                                                                                                                                                                                  |      |          |      |       |
|                            |              | Time related preliminary items will be paid on the proportion of: Value of the price of work done to date per the Project Manager's assessment (excluding activities directly related to materials, escalation and compensation events) over the contract value excluding preliminaries costs |      |          |      |       |
|                            |              | <b><u>FIXED PRELIMINARY ITEMS</u></b>                                                                                                                                                                                                                                                         |      |          |      |       |
| 1.1.1                      |              | <b><u>Contractual Requirements</u></b>                                                                                                                                                                                                                                                        |      |          |      |       |
| 1.1.1.1                    |              | Contractual Requirements, sureties, insurance, etc.                                                                                                                                                                                                                                           | Item | 1        |      |       |
| 1.1.2                      |              | <b><u>Establishment of facilities on site</u></b>                                                                                                                                                                                                                                             |      |          |      |       |
| 1.1.2.1                    |              | Offices for engineer, staff                                                                                                                                                                                                                                                                   | Item | 1        |      |       |
| 1.1.2.2                    |              | Notice boards, etc                                                                                                                                                                                                                                                                            | Item | 1        |      |       |
| 1.1.3                      |              | <b><u>Facilities for the contractor</u></b>                                                                                                                                                                                                                                                   |      |          |      |       |
| 1.1.3.1                    |              | Tools & equipment                                                                                                                                                                                                                                                                             | Item | 1        |      |       |
| 1.1.3.2                    |              | Workshops                                                                                                                                                                                                                                                                                     | Item | 1        |      |       |
| 1.1.3.3                    |              | Ablution & Latrine facilities                                                                                                                                                                                                                                                                 | Item | 1        |      |       |
| 1.1.3.4                    |              | Water supplies, electric power and communications                                                                                                                                                                                                                                             | Item | 1        |      |       |
| 1.1.3.5                    |              | Office & storage sheds                                                                                                                                                                                                                                                                        | Item | 1        |      |       |
| 1.1.3.6                    |              | Dealing with dust                                                                                                                                                                                                                                                                             | Item | 1        |      |       |
| 1.1.3.7                    |              | Equipment                                                                                                                                                                                                                                                                                     | Item | 1        |      |       |
| 1.1.3.8                    |              | Access                                                                                                                                                                                                                                                                                        | Item | 1        |      |       |
| 1.1.3.9                    |              | Removal of site establishment                                                                                                                                                                                                                                                                 | Item | 1        |      |       |
| Carried To Section Summary |              |                                                                                                                                                                                                                                                                                               |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.                   | Payment Ref. | Description                                                                                                   | Unit | Quantity | Rate | Price    |
|----------------------------|--------------|---------------------------------------------------------------------------------------------------------------|------|----------|------|----------|
| <b>1.1.4</b>               |              | <b><u>Other Fixed-charge obligations</u></b>                                                                  |      |          |      |          |
| 1.1.4.1                    |              | Health and safety                                                                                             | Item | 1        |      |          |
| 1.1.4.2                    |              | Environmental                                                                                                 | Item | 1        |      |          |
| 1.1.4.3                    |              | Dealing with traffic                                                                                          | Item | 1        |      |          |
| 1.1.4.4                    |              | As-built surveys                                                                                              | Item | 1        |      |          |
| 1.1.4.5                    |              | Security                                                                                                      | Item | 1        |      |          |
| <b>1.2</b>                 |              | <b><u>TIME RELATED PRELIMINARY ITEMS</u></b>                                                                  |      |          |      |          |
| 1.2.1                      |              | <b><u>Time related preliminary obligations may relate to fixed preliminary items and items not listed</u></b> |      |          |      |          |
| 1.2.1.1                    |              | Time related obligations                                                                                      | Item | 1        |      |          |
| Carried To Section Summary |              |                                                                                                               |      |          |      | <b>R</b> |

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| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Unit           | Quantity | Rate | Price |
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|                       |              | <p><b><u>SECTION 2:</u></b></p> <p><b><u>BILL NO: 1</u></b></p> <p><b><u>ALTERATIONS</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p><u>View Site</u></p> <p>Before submitting his tender the contractor shall visit the site and satisfy himself as to the nature and extent of the work to be done and the value of the materials contained in the buildings or portions of the buildings to be demolished. No claim for any variations of the contract sum in respect of the nature and extent of the work or of inferior or damaged materials will be entertained</p> <p><u>General</u></p> <p>The contractor shall carry out the whole of the works with as little mess and noise as possible and with a minimum of disturbance to tenants in the building and to adjoining premises and their tenants. He shall provide proper protection and provide, erect and remove when directed, any temporary tarpaulins that may be necessary during the progress of the works, all to the satisfaction of the project manager</p> <p>Prices for taking out of doors, windows, etc shall include for removal of all beads, architraves, ironmongery, etc</p> <p>Making good of finishes shall include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary</p> <p>The contractor will be required to take all dimensions affecting the existing buildings on the site and he will be held solely responsible for the accuracy of all such dimensions where used in the manufacture of new items (doors, windows, fittings, etc)</p> <p><b><u>REMOVAL OF EXISTING WORK</u></b></p> <p><u>Breaking up and removing reinforced concrete including cutting back/and removing reinforcement</u></p> |                |          |      |       |
| 2.1                   |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |          |      |       |
| 2.1.1                 |              | 150mm Thick surface bed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | m <sup>2</sup> | 50       |      |       |
| 2.1.2                 |              | Allow for Breaking up and removing 250mm thick reinforced concrete in patches including cutting back/and removing reinforcement for all Electrical work including chasing of concrete for pipeworks as per electrical and ICT drawings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | m <sup>2</sup> | 87       |      |       |
| 2.1.3                 |              | Remove existing concrete ramp size 2500mm x 1600mm x 200mm thick, including brickwork, etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No             | 2        |      |       |
| 2.1.4                 |              | Remove existing concrete ramp size 5400mm x 1800mm x 300mm thick, including brickwork, etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No             | 1        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                   | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2.1.5                 |              | <u>Saw cutting existing surfaces, etc.</u><br>250mm thick reinforce concrete                                                                                                                                                                                  | m              | 219      |      |       |
| 2.1.6                 |              | <u>Breaking down and removing brickwork, etc</u><br>One brick wall                                                                                                                                                                                            | m <sup>2</sup> | 161      |      |       |
| 2.1.7                 |              | One and half brick wall                                                                                                                                                                                                                                       | m <sup>2</sup> | 50       |      |       |
| 2.1.8                 |              | <u>Taking out and removing doors, windows, etc from brickwork to be demolished</u><br>Timber single door and frame not exceeding 2,5m <sup>2</sup>                                                                                                            | no             | 7        |      |       |
| 2.1.9                 |              | <u>Taking out and removing doors, windows, etc from brickwork to be fill with new one brickwork measured as elsewhere.</u><br>Timber single door and frame 900 x 2100mm high overall from one Brick wall                                                      | no             | 3        |      |       |
| 2.1.10                |              | Aluminium window 3400 x 1970mm high from brick wall                                                                                                                                                                                                           | no             | 1        |      |       |
| 2.1.11                |              | Existing sliding glass door size 1800 x 2100mm                                                                                                                                                                                                                | no             | 1        |      |       |
| 2.1.12                |              | Double door size 1800 x 2100mm high                                                                                                                                                                                                                           | no             | 1        |      |       |
| 2.1.13                |              | <u>Taking out and removing doors, windows, etc including thresholds, sills, etc and building up openings in one brick walls including making good face brickwork on both sides.</u><br>Timber single door and frame 900 x 2100mm high overall from brick wall | no             | 1        |      |       |
| 2.1.14                |              | Aluminium window 3400 x 1970mm high from brick wall                                                                                                                                                                                                           | no             | 6        |      |       |
| 2.1.15                |              | Steel roller shutter door size 2500mm x 3500mm                                                                                                                                                                                                                | no             | 2        |      |       |
| 2.1.16                |              | Steel roller shutter door size 5000mm x 6000mm                                                                                                                                                                                                                | no             | 1        |      |       |
| 2.1.17                |              | <u>Taking down and removing roof, floors, panelling, ceilings, partitions, etc</u><br>Gypsum plasterboard ceilings including cornices, timber bandering, etc                                                                                                  | m <sup>2</sup> | 217      |      |       |
| 2.1.18                |              | Drywall partitioning 2700m high including doors, ironmongery, glazed borrowed lights, etc                                                                                                                                                                     | m              | 15       |      |       |
| 2.1.19                |              | Barge boards                                                                                                                                                                                                                                                  | m              | 112      |      |       |
| 2.1.20                |              | Fascias boards                                                                                                                                                                                                                                                | m              | 190      |      |       |
| 2.1.21                |              | <u>Taking out and removing ironmongery</u><br>Mortice lock and striking plate from timber door                                                                                                                                                                | no             | 14       |      |       |
| 2.1.22                |              | Chromium plated toilet paper holder                                                                                                                                                                                                                           | no             | 4        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                               |                |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                     | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2.1.23                |              | Chromium plated hat and coat hook                                                                                                                                                               | no             | 4        |      |       |
|                       |              | <u>Taking out/off and removing sundry metalwork</u>                                                                                                                                             |                |          |      |       |
| 2.1.24                |              | Steel rail 4m long from walls including making good finish on face brick                                                                                                                        | m              | 4        |      |       |
| 2.1.25                |              | Steel balustrade 900mm high from steel ramp                                                                                                                                                     | m              | 11       |      |       |
| 2.1.26                |              | Steel burglar proofing with framing 2100 x 2000mm high bolted to brickwork and making good face brickwork                                                                                       | no             | 1        |      |       |
| 2.1.27                |              | Steel square gutters with all fittings                                                                                                                                                          | m              | 186      |      |       |
| 2.1.28                |              | Steel square down pipe with all fittings                                                                                                                                                        | m              | 96       |      |       |
|                       |              | <u>Hacking up/off and removing granolithic, screeds, plaster, etc from concrete or brickwork and preparing surfaces for new screeds, plaster, etc</u>                                           |                |          |      |       |
| 2.1.29                |              | 25mm Screed from floors                                                                                                                                                                         | m <sup>2</sup> | 1947     |      |       |
| 2.1.30                |              | Internal plaster from walls                                                                                                                                                                     | m <sup>2</sup> | 235      |      |       |
|                       |              | <u>Hacking up/off and removing ceramic tile floor and wall finishes including removing mortar bed or backing and preparing concrete or brick new screed, plaster or tile finishes</u>           |                |          |      |       |
| 2.1.31                |              | 300 x 300mm Tiles to floors                                                                                                                                                                     | m <sup>2</sup> | 241      |      |       |
| 2.1.32                |              | 150 x 150mm Tiles to walls                                                                                                                                                                      | m <sup>2</sup> | 236      |      |       |
| 2.1.33                |              | Tile skirting 70mm high                                                                                                                                                                         | m              | 341      |      |       |
|                       |              | <u>Taking out and removing piping, sanitary fittings, etc including disconnecting piping from fittings and making good floor and wall finishes (making good tiling and paintwork elsewhere)</u> |                |          |      |       |
| 2.1.34                |              | 22mm Galvanised steel piping including fittings and brackets                                                                                                                                    | m              | 150      |      |       |
| 2.1.35                |              | 100mm Cast iron piping including fittings and brackets                                                                                                                                          | m              | 78       |      |       |
| 2.1.36                |              | 22mm Copper piping including fittings and brackets                                                                                                                                              | m              | 125      |      |       |
| 2.1.37                |              | Vitreous china wash hand basin                                                                                                                                                                  | no             | 5        |      |       |
| 2.1.38                |              | Vitreous china WC pan with cistern                                                                                                                                                              | no             | 5        |      |       |
| 2.1.39                |              | Vitreous china WC pan with flush valve                                                                                                                                                          | no             | 5        |      |       |
| 2.1.40                |              | Vitreous china wall hung urinal with flush valve                                                                                                                                                | no             | 4        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                 |                |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                               | Unit | Quantity | Rate | Price    |
|-----------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|----------|
| 2.1.41                |              | Fire extinguishers                                                                                                                                        | no   | 15       |      |          |
| 2.1.42                |              | Fire hose reels                                                                                                                                           | no   | 6        |      |          |
| 2.1.43                |              | 150 litres wall electric water heater                                                                                                                     | no   | 2        |      |          |
| 2.1.44                |              | Soap dispenser                                                                                                                                            | no   | 5        |      |          |
|                       |              | <u>Taking out and removing glass and mirrors</u>                                                                                                          |      |          |      |          |
| 2.1.45                |              | Glass from aluminium windows including cleaning out rebates and preparing for new glass                                                                   | m²   | 20       |      |          |
| 2.1.46                |              | Mirror 400 x 400mm high from wall                                                                                                                         | no   | 3        |      |          |
|                       |              | <b><u>CUTTING THROUGH FLOORS AND CEILINGS</u></b>                                                                                                         |      |          |      |          |
|                       |              | <u>Cutting Through floors and ceilings</u>                                                                                                                |      |          |      |          |
| 2.1.47                |              | Cutting through 250mm thick concrete surface bed for 750mm wide concrete wall footing including making good concrete on both sides of new half brick wall | m    | 40       |      |          |
|                       |              | <b><u>BUILDING UP OPENINGS</u></b>                                                                                                                        |      |          |      |          |
|                       |              | <u>Brickwork in NFP bricks in class II mortar in building up openings</u>                                                                                 |      |          |      |          |
| 2.1.48                |              | Half brick walls                                                                                                                                          | m²   | 15       |      |          |
| 2.1.49                |              | One brick walls                                                                                                                                           | m²   | 80       |      |          |
| 2.1.50                |              | 460mm thick brick walls                                                                                                                                   | m²   | 10       |      |          |
|                       |              | <u>Face bricks pointed with flush horizontal and vertical joints</u>                                                                                      |      |          |      |          |
| 2.1.51                |              | Extra over half brickwall for face brickwork inpatches                                                                                                    | m²   | 15       |      |          |
| 2.1.52                |              | Extra over one brickwall for face brickwork inpatches                                                                                                     | m²   | 80       |      |          |
| 2.1.53                |              | 460mm thick brick walls                                                                                                                                   | m²   | 10       |      |          |
| 2.1.54                |              | Cutting toothings and bonding new face brickwork to existing                                                                                              | m    | 44       |      |          |
|                       |              | <b><u>MAKING GOOD OF FINISHES, ETC</u></b>                                                                                                                |      |          |      |          |
|                       |              | <u>Making good brickwork</u>                                                                                                                              |      |          |      |          |
| 2.1.55                |              | Making good brickwork to face of wall where half brick cross wall removed with face brick                                                                 | m²   | 15       |      |          |
| 2.1.56                |              | Floors where partitions removed                                                                                                                           | m    | 15       |      |          |
| Carried To Collection |              |                                                                                                                                                           |      |          |      | <b>R</b> |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Unit | Quantity | Rate | Price |
|-----------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
|                       |              | <b><u>OPENINGS THROUGH EXISTING WALLS, ETC</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |          |      |       |
|                       |              | <u>Altering openings</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |          |      |       |
| 2.1.57                |              | Altering opening in brick wall where 1970 x 3400mm high aluminium window removed to form opening for new double door and frame (D8) size 1730 x 2090mm high overall by breaking out brickwork on both sides and bottom including necessary precast concrete lintel and making good plaster on one side and into reveals and face brickwork on other side, bricking up where necessary and into reveals and with Concrete with quarry tile finish to threshold (new door and frame and making good paintwork elsewhere)    | no   | 1        |      |       |
| 2.1.58                |              | Altering opening in brick wall where 1970 x 3400mm high aluminium window removed to form opening for new double door and frame (SF20) size 1650 x 2090mm high overall by breaking out brickwork on both sides and bottom including necessary precast concrete lintel and making good plaster on one side, bricking up where necessary and into reveals and face brickwork on other side and into reveals and with Concrete with quarry tile finish to threshold (new door and frame and making good paintwork elsewhere)  | no   | 1        |      |       |
| 2.1.59                |              | Altering opening in brick wall where 1970 x 3400mm high aluminium window removed to form opening for new double door and frame (SF24) size 1650 x 2090mm high overall by breaking out brickwork on both sides and bottom including necessary precast concrete lintel and making good plaster on one side and into reveals and face brickwork on other side, bricking up where necessary and into reveals and with Concrete with quarry tile finish to threshold (new door and frame and making good paintwork elsewhere)  | no   | 1        |      |       |
| 2.1.60                |              | Altering opening in brick wall where 3400 x 1970mm high aluminium window removed to form opening for new double door and frame (D22) size 1730 x 2090mm high overall by breaking out brickwork on both sides and bottom including necessary precast concrete lintel and making good plaster on one side, bricking up where necessary and into reveals and face brickwork on other side and into reveals and with Concrete with quarry tile finish to threshold (new door and frame and making good paintwork elsewhere)   | no   | 2        |      |       |
| 2.1.61                |              | Altering opening in brick wall where 1970 x 3400mm high aluminium window removed to form opening for new sliding door and frame (SF32) size 1970 x 4055mm high overall by breaking out brickwork on both sides and bottom including necessary precast concrete lintel and making good plaster on one side, bricking up where necessary and into reveals and face brickwork on other side and into reveals and with Concrete with quarry tile finish to threshold (new door and frame and making good paintwork elsewhere) | no   | 2        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |      | R     |

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| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Unit           | Quantity | Rate | Price |
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| 2.2                   |              | <p><b><u>SECTION 2:</u></b></p> <p><b><u>BILL NO: 2</u></b></p> <p><b><u>EARTHWORKS</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill</p> <p><b><u>EARTHWORKS (PROVISIONAL)</u></b></p> <p><u>Carting away of excavated material</u></p> <p>Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site</p> <p><b><u>DEMOLITIONS, ETC</u></b></p> <p><u>Breaking up and removing</u></p> |                |          |      |       |
| 2.2.1                 |              | 500 x 500mm Concrete block paving on sand bed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | m <sup>2</sup> | 95       |      |       |
| 2.2.2                 |              | Precast concrete kerbs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | m              | 63       |      |       |
| 2.2.3                 |              | 30mm thick Asphalt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | m <sup>2</sup> | 1204     |      |       |
|                       |              | <b><u>EXCAVATION, FILLING, ETC OTHER THAN BULK</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |          |      |       |
|                       |              | <u>Excavation in earth not exceeding 2m deep</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |          |      |       |
| 2.2.4                 |              | Trenches                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | m <sup>3</sup> | 74       |      |       |
| 2.2.5                 |              | Bases                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | m <sup>3</sup> | 5        |      |       |
|                       |              | <u>Extra over trench and hole excavations in earth for excavation in</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |          |      |       |
| 2.2.6                 |              | Soft rock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | m <sup>3</sup> | 8        |      |       |
| 2.2.7                 |              | Hard rock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | m <sup>3</sup> | 4        |      |       |
|                       |              | <u>Extra over all excavations for carting away</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                |          |      |       |
| 2.2.8                 |              | Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | m <sup>3</sup> | 35       |      |       |
|                       |              | <u>Risk of collapse of excavations</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |          |      |       |
| 2.2.9                 |              | Sides of trench and hole excavations not exceeding 1,5m deep                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | m <sup>2</sup> | 167      |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                                                                                                          | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
|                       |              | <b><u>FILLING, ETC</u></b>                                                                                                                                           |                |          |      |       |
|                       |              | <u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 93% Mod AASHTO density</u>                                        |                |          |      |       |
| 2.2.10                |              | Backfilling to trenches, holes, etc                                                                                                                                  | m <sup>3</sup> | 39       |      |       |
|                       |              | <u>Earth filling supplied by the contractor G5 Material, compacted to 93% Mod AASHTO density</u>                                                                     |                |          |      |       |
| 2.2.11                |              | Under floors, steps, pavings, etc                                                                                                                                    | m <sup>3</sup> | 26       |      |       |
|                       |              | <u>Compaction of ground surfaces</u>                                                                                                                                 |                |          |      |       |
| 2.2.12                |              | Compaction of natural or excavated ground surface under floors etc by wetting and compacting                                                                         | m <sup>2</sup> | 197      |      |       |
|                       |              | <u>Prescribed density tests on filling</u>                                                                                                                           |                |          |      |       |
| 2.1.13                |              | Modified AASHTO Density" test                                                                                                                                        | no             | 18       |      |       |
|                       |              | <b><u>SOIL POISONING</u></b>                                                                                                                                         |                |          |      |       |
|                       |              | <u>Approved brand of insecticide mixed and applied by a Registered Pest Control company in strict accordance with SANS 5859 and the manufacturer's instructions:</u> |                |          |      |       |
| 2.1.14                |              | To bottoms and sides of trenches etc                                                                                                                                 | m <sup>2</sup> | 279      |      |       |
| Carried To Collection |              |                                                                                                                                                                      |                |          |      | R     |

[illegible]

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2.3                   |              | <p><b><u>SECTION 2:</u></b></p> <p><b><u>BILL NO: 3</u></b></p> <p><b><u>CONCRETE, FORMWORK AND REINFORCEMENT</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill</p> <p><b><u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u></b></p> <p><u>15MPa/19mm concrete</u></p> |                |          |      |       |
| 2.3.1                 |              | 50mm thick surface blinding under footings and bases                                                                                                                                                                                                                                                                                                                                                                                                                | m <sup>3</sup> | 6        |      |       |
|                       |              | <p><b><u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u></b></p> <p><u>25MPa/19mm concrete</u></p>                                                                                                                                                                                                                                                                                                                                                          |                |          |      |       |
| 2.3.2                 |              | Strip footings                                                                                                                                                                                                                                                                                                                                                                                                                                                      | m <sup>3</sup> | 23       |      |       |
| 2.3.3                 |              | Bases                                                                                                                                                                                                                                                                                                                                                                                                                                                               | m <sup>3</sup> | 2        |      |       |
| 2.3.4                 |              | Plinth                                                                                                                                                                                                                                                                                                                                                                                                                                                              | m <sup>3</sup> | 3        |      |       |
|                       |              | <p><b><u>ROUGH FORMWORK (DEGREE OF ACCURACY III)</u></b></p> <p><u>Rough formwork to sides (Provisional)</u></p>                                                                                                                                                                                                                                                                                                                                                    |                |          |      |       |
| 2.3.5                 |              | Strip footings                                                                                                                                                                                                                                                                                                                                                                                                                                                      | m <sup>2</sup> | 18       |      |       |
| 2.3.6                 |              | Bases                                                                                                                                                                                                                                                                                                                                                                                                                                                               | m <sup>2</sup> | 4        |      |       |
| 2.3.7                 |              | Walls in foundations                                                                                                                                                                                                                                                                                                                                                                                                                                                | m <sup>2</sup> | 25       |      |       |
|                       |              | <p><b><u>REINFORCEMENT</u></b></p> <p><u>Fabric reinforcement</u></p>                                                                                                                                                                                                                                                                                                                                                                                               |                |          |      |       |
| 2.3.8                 |              | Ref 395 fabric reinforcement mesh in concrete walls in foundation                                                                                                                                                                                                                                                                                                                                                                                                   | m <sup>2</sup> | 50       |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |          |      | R     |



DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                                | Unit | Quantity | Rate | Price  |
|----------|--------------|--------------------------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.3</u>                           |      |          |      |        |
|          |              | <u>CONCRETE FORMWORK AND REINFORCEMENT</u> |      |          |      |        |
|          |              | <u>COLLECTION</u>                          |      |          | Page | Amount |
|          |              | Brought forward from page                  |      |          | 13   | R      |
|          |              | Carried To Section Summary                 |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                            | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2.4                   |              | <b><u>SECTION2:</u></b>                                                                                                                                                                |                |          |      |       |
|                       |              | <b><u>BILL NO: 4</u></b>                                                                                                                                                               |                |          |      |       |
|                       |              | <b><u>MASONRY</u></b>                                                                                                                                                                  |                |          |      |       |
|                       |              | <b><u>PREAMBLES</u></b>                                                                                                                                                                |                |          |      |       |
|                       |              | The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill |                |          |      |       |
|                       |              | <b><u>SUPPLEMENTARY PREAMBLES</u></b>                                                                                                                                                  |                |          |      |       |
|                       |              | <b><u>BRICKWORK IN FOUNDATIONS (PROVISIONAL)</u></b>                                                                                                                                   |                |          |      |       |
|                       |              | <u>Brickwork of NFXE bricks (14 MPa nominal compressive strength) in class I mortar</u>                                                                                                |                |          |      |       |
|                       |              | 2.4.1 Half brick walls in foundations                                                                                                                                                  | m <sup>2</sup> | 20       |      |       |
|                       |              | 2.4.2 One brick wall in foundations                                                                                                                                                    | m <sup>2</sup> | 97       |      |       |
|                       |              | <u>Brickwork of NFP clay bricks in class I mortar</u>                                                                                                                                  |                |          |      |       |
|                       |              | 2.4.3 Piers                                                                                                                                                                            | m <sup>3</sup> | 2        |      |       |
|                       |              | <b><u>BRICKWORK IN SUPERSTRUCTURE</u></b>                                                                                                                                              |                |          |      |       |
|                       |              | <u>Brickwork of NFP bricks (14 MPa nominal compressive strength) in class II mortar in loadbearing walls etc</u>                                                                       |                |          |      |       |
| 2.4.4                 |              | One brick walls                                                                                                                                                                        | m <sup>2</sup> | 375      |      |       |
| 2.4.5                 |              | One brick walls to brick up windows and make good                                                                                                                                      | m <sup>2</sup> | 42       |      |       |
| 2.4.6                 |              | One brick walls in beamfilling                                                                                                                                                         | m <sup>2</sup> | 30       |      |       |
| 2.4.7                 |              | One brick walls in lintels                                                                                                                                                             | m              | 20       |      |       |
| 2.4.8                 |              | Half brick walls                                                                                                                                                                       | m <sup>2</sup> | 29       |      |       |
| 2.4.9                 |              | Half brick walls in beamfilling                                                                                                                                                        | m <sup>2</sup> | 6        |      |       |
| 2.4.10                |              | <b><u>BRICKWORK SUNDRIES</u></b>                                                                                                                                                       |                |          |      |       |
|                       |              | <u>Bagging of 1:3 cement and sand mixture</u>                                                                                                                                          |                |          |      |       |
|                       |              | On brick walls, piers, etc                                                                                                                                                             | m <sup>2</sup> | 300      |      |       |
| 2.4.11                |              | <u>Brickwork reinforcement</u>                                                                                                                                                         |                |          |      |       |
| 2.4.11                |              | 150mm Wide reinforcement built in horizontally                                                                                                                                         | m              | 4200     |      |       |
| 2.4.12                |              | 75mm Wide reinforcement built in horizontally                                                                                                                                          | m              | 463      |      |       |
| Carried To Collection |              |                                                                                                                                                                                        |                |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                       | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2.4.13                |              | <u>70mm prestressed fabricated lintels</u><br>110 x 75mm Lintels in lengths exceeding 1.5m but not exceeding 3m                                                                                                                                   | m              | 95       |      |       |
| 2.4.14                |              | 110 x 75mm Lintels in lengths exceeding 3m but not not exceeding 6m                                                                                                                                                                               | m              | 110      |      |       |
| 2.4.15                |              | <u>Turning pieces</u><br>230mm Wide turning piece to lintels etc                                                                                                                                                                                  | m              | 205      |      |       |
| 2.4.16                |              | <u>Galvanised wire ties etc</u><br>4mm Diameter roof tie 2m girth bent double with one end fixed to timber and other end built into brickwork                                                                                                     | No             | 300      |      |       |
| 2.4.17                |              | <u>Galvanised hoop iron cramps, ties, etc</u><br>30 x 1,6mm Roof tie 1,5m long with one end fixed to timber and other end built into brickwork                                                                                                    | No             | 150      |      |       |
| 2.4.18                |              | <b><u>FACE BRICKWORK</u></b><br><u>Tokai Red Rustic' face bricks (14 MPa nominal compressive strength) pointed with flush or recessed horizontal and flush or recessed vertical joints</u><br>Extra over brickwork for face brickwork on one side | m <sup>2</sup> | 365      |      |       |
| 2.4.19                |              | Extra over brickwork for face brickwork in foundations (Provisional)                                                                                                                                                                              | m <sup>2</sup> | 97       |      |       |
| 2.4.20                |              | 15mm Cut linings to concrete                                                                                                                                                                                                                      | m <sup>2</sup> | 524      |      |       |
| 2.4.21                |              | One brick walls in English bond pointed on both sides                                                                                                                                                                                             | m <sup>2</sup> | 70       |      |       |
| 2.4.22                |              | Extra over brickwork for brick-on-edge header course lintel                                                                                                                                                                                       | m              | 50       |      |       |
| 2.4.23                |              | Cutting toothings and bonding new face brickwork to existing                                                                                                                                                                                      | m              | 70       |      |       |
| 2.4.24                |              | Sills set flat and slightly projecting to mach the existing                                                                                                                                                                                       | m              | 44       |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                   |                |          |      | R     |

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| Item No. | Payment Ref. | Description                | Unit | Quantity | Rate | Price  |
|----------|--------------|----------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.4</u>           |      |          |      |        |
|          |              | <u>MASONRY</u>             |      |          |      |        |
|          |              | <u>COLLECTION</u>          |      |          | Page | Amount |
|          |              | Brought forward from page  |      |          | 15   | R      |
|          |              | Brought forward from page  |      |          | 16   | R      |
|          |              | Carried To Section Summary |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2.5                   |              | <b><u>SECTION 2:</u></b><br><b><u>BILL NO. 5</u></b><br><b><u>WATERPROOFING</u></b><br><b><u>PREAMBLES</u></b><br><p>The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill</p> <b><u>DAMPPROOFING OF WALLS AND FLOORS</u></b><br><u>One layer Gundule Anti-Termite Brikgrip® DPC 3-layer 250 micrometer to suite wall thickness, overlapped and joined strictly according to Manufacturer's instruction.</u> |                |          |      |       |
| 2.5.1                 |              | In walls<br><u>One layer of 250 micron "Gunplas Black" waterproof sheeting sealed at laps with "Gunplas Pressure Sensitive Tape"</u>                                                                                                                                                                                                                                                                                                                                                                                                          | m <sup>2</sup> | 65       |      |       |
| 2.5.2                 |              | Surface beds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | m <sup>2</sup> | 275      |      |       |
| 2.5.3                 |              | Plinth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | m <sup>2</sup> | 26       |      |       |
| 2.5.4                 |              | Apron slab                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | m <sup>2</sup> | 41       |      |       |
| 2.5.5                 |              | Ramp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | m <sup>2</sup> | 28       |      |       |
| 2.5.6                 |              | Vertically between walls                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | m <sup>2</sup> | 100      |      |       |
|                       |              | <b><u>WATERPROOFING TO ROOFS, BASEMENTS, ETC</u></b><br><u>Three coat "Super Laycyl" fibre reinforced heavy duty maintenance free acrylic waterproofing</u>                                                                                                                                                                                                                                                                                                                                                                                   |                |          |      |       |
| 2.5.7                 |              | On sloping roofs with 25 degrees pitch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | m <sup>2</sup> | 400      |      |       |
| 2.5.8                 |              | Flashing strip 100mm girth at turn-ups including sealing top edge into groove with mastic                                                                                                                                                                                                                                                                                                                                                                                                                                                     | m              | 150      |      |       |
| 2.5.9                 |              | Additional membrane at rainwater outlet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | m              | 150      |      |       |
| 2.5.10                |              | Sealing edges to brickwork                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | m              | 150      |      |       |
|                       |              | <b><u>JOINT SEALANTS, ETC</u></b><br><u>Compriband bitumen impregnated foam plastic joint sealing strips</u>                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |          |      |       |
| 2.5.11                |              | 10 x 100mm In expansion joints                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | m              | 50       |      |       |
| 2.5.12                |              | <u>Silicone sealing compound including backing cord, bond breaker, primer, etc</u><br>6.4 x 20mm In saw cut joints in floors                                                                                                                                                                                                                                                                                                                                                                                                                  | m              | 50       |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |          |      | R     |



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| Item No. | Payment Ref. | Description                | Unit | Quantity | Rate | Price  |
|----------|--------------|----------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.5</u>           |      |          |      |        |
|          |              | <u>WATERPROOFING</u>       |      |          |      |        |
|          |              | <u>COLLECTION</u>          |      |          | Page | Amount |
|          |              | Brought forward from page  |      |          | 18   | R      |
|          |              | Carried To Section Summary |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2.6                   |              | <p><b><u>SECTION 2:</u></b></p> <p><b><u>BILL NO: 6</u></b></p> <p><b><u>ROOF COVERINGS</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill</p> <p><b><u>PROFILED METAL SHEETING AND ACCESSORIES</u></b></p> <p><u>Aluminium roof sheeting 0.8mm A7 PVDF finish profile fixed to timber purlins with non-corrosive fasteners accorndance to manufacturer's specifications. Profile to be verified on site and Colour to be selected to match that of existing buildings in the vicinity.</u></p> |                |          |      |       |
| 2.6.1                 |              | <p>Roof covering with pitches not exceeding 25 degrees</p> <p><u>Translucent cladding to match profile of roof sheeting to timber purlins with non-corrosive fasteners accorndance to manufacturer's specifications.</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                      | m <sup>2</sup> | 255      |      |       |
| 2.6.2                 |              | <p>Roof covering with pitches not exceeding 25 degrees</p> <p><u>0.8mm A7 PVDF finish HULA Span Sheeting on steel Purlins for the entrance canopy.</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | m <sup>2</sup> | 33       |      |       |
| 2.6.3                 |              | <p>Roof covering with pitches not exceeding 25 degrees</p> <p><u>Aluminium roof sheeting 0.8mm A7 PVDF finish or thicker Aluminium to match Roof Sheeting, fixed to roof structure according to manufacturer's instruction</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                | m <sup>2</sup> | 28       |      |       |
| 2.6.4                 |              | Ridge cappings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | m              | 135      |      |       |
| 2.6.5                 |              | Barge/Flashings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | m              | 138      |      |       |
| 2.6.6                 |              | <p><u>Single Layer Sisalation® FR 430 shall be laid on top of roof trusses according to Manufacturer's fixing instructions, including sealing of overlaps including sealing of overlaps</u></p> <p>Insulation</p> <p><b><u>SHEET METAL FLASHINGS, LININGS, COPINGS, ETC</u></b></p> <p><u>0.6mm Aluminium sheet steel PVDF finish</u></p>                                                                                                                                                                                                                                                                                                                                         | m <sup>2</sup> | 288      |      |       |
| 2.6.7                 |              | Flashings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | m              | 120      |      |       |
| 2.6.8                 |              | Stepped cover flashings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | m              | 120      |      |       |
| 2.6.9                 |              | Stepped cover flashings to roof pitches exceeding 25 degrees                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | m              | 114      |      |       |
| 2.6.10                |              | Aluminium flashing colour to match roof sheeting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | m              | 114      |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                |          |      | R     |

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| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                    | Unit | Quantity | Rate | Price |
|-----------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
|                       |              | <b><u>EAVES, VERGES, ETC</u></b>                                                                                                                                                                                                               |      |          |      |       |
|                       |              | <u>Everite Nutec Fascia Board 041-205 (12x225mm) shall be fixed to rafters with non-corrosive fixings according to manufacturer's instructions</u>                                                                                             |      |          |      |       |
| 2.6.11                |              | Fascias                                                                                                                                                                                                                                        | m    | 29       |      |       |
|                       |              | <u>GRS Chromadek 150x260x 0.8mm bent and reinforced to match Roof Sheeting, fixed to roof structure according to manufacturer's instruction. This selection shall be verified on site to match that of existing buildings in the vicinity.</u> |      |          |      |       |
| 2.6.12                |              | Barge boards                                                                                                                                                                                                                                   | m    | 26       |      |       |
| 2.6.13                |              | Barge boards, including aluminium H-profile joiners etc                                                                                                                                                                                        | m    | 26       |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                |      |          |      | R     |

| Item No. | Payment Ref. | Description                | Unit | Quantity | Rate | Price  |
|----------|--------------|----------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.6</u>           |      |          |      |        |
|          |              | <u>ROOF COVERINGS</u>      |      |          |      |        |
|          |              | <u>COLLECTION</u>          |      |          | Page | Amount |
|          |              | Brought forward from page  |      |          | 20   | R      |
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|          |              | Carried To Section Summary |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Unit | Quantity | Rate | Price |
|-----------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 2.7                   |              | <p><b><u>SECTION 2:</u></b></p> <p><b><u>BILL NO: 7</u></b></p> <p><b><u>CARPENTRY AND JOINERY</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p>References given in descriptions refer to the roof structure detailed on the architect's drawing numbered (accompanying these bills of quantities for tender purposes)</p> <p>Dimensions in descriptions of trusses are nominal and actual measurements are to be obtained from the architect/engineer and/or taken on site before design or fabrication commences</p> <p><b><u>PLATE NAILED TIMBER ROOF TRUSS CONSTRUCTION, ETC</u></b></p> <p>Trusses are at maximum 900mm centres</p> <p><u>Roof coverings are Aluminium sheeting on purlins</u></p> <p>References given in descriptions refer to the respective types of trusses detailed on the architect's/engineer's drawings numbered annexed to these bills of quantities (accompanying these bills of quantities) for tender purposes</p> <p>Dimensions in descriptions of trusses are nominal and actual measurements are to be obtained from the architect/engineer and/or taken on site before design or fabrication commences</p> <p><u>SA Pine grade 6/7 laid straight and level on top of clean brickwork</u></p> |      |          |      |       |
| 2.7.1                 |              | 114 x 38mm Wall plates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | m    | 36       |      |       |
| 2.7.2                 |              | 114 x 38mm Longitudinal bracing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | m    | 36       |      |       |
| 2.7.3                 |              | 114 x 38mm Cross bracing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | m    | 36       |      |       |
| 2.7.4                 |              | Design supply and install mono trusses, size 7500 x2000mm high with 600mm eaves on one side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | No   | 22       |      |       |
| 2.7.5                 |              | Bracings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | m    | 30       |      |       |
| 2.7.6                 |              | <p><u>52 x 76mm grade 6/7 SA pine, secured to rafters at 700mm centres minimum with approved purlin brackets and screws. Roof Specialist manufacturer shall advise adequacy of fixings considering wind loads in the vicinity.</u></p> <p>52 x 76mm Purlins</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | m    | 300      |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                             | Unit | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
|                       |              | <b><u>SKIRTINGS</u></b>                                                                                                                                                                 |      |          |      |       |
|                       |              | <u>Wrought meranti</u>                                                                                                                                                                  |      |          |      |       |
| 2.7.10                |              | 150 x 19mm Skirtings                                                                                                                                                                    | m    | 563      |      |       |
| 2.7.11                |              | 19mm Quadrant bead                                                                                                                                                                      | m    | 563      |      |       |
|                       |              | <b><u>DOORS, ETC</u></b>                                                                                                                                                                |      |          |      |       |
|                       |              | <u>Solid doors</u>                                                                                                                                                                      |      |          |      |       |
| 2.7.12                |              | 44mm Thick semi solid core flush panel door with commercial veneer both sides with rebated meeting styles (D12, D17)                                                                    | no   | 2        |      |       |
| 2.7.13                |              | 44mm Thick semi solid core flush panel door with commercial veneer both sides with rebated meeting styles (D5, D16)                                                                     | no   | 2        |      |       |
| 2.7.14                |              | 44mm Thick semi solid core flush panel door with commercial veneer both sides with rebated meeting styles (D2,)                                                                         | no   | 1        |      |       |
| 2.7.15                |              | 44mm Thick semi solid core flush panel door with commercial veneer both sides with rebated meeting styles. 200mm Undercut as shown. (D1, D3, D4, D6, D7, D9, D10, D11, D14, D15 and 24) | no   | 11       |      |       |
| 2.7.16                |              | 44mm thick solid timber hardwood door with 22mm T&G slats as indicated (D13)                                                                                                            | no   | 1        |      |       |
| 2.7.17                |              | 44mm Thick solid timber hardwood door with full louvres and rebated meeting styles (D8,D18,D19)                                                                                         | no   | 3        |      |       |
| 2.7.18                |              | 44mm Thick solid core flush panel door with commercial veneer both sides with rebated meeting styles (D25)                                                                              | no   | 1        |      |       |
| 2.7.19                |              | Class b fire door as per "bitcoin industries wit 2mm aluminium sheeting, both sides with rebated meeting styles. (D20,D21,D22)                                                          | no   | 3        |      |       |
|                       |              | <b><u>DOOR FRAMES, ETC</u></b>                                                                                                                                                          |      |          |      |       |
|                       |              | <u>Hardwood door frames</u>                                                                                                                                                             |      |          |      |       |
| 2.7.20                |              | 108x108 hardwood with 12mm rebate, provide 19mm hardwood quadrant both sides. Door frame size 929 x 2090                                                                                | no   | 17       |      |       |
| 2.7.21                |              | 108x108 hardwood with 12mm rebate, provide 19mm hardwood quadrant both sides. Door frame size 1730 x 2090                                                                               | no   | 7        |      |       |
| Carried To Collection |              |                                                                                                                                                                                         |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Unit           | Quantity | Rate | Price |
|----------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2.7.22   |              | <p><b><u>CUPBOARDS TO KITCHENS</u></b></p> <p>General</p> <p>The following cupboard fittings have been given as complete units i.e. the components of the units have not been given separately. Descriptions of such units shall, therefore, be deemed to include all components, assembling, housing, notching, glueing, blocking, planting-on and screwing with countersunk screws, edge strips, thermosetting plastic laminate, glass, ironmongery, metalwork, paint or varnish finishes, etc</p> <p>Prices are to include for all necessary filler pieces against walls etc</p> <p>References</p> <p>References given in descriptions refer to the respective types of fittings detailed on the architect's drawing(s) numbered 4087497-0-000-A-DE-0001-01-00TD annexed to these bills of quantities for tender purposes</p> <p><b><u>TIMBER SCREEN</u></b></p> <p><u>Supply and Install Timber Screen</u></p> <p>22 x 55mm BALU timber slat fixed to steel angle with 20mm stainless steel screws counter sunk as per the drawing 4087497-6-000-A-DE-0002-01-0A-TD</p> | m <sup>2</sup> | 50       |      |       |
|          |              | Carried To Collection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |          |      | R     |



| Item No. | Payment Ref. | Description                  | Unit | Quantity | Rate | Price  |
|----------|--------------|------------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.7</u>             |      |          |      |        |
|          |              | <u>CARPENTRY AND JOINERY</u> |      |          |      |        |
|          |              | <u>COLLECTION</u>            |      |          | Page | Amount |
|          |              | Brought forward from page    |      |          | 23   | R      |
|          |              | Brought forward from page    |      |          | 24   | R      |
|          |              | Brought forward from page    |      |          | 25   | R      |
|          |              | Carried To Section Summary   |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                             | Unit | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 2                     |              | <b><u>SECTION 2:</u></b>                                                                                                                                                                                                                                                                                                                |      |          |      |       |
| 2.8                   |              | <b><u>BILL No. 8</u></b>                                                                                                                                                                                                                                                                                                                |      |          |      |       |
|                       |              | <b><u>FURNITURE</u></b>                                                                                                                                                                                                                                                                                                                 |      |          |      |       |
|                       |              | <u>Furniture General Notes</u>                                                                                                                                                                                                                                                                                                          |      |          |      |       |
|                       |              | <u>Sample</u>                                                                                                                                                                                                                                                                                                                           |      |          |      |       |
|                       |              | Sample to be provided prior construction                                                                                                                                                                                                                                                                                                |      |          |      |       |
|                       |              | <u>Shop Drawings</u>                                                                                                                                                                                                                                                                                                                    |      |          |      |       |
|                       |              | Shop Drawings to be provided prior construction                                                                                                                                                                                                                                                                                         |      |          |      |       |
|                       |              | <b><u>DESKS</u></b>                                                                                                                                                                                                                                                                                                                     |      |          |      |       |
| 2.8.1                 |              | 1600L x 800W Performa Folding training Table - Melamine Top                                                                                                                                                                                                                                                                             | No   | 24       |      |       |
| 2.8.2                 |              | 2300L x 2300W - LHS, core top only, melamine 76mm D pole leg - SS, adjustable feet. Central locking desk height pedestal - pen & pencil drawer - 2 standard drawers - 1deep filer drawer - including 500 top, melamine, adjustable feet. Desk height pedestal - including 1 height adjustable shelf, melamine, adjustable feet          | No   | 54       |      |       |
| 2.8.3                 |              | 2300L x 2300W - RHS, core top only, melamine - OS. 76mm D pole leg - SS, adjustable feet. Central locking desk height pedestal - pen & pencil drawer - 2 standard drawers - 1deep filer drawer - including 500 top, melamine, OS adjustable feet. Desk height pedestal - including 1 height adjustable shelf, melamine, adjustable feet | No   | 54       |      |       |
|                       |              | <b><u>FILE CABINET</u></b>                                                                                                                                                                                                                                                                                                              |      |          |      |       |
| 2.8.4                 |              | 1800H x 900L x 500W, hinged door systems cupboard - including 3 steel shelves, adjustable feet, 865L XXXW (900), steel shelf                                                                                                                                                                                                            | No   | 107      |      |       |
|                       |              | <b><u>VISITORS CHAIRS</u></b>                                                                                                                                                                                                                                                                                                           |      |          |      |       |
| 2.8.5                 |              | Victor Visitors Armchair - Black Netted Back - Matt Blac Epoxy Integral Frame (Fabric: Shadow Light Grey)                                                                                                                                                                                                                               | No   | 14       |      |       |
|                       |              | <b><u>OFFICE CHAIRS</u></b>                                                                                                                                                                                                                                                                                                             |      |          |      |       |
| 2.8.6                 |              | Victor High Chair - Black Netted Back - Swivel and Tilt Mechanism - Nylon Base - Flexi Arms (Fabric: Shadow Light Grey)                                                                                                                                                                                                                 | No   | 107      |      |       |
|                       |              | <b><u>CUPBOARD</u></b>                                                                                                                                                                                                                                                                                                                  |      |          |      |       |
| 2.8.7                 |              | Vegas Server Unit - Including 2 Roller Doors and 4 Drawer - 900H x 1800W x 600D - Lockable Doors                                                                                                                                                                                                                                        | No   | 1        |      |       |
|                       |              | <b><u>BOARDROOM CHAIRS</u></b>                                                                                                                                                                                                                                                                                                          |      |          |      |       |
| 2.8.8                 |              | Victor Visitors Armchair - Black Netted Back - Matt Blac Epoxy Integral Frame (Fabric: Shadow Dark Grey)                                                                                                                                                                                                                                | No   | 116      |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                                         |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                | Unit | Quantity | Rate | Price    |
|-----------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|----------|
| 2.8.9                 |              | <b><u>BOARDROOM TABLE</u></b><br>2700L x 1200W Runway Conference Table - 2 Piece Glass Inlay - 8 Seater, Monocote White Veneer                                             | No   | 2        |      |          |
| 2.8.10                |              | 6400L x 1600W Runway Conference Table - 4 Piece Glass Inlay - 18 to 20 Seater, Monocote White Veneer                                                                       | No   | 5        |      |          |
| 2.8.11                |              | <b><u>VISITORS TABLE</u></b><br>1200 Diameter Round Conference Table - X - Base - 4 - Seater                                                                               | No   | 24       |      |          |
| 2.8.12                |              | <b><u>SCREENS</u></b><br>1150W x 500H Desk-based aluminium frame IS screen straight fabric and clear glass. Colour to client's approval                                    | No   | 428      |      |          |
| 2.8.13                |              | <b><u>WASTE BIN</u></b><br>Square Punch Waste Bin 240 Diameter x 300H                                                                                                      | No   | 108      |      |          |
| 2.8.14                |              | <b><u>LETTER TRAY</u></b><br>Square Punch 2 Tier Letter Tray                                                                                                               | No   | 108      |      |          |
| 2.8.15                |              | <b><u>RECEPTION WORKPLACE</u></b><br>LHS Melamine Infinity Curved unit 1/4 2550 Closed Front. Central Locking Mobile Pedestal - Pen and Pencil Drawer - 3 Standard Drawers | No   | 1        |      |          |
| 2.8.16                |              | RHS Melamine Infinity Curved unit 1/4 2550 Closed Front. Central Locking Mobile Pedestal - Pen and Pencil Drawer - 3 Standard Drawers                                      | No   | 1        |      |          |
| 2.8.17                |              | <b><u>SQUARE CANTEEN TABLE</u></b><br>Melamine Square Canteen Table 800 x 800 Black Powder Coated Steel Base                                                               | No   | 2        |      |          |
| 2.8.18                |              | <b><u>ROUND CANTEEN TABLE</u></b><br>Melamine Square Canteen Table 800 x 800 Black Powder Coated Steel Base                                                                | No   | 3        |      |          |
| 2.8.19                |              | <b><u>KITCHEN CHAIRS</u></b><br>Fastline 2 Plastic Canteen Armchair                                                                                                        | No   | 10       |      |          |
| Carried To Collection |              |                                                                                                                                                                            |      |          |      | <b>R</b> |

| Item No. | Payment Ref. | Description                | Unit | Quantity | Rate | Price  |
|----------|--------------|----------------------------|------|----------|------|--------|
|          |              | <u>BILL No. 8</u>          |      |          |      |        |
|          |              | <u>FURNITURE</u>           |      |          |      |        |
|          |              | <u>COLLECTION</u>          |      |          | Page | Amount |
|          |              | Brought forward from page  |      |          | 27   | R      |
|          |              | Brought forward from page  |      |          | 28   | R      |
|          |              | Carried To Section Summary |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2                     |              | <b><u>SECTION 2:</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |          |      |       |
|                       |              | <b><u>BILL NO: 9</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |          |      |       |
| 2.9                   |              | <b><u>CEILINGS, PARTITIONS AND ACCESS FLOORING</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                              |                |          |      |       |
|                       |              | <b><u>PREAMBLES</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |          |      |       |
|                       |              | The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill                                                                                                                                                                                                                                                                                              |                |          |      |       |
|                       |              | All steel components for ceilings, partitions, etc are to be galvanised in accordance with SANS 121                                                                                                                                                                                                                                                                                                                                                                                 |                |          |      |       |
|                       |              | <b><u>SUSPENDED CEILINGS</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |          |      |       |
|                       |              | <u>Supply and install Pelican Econocal calcium silicate ceiling tiles size 600 x 600 x 24mm with white vinyl face finish and aluminium foil backing laid onto pelican econolok pre-painted white exposed tee grid system including fire safety punch outs. Main tees suspended by means of 19 x 0,5mm GMS strap/2,5mm wire hangers at 1200mm centres. Ceiling perimeter to be finished with pre-painted shadow trims as per the Drawing number 4087497-6-000-A-LA-0003-01-0A-TD</u> |                |          |      |       |
| 2.9.1                 |              | Suspended ceiling exceeding 1000mm and not exceeding 2000mm                                                                                                                                                                                                                                                                                                                                                                                                                         | m <sup>2</sup> | 784      |      |       |
| 2.9.2                 |              | Ceilings suspended exceeding 2000m and not exceeding 3000m                                                                                                                                                                                                                                                                                                                                                                                                                          | m <sup>2</sup> | 106      |      |       |
|                       |              | <b><u>PVC CEILING</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |          |      |       |
|                       |              | <u>Supply and install JUMBO steel brandering at 500mm centres. JUMBO suspension bracket 150mm fixed to tie beam/joist using 25mm JUMBO water tek screws. Fix 7mm thick 3000mm gloss speckle PVC ceiling panels using 6mm x 25mm JUMBO drywall screws at 500mm centres as per the Drawing number 4087497-6-000-A-LA-0003-01-0A-TD</u>                                                                                                                                                |                |          |      |       |
| 2.9.3                 |              | Ceiling                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | m <sup>2</sup> | 301      |      |       |
|                       |              | <u>Cornices</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |          |      |       |
| 2.9.4                 |              | Supply and install uPVC cornices                                                                                                                                                                                                                                                                                                                                                                                                                                                    | m              | 563      |      |       |
|                       |              | <b><u>DRYWALL PARTITION</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |          |      |       |
|                       |              | <u>DRWG NO. 4087497-6-000-A-SC-0001-01-0ATD</u>                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |          |      |       |
|                       |              | <u>PelicanSystmes JUMBO DryWALL 51730 with overall thickness of 76mm comprising internal framing formed 51mm galvanised steel studs fixed at 300mm centres to galvanised steel top and bottom track</u>                                                                                                                                                                                                                                                                             |                |          |      |       |
| 2.9.5                 |              | Partitions 3.00m high with bottm and top tracks plugged                                                                                                                                                                                                                                                                                                                                                                                                                             | m              | 144      |      |       |
| 2.9.6                 |              | Partitions 4.15m high with bottm and top tracks plugged                                                                                                                                                                                                                                                                                                                                                                                                                             | m              | 205      |      |       |
| 2.9.7                 |              | Extra over partition 4.15m high for vertical abutment                                                                                                                                                                                                                                                                                                                                                                                                                               | no             | 20       |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                            | Unit | Quantity | Rate | Price    |
|-----------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|----------|
| 2.9.8                 |              | Extra over partition 3m high for vertical abutment                                                                                                                                                                                                                     | no   | 14       |      |          |
| 2.9.9                 |              | Extra over partition 4.15m high for corner                                                                                                                                                                                                                             | no   | 12       |      |          |
| 2.9.10                |              | Extra over partition 3m high for corner                                                                                                                                                                                                                                | no   | 10       |      |          |
| 2.9.11                |              | Extra over partition 4.15m high for T-intersection                                                                                                                                                                                                                     | no   | 14       |      |          |
| 2.9.12                |              | Extra over partition 3m high for T-intersection                                                                                                                                                                                                                        | no   | 12       |      |          |
| 2.9.13                |              | Extra over partition 4.15m high for fair end                                                                                                                                                                                                                           | no   | 2        |      |          |
| 2.9.14                |              | Extra over partition 3m high for fair end                                                                                                                                                                                                                              | no   | 2        |      |          |
| 2.9.15                |              | Extra over partition 4.15m high for irregular corner                                                                                                                                                                                                                   | no   | 4        |      |          |
| 2.9.16                |              | Extra over partition 3m high for irregular corner                                                                                                                                                                                                                      | no   | 2        |      |          |
|                       |              | <b><u>TOILET CUBICLES</u></b>                                                                                                                                                                                                                                          |      |          |      |          |
|                       |              | <u>Vitrex partition to be nearly framed in a natural anodised aluminium channel beading and to be supplied complete with Vitraflex ironmongery, comprising of indicator and keeps, coat hooks cum door stops, rubber buffers, top rails and fixing components (VP)</u> |      |          |      |          |
| 2.9.17                |              | Partition 105 x 1800mm high                                                                                                                                                                                                                                            | no   | 48       |      |          |
| 2.9.18                |              | Standard toilet cubicles door 813 x 1800mm high                                                                                                                                                                                                                        | no   | 17       |      |          |
| 2.9.19                |              | Full stile 210 x 2100mm high                                                                                                                                                                                                                                           | no   | 13       |      |          |
| 2.9.20                |              | End stile 145 x 2100mm high                                                                                                                                                                                                                                            | no   | 5        |      |          |
| 2.9.21                |              | Wall stile 105 x 2100mm high                                                                                                                                                                                                                                           | no   | 13       |      |          |
| 2.9.22                |              | Extra over for chromium plated rising butt hinge                                                                                                                                                                                                                       | no   | 34       |      |          |
| 2.9.23                |              | Extra over for powder coating to aluminium beading, brackets and ironmongery - per cubicle                                                                                                                                                                             | no   | 34       |      |          |
| Carried To Collection |              |                                                                                                                                                                                                                                                                        |      |          |      | <b>R</b> |



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| Item No. | Payment Ref. | Description                                     | Unit | Quantity | Rate | Price  |
|----------|--------------|-------------------------------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.9</u>                                |      |          |      |        |
|          |              | <u>CEILINGS, PARTITIONS AND ACCESS FLOORING</u> |      |          |      |        |
|          |              | <u>COLLECTION</u>                               |      |          | Page | Amount |
|          |              | Brought forward from page                       |      |          | 30   | R      |
|          |              | Brought forward from page                       |      |          | 31   | R      |
|          |              | Carried To Section Summary                      |      |          |      | R      |

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| Item No.              | Payment Ref. | Description                                                                                                                                                                            | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2                     |              | <b><u>SECTION 2:</u></b>                                                                                                                                                               |                |          |      |       |
| 2.10                  |              | <b><u>BILL NO: 10</u></b>                                                                                                                                                              |                |          |      |       |
|                       |              | <b><u>FLOOR COVERINGS, WALL LININGS, ETC</u></b>                                                                                                                                       |                |          |      |       |
|                       |              | <b><u>PREAMBLES</u></b>                                                                                                                                                                |                |          |      |       |
|                       |              | The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill |                |          |      |       |
|                       |              | <b><u>SUPPLEMENTARY PREAMBLES</u></b>                                                                                                                                                  |                |          |      |       |
|                       |              | <u>Fixing</u>                                                                                                                                                                          |                |          |      |       |
|                       |              | Floor coverings, wall linings, etc shall, where applicable, be fixed with adhesive as recommended by the manufacturers of the flooring, linings, etc                                   |                |          |      |       |
|                       |              | <b><u>FLOOR COVERINGS</u></b>                                                                                                                                                          |                |          |      |       |
|                       |              | <u>Supply and lay timber laminated flooring complete with adhesive and trims at thresholds</u>                                                                                         |                |          |      |       |
| 2.10.1                |              | Allow an PC amount of R600/m <sup>2</sup> for laminated flooring and add for labour, wastage, mark-up,etc.                                                                             | m <sup>2</sup> | 162      |      |       |
| 2.10.2                |              | <u>Supply and lay epoxy floor coating</u>                                                                                                                                              |                |          |      |       |
| 2.10.3                |              | Allow an PC amount of R300/m <sup>2</sup> for epoxy floor coating flooring and add for labour, wastage, mark-up,etc.                                                                   | m <sup>2</sup> | 50       |      |       |
|                       |              | <u>500 x 500mm 'Belgotex' 'Earth Rock - Cracked Earth' installed in accordance with manufacturer's instructions and specifications</u>                                                 |                |          |      |       |
| 2.10.4                |              | On floors in offices                                                                                                                                                                   | m <sup>2</sup> | 1780     |      |       |
|                       |              | <u>500 x 500mm 'Belgotex' 'Earth Rock - Cracked Earth' installed in accordance with manufacturer's instructions and specifications</u>                                                 |                |          |      |       |
| 2.10.5                |              | On floors in boardrooms                                                                                                                                                                | m <sup>2</sup> | 188      |      |       |
| Carried To Collection |              |                                                                                                                                                                                        |                |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                                                                                                                         | Unit | Quantity | Rate                  | Price                  |
|----------|--------------|-------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------------|------------------------|
|          |              | <p><u>BILL NO.10</u></p> <p><u>FLOOR COVERINGS, WALL LININGS, ETC</u></p> <p><u>COLLECTION</u></p> <p>Brought forward from page</p> |      |          | <p>Page</p> <p>33</p> | <p>Amount</p> <p>R</p> |
|          |              | Carried To Section Summary                                                                                                          |      |          |                       | R                      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                            | Unit | Quantity | Rate | Price |
|-----------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 2                     |              | <b><u>SECTION 2:</u></b>                                                                                                                                                               |      |          |      |       |
| 2.11                  |              | <b><u>BILL NO: 11</u></b>                                                                                                                                                              |      |          |      |       |
|                       |              | <b><u>IRONMONGERY</u></b>                                                                                                                                                              |      |          |      |       |
|                       |              | <b><u>PREAMBLES</u></b>                                                                                                                                                                |      |          |      |       |
|                       |              | The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill |      |          |      |       |
|                       |              | <u>DRWG NO. 4087497-0-000-A-SC-0002-01-00TD</u>                                                                                                                                        |      |          |      |       |
|                       |              | <b><u>HINGES, BOLTS, ETC</u></b>                                                                                                                                                       |      |          |      |       |
|                       |              | <u>Heavy duty galvanized hinges as supplied with metal frames</u>                                                                                                                      |      |          |      |       |
| 2.11.1                |              | Back to back fixing screws 1.5 pair - Dorma DBB-SS-009 102 x 75 x 3mm stainless steel two ball bearing butt hinges                                                                     | No.  | 5        |      |       |
| 2.11.2                |              | Dorma DBB-SS-009 102x75x3mm stainless steel two ball bearing butt hinge                                                                                                                | No   | 26       |      |       |
|                       |              | <b><u>CATCHES, CABIN HOOKS, ETC</u></b>                                                                                                                                                |      |          |      |       |
| 2.11.3                |              | Coat Hooks, Doma DHC-SS-031-B with rubber buffer                                                                                                                                       | No.  | 1        |      |       |
|                       |              | <b><u>LOCKS</u></b>                                                                                                                                                                    |      |          |      |       |
| 2.11.4                |              | Doma D036S Cylinder Sash lock, Doma DBC006601 SN cylinder                                                                                                                              | No   | 1        |      |       |
| 2.11.5                |              | Dorma D037D euro-profile cylinder stainless steel dead lock                                                                                                                            | No   | 5        |      |       |
| 2.11.6                |              | CISA C2000 0G304-09-12 42.5mm single cylinder, EN1303 Security Grade 3, nickel plated finish                                                                                           | No   | 3        |      |       |
| 2.11.7                |              | CISA C2000 0G300-10-12 42.5mm double cylinder, EN1303 Security Grade 3, nickel plated finish • 2.0 each - Dorma DCE-002 stainless steel euro profile escutcheon                        | No   | 4        |      |       |
| 2.11.8                |              | Dorma DCE-002 stainless steel euro profile escutcheon                                                                                                                                  | No   | 8        |      |       |
| 2.11.9                |              | Dorma D038R Rebate conversion kit for euro-profile locks with 1 D037D/37 deadlock strike                                                                                               | No   | 4        |      |       |
| 2.11.10               |              | D037D/37 deadlock strike                                                                                                                                                               | No   | 1        |      |       |
| 2.11.11               |              | Erebus heavy duty adjustable roller bolt.                                                                                                                                              | No   | 9        |      |       |
| 2.11.12               |              | Howick H400 150x20mm aluminium lever flush                                                                                                                                             | No   | 2        |      |       |
| 2.11.13               |              | Howick H409 600x20mm aluminium lever action flush bolts for timber doors .                                                                                                             | No   | 2        |      |       |
| Carried To Collection |              |                                                                                                                                                                                        |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                             | Unit | Quantity | Rate | Price    |
|-----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|----------|
|                       |              | <b><u>PUSH PLATES AND KICK PLATES</u></b>                                                                                                                               |      |          |      |          |
| 2.11.14               |              | Kick plates 900mm x 0.9mm x width of door stainless steel 316 grade                                                                                                     | No   | 6        |      |          |
| 2.11.15               |              | Dorma DSS4 "Wheelchair" pictogram on 76mm stainless steel plate                                                                                                         | No   | 1        |      |          |
| 2.11.16               |              | Dorma DSS KITCHEN pictogram on 76mm diameter stainless steel plate                                                                                                      | No   | 1        |      |          |
| 2.11.17               |              | Dorma DSS9 FEMALE pictogram on 76mm diameter stainless steel plate                                                                                                      | No   | 1        |      |          |
| 2.11.18               |              | Dorma DSS8 FEMALE pictogram on 76mm diameter stainless steel plate                                                                                                      | No   | 1        |      |          |
| 2.11.19               |              | 300mmx200mmx1mm Stainless Steel Push Plate with 1.0 only -<br>Dorma DPH 301C fitted to architects approval on 150 x 150 x 0.9mm<br>grade 304 stainless steel back plate | No   | 3        |      |          |
|                       |              | <b><u>DOOR CLOSERS</u></b>                                                                                                                                              |      |          |      |          |
|                       |              | <b><u>CLOSERS: For changerooms only, Doma TS91B HO</u></b>                                                                                                              |      |          |      |          |
| 2.11.20               |              | Doma TS 73N/EN3-4 PARALLEL ARM door closer                                                                                                                              | No   | 4        |      |          |
| 2.11.21               |              | Doma TS 83N/EN3-4 PARALLEL ARM door closer                                                                                                                              | No   | 1        |      |          |
| 2.11.22               |              | Dorma PHB 300/3204 series 2 part locking panic touch bar for door leaf                                                                                                  | No   | 1        |      |          |
|                       |              | <b><u>SUNDRIES</u></b>                                                                                                                                                  |      |          |      |          |
|                       |              | <b><u>Stoppers; Doma floor mounted DDS-SS-021</u></b>                                                                                                                   |      |          |      |          |
| 2.11.23               |              | Doma floor mounted DDS-SS-017 stainless steel floor stop                                                                                                                | No   | 5        |      |          |
| 2.11.24               |              | Union 37651 helping hand indicator bolt for paraplegic wc 2.0 each                                                                                                      | No   | 1        |      |          |
| 2.11.25               |              | Dorma DPH301A 305 x 25mm stainless steel "D" shaped straight bolt through pull handle                                                                                   | No   | 2        |      |          |
| 2.11.26               |              | Dorma DPH301C 150 x 19mm stainless steel "D" shaped straight bolt through pull handle                                                                                   | No   | 4        |      |          |
| 2.11.27               |              | DPH207 "T" 500x25mm stainless steel "T" shaped straight back-to-back pull handles                                                                                       | No   | 1        |      |          |
| 2.11.28               |              | DORMA DPS-SS-032 dust proof socket                                                                                                                                      | No   | 3        |      |          |
| 2.11.29               |              | Provide vermin proof screen fixed to door                                                                                                                               | Sum  | 1        |      |          |
| 2.11.30               |              | Provide removable dust filter                                                                                                                                           | Sum  | 1        |      |          |
| Carried To Collection |              |                                                                                                                                                                         |      |          |      | <b>R</b> |



DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                | Unit | Quantity | Rate | Price  |
|----------|--------------|----------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.11</u>          |      |          |      |        |
|          |              | <u>IRONMONGERY</u>         |      |          |      |        |
|          |              | <u>COLLECTION</u>          |      |          | Page | Amount |
|          |              | Brought forward from page  |      |          | 35   | R      |
|          |              | Brought forward from page  |      |          | 36   | R      |
|          |              | Carried To Section Summary |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Unit   | Quantity | Rate | Price |
|-----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------|------|-------|
| 2.12                  |              | <p><b><u>SECTION 2:</u></b></p> <p><b><u>BILL NO: 12</u></b></p> <p><b><u>STRUCTURAL STEELWORK</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill</p> <p><b><u>STEEL COLUMNS AND BEAMS</u></b></p> <p><b><u>GALVANISED STEEL COLUMNS AND BEAMS</u></b></p> <p><u>Welded columns in single lengths with flat base, cap, bearer and connection plates, bolted to concrete</u></p> |        |          |      |       |
| 2.12.1                |              | 152 x 152 x 23 H-section stanchion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | tonnes | 0.48     |      |       |
| 2.12.2                |              | 200 x 200 x 10mm base plate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | tonnes | 0.01     |      |       |
| 2.12.3                |              | 272 x 152 x 10mm end plate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | tonnes | 0.02     |      |       |
|                       |              | <p><b><u>STEEL TRUSSES, RAFTERS, ETC.</u></b></p> <p><b><u>GALVANISED STEEL TRUSSES, RAFTERS, ETC.</u></b></p> <p><u>Welded rafters, tie beams, rails, struts, braces, cleats, etc and flat bearer, gusset and connection plates, bolted to steel</u></p>                                                                                                                                                                                                                                                                                                         |        |          |      |       |
| 2.12.4                |              | 200 IPE Rafters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | tonnes | 0.44     |      |       |
| 2.12.5                |              | 100 x 50 x 3.0mm thick plate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | tonnes | 0.08     |      |       |
| 2.12.6                |              | 50 x 50 x 6.0mm thick angle to be welded to 100 x 50 x 3.0mm thick plate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | tonnes | 0.03     |      |       |
| 2.12.7                |              | 80 x 80 x 6.0mm thick plate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | tonnes | 0.02     |      |       |
| 2.12.8                |              | 100 x 100 x 6.0mm plate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | tonnes | 0.01     |      |       |
|                       |              | <p><b><u>STEEL PURLINS, GIRTS, BRACING, ETC</u></b></p> <p><b><u>GALVANISED STEEL PURLINS, GIRTS, BRACING, ETC</u></b></p> <p><u>Purlins and girts, bolted to steel</u></p>                                                                                                                                                                                                                                                                                                                                                                                       |        |          |      |       |
| 2.12.9                |              | 175 x 75 x 20 x 3.5mm Thick cold-formed lipped channel purlins                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | tonnes | 0.40     |      |       |
|                       |              | <u>Welded bracing, anti-sag rails, etc with flat connection plates, bolted to steel</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |          |      |       |
| 2.12.10               |              | Angle anti-sag rails                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | tonnes | 0.14     |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                          | Unit   | Quantity | Rate | Price    |
|-----------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------|------|----------|
|                       |              | <b><u>BOLTS, FASTENERS, ETC.</u></b>                                                                                                                 |        |          |      |          |
|                       |              | <u>Bolts</u>                                                                                                                                         |        |          |      |          |
| 2.12.11               |              | Grade 8.8 M16 chemical anchors                                                                                                                       | No     | 8        |      |          |
| 2.12.12               |              | Grade 8.8 M16 High tensile bolts                                                                                                                     | No     | 4        |      |          |
| 2.12.13               |              | M16 bolts                                                                                                                                            | No     | 64       |      |          |
| 2.12.14               |              | Custom made hinges to allow gate to open 180°                                                                                                        | No     | 2        |      |          |
|                       |              | <u>Anchors</u>                                                                                                                                       |        |          |      |          |
| 2.12.15               |              | M16 threaded anchor bolt on both sides with 350mm girth embedded in concrete and 100mm above concrete including 60 x 60 x 12mm anchor plate and bolt | No     | 8        |      |          |
|                       |              | <b><u>GROUT</u></b>                                                                                                                                  |        |          |      |          |
| 2.12.16               |              | 25mm thick grout as per engineers details                                                                                                            | m³     | 4        |      |          |
|                       |              | <b><u>PAINTING</u></b>                                                                                                                               |        |          |      |          |
|                       |              | <u>All painting to be done to Transnet's specification HE/9/2/8. Colour to be approved by the Architect.</u>                                         |        |          |      |          |
| 2.12.18               |              | On galvanised structural steel columns, beams, rafters, plates, bracing, purlins, etc.                                                               | tonnes | 1.63     |      |          |
| Carried To Collection |              |                                                                                                                                                      |        |          |      | <b>R</b> |



DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                 | Unit | Quantity | Rate | Price  |
|----------|--------------|-----------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.12</u>           |      |          |      |        |
|          |              | <u>STRUCTURAL STEELWORK</u> |      |          |      |        |
|          |              | <u>COLLECTION</u>           |      |          | Page | Amount |
|          |              | Brought forward from page   |      |          | 38   | R      |
|          |              | Brought forward from page   |      |          | 39   | R      |
|          |              | Carried To Section Summary  |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                                                              | Unit | Quantity | Rate | Price |
|-----------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 2.13                  |              | <p><b><u>SECTION 2:</u></b></p> <p><b><u>BILL NO: 13</u></b></p> <p><b><u>METALWORK</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill</p> <p><b><u>ALUMINIUM WINDOWS, ETC</u></b></p> |      |          |      |       |
| 2.13.1                |              | Wispeco casement system as supplied by wispeco aluminium systems, manufacture shall be in accordance with the manuals as provided by wispeco aluminium system including all associated ironmongery. sW1 size 1200 x 1445mm (Refer to Drw No. 4087497-6-000-A-LA-0005-01-0A-TD)                                                                                           | No   | 1        |      |       |
| 2.13.2                |              | Wispeco casement 38 series aluminium sections to be used manufacturers instruction. Glazing beads and gaskets to suit glass thickness. 6.4mm fad ban laminated glass with 3M vinyl applied to the inside of the glass with natural anodised aluminium including all associated ironmongery. W3 size 2300 x 595mm (Refer to Drw No. 4087497-6-000-A-SC-0002-01-0A-TD)     | No   | 1        |      |       |
| 2.13.3                |              | Wispeco casement 38 series aluminium sections to be used manufacturers instruction. Glazing beads and gaskets to suit glass thickness. 4mm obscure glass finish to be winter hammered pattern with natural anodised aluminium including all associated ironmongery. W2 size 2300 x 595mm (Refer to Drw No. 4087497-6-000-A-SC-0002-01-0A-TD)                             | No   | 2        |      |       |
| 2.13.4                |              | Wispeco casement 38 series aluminium sections to be used manufacturers instruction. Glazing beads and gaskets to suit glass thickness. 6.4mm fad ban laminated glass with 3M vinyl applied to the inside of the glass with natural anodised aluminium including all associated ironmongery. W1 size 1610 x 1190mm (Refer to Drw No. 4087497-6-000-A-SC-0002-01-0A-TD)    | No   | 1        |      |       |
| 2.13.5                |              | Openings for mechanical ducts. W5 size 1500 x 800mm (Refer to Drw No. 4087497-6-000-A-SC-0002-01-0A-TD)                                                                                                                                                                                                                                                                  | No   | 1        |      |       |
| 2.13.6                |              | Openings for mechanical ducts. W6 size 1000 x 800mm (Refer to Drw No. 4087497-6-000-A-SC-0002-01-0A-TD)                                                                                                                                                                                                                                                                  | No   | 1        |      |       |
| 2.13.7                |              | Provide 3 x 10 x 10 aluminium solid bars to all opening sections for window size 1300 x 1000mm (Refer to Drw No. 4087497-6-000-A-SC-0002-01-0A-TD)                                                                                                                                                                                                                       | No   | 4        |      |       |
| 2.13.8                |              | Provide 3 x 10 x 10 aluminium solid bars to all opening sections for window size 1630 x 1530mm (Refer to Drw No. 4087497-6-000-A-SC-0002-01-0A-TD)                                                                                                                                                                                                                       | No   | 7        |      |       |
| 2.13.9                |              | Provide 3 x 10 x 10 aluminium solid bars to all opening sections for window size 520 x 630mm (Refer to Drw No. 4087497-6-000-A-SC-0002-01-0A-TD)                                                                                                                                                                                                                         | No   | 7        |      |       |
| 2.13.10               |              | Provide 3 x 10 x 10 aluminium solid bars to all opening sections for window size 950 x 970mm (Refer to Drw No. 4087497-6-000-A-SC-0002-01-0A-TD)                                                                                                                                                                                                                         | No   | 2        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                                                                          |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                         | Unit           | Quantity | Rate | Price    |
|-----------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|----------|
| 2.13.11               |              | Provide 3 x 10 x 10 aluminium solid bars to all opening sections for window size 1260 x 1430mm (Refer to Drw No. 4087497-6-000-A-SC-0002-01-0A-TD)                                                                                                                                                                  | No             | 4        |      |          |
| 2.13.12               |              | Provide 3 x 10 x 10 aluminium solid bars to all opening sections for window size 2300 x 595mm (Refer to Drw No. 4087497-6-000-A-SC-0002-01-0A-TD)                                                                                                                                                                   | No             | 1        |      |          |
| 2.13.13               |              | Provide 3 x 10 x 10 aluminium solid bars to all opening sections for window size 2300 x 595mm (Refer to Drw No.4087497-6-000-A-SC-0002-01-0A-TD)                                                                                                                                                                    | No             | 2        |      |          |
| 2.13.14               |              | Provide 3 x 10 x 10 aluminium solid bars to all opening sections for window size 1610 x 1190mm (Refer to Drw No.4087497-6-000-A-SC-0002-01-0A-TD)                                                                                                                                                                   | No             | 1        |      |          |
| 2.13.15               |              | Provide 3 x 10 x 10 aluminium solid bars to all opening sections for window size 1610 x 1190mm (Refer to Drw No.4087497-6-000-A-SC-0002-01-0A-TD)                                                                                                                                                                   | No             | 58       |      |          |
| 2.13.16               |              | Provide sand blast film as per 3M shading installed as per manufacturers installation (Refer to Drw No.4087497-6-000-A-SC-0002-01-0A-TD)                                                                                                                                                                            | No             | 28       |      |          |
| 2.13.17               |              | Provide 3M vinyl sand blast film with 20mm boarder all round to windows, shopfront, doors etc. of various sizes all in accordance with (Refer to Drw No.4087497-6-000-A-SC-0002-01-0A-TD)                                                                                                                           | m <sup>2</sup> |          |      |          |
| 2.13.18               |              | Provide 50mm classic basswood blinds as per aluvert, colour natural with all necessary fittings brackets, top and bottom rails to 1970 x 3400 window, installed as per manufacturers instructions (Refer to Drw No. 4087497-6-000-A-SC-0002-01-0A-TD)                                                               | No             | 58       |      |          |
| 2.13.19               |              | Provide solar film SFF S10 shading installed as per manufacturers installation (Refer to Drw No. 4087497-6-000-A-SC-0002-01-0A-TD)                                                                                                                                                                                  | No             | 58       |      |          |
|                       |              | <b><u>ALUMINIUM SHOPFRONTS</u></b>                                                                                                                                                                                                                                                                                  |                |          |      |          |
| 2.13.20               |              | Wispeco shopfront system as supplied by wispeco aluminium systems. Manufacture shall be in accordance with the manuals as provided by wispeco aluminium system. sSF1 size 1781 x 2050 (Refer to Drw No. 4087497-6-000-A-LA-0005-01-0A-TD)                                                                           | No             | 1        |      |          |
| 2.13.21               |              | Wispeco shopfront system as supplied by wispeco aluminium systems. Manufacture shall be in accordance with the manuals as provided by wispeco aluminium system. sSF3 size 931 x 1445 (Refer to Drw No. 4087497-6-000-A-LA-0005-01-0A-TD)                                                                            | No             | 1        |      |          |
| 2.13.22               |              | Wispeco shopfront system as supplied by wispeco aluminium systems. Manufacture shall be in accordance with the manuals as provided by wispeco aluminium system. sSF3 size 2471 x 1445 (Refer to Drw No. 4087497-6-000-A-LA-0005-01-0A-TD)                                                                           | No             | 1        |      |          |
| 2.13.23               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF2,SF3,SF4,SF6,SF25 and SF29 size 1376 x 2090 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD) | No             | 6        |      |          |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                     |                |          |      | <b>R</b> |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                | Unit | Quantity | Rate | Price |
|-----------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 2.13.24               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF5,SF7,SF21 and SF11 size 1376 x 2090 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                | No   | 4        |      |       |
| 2.13.25               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF1 size 3182 x 3040 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                                  | No   | 1        |      |       |
| 2.13.26               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF9 size 2243 x 2090 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                                  | No   | 1        |      |       |
| 2.13.27               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF13 and SF14 size 1730 x 2090 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                        | No   | 2        |      |       |
| 2.13.28               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF32 size 1970 x 4065 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                                 | No   | 1        |      |       |
| 2.13.29               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF30, SF31, SF33, SF34, SF35 and SF36 size 863 x 2090 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD) | No   | 6        |      |       |
| 2.13.30               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF16 and SF17 size 1516 x 2090 (Refer to Drw No.4087497-6-000-A-SC-0003-01-0A-TD)                         | No   | 2        |      |       |
| 2.13.31               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF12 and SF23 size 2013 x 2090 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                        | No   | 2        |      |       |
| 2.13.32               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF24 size 1650 x 2090 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                                 | No   | 1        |      |       |
| 2.13.33               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF20 size 1650 x 2090 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                                 | No   | 1        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                            |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                       | Unit | Quantity | Rate | Price |
|-----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 2.13.34               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF8 size 1675 x 3000 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                         | No   | 1        |      |       |
| 2.13.35               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF27 size 3271 x 4150 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                        | No   | 1        |      |       |
| 2.13.36               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF28 size 3094 x 4150 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                        | No   | 1        |      |       |
| 2.13.37               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF26 size 3110 x 4150 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                        | No   | 1        |      |       |
| 2.13.38               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF18 size 3048 x 2120 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                        | No   | 1        |      |       |
| 2.13.39               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF15 size 1800 x 3620 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                        | No   | 1        |      |       |
| 2.13.40               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF19 size 4740 x 2120 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                        | No   | 1        |      |       |
| 2.13.41               |              | Purpose made Wispec shopfront aluminium frame consisting of compensating head channel, jambs and continuous cill to suit insert panel. Including all fittings, doors, all associated ironmongery, finishes, etc. SF22 size 4740 x 2120 (Refer to Drw No. 4087497-6-000-A-SC-0003-01-0A-TD)                        | No   | 1        |      |       |
| 2.13.42               |              | <b><u>ROLLER SHUTTER DOORS</u></b><br><br>Tilley Heavy duty industrial doors aluminium roller shutter door including 75W x 1mm thick interlocking slats, 150 deep x 3mm thick galvanised guide channels, (50 x 50 x 6mm galvanised bottom bar. Slats to be approved by Architect prior to construction. (D23,D11) | no   | 2        |      |       |
| 2.13.43               |              | <b><u>ALUMINIUM SKIRTING</u></b><br><br>75mm Natural anodised aluminium skirting to P1 Partitions                                                                                                                                                                                                                 | m    | 288      |      |       |
| 2.13.44               |              | 75mm Natural anodised aluminium skirting to P2 Partitions                                                                                                                                                                                                                                                         | m    | 410      |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                   |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                                                                                                                                  | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2.13.45               |              | <b><u>BURGLAR GUARDS</u></b><br><br>Galvanised steel burglar guards to all windows (provisional)                                                                                             | m <sup>2</sup> | 204      |      |       |
| 2.13.46               |              | <b><u>VERMIN PROOF MESH</u></b><br><br>Vermin proof mesh as per Mentis grid 118/VEM 315 F. prime stock installed to the purlin above with washers and screw as per manufacture's instruction | m <sup>2</sup> | 784      |      |       |
| Carried To Collection |              |                                                                                                                                                                                              |                |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                       | Unit | Quantity | Rate | Price  |
|----------|--------------|-----------------------------------|------|----------|------|--------|
|          |              | <b><u>BILL NO.13</u></b>          |      |          |      |        |
|          |              | <b>METALWORK</b>                  |      |          |      |        |
|          |              | <b><u>COLLECTION</u></b>          |      |          | Page | Amount |
|          |              | Brought forward from page         |      |          | 41   | R      |
|          |              | Brought forward from page         |      |          | 42   | R      |
|          |              | Brought forward from page         |      |          | 43   | R      |
|          |              | Brought forward from page         |      |          | 44   | R      |
|          |              | Brought forward from page         |      |          | 45   | R      |
|          |              | <b>Carried To Section Summary</b> |      |          |      | R      |

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| Item No.              | Payment Ref. | Description                                                                                                                                                                                         | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2                     |              | <b><u>SECTION 2:</u></b>                                                                                                                                                                            |                |          |      |       |
| 2.14                  |              | <b><u>BILL NO: 14</u></b>                                                                                                                                                                           |                |          |      |       |
|                       |              | <b><u>PLASTERING</u></b>                                                                                                                                                                            |                |          |      |       |
|                       |              | <b><u>PREAMBLES</u></b>                                                                                                                                                                             |                |          |      |       |
|                       |              | The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill              |                |          |      |       |
|                       |              | <b><u>SCREEDS</u></b>                                                                                                                                                                               |                |          |      |       |
|                       |              | <u>Power floated screed, on concrete</u>                                                                                                                                                            |                |          |      |       |
| 214.1                 |              | 30mm Thick on floors                                                                                                                                                                                | m <sup>2</sup> | 1947     |      |       |
|                       |              | <b><u>INTERNAL PLASTER</u></b>                                                                                                                                                                      |                |          |      |       |
|                       |              | <u>Cement plaster wood floated for tiles, on brickwork</u>                                                                                                                                          |                |          |      |       |
| 2.14.2                |              | On internal walls                                                                                                                                                                                   | m <sup>2</sup> | 382      |      |       |
| 2.14.3                |              | On narrow widths                                                                                                                                                                                    | m <sup>2</sup> | 30       |      |       |
|                       |              | <u>Skim all plastered walls, reveals and corners, not intended for tiling, with 1 coat Gyproc Rhinolite to manufacturer's instruction. Provisional, to be instructed by Architect if necessary.</u> |                |          |      |       |
| 2.14.4                |              | On internal walls                                                                                                                                                                                   | m <sup>2</sup> | 382      |      |       |
| 2.14.5                |              | On narrow widths                                                                                                                                                                                    | m <sup>2</sup> | 30       |      |       |
| Carried To Collection |              |                                                                                                                                                                                                     |                |          |      | R     |



DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                | Unit | Quantity | Rate | Price  |
|----------|--------------|----------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.14</u>          |      |          |      |        |
|          |              | <u>PLASTERING</u>          |      |          |      |        |
|          |              | <u>COLLECTION</u>          |      |          | Page | Amount |
|          |              | Brought forward from page  |      |          | 47   | R      |
|          |              | Carried To Section Summary |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                     | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2                     |              | <b><u>SECTION 2:</u></b>                                                                                                                                                                                                                                                                        |                |          |      |       |
| 2.15                  |              | <b><u>BILL NO: 15</u></b>                                                                                                                                                                                                                                                                       |                |          |      |       |
|                       |              | <b><u>TILING</u></b>                                                                                                                                                                                                                                                                            |                |          |      |       |
|                       |              | <b><u>SUPPLEMENTARY PREAMBLES</u></b>                                                                                                                                                                                                                                                           |                |          |      |       |
|                       |              | <u>Fixing</u>                                                                                                                                                                                                                                                                                   |                |          |      |       |
|                       |              | Unless described as "fixed with adhesive to plaster (plaster elsewhere)" descriptions of tiling on brick or concrete walls, columns, etc shall be deemed to include 1:4 cement plaster backing and descriptions of tiling on concrete floors etc shall be deemed to include 1:3 plaster bedding |                |          |      |       |
|                       |              | Tiling described as "fixed with adhesive on power floated concrete" shall be deemed to include for approved tiling key-coat                                                                                                                                                                     |                |          |      |       |
|                       |              | Ceramic, porcelain, marble and granite tiles are to be fixed and grouted with suitable adhesives and grouts from the Tal Professional ("Ceresit Tylon") range of products as recommended by the manufacturer of the tiles                                                                       |                |          |      |       |
|                       |              | <b><u>FLOOR TILING</u></b>                                                                                                                                                                                                                                                                      |                |          |      |       |
|                       |              | <u>Supply and lay full bodied 600 x 600mm polished porcelain floor tiles colour : off white, complete with adhesive, grouting and trims at thresholds</u>                                                                                                                                       |                |          |      |       |
| 2.15.1                |              | Allow an PC amount of R600/m <sup>2</sup> for 600 x 600mm polished porcelain floor tiles on floors and add for labour, wastage, mark-up,etc.                                                                                                                                                    | m <sup>2</sup> | 386      |      |       |
| 2.15.2                |              | Allow an PC amount of R600/m <sup>2</sup> for 600 x 600mm polished porcelain floor tiles on landings and add for labour, wastage, mark-up,etc.                                                                                                                                                  | m <sup>2</sup> | 5        |      |       |
|                       |              | <u>Ceramic, porcelain, marble and granite tiles are to be fixed and grouted with suitable adhesives and grouts from the Tal Professional ("Ceresit Tylon") range of products as recommended by the manufacturer of the tiles</u>                                                                |                |          |      |       |
| 2.15.3                |              | 600 x 600mm polished porcelain floor tiles cut into 100mm wide strips                                                                                                                                                                                                                           | m              | 183      |      |       |
|                       |              | <b><u>WALL TILES</u></b>                                                                                                                                                                                                                                                                        |                |          |      |       |
|                       |              | <u>Porcelain, marble and granite tiles are to be fixed and grouted with suitable adhesives and grouts from the Tal Professional ("Ceresit Tylon") range of products as recommended by the manufacturer of the tiles</u>                                                                         |                |          |      |       |
| 2.15.4                |              | 300 x 600 Porcelain wall tiles fixed with adhesive to plaster                                                                                                                                                                                                                                   | m <sup>2</sup> | 427      |      |       |
|                       |              | <u>Tiles Skirting</u>                                                                                                                                                                                                                                                                           |                |          |      |       |
| 2.15.5                |              | 100mm porcelain tile skirting cut into straps                                                                                                                                                                                                                                                   | m              | 202      |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                 |                |          |      | R     |



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| Item No. | Payment Ref. | Description                | Unit | Quantity | Rate | Price  |
|----------|--------------|----------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.15</u>          |      |          |      |        |
|          |              | <u>TILING</u>              |      |          |      |        |
|          |              | <u>COLLECTION</u>          |      |          | Page | Amount |
|          |              | Brought forward from page  |      |          | 49   | R      |
|          |              | Carried To Section Summary |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                      | Unit | Quantity | Rate | Price |
|-----------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 2                     |              | <b><u>SECTION 2:</u></b>                                                                                                                                                                                                                                         |      |          |      |       |
| 2.16                  |              | <b><u>BILL NO: 16</u></b>                                                                                                                                                                                                                                        |      |          |      |       |
|                       |              | <b><u>PLUMBING AND DRAINAGE (PROVISIONAL)</u></b>                                                                                                                                                                                                                |      |          |      |       |
|                       |              | <b><u>PREAMBLES</u></b>                                                                                                                                                                                                                                          |      |          |      |       |
|                       |              | The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill                                                                           |      |          |      |       |
|                       |              | <b><u>SANITARY FITTINGS</u></b>                                                                                                                                                                                                                                  |      |          |      |       |
|                       |              | <b><u>Stainless steel sinks</u></b>                                                                                                                                                                                                                              |      |          |      |       |
|                       |              | <b><u>Manufactured by 'Franke'</u></b>                                                                                                                                                                                                                           |      |          |      |       |
| 2.16.1                |              | 1200 x 535mm DEB Grade 304 18/10 polished stainless steel double end bowl drop on sink (code 31208), overall size 1200 x 535mm with two 343 x 410 x 140mm deep bowls, fitted onto cupboard (elsewhere specified) including Spazi F/2 plumbing kit (Code: 301251) | No   | 4        |      |       |
|                       |              | <b><u>Urinals, basins, etc</u></b>                                                                                                                                                                                                                               |      |          |      |       |
|                       |              | <b><u>Manufactured by 'Vaal'</u></b>                                                                                                                                                                                                                             |      |          |      |       |
| 2.16.2                |              | "Vaal" sanitaryware cameo ceramic fireclay self-trimming vanity wash hand basin colour white (Code: 702803), size 550 x 400mm with one taphole                                                                                                                   | No   | 31       |      |       |
| 2.16.3                |              | "Vaal" sanitaryware orchid vitreous China wall hung pan colour white, fixed on and including floor bracket (Code: 8082Z0), comprising 90 degrees outlet open rim top inlet pan WC (Code: 439100)                                                                 | No   | 25       |      |       |
| 2.16.4                |              | "Vaal" sanitaryware 600 x 385 x 380mm Lavatera white vitreous china wall mounted top inlet urinal (Code: 705426)                                                                                                                                                 | No   | 8        |      |       |
|                       |              | <b><u>WASTE UNIONS, ETC.</u></b>                                                                                                                                                                                                                                 |      |          |      |       |
|                       |              | <b><u>Manufactured by 'Cobra'</u></b>                                                                                                                                                                                                                            |      |          |      |       |
| 2.16.5                |              | 38mm waste fitting sink to include project line single lever mixer (code 30565) with overarm swivel spout. with 5 year guarantee on body construction                                                                                                            | No   | 4        |      |       |
| 2.16.6                |              | intergrated overflow and chainstay hole fixed to wall on and including two semi-concealed cast iron brackets (Code: 8184Z0) and sealed with silicone sealant.                                                                                                    | No   | 31       |      |       |
| 2.16.7                |              | 50mm Rubber P or S trap                                                                                                                                                                                                                                          | No   | 4        |      |       |
|                       |              | <b><u>TRAPS, ETC.</u></b>                                                                                                                                                                                                                                        |      |          |      |       |
| 2.16.8                |              | 40mm chromium plated slotted basin waste union                                                                                                                                                                                                                   | No   | 31       |      |       |
| 2.16.9                |              | 38mm chromium plated domical grating (Code: 8787Z0) and chromium plated top inlet spreader (Code:7054Z1)                                                                                                                                                         | No   | 8        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                  |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                        | Unit | Quantity | Rate | Price |
|-----------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 2.16.10               |              | <b><u>Manufactured by 'Cobra'</u></b><br>Bottle trap complete with outlet for 40mm pvc (Code: 365/40)                                                                                                                                              | No   | 31       |      |       |
|                       |              | <b><u>MISCELLANEOUSS ITEMS</u></b>                                                                                                                                                                                                                 |      |          |      |       |
| 2.16.11               |              | <b><u>Manufactured by 'Franke'</u></b><br>Double towel rail (Code BHM12P)                                                                                                                                                                          | No   | 4        |      |       |
| 2.16.12               |              | Hands-free hand dryer HF2400 HD product (Code: 359961)                                                                                                                                                                                             | No   | 15       |      |       |
| 2.16.13               |              | Waste disposal bin STRX 605 product (Code: 359730)                                                                                                                                                                                                 | No   | 20       |      |       |
| 2.16.14               |              | 304 x156 x 140mm, 7mm deep for 2 rolls maximum 108mm diameter, cylinder lock key, plugged and screwed to the wall with stainless stee screws (Product Code: 359721)                                                                                | No   | 24       |      |       |
| 2.16.15               |              | <b><u>Manufactured by 'Vaal'</u></b><br>Soap dish (Code: 715511084)                                                                                                                                                                                | No   | 4        |      |       |
| 2.16.16               |              | <b><u>'Railman Grab Rails'</u></b><br>520 x 520mm Dogleg Grab Rail with 2 Flanges (Ref: DL2)                                                                                                                                                       | No   | 3        |      |       |
| 2.16.17               |              | 750mm Flush Valve Rail (Ref: SR4)                                                                                                                                                                                                                  | No   | 3        |      |       |
| 2.16.18               |              | <b><u>'Waltons'</u></b><br>Single compartment locker comprising of one single shelf with a coat rail, Louvered door and fitted with a HASP & staple, colour blue (Code: 540724)                                                                    | No   | 6        |      |       |
|                       |              | <b><u>TAPS, VALVES, ETC.</u></b>                                                                                                                                                                                                                   |      |          |      |       |
| 2.16.19               |              | <b><u>Manufactured by 'Cobra'</u></b><br>Concealed Eletronic-Meterng Stop Tap in chrome including battery box (batteries not to be included), touch sensor and valve assembly, requires 6 x 'Penlight' AA Alkaline Batteries, (Code: COB-EL-3012). | No   | 4        |      |       |
| 2.16.20               |              | 20mm Watertech exposed W/C junior flushmaster flushvalve with straight chrome plated top entry flushpipe, compression pan connector, wall flange, rubber seat buffer, intergral vacuum breaker and "Ball-O-Stop" control inlet (Code: FJ2.210).    | No   | 24       |      |       |
| 2.16.21               |              | 20mm Watertech exposed Urinal junior flushmaster flushvalve with chrome plated wall flange (Code: FJ6.000).                                                                                                                                        | No   | 8        |      |       |
| 2.16.22               |              | 15mm Watertech Noka chrome plated deck mounted sink mixer with overarm swivel outlet and adjustable flanges (Code: NA-970), manufacturedin accordance with SANS 226:2004 Type 1 (BS 5412).                                                         | No   | 4        |      |       |
| 2.16.23               |              | Vandal proof shower head, singe function, chrome includes 1/2 BSP Male inlet, 10L Min/Maximum flow restrictor self-cleaning spray nozzle and aluminium flow pressure 50 Kpa (Code: COB-KP2-6)                                                      | No   | 4        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                    |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                           | Unit | Quantity | Rate | Price |
|-----------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 2.16.24               |              | Classic star 296 Sink mixer (SANS 226 Type 2)                                                                                         | No   | 27       |      |       |
| 2.16.25               |              | 15mm Elbow Action Pillar Cold Water Tap CP (503-21B)                                                                                  | No   | 3        |      |       |
| 2.16.26               |              | 15mm Pillar Cold Water Tap CP connected in toilets as per architect's details                                                         | No   | 8        |      |       |
|                       |              | <b><u>Manufactured by 'Vaal'</u></b>                                                                                                  |      |          |      |       |
|                       |              | <b><u>SANITARY PLUMBING</u></b>                                                                                                       |      |          |      |       |
|                       |              | <b><u>PVC-U soil and vent pipes</u></b>                                                                                               |      |          |      |       |
| 2.16.27               |              | 110mm diameter uPVC pipe (Class 34)                                                                                                   | m    | 71       |      |       |
|                       |              | <b><u>Extra over PVC-U soil and vent pipes for fittings</u></b>                                                                       |      |          |      |       |
| 2.16.28               |              | 110mm Bend                                                                                                                            | No   | 16       |      |       |
| 2.16.29               |              | 110mm Pan connector                                                                                                                   | No   | 18       |      |       |
| 2.16.30               |              | 110mm Junction                                                                                                                        | No   | 17       |      |       |
| 2.16.31               |              | 50mm Junction                                                                                                                         | No   | 17       |      |       |
| 2.16.32               |              | 50mm Bend                                                                                                                             | No   | 4        |      |       |
| 2.16.33               |              | 110mm Air vent cowl                                                                                                                   | No   | 7        |      |       |
|                       |              | <b><u>uPVC pressure pipes and fittings</u></b>                                                                                        |      |          |      |       |
| 2.16.34               |              | Pipes of 50mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings                           | No   | 36       |      |       |
|                       |              | <b><u>Copper pipes (provisional)</u></b>                                                                                              |      |          |      |       |
| 2.16.35               |              | 15mm Copper pipes                                                                                                                     | m    | 87       |      |       |
| 2.16.36               |              | 20mm Copper pipes                                                                                                                     | m    | 30       |      |       |
|                       |              | <b><u>Copper fittings</u></b>                                                                                                         |      |          |      |       |
| 2.16.37               |              | Reducing tee                                                                                                                          | No   | 58       |      |       |
|                       |              | <b><u>Copper pipes including fixing to walls, etc, casting in, building in or suspending not exceeding 1m below (provisional)</u></b> |      |          |      |       |
| 2.16.38               |              | 15mm Copper pipes                                                                                                                     | m    | 87       |      |       |
| 2.16.39               |              | 20mm Copper pipes                                                                                                                     | m    | 30       |      |       |
|                       |              | <b><u>Testing</u></b>                                                                                                                 |      |          |      |       |
| 2.16.40               |              | Testing waste pipe system                                                                                                             | Item | 1        |      |       |
| Carried To Collection |              |                                                                                                                                       |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                       | Unit | Quantity | Rate | Price |
|-----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
|                       |              | <b><u>ELECTRIC WATER HEATERS</u></b>                                                                                                                              |      |          |      |       |
|                       |              | <b><u>Manufactured by 'Kwikot'</u></b>                                                                                                                            |      |          |      |       |
| 2.16.41               |              | 200 Litre standard 600 dual electric water heater. Geyser to be installed horizontally at 2000mm height                                                           | No   | 2        |      |       |
| 2.16.42               |              | 15 Litre S/S Kwikboil water boiler (Code: KWIKBOIL-15-S/S), size 370 x 230 x 513mm high with s/s tank, steam free boiling water, electronic controls.             | No   | 4        |      |       |
| 2.16.43               |              | 15mm overflow connected to 15mm cold water supply including isolating valve and 230 volt, 2400 Watt plugged and screwed to wall and fitted under 1 year warranty. | No   | 4        |      |       |
|                       |              | <b><u>DRIP TRAYS, TANKS, ETC</u></b>                                                                                                                              |      |          |      |       |
|                       |              | <b><u>Polythene drip tray</u></b>                                                                                                                                 |      |          |      |       |
| 2.16.44               |              | 1160 x 560mm Polythene drip tray supported as per 'Kwikot' specification and installation                                                                         | No   | 2        |      |       |
|                       |              | <b><u>GALVANISED STEEL GUTTERS AND RAINWATER PIPES</u></b>                                                                                                        |      |          |      |       |
| 2.116.45              |              | Box gutters                                                                                                                                                       | m    | 12       |      |       |
| 2.116.46              |              | Down Pipes                                                                                                                                                        | m    | 10       |      |       |
| 2.116.47              |              | Extra Over downpipe for 90 degree bend                                                                                                                            | No.  | 2        |      |       |
| 2.116.48              |              | Extra Over downpipe for 90 degree bend                                                                                                                            | No.  | 2        |      |       |
| Carried To Collection |              |                                                                                                                                                                   |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                                       | Unit | Quantity | Rate | Price  |
|----------|--------------|---------------------------------------------------|------|----------|------|--------|
|          |              | <b><u>BILL NO.16</u></b>                          |      |          |      |        |
|          |              | <b><u>PLUMBING AND DRAINAGE (PROVISIONAL)</u></b> |      |          |      |        |
|          |              | <b><u>COLLECTION</u></b>                          |      |          | Page | Amount |
|          |              | Brought forward from page                         |      |          | 51   | R      |
|          |              | Brought forward from page                         |      |          | 52   | R      |
|          |              | Brought forward from page                         |      |          | 53   | R      |
|          |              | Brought forward from page                         |      |          | 54   | R      |
|          |              | <b>Carried To Section Summary</b>                 |      |          |      | R      |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                                                                                                                            | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2                     |              | <b><u>SECTION 2:</u></b>                                                                                                                                                               |                |          |      |       |
| 2.17                  |              | <b><u>BILL NO: 17</u></b>                                                                                                                                                              |                |          |      |       |
|                       |              | <b><u>GLAZING</u></b>                                                                                                                                                                  |                |          |      |       |
|                       |              | <b><u>PREAMBLES</u></b>                                                                                                                                                                |                |          |      |       |
|                       |              | The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill |                |          |      |       |
|                       |              | <b><u>TOPS, SHELVES, DOORS, MIRRORS, ETC</u></b>                                                                                                                                       |                |          |      |       |
|                       |              | <u>GSA Smartglass images copper-free mirror, glazed in accordance with NBR N Schedule 1 and SABS 0137 fixed to mirror support using den braven mirror silicone</u>                     |                |          |      |       |
| 2.17.1                |              | 900 x 450mm high mirror                                                                                                                                                                | No             | 30       |      |       |
| 2.17.2                |              | 0.5mm clear float glass to aluminium windows                                                                                                                                           | m <sup>2</sup> | 20       |      |       |
| Carried To Collection |              |                                                                                                                                                                                        |                |          |      | R     |



DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                | Unit | Quantity | Rate | Price  |
|----------|--------------|----------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.17</u>          |      |          |      |        |
|          |              | <u>GLAZING</u>             |      |          |      |        |
|          |              | <u>COLLECTION</u>          |      |          | Page | Amount |
|          |              | Brought forward from page  |      |          | 56   | R      |
|          |              | Carried To Section Summary |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                           | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2                     |              | <b><u>SECTION 2:</u></b>                                                                                                                                              |                |          |      |       |
| 2.18                  |              | <b><u>BILL NO: 18</u></b>                                                                                                                                             |                |          |      |       |
|                       |              | <b><u>PAINTWORK</u></b>                                                                                                                                               |                |          |      |       |
|                       |              | <b><u>SUPPLEMENTARY PREAMBLES</u></b>                                                                                                                                 |                |          |      |       |
|                       |              | <b><u>PAINT SPECIFICATIONS</u></b>                                                                                                                                    |                |          |      |       |
|                       |              | All painting shall be done in accordance with "?" specifications unless otherwise described                                                                           |                |          |      |       |
|                       |              | <b><u>COLOURS</u></b>                                                                                                                                                 |                |          |      |       |
|                       |              | Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091                     |                |          |      |       |
|                       |              | <b><u>PAINTWORK ETC TO NEW WORK</u></b>                                                                                                                               |                |          |      |       |
|                       |              | <b><u>ON INTERNAL FLOATED PLASTER SURFACES</u></b>                                                                                                                    |                |          |      |       |
|                       |              | <u>Prepare and apply Plascon new plaster primer, one undercoat and two coats Plascon Cashmere as instructed by Manufacturer. Allow for deep colour to be selected</u> |                |          |      |       |
| 2.18.1                |              | Walls                                                                                                                                                                 | m <sup>2</sup> | 247      |      |       |
| 2.18.2                |              | Ceilings                                                                                                                                                              | m <sup>2</sup> | 62       |      |       |
|                       |              | <b><u>ON PLASTERBOARD SURFACES</u></b>                                                                                                                                |                |          |      |       |
|                       |              | <u>Prepare and paint with minimum 2 coats 'plascon' double velvet' deep colour to arch's instruction</u>                                                              |                |          |      |       |
| 2.18.3                |              | Partitions (P1)                                                                                                                                                       | m <sup>2</sup> | 867      |      |       |
| 2.18.4                |              | Partitions (P2)                                                                                                                                                       | m <sup>2</sup> | 1702     |      |       |
|                       |              | <b><u>ON METAL SURFACES</u></b>                                                                                                                                       |                |          |      |       |
|                       |              | <u>Clean and apply plascon metalcare galvanized iron primer, one undercoats and two finishing coats of plascon metalcare WB enamel (allow for deep colour)</u>        |                |          |      |       |
| 2.18.5                |              | Door                                                                                                                                                                  | m <sup>2</sup> | 17       |      |       |
| 2.18.6                |              | Door frames                                                                                                                                                           | m <sup>2</sup> | 5        |      |       |
| Carried To Collection |              |                                                                                                                                                                       |                |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                              | Unit           | Quantity | Rate | Price    |
|-----------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|----------|
| 2.18.7                |              | <u><b>ON FIBRE-CEMENT BOARD SURFACES</b></u><br><br><u>Prepare and apply Plascon new plaster primer, one undercoat and two coats Plascon Exterior wall &amp; All as instructed by Manufacturer. Allow for deep colour to be selected</u><br><br>Fascias and barge boards | m <sup>2</sup> | 25       |      |          |
| 2.18.8                |              | <u>All exposed roof timbers shall be treated with ABE Carbolineum as per manufacturer's instructions or similar SABS approved treatment</u><br><br>Timber Treatment                                                                                                      | m              | 33       |      |          |
| 2.18.9                |              | <u><b>ON WOOD SURFACES</b></u><br><br><u>Two coats oil wood primer</u><br><br><u>Back of frames, linings, etc not exceeding 300mm wide</u><br><br><u>Prepare and paint with two coats polyurethane silk enamel, colour "Plascon"express range Smudge Pot B3 - E1 -2</u>  |                |          |      |          |
| 2.18.10               |              | Doors                                                                                                                                                                                                                                                                    | m <sup>2</sup> | 71       |      |          |
|                       |              | Door frames etc.                                                                                                                                                                                                                                                         | m <sup>2</sup> | 5        |      |          |
| Carried To Collection |              |                                                                                                                                                                                                                                                                          |                |          |      | <b>R</b> |



| Item No. | Payment Ref. | Description                | Unit | Quantity | Rate | Price  |
|----------|--------------|----------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.18</u>          |      |          |      |        |
|          |              | <u>PAINTWORK</u>           |      |          |      |        |
|          |              | <u>COLLECTION</u>          |      |          | Page | Amount |
|          |              | Brought forward from page  |      |          | 58   | R      |
|          |              | Brought forward from page  |      |          | 59   | R      |
|          |              | Carried To Section Summary |      |          |      | R      |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                             | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2                     |              | <b>SECTION 2:</b>                                                                                                                                                                                                                                                                                                                       |                |          |      |       |
| 2.19                  |              | <b><u>BILL NO 19</u></b>                                                                                                                                                                                                                                                                                                                |                |          |      |       |
|                       |              | <b><u>PAPERHANGING</u></b>                                                                                                                                                                                                                                                                                                              |                |          |      |       |
|                       |              | <b><u>PREAMBLES</u></b>                                                                                                                                                                                                                                                                                                                 |                |          |      |       |
|                       |              | The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill                                                                                                                                                  |                |          |      |       |
|                       |              | <b><u>PAPERHANGING TO EXISTING WORK</u></b>                                                                                                                                                                                                                                                                                             |                |          |      |       |
|                       |              | <b><u>Preparatory work to previously painted surfaces</u></b>                                                                                                                                                                                                                                                                           |                |          |      |       |
|                       |              | Surfaces shall be thoroughly washed down and allowed to dry completely before paperhanging is commenced. Blistered and peeling paint shall be completely removed and cracks shall be opened, filled with a suitable filler and finished smooth. All surfaces shall be painted with a single coat of interior quality PVA emulsion paint |                |          |      |       |
|                       |              | <b><u>Paper backed vinyl wallpaper by 'Design Syndicate' with code 'Muse - MU 1113' fixed to previously painted surfaces in strict accordance to the manufacturer's specifications</u></b>                                                                                                                                              |                |          |      |       |
| 2.19.1                |              | Wall paper to existing partition walls including single coat PVA paint                                                                                                                                                                                                                                                                  | m <sup>2</sup> | 83       |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                                         |                |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                                                                                                   | Unit | Quantity | Rate                  | Price                  |
|----------|--------------|---------------------------------------------------------------------------------------------------------------|------|----------|-----------------------|------------------------|
|          |              | <p><u>BILL NO.19</u></p> <p><u>PAPERHANGING</u></p> <p><u>COLLECTION</u></p> <p>Brought forward from page</p> |      |          | <p>Page</p> <p>61</p> | <p>Amount</p> <p>R</p> |
|          |              | Carried To Section Summary                                                                                    |      |          |                       | R                      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                            | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2                     |              | <b><u>SECTION 2:</u></b>                                                                                                                                                                                               |                |          |      |       |
| 2.20                  |              | <b><u>BILL NO 20</u></b>                                                                                                                                                                                               |                |          |      |       |
|                       |              | <b><u>EXTERNAL WORKS</u></b>                                                                                                                                                                                           |                |          |      |       |
|                       |              | <b><u>PREAMBLES</u></b>                                                                                                                                                                                                |                |          |      |       |
|                       |              | The Contractor is Referred to the relevent Clauses in the separate document General Preambles for Trades (2017) and to the Supplementary Preambles which are incorporated in this Bill                                 |                |          |      |       |
|                       |              | <b><u>SITE CLEARANCE, ETC</u></b>                                                                                                                                                                                      |                |          |      |       |
|                       |              | <u>Site Clearance</u>                                                                                                                                                                                                  |                |          |      |       |
| 2.20.1                |              | Digging up and removing rubbish, debris, vegetation, hedges, shrubs, bush, etc and trees not exceeding 200mm girth                                                                                                     | m <sup>2</sup> | 4966     |      |       |
| 2.20.2                |              | Stripping average 1500m thick layer of top soil and depositing material in prescribed stockpile on site                                                                                                                | m <sup>2</sup> | 4966     |      |       |
| 2.20.3                |              | Rip to a depth of 150mm and re-compact to 95% MOD AASHTO Density                                                                                                                                                       | m <sup>2</sup> | 4966     |      |       |
|                       |              | <b><u>BULK EXCAVATION, FILLING, ETC</u></b>                                                                                                                                                                            |                |          |      |       |
|                       |              | EXCAVATIONS, ETC                                                                                                                                                                                                       |                |          |      |       |
|                       |              | <u>Open face excavation in earth over sloping site</u>                                                                                                                                                                 |                |          |      |       |
| 2.20.4                |              | Open face excavation                                                                                                                                                                                                   | m <sup>3</sup> | 1698     |      |       |
|                       |              | <u>Extra over all excavations for carting away</u>                                                                                                                                                                     |                |          |      |       |
| 2.20.5                |              | Surplus material from excavations and/or stock piles on site, to a dumping site to be located by the contractor                                                                                                        | m <sup>3</sup> | 1929     |      |       |
|                       |              | <u>Risk of collapse of excavations</u>                                                                                                                                                                                 |                |          |      |       |
| 2.20.6                |              | Sides of excavation not exceeding 1.5m deep                                                                                                                                                                            | m <sup>2</sup> | 240      |      |       |
|                       |              | <u>Keeping excavations free of water</u>                                                                                                                                                                               |                |          |      |       |
| 2.20.7                |              | Keeping excavations free of all water other than subterranean water                                                                                                                                                    | Item           | 1        |      |       |
|                       |              | <b><u>FILLING, ETC</u></b>                                                                                                                                                                                             |                |          |      |       |
|                       |              | <u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 90% Mod AASHTO density</u>                                                                                          |                |          |      |       |
| 2.20.8                |              | Backfilling to trenches, holes, etc                                                                                                                                                                                    | m <sup>3</sup> | 8        |      |       |
|                       |              | <u>De-watering of seepage water and water from other subterranean sources in excavations for the duration of contract</u>                                                                                              |                |          |      |       |
| 2.20.9                |              | Provide pumps including all necessary hoses, coupling etc. and allow for setting up various positions of excavations and pumping of subsoil water including disposal into nearby sources as per Works Information (WI) | Item           | 1        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                        |                |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                   | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| 2.20.10               |              | <u>Modified AASHTO Density' test</u><br>Prescribed density tests on filling                                                                                                                                                                   | No             | 15       |      |       |
| 2.20.11               |              | <u>Compaction of surfaces</u><br>Compaction of ground surface under floors etc. including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 98% Mod AASHTO density | m <sup>2</sup> | 4966     |      |       |
| 2.20.12               |              | <b><u>SOIL POISONING</u></b><br><u>Soil insecticide in accordance with SANS 5859</u><br>To bottom and sides of excavations, etc                                                                                                               | m <sup>2</sup> | 5062     |      |       |
| 2.20.13               |              | <u>Earthfilling material to be in accordance to drawing no. 40887497-06-000-C-LA-1-0002-01 REV 01</u><br>Sub-Base course of G6 graded crushed stone compacted to 95% Mod AASHTO density                                                       | m <sup>3</sup> | 726      |      |       |
| 2.20.14               |              | Base course of G4 graded crushed stone compacted to 95% Mod AASHTO density                                                                                                                                                                    | m <sup>3</sup> | 726      |      |       |
| 2.20.1                |              | <u>Earthfilling material to be in accordance to drawing no. 40887497-06-000-S-LA-0006-01 REV 01</u><br>Sub-Base course of G2 graded crushed stone compacted to 95% Mod AASHTO density                                                         | m <sup>3</sup> | 64       |      |       |
| 2.20.16               |              | Sub-Base course of G5 graded crushed stone compacted to 95% Mod AASHTO density                                                                                                                                                                | m <sup>3</sup> | 64       |      |       |
| 2.20.17               |              | UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES<br><u>15MPa/19mm concrete</u><br>50mm thick blinding                                                                                                                                    | m <sup>3</sup> | 9        |      |       |
| 2.20.18               |              | REINFORCE CONCRETE CAST AGAINST EXCAVATED SURFACES<br><u>35MPa/19mm concrete</u>                                                                                                                                                              | m <sup>3</sup> | 8        |      |       |
| 2.20.19               |              | Tank Base<br>Tank Walls                                                                                                                                                                                                                       | m <sup>3</sup> | 3        |      |       |
| 2.20.20               |              | <u>30 MPa/19mm concrete</u><br>Roof Slab                                                                                                                                                                                                      | m <sup>3</sup> | 8        |      |       |
| 2.20.21               |              | <u>25MPa/19mm concrete</u><br>Footings                                                                                                                                                                                                        | m <sup>3</sup> | 23       |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                               |                |          |      | R     |

| Item No. | Payment Ref. | Description                                                                                                                                                                  | Unit           | Quantity | Rate | Price |
|----------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
|          |              | <b><u>REINFORCED CONCRETE CAST ON/IN FORMWORK</u></b>                                                                                                                        |                |          |      |       |
|          |              | <u>25MPa/19mm concrete</u>                                                                                                                                                   |                |          |      |       |
| 2.20.22  |              | Footings                                                                                                                                                                     | m <sup>3</sup> | 8        |      |       |
| 2.20.23  |              | Surface beds                                                                                                                                                                 | m <sup>3</sup> | 46       |      |       |
| 2.20.24  |              | Ramps                                                                                                                                                                        | m <sup>3</sup> | 7        |      |       |
| 2.20.25  |              | Apron                                                                                                                                                                        | m <sup>3</sup> | 11       |      |       |
|          |              | <u>30MPa/19mm concrete</u>                                                                                                                                                   |                |          |      |       |
|          |              | Surface beds                                                                                                                                                                 | m <sup>3</sup> | 15       |      |       |
| 2.20.26  |              | Columns                                                                                                                                                                      | m <sup>3</sup> | 2        |      |       |
| 2.20.27  |              | Bases                                                                                                                                                                        | m <sup>3</sup> | 3        |      |       |
| 2.20.28  |              | Beams                                                                                                                                                                        | m <sup>3</sup> | 2        |      |       |
|          |              | <b><u>CONCRETE SUNDRIES</u></b>                                                                                                                                              |                |          |      |       |
|          |              | <u>Finishing top surfaces of concrete smooth with a wood float</u>                                                                                                           |                |          |      |       |
| 2.20.29  |              | Surface beds, slabs, etc                                                                                                                                                     | m <sup>2</sup> | 187      |      |       |
| 2.20.30  |              | Plinth                                                                                                                                                                       | m <sup>2</sup> | 26       |      |       |
| 2.20.31  |              | Apron slab                                                                                                                                                                   | m <sup>2</sup> | 82       |      |       |
| 2.20.32  |              | Ramps                                                                                                                                                                        | m <sup>2</sup> | 28       |      |       |
|          |              | <b><u>ROUGH FORMWORK (DEGREE OF ACURACYIII)</u></b>                                                                                                                          |                |          |      |       |
|          |              | <u>Rough formwork to sides (Provisional)</u>                                                                                                                                 |                |          |      |       |
| 2.20.33  |              | Edges and risers not exceeding 300mm hi/wide                                                                                                                                 | m              | 140      |      |       |
| 2.20.34  |              | Concrete Walls                                                                                                                                                               | m <sup>2</sup> | 70       |      |       |
| 2.20.35  |              | Colums                                                                                                                                                                       | m <sup>2</sup> | 4        |      |       |
| 2.20.36  |              | Bases                                                                                                                                                                        | m <sup>2</sup> | 4        |      |       |
|          |              | <b><u>MOVEMENT JOINTS ETC</u></b>                                                                                                                                            |                |          |      |       |
|          |              | <u>Two layers of 250 micron dampproof course (One layer of 0.6mm UPVC Plastic) in slip joints between horizontal concrete and brick surfaces including cement mortar bed</u> |                |          |      |       |
| 2.20.37  |              | Exceeding 300mm wide                                                                                                                                                         | m <sup>2</sup> | 80       |      |       |
| 2.20.38  |              | Exceeding 300mm wide                                                                                                                                                         | m <sup>2</sup> | 81       |      |       |

| Item No.                                                                      | Payment Ref. | Description                                                                                                                                                                                                        | Unit           | Quantity | Rate | Price |
|-------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| Carried To Collection                                                         |              |                                                                                                                                                                                                                    |                |          |      | R     |
| 2.20.39                                                                       |              | <u>Isolation joints with 12mm bitumen impregnated softboard between vertical concrete and brick surfaces</u><br>Not exceeding 300mm high to edges of surface beds                                                  | m              | 120      |      |       |
| 2.20.40                                                                       |              | <u>Isolation joints with 12mm bitumen impregnated softboard between vertical concrete surfaces, including necessary formwork</u><br>Not exceeding 300mm high to edges of surface beds, footings, apron, ramps, etc | m              | 155      |      |       |
| 2.20.41                                                                       |              | <u>Saw-cut joints</u><br>6.4 x 20mm Saw-cut joints in top of concrete                                                                                                                                              | m              | 61       |      |       |
| 2.20.42                                                                       |              | 3.4 x 45mm Saw-cut joints in top of concrete                                                                                                                                                                       | m              | 46       |      |       |
| 2.20.43                                                                       |              | 6.4 x 20mm Saw-cut joints in top of concrete with the top 3.4mm decreased to 6.4mm wide                                                                                                                            | m              | 46       |      |       |
| <b><u>REINFORCEMENT (CPAP WORK GROUP NO. 114)</u></b>                         |              |                                                                                                                                                                                                                    |                |          |      |       |
| <u>Fabric reinforcement</u>                                                   |              |                                                                                                                                                                                                                    |                |          |      |       |
|                                                                               |              | Ref 193 Mesh fabric reinforcement in concrete surface beds etc                                                                                                                                                     | m <sup>2</sup> | 136      |      |       |
| <u>Bituminous premix road surfacing</u>                                       |              |                                                                                                                                                                                                                    |                |          |      |       |
| 2.20.44                                                                       |              | 30mm thick asphalt                                                                                                                                                                                                 | m <sup>2</sup> | 4840     |      |       |
| <u>Hack up and remove existing premix and reurfacing</u>                      |              |                                                                                                                                                                                                                    |                |          |      |       |
| 2.20.45                                                                       |              | 30mm thick asphalt                                                                                                                                                                                                 | m <sup>2</sup> | 1204     |      |       |
| <u>Concrete</u>                                                               |              |                                                                                                                                                                                                                    |                |          |      |       |
| 2.20.46                                                                       |              | 150mm thick concrete                                                                                                                                                                                               | sum            | 1        |      |       |
| <u>Parking Shade</u>                                                          |              |                                                                                                                                                                                                                    |                |          |      |       |
| 2.20.47                                                                       |              | Shade covering in the parking area including steel poles, etc                                                                                                                                                      | m <sup>2</sup> | 2210     |      |       |
| 2.20.48                                                                       |              | Entrance canopy including steel poles and roof sheeting size 5m x 3m                                                                                                                                               | sum            | 1        |      |       |
| <b><u>ROAD MARKINGS</u></b>                                                   |              |                                                                                                                                                                                                                    |                |          |      |       |
| <u>Road marking paint as per drawing no. -(4087497-6-000-C-LA-1002-01-TD)</u> |              |                                                                                                                                                                                                                    |                |          |      |       |
| 2.20.49                                                                       |              | Retro-reflective road marking paint:unbroken white lines of 100mm wide                                                                                                                                             | m <sup>2</sup> | 76       |      |       |
| 2.20.50                                                                       |              | Transverse lines, painted island and arrestor bed markings (yellow colour)                                                                                                                                         | m <sup>2</sup> | 10       |      |       |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                   | Unit           | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-------|
| Carried To Collection |              |                                                                                                                                                                                                                                                                                               |                |          |      | R     |
|                       |              | <b><u>Road Signs</u></b>                                                                                                                                                                                                                                                                      |                |          |      |       |
|                       |              | <u>Road sign boards with painted or coloured semi-matt background. Symbols, lettering and borders in semi-matt black or in Class 1 retro-reflective material, where the sign board is constructed from: Prepainted galvanized steel plate (chromadek 1,6 mm thick or approved equivalent)</u> |                |          |      |       |
| 2.20.51               |              | Area not exceeding 2m <sup>2</sup>                                                                                                                                                                                                                                                            | m <sup>2</sup> | 3        |      |       |
|                       |              | <u>Prepainted galvanized steel profiles (200 mm high chromadek or approved equivalent):</u>                                                                                                                                                                                                   |                |          |      |       |
| 2.20.52               |              | Area not exceeding 2m <sup>2</sup>                                                                                                                                                                                                                                                            | m <sup>2</sup> | 3        |      |       |
|                       |              | <u>Extra over item above for using Background of retro-reflective material of:</u>                                                                                                                                                                                                            |                |          |      |       |
| 2.20.53               |              | Class III                                                                                                                                                                                                                                                                                     | m <sup>2</sup> | 3        |      |       |
|                       |              | <u>Lettering, symbols, numbers, arrows, emblems and borders of retro-reflective material</u>                                                                                                                                                                                                  |                |          |      |       |
| 2.20.54               |              | Class III                                                                                                                                                                                                                                                                                     | m <sup>2</sup> | 3        |      |       |
|                       |              | <u>Road sign supports</u>                                                                                                                                                                                                                                                                     |                |          |      |       |
| 2.20.55               |              | 50mm Diameter Steel tubing                                                                                                                                                                                                                                                                    | m              | 10       |      |       |
| 2.20.56               |              | Pipework, etc                                                                                                                                                                                                                                                                                 |                |          |      |       |
|                       |              | <u>Stormwater Drainage</u>                                                                                                                                                                                                                                                                    |                |          |      |       |
| 2.20.57               |              | 450mm Diameter concrete stormwater pipe (Class 100D) including trench approximately 1000mm deep                                                                                                                                                                                               | m              | 184      |      |       |
| 2.20.58               |              | Stormwater manhole type SD2 with Typer 2A cover as per detail drawing (4087497-6-000-C-DE-0001-02-OATD)                                                                                                                                                                                       | No             | 2        |      |       |
| 2.20.59               |              | Tie in to existing 450mm diameter stomwater pipe                                                                                                                                                                                                                                              | No             | 1        |      |       |
| 2.20.60               |              | Replace cover on existing manhole with grating and frame                                                                                                                                                                                                                                      | No             | 1        |      |       |
|                       |              | <u>Sewer</u>                                                                                                                                                                                                                                                                                  |                |          |      |       |
| 2.20.61               |              | 110mm diameter uPVC pipe including trench                                                                                                                                                                                                                                                     | m              | 71       |      |       |
| 2.20.62               |              | Sewer manhole including trench as per drawing no. (4087497-6-000-C-DE-0001-03-OATD)                                                                                                                                                                                                           |                |          |      |       |
|                       |              | <u>Extra Over heavy duty (Class 34) uPVC sewer and drain pipes for fittings</u>                                                                                                                                                                                                               |                |          |      |       |
| 2.20.63               |              | 110mm Rodding eye                                                                                                                                                                                                                                                                             | No             | 2        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                               |                |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                 | Unit | Quantity | Rate | Price |
|-----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
|                       |              | <u>Water Supplies</u>                                                                                                                                                                                       |      |          |      |       |
| 2.20.64               |              | 25mm diameter HDPE water pipe including trench                                                                                                                                                              | m    | 70       |      |       |
| 2.20.65               |              | 150mm diameter flange adaptor                                                                                                                                                                               | No   | 1        |      |       |
| 2.20.66               |              | 25mm diameter flange adaptor                                                                                                                                                                                | No   | 1        |      |       |
| 2.20.67               |              | 150mm diameter to 25mm diameter cast iron bolt on saddle                                                                                                                                                    | No   | 1        |      |       |
| 2.20.68               |              | 90 degree HDPE bend                                                                                                                                                                                         | No   | 1        |      |       |
| 2.20.69               |              | 25mm diameter HDPE end cap                                                                                                                                                                                  | No   | 1        |      |       |
|                       |              | <u>Electrical Manholes</u>                                                                                                                                                                                  |      |          |      |       |
| 2.20.70               |              | Type E2 Manhole including trench as per Drawing (4087497-6-000-C-DE-0001-02-OATD)                                                                                                                           | No   | 11       |      |       |
|                       |              | <u>Fencing</u>                                                                                                                                                                                              |      |          |      |       |
| 2.20.71               |              | Clearing the fence line, 2m wide strip, digging up and remove rubbish, debris, vegetation and hedges, shrubs, bush and trees not exceeding 300mm girth                                                      | m    | 530      |      |       |
|                       |              | <u>Demolition</u>                                                                                                                                                                                           |      |          |      |       |
| 2.20.72               |              | Take down and remove existing steel double gate with two equal leaves fixed to pre-slotted horizontal channels, pre-slotted vertical channels and intermediate diagonal all secured to circular hollow post | No   | 2        |      |       |
|                       |              | Demolition of existing stormwater manholes and pipes                                                                                                                                                        | No   | 2        |      |       |
|                       |              | <u>Kerbing</u>                                                                                                                                                                                              |      |          |      |       |
| 2.20.73               |              | Figure 6 Kerb and channel                                                                                                                                                                                   | m    | 459      |      |       |
| 2.20.74               |              | Figure 12 edging                                                                                                                                                                                            | m    | 12       |      |       |
| 2.20.75               |              | Cast-insitu transition kerbs (1m length)                                                                                                                                                                    | m    | 2        |      |       |
| 2.20.76               |              | Allow for signages including Transnet signage (provisional)                                                                                                                                                 | sum  | 1        |      |       |
| 2.20.77               |              | Setting out and premarking the lines (Excluding traffic-island markings, lettering and symbols)                                                                                                             | sum  | 1        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                             |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                | Unit | Quantity | Rate | Price  |
|----------|--------------|----------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.20</u>          |      |          |      |        |
|          |              | <u>EXTERNAL WORKS</u>      |      |          |      |        |
|          |              | <u>COLLECTION</u>          |      |          | Page | Amount |
|          |              | Brought forward from page  |      |          | 63   | R      |
|          |              | Brought forward from page  |      |          | 64   | R      |
|          |              | Brought forward from page  |      |          | 65   | R      |
|          |              | Brought forward from page  |      |          | 66   | R      |
|          |              | Brought forward from page  |      |          | 67   | R      |
|          |              | Brought forward from page  |      |          | 68   | R      |
|          |              | Carried To Section Summary |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                    | Unit | Quantity | Rate | Price |
|-----------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 3                     |              | <b><u>SECTION 3</u></b>                                                                                                                                                                                                                                                                                        |      |          |      |       |
| 3.1                   |              | <b><u>BILL NO: 1</u></b>                                                                                                                                                                                                                                                                                       |      |          |      |       |
|                       |              | <b><u>ELECTRICAL WORKS: GUARD HOUSE AND PARKING</u></b>                                                                                                                                                                                                                                                        |      |          |      |       |
|                       |              | <b><u>SUPPLEMENTARY PREAMBLES</u></b>                                                                                                                                                                                                                                                                          |      |          |      |       |
|                       |              | <u>Specifications, drawings, etc</u><br>Tenderers are referred to the specification and drawings for the electrical work, for the full descriptions of the following items which are to be read and priced in conjunction with the said specification and drawings                                             |      |          |      |       |
|                       |              | <u>Distribution boards etc</u><br>Rates for distribution boards etc are to include for busbars, jumpers, neutral bars, internal wiring and connections, jumpers, neutral bars, internal wiring and connections, circuit identification markers, control gear labels, circuit legend cards and working drawings |      |          |      |       |
|                       |              | <u>Switches, socket outlets, etc</u><br>Rates for switches, socket outlets, etc are to include for screwing to outlet boxes, connecting up and cover plates                                                                                                                                                    |      |          |      |       |
|                       |              | <u>Light fittings</u><br>Rates for light fittings are to include for hanging, fixing and connecting and for lamp holders and fluorescent tubes and lamps of the type and wattage described                                                                                                                     |      |          |      |       |
|                       |              | <b><u>LIGHTING</u></b>                                                                                                                                                                                                                                                                                         |      |          |      |       |
| 3.1.1                 |              | Supply and Installaton of equal or similar approved to Beka series 300 LED bulkhead (black trim)                                                                                                                                                                                                               | ea   | 1        |      |       |
| 3.1.2                 |              | Supply and installation of new equal or similar approved to Beka VLN LED 40W                                                                                                                                                                                                                                   | ea   | 1        |      |       |
| 3.1.3                 |              | Supply and installation of new equal or similar approved to Beka VLN LED 40W - EMG/15min                                                                                                                                                                                                                       | ea   | 1        |      |       |
| 3.1.4                 |              | Equal or similar approved to BEKA LEDlume-Midi                                                                                                                                                                                                                                                                 | ea   | 10       |      |       |
| 3.1.5                 |              | Supply and installation of equal or similar approved to 6m fibreglass street light pole complete with luminaire mounting spigots, 2.5mm <sup>2</sup> trailing cable, protection switchgear inside the pole and HDG hinged base plate                                                                           | ea   | 10       |      |       |
| 3.1.6                 |              | Supply and Installation of new equal or similar approved to Magnet sch occupancy sensor                                                                                                                                                                                                                        | ea   | 1        |      |       |
|                       |              | <b><u>LIGHT SWITCHES</u></b>                                                                                                                                                                                                                                                                                   |      |          |      |       |
| 3.1.7                 |              | Equal or similar approved to National Photocell, installed in a weather-proof IP65 york box with a clear window.                                                                                                                                                                                               | ea   | 1        |      |       |
| 3.1.8                 |              | Supply and installation of equal or similar approved to one lever one way light switch equal or similar approved to Legrand Arteor 4x2 graphite                                                                                                                                                                | ea   | 2        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                             | Unit | Quantity | Rate | Price |
|-----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 3.1.9                 |              | <b><u>LOW VOLTAGE DISTRIBUTION BOARDS</u></b><br><br>Design, Supply and installation of Distribution Board S, comprising of all the switch gear, earthleakage, surge protection, labelling and wiring as per drawing No:4087497-1-000-E-LA-0003-01 and TPD - 002-DBSPEC | sum  | 1        |      |       |
| 3.1.10                |              | <b><u>CABLE</u></b><br><br>Supply, Delivery, Offloading and Installation of 4mm <sup>2</sup> 2core, PVC, ECC, SWA, copper cable                                                                                                                                         | m    | 280      |      |       |
| 3.1.11                |              | Supply, Delivery, Offloading and Installation of 2.5mm <sup>2</sup> 2core, PVC, ECC, SWA, copper cable                                                                                                                                                                  | m    | 115      |      |       |
| 3.1.12                |              | Supply, Delivery, Offloading and Installation of 16mm <sup>2</sup> 4core, PVC, ECC, SWA, copper cable                                                                                                                                                                   | m    | 70       |      |       |
| 3.1.13                |              | Supply, Delivery, Offloading and Installation of 6mm <sup>2</sup> 2core, PVC, ECC, SWA, copper cable                                                                                                                                                                    | m    | 170      |      |       |
| 3.1.14                |              | <b><u>CABLE TERMINATIONS</u></b><br><br>Supply and termination of the 4mm <sup>2</sup> 2core, PVC, ECC, SWA, copper cable                                                                                                                                               | ea   | 22       |      |       |
| 3.1.15                |              | Supply and termination of the 16mm <sup>2</sup> 4core, PVC, ECC, SWA, copper cable                                                                                                                                                                                      | ea   | 2        |      |       |
| 3.1.16                |              | Supply and termination of the 2.5mm <sup>2</sup> 2core, PVC, ECC, SWA, copper cable                                                                                                                                                                                     | ea   | 8        |      |       |
| 3.1.17                |              | Supply and termination of the 6mm <sup>2</sup> 2core, PVC, ECC, SWA, copper cable                                                                                                                                                                                       | ea   | 2        |      |       |
| 3.1.18                |              | <b><u>WIRING</u></b><br><br>Low Voltage 2.5 mm <sup>2</sup> stranded house wiring for internal wiring - red                                                                                                                                                             | m    | 30       |      |       |
| 3.1.19                |              | Low Voltage 2.5 mm <sup>2</sup> stranded house wiring for internal wiring - white                                                                                                                                                                                       | m    | 30       |      |       |
| 3.1.20                |              | Low Voltage 2.5 mm <sup>2</sup> stranded house wiring for internal wiring - blue                                                                                                                                                                                        | m    | 30       |      |       |
| 3.1.21                |              | Low Voltage 2.5 mm <sup>2</sup> stranded house wiring for internal wiring - black                                                                                                                                                                                       | m    | 30       |      |       |
| 3.1.22                |              | Low Voltage 2.5 mm <sup>2</sup> stranded house wiring for internal wiring - green/yellow                                                                                                                                                                                | m    | 30       |      |       |
| 3.1.23                |              | <b><u>ISOLATORS</u></b><br><br>Supply and Installaton of equal or similar approved to Legrand 20A 230V isolator switch, complete with recessed mount box and coverplate                                                                                                 | each | 2        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                         |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                                                                      | Unit | Quantity | Rate | Price |
|-----------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 3.1.24                |              | <b><u>SOCKET OUTLETS</u></b><br>Equal or similar approved to Legrand Arteor 16A double socket outlet (4x4)                       | each | 1        |      |       |
| 3.1.25                |              | Equal or similar approved to Legrand Arteor 16A single dedicated socket outlet (4x2) installed on power skirting                 | each | 2        |      |       |
| 3.1.26                |              | Equal or similar approved to Legrand 16A single socket outlet (4x2), installed on power skirting                                 | each | 2        |      |       |
| 3.1.27                |              | Equal or similar approved to Legrand 2-tier power skirting (70mm DATA, 70mm ELECTRICAL), including bends, covers, fixings, etc   | m    | 5        |      |       |
|                       |              | <b><u>PVC PRODUCTS, SLEEVES AND CONDUITS ACCESSORIES</u></b>                                                                     |      |          |      |       |
|                       |              | <b><u>PVC Conduit and Sleeves</u></b>                                                                                            |      |          |      |       |
| 3.1.28                |              | 20 mm diameter PVC conduit, boxes,couples adapters and accessories                                                               | sum  | 1        |      |       |
|                       |              | <b><u>Channels and Trunking</u></b>                                                                                              |      |          |      |       |
| 3.1.29                |              | PVC trunking Wiring Consumable accessories including Lugs, Ferrules, Terminal Blocks, Screws,connections, compression glands etc | sum  | 1        |      |       |
|                       |              | <b><u>EARTHING AND LIGHTNING PROTECTION</u></b>                                                                                  |      |          |      |       |
| 3.1.30                |              | Design, Supply and installation of the building earthing, bonding, bonding bar, and other accessories                            | sum  | 1        |      |       |
|                       |              | <b><u>TESTING AND COMMISSIONING</u></b>                                                                                          |      |          |      |       |
| 3.1.31                |              | Testing and Commissioning of complete installation in accordance to SANS 10142-1 including the issue of COC certificates         | sum  | 1        |      |       |
| Carried To Collection |              |                                                                                                                                  |      |          |      | R     |

| Item No. | Payment Ref. | Description                                      | Unit | Quantity | Rate | Price  |
|----------|--------------|--------------------------------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.1</u>                                 |      |          |      |        |
|          |              | <u>ELECTRICAL WORKS: GUARD HOUSE AND PARKING</u> |      |          |      |        |
|          |              | <u>COLLECTION</u>                                |      |          | Page | Amount |
|          |              | Brought forward from page                        |      |          | 70   | R      |
|          |              | Brought forward from page                        |      |          | 71   | R      |
|          |              | Brought forward from page                        |      |          | 72   | R      |
|          |              | Carried To Section Summary                       |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                  | Unit | Quantity | Rate | Price |
|-----------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 3                     |              | <b><u>SECTION 3</u></b>                                                                                                                                                                                                                                                      |      |          |      |       |
| 3.2                   |              | <b><u>BILL NO: 2</u></b>                                                                                                                                                                                                                                                     |      |          |      |       |
|                       |              | <b><u>ELECTRICAL WORKS: OFFICES</u></b>                                                                                                                                                                                                                                      |      |          |      |       |
|                       |              | <b><u>SUPPLEMENTARY PREAMBLES</u></b>                                                                                                                                                                                                                                        |      |          |      |       |
|                       |              | <u>Specifications, drawings, etc</u>                                                                                                                                                                                                                                         |      |          |      |       |
|                       |              | Tenderers are referred to the specification and drawings for the electrical work, for the full descriptions of the following items which are to be read and priced in conjunction with the said specification and drawings                                                   |      |          |      |       |
|                       |              | <u>Distribution boards etc</u>                                                                                                                                                                                                                                               |      |          |      |       |
|                       |              | Rates for distribution boards etc are to include for busbars, jumpers, neutral bars, internal wiring and connections, jumpers, neutral bars, internal wiring and connections, circuit identification markers, control gear labels, circuit legend cards and working drawings |      |          |      |       |
|                       |              | <u>Switches, socket outlets, etc</u>                                                                                                                                                                                                                                         |      |          |      |       |
|                       |              | Rates for switches, socket outlets, etc are to include for screwing to outlet boxes, connecting up and cover plates                                                                                                                                                          |      |          |      |       |
|                       |              | <u>Light fittings</u>                                                                                                                                                                                                                                                        |      |          |      |       |
|                       |              | Rates for light fittings are to include for hanging, fixing and connecting and for lamp holders and fluorescent tubes and lamps of the type and wattage described                                                                                                            |      |          |      |       |
|                       |              | <b><u>LIGHTING</u></b>                                                                                                                                                                                                                                                       |      |          |      |       |
| 3.2.1                 |              | Supply and Installation of new equal or similar approved to TLF LED panel (600 x 600 mm)                                                                                                                                                                                     | ea   | 23       |      |       |
| 3.2.2                 |              | supply and installation of new equal or similar approved to TLF LED panel - EMG/15min (600 x 600mm)                                                                                                                                                                          | ea   | 13       |      |       |
| 3.2.3                 |              | Supply and Installaton of equal or similar approved to TLF LED panel (600 x 1200mm)                                                                                                                                                                                          | ea   | 61       |      |       |
| 3.2.4                 |              | Supply and Installaton of equal or similar approved to TLF LED panel - EMG/15Min (600 x 1200mm)                                                                                                                                                                              | ea   | 37       |      |       |
| 3.2.5                 |              | Supply and installation of new equal or similar approved to Beka VLN LED 40W                                                                                                                                                                                                 | ea   | 6        |      |       |
| 3.2.6                 |              | Supply and installation of new equal or similar approved to Beka VLN LED 40W - EMG/15min                                                                                                                                                                                     | ea   | 2        |      |       |
| 3.2.7                 |              | Equal or similar approved to BEKA Rondo H, 22W LED downlighter luminaire                                                                                                                                                                                                     | ea   | 25       |      |       |
| 3.2.8                 |              | Equal or similar approved to BEKA Rondo H, 22W LED Emergency downlighter luminaire                                                                                                                                                                                           | ea   | 12       |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                              |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                          | Unit | Quantity | Rate | Price    |
|-----------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|----------|
| 3.2.9                 |              | Supply and Installaton of equal or similar approved to Beka series 300 LED bulkhead (black trim) mounted on the wall                                 | ea   | 14       |      |          |
| 3.2.10                |              | Supply and Installaton of equal or similar approved to Spazio capri up/down light 12W (black)                                                        | ea   | 4        |      |          |
| 3.2.11                |              | Supply and Installation of new equal or similar approved to TLF/SM/LN755-LIN 60W LED/OS                                                              | ea   | 254      |      |          |
| 3.2.12                |              | Supply and Installation of new equal or similar approved to TLF/SM/LN755-LIN 60W LED/OS/EMG                                                          | ea   | 46       |      |          |
| 3.2.13                |              | Equal or similar approved to BEKA EC LED 35-11W                                                                                                      | ea   | 116      |      |          |
| 3.2.14                |              | Supply and Installaton of equal or similar approved to poiled round panel18W/4000K                                                                   | ea   | 19       |      |          |
| 3.2.15                |              | Supply and Installaton of equal or similar approved to poiled round panel 18W/4000K - EMG/15Min                                                      | ea   | 5        |      |          |
| 3.2.16                |              | Supply and installation of equal or similar approved to Regent Viola 25W/4000K decorative pendant                                                    | ea   | 5        |      |          |
| 3.2.17                |              | Supply and installation of equal or similar approved to Regent Viola 48W/4000K decorative pendant                                                    | ea   | 6        |      |          |
| 3.2.18                |              | Supply and Installation of new equal or similar approved to BEKA LEDLume Midi 53W                                                                    | each | 2        |      |          |
| 3.2.19                |              | Supply and Installation of new equal or similar approved to Magnet sch occupancy sensor                                                              | each | 41       |      |          |
|                       |              | <b><u>LIGHT SWITCHES</u></b>                                                                                                                         |      |          |      |          |
| 3.2.20                |              | Equal or Similar approved to Schneider SCH occupancy sensor                                                                                          | ea   | 36       |      |          |
| 3.2.21                |              | Equal or similar approved to National Photocell, installed in a weather-proof IP65 york box with a clear window.                                     | ea   | 1        |      |          |
| 3.2.22                |              | Supply and Installaton of equal or similar approved to 16A dimmer light switch equal or similar to legrand arteor 4x2 graphite                       | ea   | 8        |      |          |
| 3.2.23                |              | Supply and installation of equal or similar approved to one lever two way light switch equal or similar to legrand arteor 4x2 graphite               | ea   | 4        |      |          |
| 3.2.24                |              | Supply and installation of equal or similar approved to one lever one way switch equal or similar approved to legrand arteor 4x2 graphite            | ea   | 21       |      |          |
| 3.2.25                |              | Supply and installation of equal or similar approved to one lever intermediate light switch equal or similar approved to legrand arteor 4x2 graphite | ea   | 2        |      |          |
| Carried To Collection |              |                                                                                                                                                      |      |          |      | <b>R</b> |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                      | Unit | Quantity | Rate | Price |
|-----------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
|                       |              | <b><u>LOW VOLTAGE DISTRIBUTION BOARDS</u></b>                                                                                                                                                                    |      |          |      |       |
| 3.2.26                |              | Design,Supply and installation of Distribution Board A ,comprising of all the switch gear, earthleakage,surge protection, labelling and wiring as per drawing No:4087497-0-000-E-LA-0004-01 and TPD - 002-DBSPEC | sum  | 1        |      |       |
| 3.2.27                |              | Design,Supply and installation of Distribution Board B ,comprising of all the switch gear, earthleakage,surge protection, labelling and wiring as per drawing No:4087497-0-000-E-LA-0004-01 and TPD - 002-DBSPEC | sum  | 1        |      |       |
| 3.2.28                |              | Design,Supply and installation of Distribution Board C ,comprising of all the switch gear, earthleakage,surge protection, labelling and wiring as per drawing No:4087497-0-000-E-LA-0004-01 and TPD - 002-DBSPEC | sum  | 1        |      |       |
|                       |              | <b><u>CABLE</u></b>                                                                                                                                                                                              |      |          |      |       |
| 3.2.29                |              | Supply, Delivery, Offloading and Installation of 50mm <sup>2</sup> , 4 core, PVC, ECC, copper cable                                                                                                              | m    | 135      |      |       |
| 3.2.30                |              | Supply, Delivery, Offloading and Installation of 2.5mm <sup>2</sup> ,2 core, PVC, ECC, SWA, copper cable                                                                                                         | m    | 70       |      |       |
| 3.2.31                |              | Supply, Delivery, Offloading and Installation of 6mm <sup>2</sup> ,4 core, ECC, Cu, PVC insulated, steel wire armoured and PVC sheated cable                                                                     | m    | 3        |      |       |
|                       |              | <b><u>CABLE TERMINATIONS</u></b>                                                                                                                                                                                 |      |          |      |       |
| 3.2.32                |              | Termination of 6mm <sup>2</sup> , 4 core, PVC, ECC, copper cable                                                                                                                                                 | each | 6        |      |       |
| 3.2.33                |              | Termination of 50mm <sup>2</sup> , 4 core, PVC, ECC, copper cable                                                                                                                                                | each | 2        |      |       |
| 3.2.34                |              | Termination of 2.5mm <sup>2</sup> , 2 core, PVC, ECC, copper cable                                                                                                                                               | m    | 2        |      |       |
|                       |              | <b><u>WIRING</u></b>                                                                                                                                                                                             |      |          |      |       |
| 3.2.35                |              | Low Voltage 2.5 mm <sup>2</sup> stranded house wiring for internal wiring - red                                                                                                                                  | m    | 8000     |      |       |
| 3.2.36                |              | Low Voltage 2.5 mm <sup>2</sup> stranded house wiring for internal wiring - white                                                                                                                                | m    | 8000     |      |       |
| 3.2.37                |              | Low Voltage 2.5 mm <sup>2</sup> stranded house wiring for internal wiring - blue                                                                                                                                 | m    | 8000     |      |       |
| 3.2.38                |              | Low Voltage 2.5 mm <sup>2</sup> stranded house wiring for internal wiring - black                                                                                                                                | m    | 8000     |      |       |
| 3.2.39                |              | Low Voltage 2.5 mm <sup>2</sup> stranded house wiring for internal wiring - green/yellow                                                                                                                         | m    | 8000     |      |       |
| 3.2.40                |              | Low Voltage 4 mm <sup>2</sup> stranded house wiring for internal wiring - red                                                                                                                                    | m    | 50       |      |       |
| 3.2.41                |              | Low Voltage 4 mm <sup>2</sup> stranded house wiring for internal wiring - white                                                                                                                                  | m    | 50       |      |       |
| 3.2.42                |              | Low Voltage 4 mm <sup>2</sup> stranded house wiring for internal wiring - blue                                                                                                                                   | m    | 50       |      |       |
| 3.2.43                |              | Low Voltage 4 mm <sup>2</sup> stranded house wiring for internal wiring - black                                                                                                                                  | m    | 50       |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                  |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                       | Unit | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 3.2.44                |              | Low Voltage 4 mm <sup>2</sup> stranded house wiring for internal wiring - green/yellow                                                                                            | m    | 50       |      |       |
|                       |              | <b><u>ISOLATORS</u></b>                                                                                                                                                           |      |          |      |       |
| 3.2.45                |              | Equal or similar approved to Legrand Arteor 20A single phase cordgrip isolator                                                                                                    | each | 64       |      |       |
| 3.2.46                |              | Equal or similar approved to Legrand Arteor 20A single phase isolator.                                                                                                            | each | 4        |      |       |
| 3.2.47                |              | Equal or similar approved to Legrand Arteor 20A single phase weatherproof isolator                                                                                                | each | 3        |      |       |
| 3.2.48                |              | Equal or similar approved to Legrand Arteor 20A weather proof three phase isolator                                                                                                | each | 3        |      |       |
| 3.2.49                |              | Equal or similar approved to Legrand Arteor 20A three phase isolator.                                                                                                             | each | 6        |      |       |
| 3.2.50                |              | Equal or similar approved to Legrand Arteor 32A weatherproof three phase isolator                                                                                                 | each | 4        |      |       |
| 3.2.51                |              | Equal or similar approved to Legrand Arteor 63A weatherproof three phase isolator                                                                                                 | each | 4        |      |       |
|                       |              | <b><u>SOCKET OUTLETS</u></b>                                                                                                                                                      |      |          |      |       |
| 3.2.52                |              | Equal or similar approved to Legrand Arteor 16A double socket outlet (4x4)                                                                                                        | each | 8        |      |       |
| 3.2.53                |              | Equal or similar approved to Legrand Arteor 16A single dedicated socket outlet (4x2) installed on power skirting                                                                  | each | 170      |      |       |
| 3.2.54                |              | Equal or similar approved to Legrand 16A single socket outlet (4x2), installed on power skirting                                                                                  | each | 100      |      |       |
| 3.2.55                |              | Equal or similar approved to Legrand 16A single socket outlet (4x2)                                                                                                               | each | 25       |      |       |
| 3.2.56                |              | Equal or similar approved to Legrand 16A weather proof single socket outlet (4x2)                                                                                                 | each | 10       |      |       |
| 3.2.57                |              | Equal or similar approved to Legrand 2-tier power skirting (70mm DATA, 70mm ELECTRICAL), including bends, covers, fixings, etc                                                    | m    | 480      |      |       |
| 3.2.58                |              | Equal or similar approved to multiplug pull-up tower with 2 x 16A RSA (164-1), 2 x 16A slimline (164-2) and 1 x RJ45 module with 3.5m power lead and 16A slimline (164-2) plugtop | each | 146      |      |       |
| 3.2.59                |              | Equal or similar approved to legrand socket outlet with 2 x 16A slimline (164-2) and 2 x RJ45 modules installed in underfloor box with lid                                        | each | 64       |      |       |
| Carried To Collection |              |                                                                                                                                                                                   |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                       | Unit | Quantity | Rate | Price |
|-----------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 3.2.60                |              | <b><u>PVC PRODUCTS, SLEEVES AND CONDUIT ACCESSORIES</u></b><br>32mm sleeve pipes chased in the floor                                                                                                                                              | m    | 255      |      |       |
| 3.2.61                |              | <b><u>PVC Conduit and Sleeves</u></b><br>32 mm Diameter PVC conduit, boxes,couples adapters and accessories                                                                                                                                       | sum  | 1        |      |       |
| 3.2.62                |              | 20 mm diameter PVC conduit, boxes,couples adapters and accessories                                                                                                                                                                                | sum  | 1        |      |       |
| 3.2.63                |              | <b><u>Channels and Trunking</u></b><br>PVC trunking Wiring Consumable accessories including Lugs, Ferrules, Terminal Blocks, Screws,connections, compression glands etc                                                                           | sum  | 1        |      |       |
| 3.2.64                |              | <b><u>CABLE WAYS</u></b><br>Equal or similar approved to OLIVE P2000 unistrut complete with suspension attachment at 1.5m intervals with bends and lids (3CR12 powder coated white)                                                               | 3m   | 194      |      |       |
| 3.2.65                |              | Equal or similar approved to OLIVE PS75 heavy duty 300mm wide cable ladder complete with accessories and suspension attachment at 1.5m intervals with bends and lids (stainless steel 3CR12)                                                      | 3m   | 53       |      |       |
| 3.2.66                |              | <b><u>EXISTING ELECTRICAL EQUIPMENT</u></b><br>Stripping and removal of all existing electrical cabling, DB's, lighting, wire ways and kiosk                                                                                                      | sum  | 1        |      |       |
| 3.2.67                |              | <b><u>EARTHING AND LIGHTNING PROTECTION</u></b><br>Design, Supply and installation of the building earthing, bonding and lightning protection including down conductors, conduits for running down conductors, bonding bar, and other accessories | sum  | 1        |      |       |
| 3.2.68                |              | <b><u>TESTING AND COMMISSIONING</u></b><br>Testing and Commissioning of complete installation in accordance to SANS 10142-1 including the issue of COC certificates                                                                               | sum  | 1        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                   |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                             | Unit | Quantity | Rate | Price  |
|----------|--------------|-----------------------------------------|------|----------|------|--------|
|          |              | <b><u>BILL NO.2</u></b>                 |      |          |      |        |
|          |              | <b><u>ELECTRICAL WORKS: OFFICES</u></b> |      |          |      |        |
|          |              | <b><u>COLLECTION</u></b>                |      |          | Page | Amount |
|          |              | Brought forward from page               |      |          | 74   | R      |
|          |              | Brought forward from page               |      |          | 75   | R      |
|          |              | Brought forward from page               |      |          | 76   | R      |
|          |              | Brought forward from page               |      |          | 77   | R      |
|          |              | Brought forward from page               |      |          | 78   | R      |
|          |              | <b>Carried To Section Summary</b>       |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                               | Unit | Quantity | Rate | Price |
|-----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 3                     |              | <b><u>SECTION 3</u></b>                                                                                                                                                                                                                                                                   |      |          |      |       |
| 3.3                   |              | <b><u>BILL NO: 3</u></b>                                                                                                                                                                                                                                                                  |      |          |      |       |
|                       |              | <b><u>ELECTRICAL WORKS: EXISTING SUBSTATION EQUIPMENT</u></b>                                                                                                                                                                                                                             |      |          |      |       |
|                       |              | <b><u>SUPPLEMENTARY PREAMBLES</u></b>                                                                                                                                                                                                                                                     |      |          |      |       |
|                       |              | <u>Specifications, drawings, etc</u>                                                                                                                                                                                                                                                      |      |          |      |       |
|                       |              | Tenderers are referred to the specification and drawings for the electrical work, for the full descriptions of the following items which are to be read and priced in conjunction with the said specification and drawings                                                                |      |          |      |       |
|                       |              | <u>Distribution boards etc</u>                                                                                                                                                                                                                                                            |      |          |      |       |
|                       |              | Rates for distribution boards etc are to include for busbars, jumpers, neutral bars, internal wiring and connections, jumpers, neutral bars, internal wiring and connections, circuit identification markers, control gear labels, circuit legend cards and working drawings              |      |          |      |       |
|                       |              | <u>Switches, socket outlets, etc</u>                                                                                                                                                                                                                                                      |      |          |      |       |
|                       |              | Rates for switches, socket outlets, etc are to include for screwing to outlet boxes, connecting up and cover plates                                                                                                                                                                       |      |          |      |       |
|                       |              | <u>Light fittings</u>                                                                                                                                                                                                                                                                     |      |          |      |       |
|                       |              | Rates for light fittings are to include for hanging, fixing and connecting and for lamp holders and fluorescent tubes and lamps of the type and wattage described                                                                                                                         |      |          |      |       |
|                       |              | <b><u>This activity shall be carried out by the contractor in accordance with the proposed method statement regarding switching and isolation philosophy of busbar sections. Contractor to advise the Project Manager at least four (4) weeks prior to commencing with this item.</u></b> |      |          |      |       |
| 3.3.1                 |              | Allowance for de-energising and energising of the existing transformer. This activity shall be carried out by the contractor in accordance with the proposed method statement regarding switching and isolation of busbar sections inline with the existing Single Line Diagrams          | sum  | 1        |      |       |
| 3.3.2                 |              | Modification of existing Low Voltage Distribution Board at Admin Quay Substation                                                                                                                                                                                                          | sum  | 1        |      |       |
|                       |              | <b><u>STANDBY DIESEL GENERATOR PLANT</u></b>                                                                                                                                                                                                                                              |      |          |      |       |
| 3.3.3                 |              | Supply and Installation of 1 MVA, 4 –Pole, 3 – phase, 50Hz, 400V rated Standby Diesel Generator Plant complete with base support structure and fuel tank                                                                                                                                  | sum  | 1        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                           |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Unit | Quantity | Rate | Price |
|-----------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 3.3.4                 |              | Supply and Installation of Mains/Standby Automatic Change over Panel with electrical distribution board. The Panel shall contain similar or equal approved to OTM 1600E series Automatic Transfer switch rated; 4 – Pole, 400V, 1600A with a handle for manual operation. Panel shall be fully equipped with a cable glanding plate, metering equipment, protective earth bar and all necessary mechanical supports accessories. The Panel shall be made of 3CR12 type stainless steel, powder coated to 40 microns and painted orange with the essential section being red in colour | sum  | 1        |      |       |
|                       |              | <b><u>CABLING</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |          |      |       |
| 3.3.5                 |              | Supply, Delivery, Offloading and Installation of 240mm <sup>2</sup> , 4 core, ECC, Cu, PVC insulated, steel wire armoured and PVC sheathed cable                                                                                                                                                                                                                                                                                                                                                                                                                                      | m    | 400      |      |       |
| 3.3.6                 |              | Supply and Installation of 240mm <sup>2</sup> , single core, ECC, Cu, PVC insulated, steel wire armoured and PVC sheathed cable                                                                                                                                                                                                                                                                                                                                                                                                                                                       | m    | 250      |      |       |
|                       |              | <b><u>CABLE TERMINATIONS</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |          |      |       |
| 3.3.7                 |              | Supply and termination of the 240mm <sup>2</sup> 4core, PVC, ECC, SWA, copper cable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | each | 4        |      |       |
| 3.3.8                 |              | Supply and termination of the 240mm <sup>2</sup> , single core, PVC, ECC, SWA, copper cable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | each | 16       |      |       |
|                       |              | <b><u>TESTING AND COMMISSIONING</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |          |      |       |
| 3.3.9                 |              | Testing and Commissioning of complete installation in accordance to SANS 10142-1 including the issue of COC certificates                                                                                                                                                                                                                                                                                                                                                                                                                                                              | sum  | 1        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |          |      | R     |



| Item No. | Payment Ref. | Description                                            | Unit | Quantity | Rate | Price  |
|----------|--------------|--------------------------------------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.3</u>                                       |      |          |      |        |
|          |              | <u>ELECTRICAL WORKS: EXISTING SUBSTATION EQUIPMENT</u> |      |          |      |        |
|          |              | <u>COLLECTION</u>                                      |      |          | Page | Amount |
|          |              | Brought forward from page                              |      |          | 80   | R      |
|          |              | Brought forward from page                              |      |          | 81   | R      |
|          |              | Carried To Section Summary                             |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                              | Unit | Quantity | Rate | Price    |
|-----------------------|--------------|--------------------------------------------------------------------------------------------------------------------------|------|----------|------|----------|
| <b>3</b>              |              | <b><u>SECTION 3</u></b>                                                                                                  |      |          |      |          |
|                       |              | <b><u>BILL NO: 4</u></b>                                                                                                 |      |          |      |          |
| <b>3.4</b>            |              | <b><u>ELECTRICAL WORKS: SOLAR PANELS</u></b>                                                                             |      |          |      |          |
| 3.4.1                 |              | Kiosk 1, Complete with Switchgear                                                                                        | each | 1        |      |          |
| 3.4.2                 |              | 2.5mm², 2 core ECC, PVC copper Cable                                                                                     | m    | 40       |      |          |
| 3.4.3                 |              | 4mm² 2core, PVC, ECC, copper cable                                                                                       | m    | 105      |      |          |
| 3.4.4                 |              | 60W TLF LED                                                                                                              | each | 3        |      |          |
| 3.4.5                 |              | Jasolar JAM72S20 460/MR Mono MBB percium, half-cell silver frame, short frame MC4 photovoltaic panels.                   | each | 5        |      |          |
| 3.4.6                 |              | Enphase Envoy-S, Metered, Communications Gateway Data Transmission Unit (DTU)                                            | each | 1        |      |          |
| 3.4.7                 |              | Enphase IQ7 Micro Inverter                                                                                               | each | 5        |      |          |
| 3.4.8                 |              | AC Cable                                                                                                                 | each | 5        |      |          |
| 3.4.9                 |              | DC Cable                                                                                                                 | each | 5        |      |          |
| 3.4.10                |              | End Clip                                                                                                                 | each | 6        |      |          |
| 3.4.11                |              | ARaymond 1.5mm - 6m Solar Snap Aluminium Mounting Rail                                                                   | 6m   | 3        |      |          |
| 3.4.12                |              | ARaymond PowAR Snap-S Anti Theft Fastener Clip - 4 Pack                                                                  | each | 8        |      |          |
| 3.4.13                |              | 3-way Junction Boxes (including connector block)                                                                         | each | 4        |      |          |
| 3.4.14                |              | 2-way Junction Boxes (including connector block)                                                                         | each | 1        |      |          |
| 3.4.15                |              | Silicon Insert to be installed between panels                                                                            | each | 4        |      |          |
| 3.4.16                |              | Enphase Q Cables, Assessories and Connectors                                                                             | Sum  | 1        |      |          |
| 3.4.17                |              | Labour                                                                                                                   | Sum  | 1        |      |          |
| 3.4.18                |              | Earthing and Lightning Protection                                                                                        | Sum  | 1        |      |          |
| 3.4.19                |              | Testing and Commissioning of complete installation in accordance to SANS 10142-1 including the issue of COC certificates | Sum  | 1        |      |          |
| Carried To Collection |              |                                                                                                                          |      |          |      | <b>R</b> |



DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                                            | Unit | Quantity | Rate | Price  |
|----------|--------------|--------------------------------------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.4</u>                                       |      |          |      |        |
|          |              | <u>ELECTRICAL WORKS: EXISTING SUBSTATION EQUIPMENT</u> |      |          |      |        |
|          |              | <u>COLLECTION</u>                                      |      |          | Page | Amount |
|          |              | Brought forward from page                              |      |          | 83   | R      |
|          |              | Brought forward from page                              |      |          | 84   | R      |
|          |              | Carried To Section Summary                             |      |          |      | R      |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                                   | Unit | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------------------------------------------|------|----------|------|-------|
| 4                     |              | <b><u>SECTION 4:</u></b>                                                                      |      |          |      |       |
| 4.1                   |              | <b><u>BILL NO 1</u></b>                                                                       |      |          |      |       |
| 4.1.1                 |              | <b><u>CONTROLS AND INSTRUMENTATION: ACCESS CONTROL</u></b>                                    |      |          |      |       |
|                       |              | Provide a Sum of R 1 050 000.00 (One Million and Fifty Thousand Rands Only)for Access Control | Sum  | 1        |      |       |
| Carried To Collection |              |                                                                                               |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                                                                                                                                  | Unit | Quantity | Rate                  | Price                  |
|----------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------------|------------------------|
|          |              | <p><u>BILL NO.1</u></p> <p><u>CONTROLS AND INSTRUMENTATION: ACCESS CONTROL</u></p> <p><u>COLLECTION</u></p> <p>Brought forward from page</p> |      |          | <p>Page</p> <p>85</p> | <p>Amount</p> <p>R</p> |
|          |              | Carried To Section Summary                                                                                                                   |      |          |                       | R                      |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                                      | Unit | Quantity | Rate | Price |
|-----------------------|--------------|--------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 4                     |              | <b><u>SECTION 4:</u></b>                                                                         |      |          |      |       |
| 4.2                   |              | <b><u>BILL NO 2</u></b>                                                                          |      |          |      |       |
| 4.2.1                 |              | <b><u>CONTROLS AND INSTRUMENTATION: CCTV</u></b>                                                 |      |          |      |       |
|                       |              | Provide a Sum of R 2 150 000.00 (Two Million One Hundred and Fifty Thousand Rands Only) for CCTV | sum  | 1        |      |       |
| Carried To Collection |              |                                                                                                  |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                                                                                                                                                   | Unit | Quantity | Rate                                                                        | Price                                                                        |
|----------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------|
|          |              | <u>BILL NO.2</u><br><br><u>CONTROLS AND INSTRUMENTATION: CCTV</u><br><br><u>COLLECTION</u><br><br><p style="text-align: right;">Brought forward from page</p> |      |          | <p style="text-align: right;">Page</p> <p style="text-align: right;">87</p> | <p style="text-align: right;">Amount</p> <p style="text-align: right;">R</p> |
|          |              | Carried To Section Summary                                                                                                                                    |      |          |                                                                             | R                                                                            |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                                         | Unit | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 4                     |              | <b><u>SECTION 4:</u></b>                                                                            |      |          |      |       |
|                       |              | <b><u>BILL NO 3</u></b>                                                                             |      |          |      |       |
| 4.3                   |              | <b><u>CONTROLS AND INSTRUMENTATION: ICT PROVISION</u></b>                                           |      |          |      |       |
|                       |              | <b><u>OFFICE BUILDING INTERIOR: ICT PROVISION</u></b>                                               |      |          |      |       |
| 4.3.1                 |              | Provide a Sum of R 1 100 000.00 (One Million and One Hundred Thousand Rands Only) for ICT Provision | sum  | 1        |      |       |
| Carried To Collection |              |                                                                                                     |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                                                                                                                                 | Unit | Quantity | Rate                  | Price                  |
|----------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------------|------------------------|
|          |              | <p><u>BILL NO.3</u></p> <p><u>CONTROLS AND INSTRUMENTATION: ICT PROVISION</u></p> <p><u>COLLECTION</u></p> <p>Brought forward from page</p> |      |          | <p>Page</p> <p>89</p> | <p>Amount</p> <p>R</p> |
|          |              | Carried To Section Summary                                                                                                                  |      |          |                       | R                      |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                             | Unit | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------------------------------------|------|----------|------|-------|
| 4                     |              | <b><u>SECTION 4:</u></b>                                                                |      |          |      |       |
|                       |              | <b><u>BILL NO 4</u></b>                                                                 |      |          |      |       |
| 4.4                   |              | <b><u>CONTROLS AND INSTRUMENTATION: PA SYSTEM</u></b>                                   |      |          |      |       |
| 4.4.1                 |              | Provide a Sum of R 150 000.00 (One Hundred and Fifty Thousand Rands Only) for PA System | sum  | 1        |      |       |
| Carried To Collection |              |                                                                                         |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                                                                                                                             | Unit | Quantity | Rate                  | Price                  |
|----------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------------|------------------------|
|          |              | <p><u>BILL NO.4</u></p> <p><u>CONTROLS AND INSTRUMENTATION: PA SYSTEM</u></p> <p><u>COLLECTION</u></p> <p>Brought forward from page</p> |      |          | <p>Page</p> <p>91</p> | <p>Amount</p> <p>R</p> |
|          |              | Carried To Section Summary                                                                                                              |      |          |                       | R                      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                            | Unit | Quantity | Rate | Price |
|-----------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 5                     |              | <b><u>SECTION 5:</u></b>                                                                                                                                                                                                                                                                               |      |          |      |       |
| 5.1                   |              | <b><u>BILL NO: 1</u></b>                                                                                                                                                                                                                                                                               |      |          |      |       |
|                       |              | <b><u>MECHANICAL WORK</u></b>                                                                                                                                                                                                                                                                          |      |          |      |       |
|                       |              | <b><u>SUPPLEMENTARY PREAMBLES</u></b>                                                                                                                                                                                                                                                                  |      |          |      |       |
|                       |              | <b><u>Working Conditions:</u></b>                                                                                                                                                                                                                                                                      |      |          |      |       |
|                       |              | The contractor is to allow for all costs in this regard in the tender price                                                                                                                                                                                                                            |      |          |      |       |
|                       |              | <b><u>Specifications, drawings, etc:</u></b>                                                                                                                                                                                                                                                           |      |          |      |       |
|                       |              | Tenderers are referred to the specification accompanying these bills of quantities for the mechanical work, for the full descriptions of the following items which are to be read and priced in conjunction with the said specification                                                                |      |          |      |       |
|                       |              | <b><u>Ductwork:</u></b>                                                                                                                                                                                                                                                                                |      |          |      |       |
|                       |              | Where transformations or reducers occur the larger size ductwork has been measured through the fitting. Descriptions of ductwork shall be deemed to include stiffeners, jointing materials, sealants, couplers in the running length and access/inspection panels in accordance with the specification |      |          |      |       |
|                       |              | <b><u>GUARANTEE AND MAINTENANCE</u></b>                                                                                                                                                                                                                                                                |      |          |      |       |
| 5.1.1                 |              | Guarantee and maintenance for the complete installation of mechanical equipment and systems including materials and workmanship for a period of TWELVE MONTHS after date of completion                                                                                                                 | sum  | 1        |      |       |
|                       |              | <b><u>REMOVAL OF WASTE</u></b>                                                                                                                                                                                                                                                                         |      |          |      |       |
| 5.1.2                 |              | Tenderer to allow for all costs associated with cleaning the site of all rubbish and waste caused by this contract                                                                                                                                                                                     | sum  | 1        |      |       |
|                       |              | <b><u>COMMISSIONING AND TESTING</u></b>                                                                                                                                                                                                                                                                |      |          |      |       |
| 5.1.3                 |              | Allow for testing and commissioning the entire Mechanical Installation as laid down in the specification as well as in compliance to the Plant manufacturer and for re-testing as may be required after the making good of all defective work to the satisfaction of the Employer's Engineer.          | sum  | 1        |      |       |
|                       |              | <b><u>CERTIFICATE FOR COMPLIANCE</u></b>                                                                                                                                                                                                                                                               |      |          |      |       |
| 5.1.4                 |              | Provision for Compliance certificates including but not limited to SAQCC gas certificate, and ASIB compliance certificate to be issued on completion of the project.                                                                                                                                   | sum  | 1        |      |       |
|                       |              | <b><u>WORKSHOP DRAWINGS</u></b>                                                                                                                                                                                                                                                                        |      |          |      |       |
| 5.1.5                 |              | Provision of complete Builders work layouts in PDF and DWG format. The drawings shall include all support details, positions of openings and power requirements. The Contractor shall complete the Builders work drawings after having done clash detection between all different services.            | sum  | 1        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                        |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                                                                                | Unit | Quantity | Rate | Price |
|-----------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 5.1.6                 |              | <b><u>EQUIPMENT APPROVAL</u></b><br>Equipment Procurement Submissions for Employer's Engineers Approval.                                   | sum  | 1        |      |       |
| 5.1.5                 |              | <b><u>RIGGING SCAFFOLDING</u></b><br>Provision of Rigging and Scaffolding for installation of equipment at high level.                     | sum  | 1        |      |       |
| 5.1.6                 |              | <b><u>OPERATION AND MAINTENANCE MANUALS</u></b><br>Provision of Operating and Maintenance Manuals as per the Technical Specification.      | sum  | 1        |      |       |
| 5.1.7                 |              | <b><u>TRAINING</u></b><br>Provision of training the Employer's staff on operation and maintenance of the mechanical equipment and systems. | sum  | 1        |      |       |
| 5.1.8                 |              | Project Hand-over                                                                                                                          | sum  | 1        |      |       |
| Carried To Collection |              |                                                                                                                                            |      |          |      | R     |

| Item No. | Payment Ref. | Description                    | Unit | Quantity | Rate | Price  |
|----------|--------------|--------------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.1</u>               |      |          |      |        |
|          |              | <u>SUPPLEMENTARY PREAMBLES</u> |      |          |      |        |
|          |              | <u>COLLECTION</u>              |      |          | Page | Amount |
|          |              | Brought forward from page      |      |          | 93   | R      |
|          |              | Brought forward from page      |      |          | 94   | R      |
|          |              | Carried To Section Summary     |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                     | Unit | Quantity | Rate | Price |
|-----------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 5                     |              | <b><u>SECTION 5:</u></b>                                                                                                                                                                        |      |          |      |       |
| 5.2                   |              | <b><u>BILL NO: 2</u></b>                                                                                                                                                                        |      |          |      |       |
|                       |              | <b><u>MECHANICAL WORK</u></b>                                                                                                                                                                   |      |          |      |       |
|                       |              | <b><u>HVAC (HEATING, VENTILATION AND AIR CONDITIONING)</u></b>                                                                                                                                  |      |          |      |       |
|                       |              | <u>Air conditioning indoor unit as per Tender Drawings</u>                                                                                                                                      |      |          |      |       |
| 5.2.1                 |              | 1-way Ceiling Cassette Indoor Unit: IAC-1, Cooling Capacity-5.6kW                                                                                                                               | No.  | 2        |      |       |
| 5.2.2                 |              | 4-way Ceiling Cassette Indoor Unit: IAC-2, Cooling Capacity-2.8kW                                                                                                                               | No.  | 11       |      |       |
| 5.2.3                 |              | 4-way Ceiling Cassette Indoor Unit: IAC-3, Cooling Capacity-3.6kW                                                                                                                               | No.  | 1        |      |       |
| 5.2.4                 |              | 4-way Ceiling Cassette Indoor Unit: IAC-4, Cooling Capacity-4.5kW                                                                                                                               | No.  | 1        |      |       |
| 5.2.5                 |              | 4-way Ceiling Cassette Indoor Unit: IAC-5, Cooling Capacity-5.6kW                                                                                                                               | No.  | 3        |      |       |
| 5.2.6                 |              | 4-way Ceiling Cassette Indoor Unit: IAC-6, Cooling Capacity-8.2kW                                                                                                                               | No.  | 4        |      |       |
| 5.2.7                 |              | 4-way Ceiling Cassette Indoor Unit: IAC-7, Cooling Capacity-10.6kW                                                                                                                              | No.  | 2        |      |       |
| 5.2.8                 |              | 4-way Ceiling Cassette Indoor Unit: IAC-8, Cooling Capacity-15.8kW                                                                                                                              | No.  | 2        |      |       |
| 5.2.9                 |              | Concealed Ceiling Air Conditioning Indoor Unit: IAC-9, Cooling Capacity-15.8kW                                                                                                                  | No.  | 2        |      |       |
| 5.2.10                |              | Concealed Ceiling Air Conditioning Indoor Unit: IAC-10, Cooling Capacity-22.4kW                                                                                                                 | No.  | 3        |      |       |
| 5.2.11                |              | Concealed Ceiling Air Conditioning Indoor Unit: IAC-11, Cooling Capacity-28.0kW                                                                                                                 | No.  | 2        |      |       |
| 5.2.12                |              | Concealed Ceiling Air Conditioning Indoor Unit: IAC-12, Cooling Capacity-28.0kW                                                                                                                 | No.  | 5        |      |       |
| 5.2.13                |              | Wall Mounted Split Air Conditioning Indoor Unit: AC-GF-22, Cooling Capacity-2.5kW                                                                                                               | No.  | 1        |      |       |
|                       |              | <u>Air conditioning outdoor unit as per Conceptual Drawings</u>                                                                                                                                 |      |          |      |       |
| 5.2.14                |              | Supply, deliver, rig into position if necessary, install and commission air conditioning units into place with all its components and the necessary support to hold the air conditioning units. |      |          |      |       |
| 5.2.15                |              | VRF Heat Recovery Outdoor Unit: OAC-1, Cooling Capacity-212.8kW                                                                                                                                 | No.  | 2        |      |       |
| 5.2.16                |              | Condenser Outdoor Unit: ODU-GF-02, Cooling Capacity-5.0kW                                                                                                                                       | No.  | 1        |      |       |
|                       |              | <u>Heat Recovery Units</u>                                                                                                                                                                      |      |          |      |       |
| 5.2.17                |              | Heat Recovery Box (4 Port):HR6                                                                                                                                                                  | No.  | 6        |      |       |
| 5.2.18                |              | Heat Recovery Box (6 Port):HR7                                                                                                                                                                  | No.  | 3        |      |       |
| 5.2.19                |              | Heat Recovery Box (8 Port):HR8                                                                                                                                                                  | No.  | 1        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                 |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                              | Unit | Quantity | Rate | Price |
|-----------------------|--------------|------------------------------------------------------------------------------------------|------|----------|------|-------|
|                       |              | <u>Accessories</u>                                                                       |      |          |      |       |
| 5.2.20                |              | Wired Remote Controllers                                                                 | No.  | 32       |      |       |
| 5.2.21                |              | Central BACnet Controller                                                                | No.  | 1        |      |       |
|                       |              | <u>Air Terminals</u>                                                                     |      |          |      |       |
|                       |              | <u>SG1</u>                                                                               |      |          |      |       |
| 5.2.22                |              | Supply Air Diffuser (Swirl Type) with mounting frame and adjustable damper               | No.  | 8        |      |       |
|                       |              | <u>SG2</u>                                                                               |      |          |      |       |
| 5.2.23                |              | Supply Air Diffuser (Swirl Type) with mounting frame and adjustable damper               | No.  | 10       |      |       |
|                       |              | <u>SG3</u>                                                                               |      |          |      |       |
| 5.2.24                |              | Supply Air Side Wall Grille with mounting frame and adjustable damper                    | No.  | 50       |      |       |
|                       |              | <u>SG4</u>                                                                               |      |          |      |       |
| 5.2.25                |              | Supply Air Diffuser (Disk type) with mounting frame and adjustable damper                | No.  | 12       |      |       |
|                       |              | <u>SG5</u>                                                                               |      |          |      |       |
| 5.2.26                |              | Supply Air Diffuser (Swirl Type) with mounting frame and adjustable damper               | No.  | 20       |      |       |
|                       |              | <u>RG1</u>                                                                               |      |          |      |       |
| 5.2.27                |              | Return air grille (disk type), mounting frame and adjustable damper                      | No.  | 15       |      |       |
|                       |              | <u>RG2</u>                                                                               |      |          |      |       |
| 5.2.28                |              | Return air grille, mounting frame and adjustable damper                                  | No.  | 24       |      |       |
|                       |              | <u>Supply and Extract Air Fans</u>                                                       |      |          |      |       |
|                       |              | <u>F1</u>                                                                                |      |          |      |       |
| 5.2.29                |              | Wall/window mounted extraction fan, 179 L/s,                                             | No.  | 5        |      |       |
|                       |              | <u>F2</u>                                                                                |      |          |      |       |
| 5.2.30                |              | Ducted axial extraction air fan, 1130 L/s, the fan must overcome a pressure drop of 44Pa | No.  | 1        |      |       |
|                       |              | <u>F3</u>                                                                                |      |          |      |       |
| 5.2.31                |              | Ducted axial supply air fan, 1715 L/s, the fan must overcome a pressure drop of 308Pa    | No.  | 1        |      |       |
|                       |              | <u>F4</u>                                                                                |      |          |      |       |
| 5.2.32                |              | Ducted axial supply air fan, 1120 L/s, the fan must overcome a pressure drop of 341Pa    | No.  | 2        |      |       |
|                       |              | <u>F4</u>                                                                                |      |          |      |       |
| 5.2.33                |              | Roof mounted, ducted axial smoke extraction fan, 10 000L/s                               | No.  | 2        |      |       |
| Carried To Collection |              |                                                                                          |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                         | Unit | Quantity | Rate | Price |
|-----------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 5.2.34                |              | <u>Ductwork</u><br><br>All Ductwork to be manufactured from galvanised sheet metal and installed in accordance with SABS 1238 and SABS 0173. Round ducting to be of the spiral wound type unless indicated otherwise. All prices shall include for the ductwork to be insulated as per the technical specification. |      |          |      |       |
|                       |              | <u>Fresh Air Ductwork</u>                                                                                                                                                                                                                                                                                           |      |          |      |       |
| 5.2.35                |              | 1200x600 mm duct                                                                                                                                                                                                                                                                                                    | m    | 11       |      |       |
| 5.2.36                |              | Smooth radius elbow, without vanes (1200x600mm)                                                                                                                                                                                                                                                                     | No.  | 1        |      |       |
| 5.2.37                |              | 800x450 mm duct                                                                                                                                                                                                                                                                                                     | m    | 6        |      |       |
| 5.2.38                |              | 90 degree elbow (800x450), double thickness vanes                                                                                                                                                                                                                                                                   | No.  | 1        |      |       |
| 5.2.39                |              | 45 degree entry branch, diverging (800x450 to 200x150mm)                                                                                                                                                                                                                                                            | No.  | 1        |      |       |
| 5.2.40                |              | Reducer fitting (800x450 to 550x350mm)                                                                                                                                                                                                                                                                              | No.  | 1        |      |       |
| 5.2.41                |              | 200x150 mm duct                                                                                                                                                                                                                                                                                                     | m    | 21       |      |       |
| 5.2.42                |              | Ø250 mm duct                                                                                                                                                                                                                                                                                                        | m    | 1        |      |       |
| 5.2.43                |              | Ø125 mm duct                                                                                                                                                                                                                                                                                                        | m    | 9        |      |       |
| 5.2.44                |              | Reducer fitting (200x150 to 150x100mm)                                                                                                                                                                                                                                                                              | No.  | 1        |      |       |
| 5.2.45                |              | 150x100 mm duct                                                                                                                                                                                                                                                                                                     | m    | 13       |      |       |
| 5.2.46                |              | Smooth round 90 degree wye fitting (150x100mm to 2xØ250 mm)                                                                                                                                                                                                                                                         | No.  | 1        |      |       |
| 5.2.47                |              | Ø100 mm duct                                                                                                                                                                                                                                                                                                        | m    | 8        |      |       |
| 5.2.48                |              | 550 x350 mm duct                                                                                                                                                                                                                                                                                                    | m    | 42       |      |       |
| 5.2.49                |              | Ø315 mm duct                                                                                                                                                                                                                                                                                                        | m    | 19       |      |       |
| 5.2.50                |              | Round 90 degree elbow (Ø315 mm)                                                                                                                                                                                                                                                                                     | No.  | 7        |      |       |
| 5.2.51                |              | Ø315 mm Damper                                                                                                                                                                                                                                                                                                      | No.  | 8        |      |       |
| 5.2.52                |              | Reducer fitting (550x350 to 500x300mm)                                                                                                                                                                                                                                                                              | No.  | 1        |      |       |
| 5.2.53                |              | 500x300 mm duct                                                                                                                                                                                                                                                                                                     | m    | 23       |      |       |
| 5.2.54                |              | Reducer fitting (500x300 to 400x300mm)                                                                                                                                                                                                                                                                              | No.  | 1        |      |       |
| 5.2.55                |              | 400x300 mm duct                                                                                                                                                                                                                                                                                                     | m    | 12       |      |       |
| 5.2.56                |              | Reducer fitting (400x300 to 300x250mm)                                                                                                                                                                                                                                                                              | No.  | 1        |      |       |
| 5.2.57                |              | 300x250 mm duct                                                                                                                                                                                                                                                                                                     | m    | 21       |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                     |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                               | Unit | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------|------|----------|------|-------|
| 5.2.58                |              | Smooth radius elbow, without vanes (300 x250mm)           | m    | 1        |      |       |
| 5.2.59                |              | Ø250 mm duct                                              | m    | 3        |      |       |
| 5.2.60                |              | 45 degree die stamped elbow, Ø250 mm                      | No.  | 1        |      |       |
| 5.2.61                |              | Reducer fitting (Ø250 to Ø200mm)                          | No.  | 1        |      |       |
| 5.2.62                |              | Ø200 mm duct                                              | m    | 8        |      |       |
| 5.2.63                |              | Reducer fitting (300x250 to 200x100 mm)                   | No.  | 1        |      |       |
| 5.2.64                |              | 200x100 mm duct                                           | m    | 7        |      |       |
| 5.2.65                |              | Primary washable filter (500x500x100mm)                   | No.  | 4        |      |       |
| 5.2.66                |              | Secondary pocket filter (500x500x300mm)                   | No.  | 4        |      |       |
| 5.2.67                |              | 900x400 mm duct                                           | m    | 4        |      |       |
| 5.2.68                |              | Reducer fitting (900x400 to 500x300 mm)                   | No.  | 1        |      |       |
| 5.2.69                |              | 45 degree entry branch, diverging (900x400 to 500x400 mm) | No.  | 1        |      |       |
| 5.2.70                |              | 500x400 mm duct                                           | m    | 2        |      |       |
| 5.2.71                |              | Reducer fitting (500x400 to 300x350 mm)                   | No.  | 1        |      |       |
| 5.2.72                |              | 300x350 mm duct                                           | m    | 4        |      |       |
| 5.2.73                |              | Reducer fitting (300x350 to 300x250 mm)                   | No.  | 1        |      |       |
| 5.2.74                |              | Reducer fitting (500x300 to 300x250 mm)                   | No.  | 1        |      |       |
| 5.2.75                |              | Smooth radius elbow, without vanes (500 x300mm)           | No.  | 1        |      |       |
| 5.2.76                |              | 500x450 mm duct                                           | m    | 8        |      |       |
| 5.2.77                |              | 45 degree entry branch, diverging (500x450 to 300x300mm)  | No.  | 1        |      |       |
| 5.2.78                |              | 300x300 mm duct                                           | m    | 9        |      |       |
| 5.2.79                |              | Smooth radius elbow, without vanes (300 x300mm)           | No.  | 2        |      |       |
| 5.2.80                |              | 300x300 mm Damper                                         | No.  | 2        |      |       |
| 5.2.81                |              | Reducer fitting (500x450 to 400x400 mm)                   | No.  | 1        |      |       |
| 5.2.82                |              | 400x400 mm duct                                           | m    | 3        |      |       |
| 5.2.83                |              | Reducer fitting (400x400 to 250x250mm)                    | No.  | 1        |      |       |
| 5.2.84                |              | 250x250 mm duct                                           | m    | 3        |      |       |
| 5.2.85                |              | 45 degree entry branch, diverging (250x250 to 200x150mm)  | No.  | 1        |      |       |
| Carried To Collection |              |                                                           |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                           | Unit | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------------------|------|----------|------|-------|
| 5.2.86                |              | Smooth round 90 degree wye fitting (200x150mm to Ø160 mm and Ø160 mm) | No.  | 1        |      |       |
| 5.2.87                |              | Ø160 mm duct                                                          | m    | 32       |      |       |
| 5.2.88                |              | Reducer fitting (250x250 to 200x200 mm)                               | No.  | 1        |      |       |
| 5.2.89                |              | 200x200 mm duct                                                       | m    | 15       |      |       |
| 5.2.90                |              | 45 degree entry branch, diverging (550x350 to 300x200 mm)             | No.  | 1        |      |       |
| 5.2.91                |              | Reducer fitting (300x200 to 250x200mm)                                | No.  | 2        |      |       |
| 5.2.92                |              | 250x200 mm duct                                                       | m    | 5        |      |       |
| 5.2.93                |              | 45 degree entry branch, diverging (550x350 to 250x200 mm)             | No.  | 1        |      |       |
| 5.2.94                |              | Transformation piece (250x200 to Ø125 mm)                             | No.  | 1        |      |       |
| 5.2.95                |              | Transformation piece (250x200 to Ø160 mm)                             | No.  | 1        |      |       |
| 5.2.96                |              | Reducer fitting (550x350 to 450x350mm)                                | No.  | 1        |      |       |
| 5.2.97                |              | 45 degree entry branch, diverging (450x350 to 300x200 mm)             | No.  | 1        |      |       |
| 5.2.98                |              | 300x200 mm duct                                                       | m    | 14       |      |       |
| 5.2.99                |              | Smooth radius elbow, without vanes (300x200mm)                        | No.  | 2        |      |       |
| 5.2.100               |              | Reducer fitting (300x200 to 200x200 mm)                               | No.  | 1        |      |       |
| 5.2.101               |              | Transformation piece (200x200 to Ø160 mm)                             | No.  | 2        |      |       |
| 5.2.102               |              | Smooth radius elbow, without vanes (Ø160 mm)                          | No.  | 1        |      |       |
|                       |              | <u>Smoke Extraction Air Ductwork</u>                                  |      |          |      |       |
| 5.2.103               |              | Ø900 mm duct                                                          | m    | 6        |      |       |
| 5.2.104               |              | Ø900 mm electronic control damper                                     | No.  | 1        |      |       |
|                       |              | <u>Air Conditioning Ductwork</u>                                      |      |          |      |       |
| 5.2.105               |              | Transformation piece (1100x500 mm to 850x300mm)                       | No.  | 6        |      |       |
| 5.2.106               |              | Plenum Box (1500x500x500 mm)                                          | No.  | 6        |      |       |
| 5.2.107               |              | 850x300 mm duct                                                       | m    | 12       |      |       |
| 5.2.108               |              | Reducer fitting (850x300 to 700x300mm)                                | No.  | 2        |      |       |
| 5.2.109               |              | 700x300 mm duct                                                       | m    | 12       |      |       |
| 5.2.110               |              | Reducer fitting (700x300 to 500x300mm)                                | No.  | 2        |      |       |
| Carried To Collection |              |                                                                       |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                  | Unit | Quantity | Rate | Price |
|-----------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 5.2.111               |              | 500x300 mm duct                                                                                                                                                                                                              | m    | 12       |      |       |
| 5.2.112               |              | Reducer fitting (500x300 to 350x300 mm)                                                                                                                                                                                      | No.  | 2        |      |       |
| 5.2.113               |              | 350x300 mm duct                                                                                                                                                                                                              | m    | 12       |      |       |
| 5.2.114               |              | Reducer fitting (350x300 to 250x200 mm)                                                                                                                                                                                      | No.  | 2        |      |       |
| 5.2.115               |              | 250x200 mm duct                                                                                                                                                                                                              | m    | 12       |      |       |
| 5.2.116               |              | Primary washable filter (500x500x100mm)                                                                                                                                                                                      | No.  | 16       |      |       |
| 5.2.117               |              | Transformation piece (1100x500 mm to 500x400mm)                                                                                                                                                                              | No.  | 4        |      |       |
| 5.2.118               |              | 500x400 mm duct                                                                                                                                                                                                              | m    | 4        |      |       |
| 5.2.119               |              | Reducer fitting (500x400 to 400x250 mm)                                                                                                                                                                                      | No.  | 4        |      |       |
| 5.2.120               |              | 400x250 mm duct                                                                                                                                                                                                              | m    | 18       |      |       |
| 5.2.121               |              | Ø250 mm duct                                                                                                                                                                                                                 | m    | 37       |      |       |
| 5.2.122               |              | Smooth radius elbow, without vanes (Ø250 mm)                                                                                                                                                                                 | No.  | 8        |      |       |
| 5.2.123               |              | Transformation piece (1100x400 mm to 450x400mm)                                                                                                                                                                              | No.  | 1        |      |       |
| 5.2.124               |              | 450x400 mm duct                                                                                                                                                                                                              | m    | 2        |      |       |
| 5.2.125               |              | Ø315 mm duct                                                                                                                                                                                                                 | m    | 12       |      |       |
|                       |              | <u>Liquid Refrigerant Piping (Including Insulation)</u>                                                                                                                                                                      |      |          |      |       |
| 5.2.126               |              | Refrigerant and drainage piping pricing shall be insulated. The refrigerant and drainage piping include all the necessary fixtures and shall have sufficient support including brackets, cable, shoes, clamps, hangers, etc. | Sum  | 1        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                              |      |          |      | R     |



DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                                             | Unit | Quantity | Rate | Price  |
|----------|--------------|---------------------------------------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.2</u>                                        |      |          |      |        |
|          |              | <u>HVAC (HEATING, VENTILATION AND AIR CONDITIONING)</u> |      |          |      |        |
|          |              | <u>COLLECTION</u>                                       |      |          | Page | Amount |
|          |              | Brought forward from page                               |      |          | 96   | R      |
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|          |              | Carried To Section Summary                              |      |          |      | R      |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                      | Unit    | Quantity | Rate | Price |
|-----------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|------|-------|
| 5                     |              | <b><u>SECTION 5:</u></b>                                                                                                                                                                                                                                                         |         |          |      |       |
|                       |              | <b><u>BILL NO: 3</u></b>                                                                                                                                                                                                                                                         |         |          |      |       |
| 5.3                   |              | <b><u>MECHANICAL WORK</u></b>                                                                                                                                                                                                                                                    |         |          |      |       |
|                       |              | <b><u>FIRE PROTECTION SYSTEM</u></b>                                                                                                                                                                                                                                             |         |          |      |       |
|                       |              | <u>Fire Suppression System</u>                                                                                                                                                                                                                                                   |         |          |      |       |
|                       |              | <u>Supply, deliver and install the following fire protection system, complete with fire extinguishers, hose reel, hydrant, sprinkler and all related signage, brackets, supports and all necessary accessories, as per the, manufacturer's recommendations:</u>                  |         |          |      |       |
| 5.3.1                 |              | Fire extinguishers (5 kg CO2 chemical powder) and timber backing board, supports and all necessary accessories, as per the, manufacturer's recommendations.                                                                                                                      | No.     | 10       |      |       |
| 5.3.2                 |              | Fire Extinguisher (9L Wet Chemical ) and timber backing board, supports and all necessary accessories, as per the, manufacturer's recommendations                                                                                                                                | No.     | 3        |      |       |
| 5.3.3                 |              | Fire Hose Reel with (30m hose) with pressure gauge, shut off valve, supports and all necessary accessories, as per the, manufacturers recommendations                                                                                                                            | No.     | 4        |      |       |
| 5.3.4                 |              | Tamper proof instantaneous type Fire hydrant valve together with 30m 65mm layflat hose and cabinet. The hoses shall be supplied with instantaneous couplings. Contractor shall include for all supports and all necessary accessories, as per the, manufacturers recommendations | No.     | 2        |      |       |
|                       |              | <u>Fire Piping</u>                                                                                                                                                                                                                                                               |         |          |      |       |
| 5.3.5                 |              | 150 Ø x 100 Ø Reducer(mm)                                                                                                                                                                                                                                                        | m       | 1        |      |       |
| 5.3.6                 |              | 150 Ø x 80 Ø Reducer(mm)                                                                                                                                                                                                                                                         | m       | 25       |      |       |
| 5.3.7                 |              | 150 Ø (25m) Galvanised Mild Steel (GMS)                                                                                                                                                                                                                                          | 2m long | 13       |      |       |
| 5.3.8                 |              | 150 Ø (19m) Galvanised Mild Steel (GMS)                                                                                                                                                                                                                                          | 3m long | 4        |      |       |
| 5.3.9                 |              | 80 Ø (10m) Galvanised Mild Steel (GMS)                                                                                                                                                                                                                                           | 4m long | 24       |      |       |
| 5.3.10                |              | 100 Ø (45m) Galvanised Mild Steel (GMS)                                                                                                                                                                                                                                          | 4m long | 32       |      |       |
|                       |              | <u>Tee fittings</u>                                                                                                                                                                                                                                                              |         |          |      |       |
| 5.3.11                |              | 150 Ø x 25 Ø Tee (mm)                                                                                                                                                                                                                                                            | m       | 4        |      |       |
| 5.3.12                |              | 150 Ø x 150 Ø Tee (mm)                                                                                                                                                                                                                                                           | m       | 1        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                  |         |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                      | Unit | Quantity | Rate | Price |
|-----------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
|                       |              | <u>Elbow fittings</u>                                                                                                                                                                                            |      |          |      |       |
| 5.3.13                |              | 150 Ø x 150 Ø Elbow (mm)                                                                                                                                                                                         | No.  | 3        |      |       |
| 5.3.14                |              | 80 Ø x 80 Ø Elbow (mm)                                                                                                                                                                                           | No.  | 1        |      |       |
| 5.3.15                |              | 100 Ø x 80 Ø Elbow (mm)                                                                                                                                                                                          | No.  | 1        |      |       |
|                       |              | <u>Isolating valve &amp; Riser</u>                                                                                                                                                                               |      |          |      |       |
| 5.3.16                |              | 150 Ø Riser (mm)                                                                                                                                                                                                 | No.  | 1        |      |       |
| 5.3.17                |              | 150 Ø Ball valve (mm)                                                                                                                                                                                            | No.  | 1        |      |       |
|                       |              | <u>Fire Sprinkler System</u>                                                                                                                                                                                     |      |          |      |       |
| 5.3.18                |              | Design of Sprinkler System as per ASIB requirements (Sprinkler design to be done utilising Canute or similar approved modeling software)                                                                         | sum  | 1        |      |       |
| 5.3.19                |              | Sprinkler Software. A copy of the sprinkler software utilised for the design shall be purchased and provided to the Employer to be used in reviewing the designs. The Employer shall own the software purchased. | sum  | 12       |      |       |
| 5.3.20                |              | Removal of existing sprinkler system                                                                                                                                                                             | sum  | 1        |      |       |
| 5.3.21                |              | Supply, Manufacture, installation, commissioning and testing of Sprinkler System, ASIB approval and certification                                                                                                | sum  | 1        |      |       |
|                       |              | <u>Fire Detection System</u>                                                                                                                                                                                     |      |          |      |       |
| 5.3.22                |              | 290x290 mm Fire equipment signages and Photoluminescent emergency exit signages as per fire drawings including all necessary fixing accessories.                                                                 | No.  | 7        |      |       |
| 5.3.23                |              | Photoluminescent break glass signages as per fire drawings including all necessary fixing accessories.                                                                                                           | No.  | 3        |      |       |
| 5.3.24                |              | 290x290 mm Fire equipment signage for Manual Call Points Signage                                                                                                                                                 |      |          |      |       |
| 5.3.25                |              | 390x60x190 mm Photoluminescent emergency exit signages with 3W low power consumption LED as per fire drawings including all necessary fixing accessories.                                                        | No.  | 3        |      |       |
| 5.3.26                |              | 440x 440 mm Photoluminescent emergency assembly point signages as per fire drawings including all necessary fixing accessories.                                                                                  | No.  | 1        |      |       |
| 5.3.27                |              | Addressable smoke detector with mounting supports and all necessary accessories, as per the, manufacturers recommendations                                                                                       | No.  | 71       |      |       |
| 5.3.28                |              | Addressable optical heat detector with mounting supports and all necessary accessories, as per the, manufacturers recommendations                                                                                | No.  | 3        |      |       |
| 5.3.29                |              | Intelligent manual call points with mounting supports and all necessary accessories, as per the, manufacturers recommendations                                                                                   | No.  | 7        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                  |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                    | Unit | Quantity | Rate | Price |
|-----------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 5.3.30                |              | Open area sounder beacon with mounting supports and all necessary accessories, as per the, manufacturers recommendations                                                                                                                                                       | No.  | 7        |      |       |
| 5.3.31                |              | Fire control panel                                                                                                                                                                                                                                                             | No.  | 1        |      |       |
| 5.3.32                |              | Wiring PH30 Fire detection upper level (275m)                                                                                                                                                                                                                                  | 500m | 1        |      |       |
| 5.3.33                |              | Wiring PH30 Fire detection lower level (330m)                                                                                                                                                                                                                                  | 500m | 1        |      |       |
| 5.3.34                |              | To provide all control plant and cables to shut down all HVAC equipment in a fire event as well as to provide a signal to the smoke extraction fans to start. The design of the control equipment shall be done by the Contractor and shall comply with all SANS requirements. | sum  | 1        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                |      |          |      | R     |



DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                   | Unit | Quantity | Rate | Price  |
|----------|--------------|-------------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.3</u>              |      |          |      |        |
|          |              | <u>FIRE PROTECTION SYSTEM</u> |      |          |      |        |
|          |              | <u>COLLECTION</u>             |      |          | Page | Amount |
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| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                                                                   | Unit | Quantity | Rate | Price |
|-----------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 5                     |              | <b><u>SECTION 5:</u></b>                                                                                                                                                                                                                                                                                                                                      |      |          |      |       |
| 5.4                   |              | <b><u>BILL NO: 4</u></b>                                                                                                                                                                                                                                                                                                                                      |      |          |      |       |
|                       |              | <b><u>MECHANICAL WORK</u></b>                                                                                                                                                                                                                                                                                                                                 |      |          |      |       |
|                       |              | <b><u>WATER RETICULATION SYSTEM</u></b>                                                                                                                                                                                                                                                                                                                       |      |          |      |       |
| 5.4.1                 |              | For the supply, delivery, installation testing and Commissioning of the Water reticulation system including connection pipework, supports, hangers, pipe fittings, valves, pumps and control systems as per the manufacturer's specification and recommendations. Provision shall also be made for all plinths/foundations required under the relevant plant. | No.  | 1        |      |       |
|                       |              | <b><u>Hot Water Equipment</u></b>                                                                                                                                                                                                                                                                                                                             |      |          |      |       |
| 5.4.2                 |              | KWITKOT 200 Litre 600 Dual Electric Water Heater together with all supports and accessories as per the manufacturers requirements. . Geyser to be installed horizontally at 2m AFFL to the bottom of Plant. Geyser to be covered with a geyser blanket as per the technical specification                                                                     | No.  | 1        |      |       |
| 5.4.3                 |              | Heat Pump water heat pump together with all accessories and fittings as per the specifications and manufacturer's requirements. The dimensions shall be 750mm, height 493mm and 264mm with the output of 75 litres/hour                                                                                                                                       | No.  | 1        |      |       |
| 5.4.4                 |              | Insulation for all hot water pipework, plant, fittings and valves as per specifications. Sleeves shall be included where pipes run through any openings.                                                                                                                                                                                                      | m    | 1        |      |       |
|                       |              | <b><u>Pipe Lengths (Cold Water)</u></b>                                                                                                                                                                                                                                                                                                                       |      |          |      |       |
| 5.4.5                 |              | Pipe, DN 76 Ø : copper pipe (18m)                                                                                                                                                                                                                                                                                                                             | 5.5m | 4        |      |       |
| 5.4.6                 |              | Pipe, DN 67 Ø : copper pipe (35m)                                                                                                                                                                                                                                                                                                                             | 5.5m | 12       |      |       |
| 5.4.7                 |              | Pipe, DN 54 Ø : copper pipe (40m)                                                                                                                                                                                                                                                                                                                             | 5.5m | 4        |      |       |
| 5.4.8                 |              | Pipe, DN 42 Ø : copper pipe (20m)                                                                                                                                                                                                                                                                                                                             | 5.5m | 4        |      |       |
| 5.4.9                 |              | Pipe, DN 35 Ø : cooper pipe (25m)                                                                                                                                                                                                                                                                                                                             | 5.5m | 4        |      |       |
| 5.4.10                |              | Pipe, DN 28 Ø : copper pipe (25m)                                                                                                                                                                                                                                                                                                                             | 5.5m | 5        |      |       |
| 5.4.11                |              | Pipe, DN 22 Ø : copper pipe (105m)                                                                                                                                                                                                                                                                                                                            | 5.5m | 20       |      |       |
| 5.4.12                |              | Pipe, DN 15 Ø : copper pipe (25m)                                                                                                                                                                                                                                                                                                                             | 5.5m | 5        |      |       |
| 5.4.13                |              | Pipe support and hungers                                                                                                                                                                                                                                                                                                                                      | No   | 120      |      |       |
| 5.4.14                |              | 76 Ø Riser (mm)                                                                                                                                                                                                                                                                                                                                               | 5.5m | 1        |      |       |
| 5.4.15                |              | 22 Ø Riser (mm)                                                                                                                                                                                                                                                                                                                                               | 5.5m | 1        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                                                               |      |          |      | R     |

| Item No.              | Payment Ref. | Description                                                                                                                                                              | Unit | Quantity | Rate | Price |
|-----------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 5.4.16                |              | <u>Pipe Lengths (Hot Water)</u><br>Pipe, DN 22 Ø : copper pipe (105m)                                                                                                    | 5.5m | 11       |      |       |
| 5.4.17                |              | 22mm Copper insulation pipefor all hot water pipework, plant, fittings and valves as per specifications. Sleeves shall be included where pipes run through any openings. | 1.8m | 35       |      |       |
| 5.4.18                |              | DN 22 Ø Copper Crossover                                                                                                                                                 | No   | 4        |      |       |
| 5.4.19                |              | Isolating valve, DN 22 Ø                                                                                                                                                 | No.  | 10       |      |       |
| 5.4.20                |              | <u>Tee fittings</u><br>DN 76 Ø x 15 Ø x 76 Ø Tee (mm) 90 degree bends : copper pipe                                                                                      | No.  | 1        |      |       |
| 5.4.21                |              | DN 76 Ø x 35 Ø x 76 Ø Tee (mm) 90 degree bends : copper pipe                                                                                                             | No.  | 1        |      |       |
| 5.4.22                |              | DN 76 Ø x 22 Ø x 67 Ø Tee (mm) 90 degree bends : copper pipe                                                                                                             | No.  | 1        |      |       |
| 5.4.23                |              | DN 67 Ø x 54 Ø x 67 Ø Tee (mm) 90 degree bends : copper pipe                                                                                                             | No.  | 1        |      |       |
| 5.4.24                |              | DN 67 Ø x 35 Ø x 54 Ø Tee (mm) 90 degree bends: copper pipe                                                                                                              | No.  | 1        |      |       |
| 5.4.25                |              | DN 54 Ø x 42 Ø x 54 Ø Tee (mm) 90 degree bends: copper pipe                                                                                                              | No.  | 1        |      |       |
| 5.4.26                |              | DN 54 Ø x 35 Ø x 54 Ø Tee (mm) 90 degree bends : copper pipe                                                                                                             | No.  | 1        |      |       |
| 5.4.27                |              | DN 54 Ø x 42 Ø x 15 Ø Tee (mm) 90 degree bends : copper pipe                                                                                                             | No.  | 1        |      |       |
| 5.4.28                |              | DN 28 Ø x 22 Ø x 28 Ø Tee (mm) 90 degree bends : copper pipe                                                                                                             | No.  | 1        |      |       |
| 5.4.29                |              | DN 28 Ø x 22 Ø x 28 Ø Tee (mm) 90 degree bends : copper pipe                                                                                                             | No.  | 1        |      |       |
| 5.4.30                |              | DN 28 Ø x 15 Ø x 28 Ø Tee (mm) 90 degree bends : copper pipe                                                                                                             | No.  | 1        |      |       |
| 5.4.31                |              | DN 15 Ø x 42 Ø x 42 Ø Tee (mm) 90 degree bends : copper pipe                                                                                                             | No.  | 1        |      |       |
| 5.4.32                |              | DN 28 Ø x 15 Ø x 22 Ø Tee (mm) 90 degree bends : copper pipe                                                                                                             | No.  | 1        |      |       |
| 5.4.33                |              | DN 22 Ø x 22 Ø x 22 Ø Tee (mm) 90 degree bends : copper pipe                                                                                                             | No.  | 1        |      |       |
| 5.4.34                |              | <u>Elbow fittings</u><br>DN 76 Ø x 76 Ø (mm) 90 degree bends : copper pipe                                                                                               | No.  | 2        |      |       |
| 5.4.35                |              | DN 54 Ø x 54 Ø (mm) 90 degree bends : copper pipe                                                                                                                        | No.  | 1        |      |       |
| 5.4.36                |              | DN 42 Ø x 35 Ø (mm) 90 degree bends : copper pipe                                                                                                                        | No.  | 1        |      |       |
| 5.4.37                |              | DN 35 Ø x 35 Ø (mm) 90 degree bends : copper pipe                                                                                                                        | No.  | 5        |      |       |
| 5.4.38                |              | DN 35 Ø x 28 Ø (mm) 90 degree bends : copper pipe                                                                                                                        | No.  | 2        |      |       |
| Carried To Collection |              |                                                                                                                                                                          |      |          |      | R     |

DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No.              | Payment Ref. | Description                                       | Unit | Quantity | Rate | Price |
|-----------------------|--------------|---------------------------------------------------|------|----------|------|-------|
| 5.4.39                |              | DN 28 Ø x 22 Ø (mm) 90 degree bends : copper pipe | No.  | 2        |      |       |
| 5.4.40                |              | DN 22 Ø x 22 Ø (mm) 90 degree bends : copper pipe | No.  | 6        |      |       |
| 5.4.41                |              | DN 22 Ø x 15 Ø (mm) 90 degree bends : copper pipe | No.  | 1        |      |       |
| 5.4.42                |              | DN 15 Ø x 15 Ø (mm) 90 degree bends : copper pipe | No.  | 4        |      |       |
|                       |              | <u>Isolating valve &amp; Riser</u>                |      |          |      |       |
| 5.4.43                |              | Isolating valve, DN 76 Ø                          | No.  | 2        |      |       |
| 5.4.44                |              | Isolating valve, DN 54 Ø                          | No.  | 2        |      |       |
| 5.4.45                |              | Isolating valve, DN 42 Ø                          | No.  | 1        |      |       |
| 5.4.46                |              | Isolating valve, DN 35 Ø                          | No.  | 2        |      |       |
| 5.4.47                |              | Isolating valve, DN 22 Ø                          | No.  | 10       |      |       |
| 5.4.48                |              | Isolating valve, DN 15 Ø                          | No.  | 1        |      |       |
|                       |              | <u>Reducers</u>                                   |      |          |      |       |
| 5.4.49                |              | Reducer, DN 54 Ø x DN 42 Ø (mm)                   | No.  | 1        |      |       |
| 5.4.50                |              | Reducer, DN 28 Ø x DN 22 Ø (mm)                   | No.  | 1        |      |       |
| Carried To Collection |              |                                                   |      |          |      | R     |



DESCRIPTION OF THE WORKS: THE UPGRADE OF THE WORKSHOP AT THE WATERFRONT IN THE PORT IN THE PORT OF RICHARDS BAY, PHASE 1 FOR A PERIOD OF NINE (9) MONTHS

| Item No. | Payment Ref. | Description                     | Unit | Quantity | Rate | Price  |
|----------|--------------|---------------------------------|------|----------|------|--------|
|          |              | <u>BILL NO.4</u>                |      |          |      |        |
|          |              | <u>WATER RETICULATON SYSTEM</u> |      |          |      |        |
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| Item No.              | Payment Ref. | Description                                                                                                                                                                                                                                                                                                     | Unit | Quantity | Rate | Price |
|-----------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-------|
| 5                     |              | <b><u>SECTION 6:</u></b>                                                                                                                                                                                                                                                                                        |      |          |      |       |
| 6.1                   |              | <b><u>BILL NO: 1</u></b>                                                                                                                                                                                                                                                                                        |      |          |      |       |
|                       |              | <b><u>PROVISIONAL SUMS</u></b>                                                                                                                                                                                                                                                                                  |      |          |      |       |
|                       |              | The Tenderer is referred to the relevant Clauses in the separate document Model Preambels for Trades (2008Edition) and to the Supplementary Preambles which are incorporated in this BoQ                                                                                                                        |      |          |      |       |
|                       |              | <b><u>BUDGETARY ALLOWANCES</u></b>                                                                                                                                                                                                                                                                              |      |          |      |       |
|                       |              | The following budgetary allowances are for work to be executed by the principal contractor at bill rates or at rates to be agreed in terms of the contract                                                                                                                                                      |      |          |      |       |
| 6.1.1                 |              | Provide an amount of R 80 000.00 (Eighty Thousand Rands Only) for the supply and construction of Boom Gate with curtain as specified by the C & I Engineer which includes 300 x 900mm ground beam and a velocity high speed tyer spike vehicle barrier as per drawing number (4087497-6-000-S-LA-0005-01-Rev01) | Item | 1        |      |       |
| 6.1.2                 |              | Provide an amount of R 100 000.00 (One Hundred Thousand Rands Only) for the construction of Timber Screen and Braai Area as per drawing number (4087497-6-000-A-DE-0002-01-Rev01-TD)                                                                                                                            | Item | 1        |      |       |
| 6.1.3                 |              | Provide an amount of R 200 000.00 (Two Hundred Thousand Rands Only) for any sundry works on buildings                                                                                                                                                                                                           | Item | 1        |      |       |
| 6.1.4                 |              | Provide an amount of R 200 000.00 (Two Hundred Thousand Rands Only) for any sundry works on external works                                                                                                                                                                                                      | Item | 1        |      |       |
| 6.15                  |              | Provide an amount of R 150 000.00 (One Hundred and Fifty Thousand Randa Only) Sink cupboard type as per drawing 4087497-0-000-A-DE-0001-01-00TD (provisional)                                                                                                                                                   | Item | 1        |      |       |
| Carried To Collection |              |                                                                                                                                                                                                                                                                                                                 |      |          |      | R     |

| Item No. | Payment Ref. | Description                                                                                                          | Unit | Quantity | Rate            | Price           |
|----------|--------------|----------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|-----------------|
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## **Part C3: Scope of Works**

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## PART C3: WORKS INFORMATION

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|                    | Total number of pages                      | 145        |

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## SECTION 1

### 1 Description of the works

#### 1.1 Executive overview

The Transnet National Port Authority Infrastructure needs to relocate from the Pioneer Centre to the Tuzi Gazi Waterfront TNPA Building, Old Action cricket warehouse, site located in the Small Craft Harbour in the Port of Richards Bay.

The warehouse is an existing steel portal frame structure of approximately 2500m<sup>2</sup> with face brick infill and large aluminium framed windows. It has existing ablutions and open plan interior. The site is fenced on three sides, with Newark Road along the street edge.

The Works Information includes the conversion and refurbishment of the warehouse to a new office facility with new office interior layout to accommodate new office furniture, new floor finishes, new partitions and ceilings, additions and alterations to the existing ablutions, new kitchens, new Heating Ventilation Air conditioning and Cooling (HVAC) and associated plant, Electrical Lighting & Power (EL&P), new data and communication infrastructure, new fire detection system, fire services installation, water reticulation, new external parking area, and new security kiosk.

##### 1.1.1 Works Information

The Works Information for this project has been divided into the following sections:

- I. Heating Ventilation Air conditioning and Cooling (HVAC) and associated plant,
- II. Fire Detection and Alarm System
- III. Fire Suppression Systems
- IV. Internal Water Reticulation
- V. Building Works
- VI. Civil Works
- VII. Structures
- VIII. Electrical Lighting & Power (EL&P)
- IX. New data and communication infrastructure

#### 1.2 Employer's objectives

The *Employer* intends to refurbish the existing warehouse and to relocate Pioneer Centre offices to the new warehouse in the Small Craft Harbour in the Port of Richards Bay.

#### 1.3 Interpretation and terminology

The following abbreviations are used in this Works Information:

| Abbreviation | Meaning given to the abbreviation                            |
|--------------|--------------------------------------------------------------|
| AIA          | Authorised Inspection Authority                              |
| BBBEE        | Broad Based Black Economic Empowerment                       |
| CEMP         | Construction Environmental Management Plan                   |
| CDR          | <i>Contractor</i> Documentation Register                     |
| CDS          | <i>Contractor</i> Documentation Schedule                     |
| CRL          | <i>Contractor</i> Review Label                               |
| CSHEO        | <i>Contractor's</i> Safety, Health and Environmental Officer |
| CM           | Construction Manager                                         |
| DTI          | Department of Trade and Industry                             |
| DWG          | Drawings                                                     |
| EO           | Environmental Officer                                        |
| HAZOP        | Hazard and Operability Study                                 |
| HSSP         | Health and Safety Surveillance Plan                          |
| INC          | Independent Nominated Consultant                             |
| IP           | Industrial Participation                                     |
| IR           | Industrial Relations                                         |
| IRCC         | Industrial Relations Co-ordinating Committee                 |
| JSA          | Job Safety Analysis                                          |
| CIRP         | <i>Contractor's</i> Industrial Relations Practitioner        |
| Native       | Original electronic file format of documentation             |
| PES          | Project Environmental Specifications                         |
| PIRM         | Project Industrial Relations Manager                         |
| PIRPMP       | Project Industrial Relations Policy and Management Plan      |
| PLA          | Project Labour Agreements                                    |

|        |                                                   |
|--------|---------------------------------------------------|
| QA     | Quality Assurance                                 |
| R&D    | Research and Development                          |
| SANS   | South African National Standards                  |
| SASRIA | South African Special Risks Insurance Association |
| SES    | Standard Environmental Specification              |
| SHEQ   | Safety, Health, Environment and Quality           |
| SHEC   | Safety, Health and Environment Co-ordinator       |
| SIP    | Site Induction Programme                          |
| SMP    | Safety Management Plan                            |
| SSRC   | Site Safety Review Committee                      |

## 2 Engineering and the *Contractor's* design

### 2.1 *Employer's* design

2.1.1 The *Employer's* design for the works ~~is being~~was undertaken by the *Employer's* internal design team in totality. The *Employer's* design for the works includes:

#### **Mechanical:**

- ~~Suitable~~ Layouts for the required Mechanical works areas indicated on the *Employer's* drawings ~~referring~~ to in the list of drawings
- New VRF (Variable Refrigerant Flow) type system air-conditioner including insulated suction piping, drain piping, insulated liquid piping, insulated Gas piping, piping supports, support for trays, remote air-cooled condensers, heat recovery units, finned heat exchanger and wiring between the outdoor and indoor units with hard wired remote controllers.
- ~~New~~ fire detection and alarm system inclusive of fire panel, smoke detector, heat detector, sounders, manual call points, cables, etc.
- Firefighting system inclusive of fire hose reel, fire extinguishers, fire hydrants and fire signage
- New hot and cold-water reticulation system inclusive of heat pump, hot water storage tank, piping, circulating pump, etc.

#### **Building Works:**

The *Employer's* design covers the demolition of existing sections and designs for new open plan offices and enclosed boardrooms, mess and ablutions, additions of plant rooms and carports.

### **Civil works**

The *Employer's* design covers the designs for below and above ground bulk services network, including but not limited to access roads, parking areas, paving, sleeve pipes, fencing, plinths and associated civil works requirements for the proposed TRANSNET Offices in Richards Bay.

### **Structural works**

This *Employer's* design covers the design of all new reinforced concrete and associated concrete works requirements for the proposed TRANSNET Offices in Richards Bay.

### **Electrical works**

The *Employer's* Electrical designs covers the designs of LV cables and distribution, interior and exterior luminaries, wire ways, photovoltaic (PV) system and associates.

2.1.2 The *Employer* grants the *Contractor* a licence to use the copyright in design data presented to the *Contractor* for the purpose of the works (and the *Contractor's* obligation under paragraph 2.2 of the *Employer's* Works Information) ONLY.

## **2.2 Parts of the works which the *Contractor* is to design**

The design will be performed by a professional team according to his areas of responsibility as included in the Engineering Professions Act 2000, published by the Engineering Council of South Africa.

**2.2.1 The *Contractor* is to design the following parts of the works, for approval by the *Project Manager*:**

Equipment Supports

The *Contractor* shall be responsible for the design of supports and plenum stands. Where such elements involve major structural design which is beyond the capability of the *Contractor* then these shall be referred to a suitably qualified person for design.

## **2.3 Standards and Specifications**

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:

### 2.3.1 **Employer Specific Standards:**

- EEAM-Q-006 Structural Steelwork (HE9/2/6).
- EEAM-Q-008 Corrosion protection (HE9/2/8).
- EEAM-Q-010 Specification for reinforced concrete and structural steel structures (HE9/2/11).
- EEAM-Q-012 General electrical equipment (HE8/2/2).
- EEAM-Q-016 General requirements and conditions (HE9/2/9).
- EEAM-Q-020 Specifications for tests on electrical equipment (HE8/2/8).
- EEAM-Q-028E Specific requirements for electrical equipment: Port of Richards Bay (HE8/2/12).
- EEAM-Q-028M Specific requirements for mechanical equipment: Port of Richards Bay (HE9/2/12).
- **National Standards:**
  - SANS 32 Internal and/or External Protective Coatings for Steel Tubes.
  - SANS 1339 Electric cables - Cross-linked polyethylene (XLPE) insulated cables for rated voltages 3,8/6,6 kV to 19/33 kV.
  - SANS 1411 Materials of insulated electric cables and flexible cords (Parts 1 and 2).
  - SANS 1476 Fabricated Flanged Steel Pipework.
  - SANS 1507 Electric cables with extruded solid dielectric insulation for fixed installations (300/500 V to 1 900/3 300 V) Part 2: Wiring cables.
  - SANS 2001-CC1 Construction Work – Concrete.
  - SANS 2001-CS1 Construction Work – Structural Steelwork.
  - SANS 4427 Plastics piping systems - Polyethylene (PE) pipes and fittings for water supply.
  - SANS 10086-1 Code of Practice for the Preparation of Steel Surfaces for Coating.
  - SANS 10142-1 The wiring of premises Part 1: Low-voltage installations.
  - SANS 10198 The selection, handling and installation of electric power cables of rating not exceeding 33 kV.
  - SANS 10199 The design and installation of earth electrodes.
  - SANS 10200 Neutral earthing in medium voltage industrial power systems.
  - SANS 10292 Earthing of LV distribution systems.
  - AWS D1.1 Structural Welding Code.
  - SANS 1200 G Concrete (Structural).
  - SANS 1200 GF Prestressed Concrete.
  - SANS 1200 H Structural Steel.

- SANS 121 (SABS ISO 1461) Hot-dip (galvanised) zinc coatings.

## 2.4 Procedure for submission and acceptance of *Contractor's* design

- 2.4.1 The *Contractor's* documentation shall be issued to the *Project Manager* under cover of the *Contractor's* Transmittal Note indicating all Contract references (i.e. Project No, Contract No, etc.) as well as the *Contractor's* Project Document Number, Revision Number, Title and chronological listing of transmitted documentation. Formats of *Contractor* data submitted is dependent on the project procedure and shall be specified by the *Project Manager*, upon the notified request of the *Contractor*.
- 2.4.2 The *Contractor* shall deliver both hard copies and electronic media copies (CD Rom) to the *Project Manager* either at the address stated within the Contract Data or at the Project site office.
- 2.4.3 All electronic documentation shall be submitted by the *Contractor* in Adobe Acrobat (.PDF) and native file format.
- 2.4.4 Acceptance of documentation by the *Project Manager* will in no way relieve the Contractor of his responsibility for the correctness of information, or conformance with his obligation to provide the Works. This obligation rests solely with the *Contractor*.
- 2.4.5 After review, a copy of the original reviewed/marked-up drawing/document, with the *Project Manager's* consolidated comments and document status marked on the *Contractor* Review Label, is scanned and the copy shall be returned to the *Contractor* under cover of the project's Transmittal Note for revision or re-submittal as instructed.
- 2.4.6 The *Contractor* shall allow the *Project Manager* 2 weeks (unless otherwise stated and agreed) to review and respond to the *Contractor's* submission of their documentation, i.e. from time of receipt by the project to the time of despatch. However, work shall proceed without delay in the event of late return of the documentation by the *Project Manager* with prior notification in writing by the *Contractor*.
- 2.4.7 On receipt of the reviewed documentation the *Contractor* shall make any modifications requested/marked-up and resubmit the revised documentation to the *Project Manager* within 2 weeks. Queries regarding comments/changes should be addressed with the *Project Manager* prior to re-submittal.
- 2.4.8 Any re-submittals, which have not included the changes/comments identified, will be returned to the *Contractor* to be corrected. The *Contractor* shall re-issue the revised documentation incorporating all comments and other specified details not included in the previous issue within 2 working days of receipt of the marked-up document.
- 2.4.9 In undertaking the works (including all incidental services required), the *Contractor* shall conform and adhere to the requirements of the *Contractor* Document Submittal Requirements Standard.

## 2.5 As-built Drawings, Operating Manuals and Data Packs

### 2.5.1 The *Contractor* provides the following:

As-Built/Final Documentation

- In undertaking the works (including all incidental services required), the Contractor shall conform and adhere to the requirements of the Contractor Document Submittal Requirements Standard included in this document.
- All As-Built information to be signed off by contractors responsible PrEng before issue to TRANSNET.
- Installation, Maintenance and Operating Manuals and Data Books
- The *Contractor* provides manuals in an A4 hard covered, red, grease and waterproof binder, using 2 ring type binders. The manuals are well indexed and user friendly and include a summarized Table of Contents.
- Drawings and charts larger than A4 are folded and those greater than A3 are enclosed in an A4 plastic pocket of adequate strength.
- The *Contractor* submits the draft Table of Contents to the *Project Manager* for acceptance prior to the compilation and official submittal of the manuals.
- The originals of all brochures shall be issued to the *Project Manager*. When a general brochure is applicable to a range of equipment, then the specific item, catalogue number or model number shall be stated, which is best achieved by introducing a separate index page, which cross-references the specific item to a tag number.
- The address, phone numbers, fax numbers and reference numbers of all Sub-Contractors is provided.
- Where manuals include drawings that still need to be revised to “As-Built” status, and such manuals are required prior to ‘As-Built’ status, the manual will not be considered to be in its final form until the “As-Built” version of each such drawing has been incorporated.
- The required number of copies of the manual (s) shall be as specified by the *Project Manager* and submitted per type or model number of equipment included in the contract, or as specified by the *Project Manager*.
- A typical example of what the binder/file (s) shall be marked with on the spine and the front cover is as follows: -
  - Project Name
  - Manual Title, e.g. Installation, Maintenance and Operating Manual
  - FBS No. and Title
  - Manual Numbering (e.g. Volume 1 of 2, etc.)
  - Contract Number
  - Contractor Name
  - Unless otherwise stated in the CDS, the required number of copies of all As-Built/Final/Data Packs shall be:
    - 3 x hard copies (Full size)
    - 3 x CD Roms with Adobe Acrobat (.pdf) and “Native” formats

### 2.5.2 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 such licence being capable of transfer to any third party without the consent of the *Contractor*.

The *Contractor* vests in the *Employer* full title guarantee in the intellectual property and copyright in the design data created in relation to the *works* as follows:

- Detailed drawings
- Design calculations
- Shop drawings for the construction of the equipment supports
- Any design alterations that the *Contractor* may formulate to ensure the correct execution of the works.

## 2.6 Design of Equipment

The *Contractor* submits his product details for the following categories of his proposed principal Equipment to the *Project Manager* for approval.

- Air Cooled Chiller Unit
- Air Handling Units
- Cassette and ducted Fan Coil Units
- Extraction and Fresh Air Fans
- Chilled Water Pump
- Control Equipment
- Valves and Fittings
- Sound Attenuators
- Air terminals and
- Ductwork

### Timetable for Submission of Documents

Refer to the *Contractor* Documentation Schedule (CDS) contained in section **5.2 Documentation**

**Control** in this document, for the timetable of submission of as-built drawings, operating manuals and maintenance schedules. This timetable shall also be accurately reflected in the *Contractor's* Documentation Register (CDR). The *Contractor* submits the first issue of the CDR to the *Project Manager* within 7 days of the Award of Contract.

### Maintenance and Operating Manuals and Data Books

The *Contractor* compiles and delivers the Maintenance and Operating Manuals and Data Books as prescribed in the *Contractor* Documentation Schedule (CDS).

These shall be supplied by the *Contractor* as manuals in a loose-leaf A4 hard covered, red, grease- and water-proof 4D-ring binder.

Drawings and charts larger than A4 shall be folded and those greater than A3 shall be enclosed in an A4 plastic pocket of adequate strength.

Manuals shall be well indexed and user friendly. Manuals shall include a summarised Table of Contents and in manuals comprising a number of files/volumes there should be one summarised Table of Contents in each of the files/volumes. The draft Table of Contents shall be submitted for review to the *Project Manager* prior to the compilation and official submittal of the manuals. The technical content of manuals shall be specified by the *Project Manager*.

The originals of all brochures shall be issued to the *Project Manager*. When a general brochure is applicable to a range of equipment, then a specific item, catalogue number or model number shall be

stated, which is best achieved by introducing a separate index page, which cross-references the specific item to a tag number.

The address, phone numbers, fax numbers and reference numbers of all Sub-Contractors and Suppliers shall be provided.

Where manuals contain drawings that still need to be revised to "As-Built" status, and such manuals are required prior to "As-Built" status, the manual will not be considered to be in its final form until the "As-Built" version of each drawing has been incorporated.

A typical example of what the binder/file(s) shall be marked with on the spine and the front cover is as follows:-

- Project Name
- Manual Title, e.g. Installation, Maintenance and Operating Manual
- FBS No. and Title
- Manual Numbering (e.g. Volume 1 of 2, etc.)
- Contract Number
- Contractor Name

Four hard copies of each manual are to be supplied. One copy of each of the Maintenance and Operation Manuals are to have each page laminated in clear plastic. In addition to the hard copies, the *Contractor* is to provide two electronic copies of each manual in PDF format. Each copy of each manual is to be provided on a separate, clearly marked CD-ROM.

Where it is practical to do so, hard copies of the Maintenance and Operation Manuals may be combined.

Refer also to the Data Books and Manuals section of the 'Contractor Document Submittal Requirements' DOC-STD-0001. Where there is any contradiction between the contents of DOC-STD-0001 and this section of the Works Information, the contents of this section shall apply.

Operating manuals and maintenance schedules shall be supplied for each component supplied under this contract.

The manuals shall be provided in four paper copies carefully bound into four volumes. In addition two electronic copies in pdf format shall be provided, the electronic copies shall be provided on compact discs.

## 3 Construction

### 3.1 Temporary works, Site services & construction constraints

**The *Employer* will issue an Access Certificate after award of contract subject to the approval of the SHEQ fil**

A) The *Contractor* is required to follow the entry requirements stipulated by TNPA and shall take out temporary security permits for all staff working within the operational harbour. The *Contractor*

will be required to attend the designated Port Safety Inductions and must comply with the requirements of the TNPA SHE Specification before port access permits and the site is handed over for construction. All costs incurred will be borne by the *Contractor*.

B) The *Contractor* shall make his own arrangements for the accommodation of all labour and shall comply with the requirements of the respective authorities. Control of access for construction plant onto public roads shall be in accordance with the requirements of the relevant roads authority and the Port Authority and arranged by the *Contractor*.

C) The fullest collaboration between the *Contractor*, and the *Project Manager* is essential with regard to the working of the port and all port-run facilities

### **Restrictions to access on Site, roads, walkways and barricades**

The *Contractor* complies with the following requirements of the *Employer*:

- General public safety is a matter of priority for the project and its stakeholders, the *Contractor* is therefore required to implement traffic management procedures to accommodate all traffic that will be impacted by the construction activities for the duration of the project

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

The *Contractor* complies with the following hours of work for his people (including Subcontractors) employed on the Site:

- The *Contractor* advises the *Project Manager* of his intended working hours in the *Contractor's* programme.
- The *Contractor* notifies the *Project Manager* of any changes in his working hours.
- The *Contractor* records the hours of work for each day to demonstrate that the regulations are not being contravened.
- The *Contractor* gives advance notification to the *Project Manager* on all occasions when he intends to operate extended working hours on a single shift The *Project Manager's* office hours are 07h30 to 16h00 Monday to Fridays. The offices are closed on Saturdays, Sundays and Public Holidays.

The *Contractor* is to submit a Daily Activity Report to the *Supervisor* for acceptance no later than 10h00 on the next working day. The *Contractor* is free to use his own template, provided that the information given complies with the *Supervisor's* requirements.

### **Health and safety facilities on Site**

The *Contractor* needs to make arrangements for his/her own First aid and Emergency facilities

#### **Health and Safety**

a) The *Contractor* must act in accordance with the relative Health and Safety requirements (such as the OHS Act 85 of 1993 and latest revision of the construction regulations) and further to that must comply with what is stated in the TNPA SHE Specifications.

b) The *Contractor* shall ensure that he/she is fully conversant with the latest edition of the Occupational Health and Safety Act. The TNPA SHE specifications documents have been included in this Tender document. The *Contractor* will have to ensure that his appointed full time safety officer is familiar with the document, as safety audits will be conducted by Transnet National Ports Authority to ensure compliance.

### **Title to materials from demolition and excavation**

The *Employer* retains title to all materials arising from excavation and demolition activities undertaken by the *Contractor* in the performance of the works. 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 ECC3 Clause 73.1.

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

The *Contractor* complies with the CEMP, SES and PES in the construction of the works, all as described under paragraph 5.4 of C3.1 Employer's Works Information, Management and start up.

### **Cooperating with and obtaining acceptance of others**

The *Employer* will have other service providers working within the same construction site.

The *Contractor* complies with all instructions issued by the *Project Manager* on behalf of Transnet National Ports Authority (TNPA).

The *Contractor* notes that other contractors will be working immediately adjacent to the working Area throughout the contract period and cooperates with these as and when necessary.

The main *Contractor* shall be held accountable to ensure that all sub-contractors comply with the site rules and regulation

### **Publicity and progress photographs**

The *Contractor* treats all information gained through his appointment on this project as strictly confidential. The *Contractor* is not allowed to prepare or present any paper, publish any article in a

technical journal, or derive publicity for his business which makes any reference to any aspect of the work on this project unless the *Employer* grants special permission, in writing, for the purpose.

No photographs are to be taken unless the photographer is in possession of a camera permit issued by the TNPA Security Officer. Photographs are to be taken for record purposes only.

The *Contractor* provides a comprehensive photographic record of the progress of the works by taking photographs at weekly intervals. The initial photographs are to be taken at the start of the project, immediately prior to the commencement of any work. As far as possible each set of photographs shall be taken from the same locations as the previous set.

The areas to be photographed and the quantity of photographs in each area will be determined by the Project Manager.

Progress photographs of all manufacturing work carried out off-site are also required.

Photographs are to be submitted in JPEG format, with a minimum resolution of 1200 x 800. Each set of photographs must be accompanied by an index showing:

- Contract reference
- Photograph file reference
- Date of Photograph
- Subject matter

#### ***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.

b) The *Contractor* shall ensure that the equipment provided, be it owned or rented, shall be in good working order and complies with all maintenance, licencing, safety and environmental requirements related to the specific equipment and the OHS Act and its regulations.

#### **Equipment provided by the *Employer***

None.

#### **Site services and facilities**

The *Contractor* shall provide all that is necessary for providing the Works (ie.: Such as water, electricity, lighting, platforms, surfacing etc.). The *Contractor* may utilize existing water and power connections, if available, from approved supply points on the site at the *Contractor's* cost. All potable water and electricity used by the *Contractor* must be metered and consumption figures submitted monthly to the *Project Manager*. The cost of meters, connections, etc., shall be for the *Contractor's* account. The *Contractor* provides a Certificate of Compliance for his electrical installation before the supply is energised by the *Employer*. The *Contractor* provides a new Certificate of Compliance whenever the installation is changed.

The *Employer* will provide water and electricity only. The *Contractor* provides everything else necessary for providing the Works.

The *Employer* shall make available an area for the construction site and its facilities. However, it shall be the *Contractor's* responsibility to ensure that all the *Contractor's* facilities and equipment (including the site offices, material lay down area, equipment and construction site) are sufficiently cordoned off and are contained within these battery limits.

The *Contractor* shall at his own cost provide and maintain, to health standards, the required sanitary facilities. Chemical toilets are recommended.

### **Existing Premises, Inspection and Reinstatement**

a) The *Contractor* shall take all adequate precautions necessary to protect against injury to persons and damage to the integrity of surrounding structures and existing assets during the course of the work. The *Contractor* shall be held accountable for any third-party damage to infrastructure or services caused by the contractors' operations or equipment, in accordance with this contract.

b) The *Contractor* is required to attend a mandatory inspection, with the *Employer*, of the infrastructure in and around the construction site area and adjacent buildings before site establishment, in order to agree on its current condition.

c) Records and photographs will be taken during this inspection which will be used as a benchmark for reference if an incident occurs or if damage is identified at the end of the contract.

d) The *Contractor* will be responsible for the repairs and the costs incurred in effecting such repairs to or any damage caused to Transnet's property or others' property by the *Contractor's* staff during transporting, off-loading and carrying out the required work

### **Site Facilities for the Contractor**

The *Contractor* submits the following drawings to the *Project Manager* for acceptance before commencing with the establishment of the site facilities:

- Location drawing showing the area to be occupied by the *Contractor* in relation to the Small Craft Harbour infrastructure.
- Layout drawing of the proposed facilities.

a) The *Contractor* shall take all adequate precautions necessary to protect against injury to persons and damage to the integrity of surrounding structures and existing assets during the course of the work. The *Contractor* shall be held accountable for any third-party damage to infrastructure or services caused by the contractor's operations or equipment, in accordance with this contract.

b) The *Contractor* is required to attend a mandatory inspection, with the *Employer*, of the infrastructure in and around the construction site area and adjacent buildings before site establishment, in order to agree on its current condition.

c) Records and photographs will be taken during this inspection which will be used as a benchmark for reference if an incident occurs or if damage is identified at the end of the contract.

d) The *Contractor* will be responsible for the repairs and the costs incurred in effecting such repairs to or any damage caused to TNPA property or others' property by the *Contractor's* staff during transporting, off-loading and carrying out the required work

#### **Existing premises, inspection of adjoining properties and checking work of others**

The *Contractor* and the *Project Manager* jointly inspect the buildings and other infrastructure adjacent to the Working Area immediately prior to the commencement of the site operations and agree on the condition of the items inspected. Photographic records must be made of areas of damage.

#### **Survey control and setting out of the works**

The *Contractor* is responsible for setting out the works and for carrying out further surveys as necessary as the work progresses.

a) The *Contractor* must check all measurements on site before the works commence. The *Contractor* is also responsible for surveying the site for any levels required for the works.

b) The *Contractor* will be responsible for protecting all the survey pegs installed. For the purpose of this contract, the datum level shall be Mean Sea Level (MSL). Key control pegs and benchmarks (defining the basic setting out lines and levels) will be provided by the *Project Manager*.

c) Levels and co-ordinates provided will be deemed to have been checked and agreed to by the *Contractor* and any discrepancies found shall be brought to the notice of the *Project Manager* before commencement of the Works.

d) The *Contractor* shall be entirely responsible for the setting out of the Works from the benchmarks and the basic setting out lines provided. Any discrepancies between lay-out dimensions and levels on the drawing and the existing site conditions must be reported to the *Project Manager*.

e) Any dimensional discrepancies or conflicting dimensions on drawings shall be reported to the *Project Manager* in writing. The *Contractor* shall not decide which dimension shall be read as correct where a discrepancy occurs but shall obtain a ruling from the *Project Manager* in writing.

#### **Excavations and associated water control**

All excavations deeper than 1.0m below ground level or as otherwise indicated by the *Employer's* Safety Officer in terms of the current Construction Regulations 2014, shall either be fully shored, or the sides shall be battered back to a safe angle as determined by the strength of the soil and approved by the *Contractors* Project Engineer

Shallow ground water may be encountered in the excavations. Where this occurs, the *Contractor* provides suitable de-watering equipment. The discharge from the dewatering equipment must be controlled in accordance with the requirements of the Standard Environmental Specification and Construction Environmental Management Plan. Discharge directly into the storm water drainage system or into the sea is not permitted.

#### **Underground services, other existing services, cable and pipe trenches and covers**

Due to the lack of adequate as-built records, the *Contractor* will be required to prove services prior to removal. The *Contractor* shall take the necessary precautions to ensure that the services are not damaged.

As soon as any underground service not shown on the drawings is discovered, the *Contractor* shall draw it to the attention of the *Supervisor*. The *Contractor* must, in collaboration with the *Supervisor*, ascertain whether or not the service is live. The *Contractor* shall not uplift any such service unless he is instructed to do so.

The *Contractor* shall be held responsible for any damage to known services (i.e. services that are within the site of the works and are shown on the drawings) and he shall take all necessary measures to protect them. In the event of a service being damaged, the *Contractor* shall immediately notify the *Supervisor*. The *Contractor* shall not repair any such service unless he is instructed to do so.

### **Contractor's Site Notice Board**

The *Contractor* provides a notice board containing the following information:

- Contract title
- Contractor's name
- Contractor's Site Manager's name and mobile phone number
- Contractor's Site Safety Officer's name and cell phone number
- *Project Manager's* name and cell phone number
- Supervisor's name and cell phone number
- Emergency contact numbers as well as TNPA Fire department
- TNPA *Project Manager*
- PPE required

The notice board is sited in clear view at the entrance to the *Contractor's* Lay-Down Area.

### **Control of noise, dust, water and waste**

- a) The *Contractor* is to take appropriate measures to minimise the generation of noise and dust as a result of construction works, to the satisfaction of the *Project Manager*, or the person approved by the *Project Manager*.
- b) The *Contractor* shall properly deal with and dispose of water leaking into the work areas to ensure that the Works are kept sufficiently dry for their proper execution. For this purpose, he shall provide, operate and maintain in sufficient quantity such pumping equipment, pipes and any other equipment as may be necessary to minimise damage, inconvenience or interference.

### **Sequences of construction or installation**

The *Contractor* shall propose a construction methodology and these proposals must be brought to the *Project Manager* for approval.

### **Giving notice of work to be covered up**

The *Contractor* must issue a notice to the NEC3 *Supervisor* and *Project Manager* before any covering of works is to occur. An inspection of the works must be done with both the *Employer* and *Contractor's* relevant authority's on site.

### **Hook ups to existing works**

#### **Permit to Work**

The *Contractor* must be in possession of a Permit to Work before commencing any activities on Site. This permit must be issued by the *Employer's* appointed Safety Officer to the *Contractor*.

#### **Hot Work and Fire Watches**

The *Contractor* must be in possession of a Hot Work Permit before commencing any welding, cutting, grinding, drilling or other activity that can generate heat or sparks.

Each Hot Work Permit is valid for a maximum of 24 hours. A new application must be made for each period that a Hot Work Permit is required.

When Hot Work is being undertaken, the *Contractor* arranges a Fire Watch which must remain in place for at least four hours after the completion of the Hot Work. The *Contractor* is responsible for the provision of suitable and effective fire-fighting equipment.

Working on heights Permit The *Contractor* must implement a working on heights permit process. This permit must be issued by the *Contractors* appointed Safety Officer

Excavation permit - The *Contractor* must be in possession of a Permit to Work before commencing excavation activities on Site. This permit must be issued by the *Employer's Project Manager* to the *Contractor*.

#### **Smoking at Work**

Smoking is not permitted at any time in the working area. The *Contractor* ensures that this restriction is strictly enforced. The *Employer* will immediately instruct the Work to be suspended if this requirement is contravened.

The *Contractor* places statutory "No Smoking" signs prominently throughout the Working Area.

It is recommended that the *Contractor* allocates a demarcated area within his Laydown Area for smoking. The requirements of the Tobacco Products Control Act (as amended from time to time) with respect to smoking in Public Places will be applied.

## **3.2 Completion, testing, commissioning and correction of Defects**

### **3.2.1 The work to be done by the Completion Date**

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works including the work listed below which is to be done before the Completion Date and in any case 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 using the works and others from doing their work.

| Item of work                                                      | To be completed by                        |
|-------------------------------------------------------------------|-------------------------------------------|
| Operation and Maintenance Manuals                                 | Fourteen (14) days prior to Completion.   |
| Performance testing of the works                                  | Refer to performance testing requirements |
| Training of relevant personnel as per operational readiness plan. | Fourteen (14) days prior to Completion.   |

**3.2.2 The Contractor is permitted to carry out the following works after Completion:**

| Item of work                     | To be completed by                                 |
|----------------------------------|----------------------------------------------------|
| As-built drawings and Data Packs | No later than fourteen (14) days after Completion. |

**3.2.3 Use of the works before Completion has been certified**

In the event of the Works, not being completed by the contractual completion date, the *Employer* reserves the right to make use of the building and equipment without the *Contractor* having the benefit of final acceptance.

**3.2.4 Materials facilities and samples for tests and inspections**

The *Contractor* arranges for samples of all materials to be used to provide the Works to be tested and delivers the certified results of all tests to the *Employer*.

The *Contractor* provides the facilities required for in-situ testing of materials.

**3.2.5 Commissioning**

HVAC Commissioning will be performed prior to completion.

**Pre-commissioning**

The *Contractor* submits the commissioning protocol to the *Project Manager* for acceptance not less than 14 days before commissioning starts.

**3.2.6 Start-up procedures required to put the works into operation**

The *Contractor* is to submit a detailed start up protocol as part of the commissioning protocol, two weeks prior to commissioning.

**3.2.7 Take-over procedures**

Take-over is after successful commissioning and correction of defects.

The *Contractor* ensures that the operating manuals and maintenance schedules (as described in the Works Information) are presented to the *Project Manager* before Completion.

The *Contractor* ensures that the *Project Manager* has a full and accurate dossier of As-built documents that represent the Mechanical and Electrical Layout status of the completed works (to include Plant within the works) to present to the *Employer*.

Where the *Contractor* has presented Maintenance and Operation Manuals to the *Project Manager* at take-over, the *Contractor* modifies and updates As-built documents as necessary within 14 days of Completion.

### 3.2.8 Completion and submission of documentation

The *Contractor* ensures that the documentation as described under paragraphs 2.5 of the Works Information is presented to the *Project Manager* as prescribed in the Contractor's Documentation Schedule.

The *Contractor* ensures that the *Project Manager* has a full and accurate dossier of As-built documents that represent the Mechanical, Electrical, Instrumentation, Control and Automation status of the completed works (to include Plant within the works) to present to the *Employer*.

### 3.2.9 Access given by the *Employer* for correction of Defects

The Defects Period commences from the date of hand-over of the completed and fully commissioned works. The *Contractor* remains in attendance or is available on site within two hours of the notification of the defect (or with reasonable notice by agreement of the *Project Manager*), to attend to any defects in the works that become manifest during this period. The *Contractor* is liable for the observance and performance of his Sub-Contractors and Suppliers in respect of any guarantees given by them with any item of plant or equipment supplied to the *Contractor*.

All costs of remedial works, including materials, services and labour, are for the Contractor's account.

The *Employer* will arrange access dates to rectify defects.

### 3.2.10 Performance tests after Completion

The 72-hour performance test will be conducted as part of the hot commissioning

### 3.2.11 Operational maintenance after Completion

Operational maintenance of equipment, systems and works included in the scope of this project after completion of the Performance Test remains the responsibility of the *Contractor* until the Data Books, Training Manuals and Maintenance and Operation Manuals have been delivered and accepted. No additional payment will be made for any maintenance which may become necessary.

## 4 WORK INFORMATION OF CONSTRUCTION WORKS

### 4.1 Architectural Building Works

4.1.1. The Model Preamble for Trades as published by the Association of South African Quantity Surveyors Model Preamble for Trades 2008 shall be applicable to all the building Works associated with this contract. The following interpretations and meanings shall apply:

- In case of any conflict in interpretation, ambiguity or discrepancy between any Model Preamble for Trades 2008 (whether standard or written as a particular project specification) contained in the Works Information and the conditions of contract, the conditions of contract shall take precedence within the ECC3 Contract.

- In case of any conflict in interpretation, ambiguity or discrepancy between any Model Preamble for Trades 2008 (whether standard or written as a particular project specification) contained in this paragraph 8.2 of C3.1 *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 Manager's* express duty to resolve any ambiguity or inconsistency in the Works Information under ECC3 Clause 17.1.

4.1.2. Within the Model Preambles for Trades 2008, the following amendments and interpretations shall apply:

- Where the word or expression "Principal Agent" is used, read "Project Manager" or "Supervisor" as the context requires.
- Where the word or expression "Contractor" is used, read "Contractor".
- Where the word or expression "Engineer" is used, read "Project Manager" or "Supervisor" as the context requires.
- Where the Model Preambles for Trades 2008 mention "rates" for measured work and any contractual statements relating to payment, all such statements shall be discounted, with the ECC3 conditions of contract taking precedence.

4.1.3. Within the Model Preambles for Trades 2008, A. GENERAL, the following amendments and interpretations shall apply:

4.1.4. Where the word or expression "bills of quantities" is used, this shall be discounted for the purposes of the Works Information. The ECC3 Contract Data Part One states the main option to apply within the ECC3 Contract between the Parties.

4.1.5. Within the Model Preambles for Trades 2008, B. ALTERATIONS, B.2 MATERIALS FROM THE ALTERATIONS, CREDIT, ETC and C. EARTHWORKS, C1.4 Materials from demolitions shall not apply. C3.1 *Employer's Works Information* paragraph 3.1.6 states details of the Contractor's title (if any) to Materials arising from excavations and/or demolitions and how such Materials are either to be disposed of or re-used in the works.

4.1.6. Within the Model Preamble for Trades 2008 Q. PLUMBING AND DRAINAGE, Q.24 TESTS shall be deemed to be included within paragraph 3.2.1 of C3.1 *Employer's Works Information*.

4.1.7. Within the Model Preamble for Trades 2008 U. EXTERNAL WORKS, U.3.8 Process control tests shall be deemed to be included within paragraph 3.2.1 of C3.1 *Employer's Works Information*.

4.1.8. The principles, meanings and interpretation stated and established within paragraphs 8.2.1 to 8.2.8 with respect to the Model Preambles for Trades 2008 equally apply to the other Model Preambles for Trades 2008 references used within this paragraph 8.2 of C3.1 *Employer's Works Information*.

4.1.9. Particular specifications provided by the *Employer*:

- Manufacturer's instructions and specifications

All materials and products shall be used and installed in strict accordance with the manufacturer's instructions and specifications. In circumstances where the manufacturer offers any form of guarantee the contractor is to ensure the products are installed in such a manner as to cover the installation specifications of the guarantee.

Where trade names are specified in the construction works equal or approved products could be considered by the project team. The appropriate product manuals or data sheets would need to be submitted for approval.

- Use of locally manufactured materials and products

Materials and products manufactured in South Africa shall be used in carrying out the work to which this specification refers, unless an imported product is prescribed specifically, or when no suitable locally manufactured product for the specific use is available.

The Contractor shall furnish without delay, such samples and/ or certificates as called for or may be called for by the *Supervisor / Project manager*. Materials and/or workmanship not corresponding with approved samples may be rejected. Samples for approval shall be required for paint colours, wall finishes, ceiling finishes and floor finishes. These approved samples shall remain on site for the duration of the Works. The samples are to be labeled or marked with the following minimum information thereon. Project name and number. Supplier's name and phone number. Product information eg. Size, guarantee, colour codes, thickness, material, finish etc. Any other information to assist in the approval process.

- Roof to comply with PART L OF SANS 10400:

0,9mm Aluminium A7 profile roof sheeting.

Sheeting shall have a minimum 20 year guarantee for harsh coastal environment.

Colour to be factory coated PVDF finish.

Adequate fixings shall be provided to ensure extreme wind conditions.

Approved neoprene polyclosures shall be procured for use at all apex and eaves junctions.

All roofing installations to be in accordance with manufacturer's specification.

- Waterproofing of roofing and walls:

The Contractor shall furnish the *Employer* with a written guarantee covering materials and workmanship for all waterproofing specified or offered for new work and repairs to existing. This guarantee shall be signed by the Contractor and countersigned by the supplier of the materials used, and underwritten by a recognised insurance company. The guarantee shall be valid for a 10-year period.

Should any maintenance be required during the guarantee period, the Contractor shall allow for the cost of such in his tender price as the Contractor shall be held solely responsible for any leaks that occur during the guarantee period.

- Entrance Roof Structure

The Contractor shall provide Engineer's certificate confirming the design, structural stability and installation of the roof structure on completion of the roof structure.

Shop drawings shall be required for Engineers approval for steel roof structures.

Contractor shall provide certificate of structural stability for the design.

- Timber Trusses

Truss manufacturers Engineer's certificate covering the design and installation of trusses shall be provided.

Trusses and roof structure are to be designed for extreme wind conditions.

Adequate storm clips and holding down brackets and galvanized hoop iron straps are to be installed as per the manufacturer's data sheets or instruction.

All timber used is to be treated according to manufacturer's instruction and certification thereof is to be provided.

Shop drawings shall be required for approval for of roof structures.

- Ceilings:

All ceilings to be installed in accordance with the current code of practice for ceiling installation adopted by the South African Building Interior System Association (SABISA).

Care to be taken to ensure that the fixing used for the suspension points should be able to support a safety factor of three times the design load of the ceiling.

The ceiling erection should take place at a later stage in the building, when the building is clean and there is less likelihood of damage from other trades and exposure to the elements.

The entire system grid, tees and suspension system and ceiling tile to conform to:

a Fire Classification: Class B/B1/2

Sound Attenuation: 32dB

Thermal Conductivity: 0.25 (m<sup>2</sup>.k)/W

Humidity: 99%

Light Reflection: 85%

- Doors:

All doors to have SABS certification.

Contractor to ensure the certification thereof shall be provided.

Fire Rated Door to be in strict accordance with the manufacturer's instructions and in compliance with SABS 1253:2004 and carrying the relevant SABS mark for 120 min fire rating.

Frame to be minimum 1.6mm gauge red oxide primed galvanized steel frame to suit thickness of wall.

- Brickwork and Mortar Joints:

All brickwork is to conform with the standards and guidelines as stipulated in the

- i. National Home Builders Registration Council

Standards and Guidelines

[www.nhbrc.org](http://www.nhbrc.org)

ii. Cement & Concrete Institute

Publications on concrete, mortar, plaster and construction detailing.

[www.cnci.org.za](http://www.cnci.org.za)

iii. Clay Brick Association

Building contractors pocket handbook

[www.claybrick.org](http://www.claybrick.org)

Facebrick shall be selected and blended. Prior to bricklaying, proper setting out of brickwork shall be undertaken by the Contractor's bricklayer for variances in brick dimensions.

Facebrick shall be kept clean and protected as the brickwork and construction progresses.

For any detail information required on stained or dirty facebrick, Manufacturer's Office shall be contacted for method of cleaning.

The Contractor shall construct a facebrick sample wall of 10 courses high and 8 courses wide to gain the approval for the quality of the face hands workmanship.

A similar wall is to be constructed and plastered to gain the approval for the quality of the plastering and workmanship. The wall shall remain constructed on site from the commencement of the project to the completion of the project.

Mortar joints to face brickwork generally shall be 10mm in thickness with level bedding joints, vertical perpend. Setting out of brick gauge shall be determined on site as average sizes of bricks may vary. Weather struck joint profile shall be well rubbed with a standard jointing tool of suitable size to ensure that the entire exposed surface on the joint presents a smooth and polished appearance.

The use of DPC shall be provided and installed as per SANS 10021, to provide barrier against rising damp, water penetration from above and horizontal water penetration

SABS 248-1973: Bituminous damp proof course.

SABS 298-1975: Mastic asphalt for damp proofing courses

and tanking are further references to adhere to.

Wall ties are to comply with SABS 28-1986: Metal ties for cavity walls.

Facebrick to be a brick with a black brick satin FBX finish and have a zone classification of 2, for harsh coastal climate.

Facebrick coursing to be 230 wide and 85 high.

External skin of all internal walls to be bitumen painted.

Brickwork to be re-inforced in solid cement mortar joints with brickforce as per engineers detail.

GMS butterfly wire wall ties at 450mm maximum vertical centers and 600mm horizontal centers for cavity walls.

- Glazing, Shopfronts, and Windows:

All glazing and safety glazing shall comply with SANS 613 and the SANS Codes of practise.

All safety glass shall carry the Manufacturer's warranty against any manufacturing defects and discoloration for a minimum period of 5 years.

As per SANS 10400-N, an approved permanent safety stencil mark shall appear on each pane on all safety glass.

Glazing and shopfront installations shall comply with SANS 10400-XA.

All tinted glazing must have the required thermal protection (U-factor rating) to ensure compliance to SANS 10400-XA.

Installation certificate by AAMSA approved contractor is required for all shopfront installations.

All shop fronts and window sections shall be watertight and able to withstand coastal winds of up to 60m/sec.

All glazing, shopfronts and windows shall be designed, stored, installed as per manufacturer's specification.

For any design by the Contractor See also Part 2.2 of this document; design by contractor.

Installation certificate by AAMSA approved Contractor is required for all shopfront installations.

All shop fronts and window sections shall comply with SANS 613, be waterproof and able to withstand the coastal wind conditions in the Port of Richards Bay.

- Partitions

All partition systems shall be installed as per manufacturer's specification.

Partitions that are to be installed shall be structurally stable, secure and firm.

Partition system to be with overall thickness of 76mm with SoundTherm Insulation of partition, including any additional steel studding necessary at door openings, glazed or other apertures, abutments, ends, corners, etc. the joints taped over and flushed over with jointing compound prepared for painting.

Fire rating certificate of partitions shall be provided for Fire protection: up to 60 minutes as per BS 476 parts 20 - 23.

- Painting

Paint to be used on all surfaces are to carry a minimum guarantee period of 14 years. Manufacturer of the paint shall provide regular inspection to ensure the surface preparation and application of the products are in accordance with the manufacturer's instruction.

Regular moisture tests are to be carried out to ensure the surfaces are thoroughly dry - no more than 12% moisture content is recommended.

All products must be applied in strict accordance with the Manufacturers specification and product technical data sheet.

- Existing Plaster & Painted Area Procedures

Ensure that surfaces are sound and free from dust, oil, grease, dirt, and debris. Surfaces must be thoroughly dry - no more than 12% moisture content.

Prior to painting, establish and repair all causes of moisture in the structure such as rising/lateral dampness; water ingress from balconies etc. All to be done in strict accordance with approved damp proofing methods.

All products must be applied in strict accordance with the Manufacturer Specification and Product Technical Data Sheet.

The first finishing coat be tinted from a base 9 to a colour corresponding to the colour of the topcoat. This will reduce the number of topcoats required for full hiding. Inter-coat washing is essential for all coastal projects. When in close proximity to the ocean, it is important to ensure surfaces are free of contaminants, specifically salt deposits, before painting can commence. For surfaces exhibiting excessive chalkiness, a full coat of primer is necessary to aid adhesion. Prior to painting, establish and repair all causes of moisture in the structure such as rising/lateral dampness; water ingress from balconies etc. All to be done in strict accordance with approved damp proofing methods.

#### APPLICATION:

Ensure surfaces are sound, clean and thoroughly dry - moisture content should not exceed 12%. Apply approved Trade Alkali Resistant Primer at 9m<sup>2</sup> per litre, as a primer to bare and chalky surfaces. Allow overnight drying. Fill minor plaster deficiencies with a Pre-Paint Multi-Purpose Ready Mix Crack Filler and allow to dry and sand smooth. For textured walls surface drag a dry paint brush through the still wet filler to best recreate the existing wall texture. Spot prime with approved Pre-Paint Multi-Purpose Ready Mix Crack Filler repaired areas with primer and allow drying. Finish the walls with 2 coats of Wallguard at 8-10m<sup>2</sup> per litre per coat with 4 hours drying time between coats.

#### 4.1.10. EXISTING STEEL PAINTING PROCEDURES

Directly before the application of paint, the area to be painted shall be degreased with a suitable degreaser and left to dry.

Paint shall only be applied under the following conditions:-

- There is adequate light.
- The steel temperature is between 5 and 50°C and at least 3°C above the dew point of the air.
- The relative humidity of the air is between the limits specified by the paint supplier.
- Wind does not interfere with the method used and sand and dust cannot be blown onto wet paint.
- Steelwork shall be supported on trestles, at least 900 mm off the ground for painting purposes.
- An adequate number of test readings shall be taken per square meter in order to determine the dry film thickness.

- vii. The paintwork shall be acceptable if the average of the test readings taken falls within or exceeds the ranges given.
- viii. Paintwork shall not be acceptable if any single test reading is less than the specified minimum thickness.
- ix. An ultrasonic or electronic magnetic flux thickness measurement gauge shall be used, but in case of dispute, destructive testing shall be applied. The painted steelwork shall present a clean, neat appearance of uniform colour and gloss as applicable to the paint used. Each coat of paint shall be applied as a continuous, even film of uniform thickness. More than one application of paint may be required to achieve the dry film thicknesses specified or to obliterate the colour of the previous coating.
- x. The use of thinners or solvents at any stage of the work is prohibited, unless specified by the paint manufacturer.
- xi. Precautions shall be taken to prevent coatings from being applied to equipment nameplates, instrument glasses, signs etc.
- xii. For Map cracking vertical walls
- xiii. Before painting can commence, every problem must be repaired in strict accordance with BEST PAINTING PRACTICE STANDARDS

High Pressure water clean the walls at 180-220 KPA operating pressure utilising a rotating nozzle, remove defective paint and or paint system back to a sound paint layer or bare plaster as well as exposing any friable plaster. Reinstate friable plaster with a suitable mortar mix and allow to dry out with a moisture content of 12% or below. Use a paint scraper to remove any loose edges of paint. Use P80 sandpaper to feather the edges of the tightly adhering paint.

#### APPLICATION:

Ensure surfaces are sound, clean and thoroughly dry - moisture content should not exceed 12%. Apply a full coat of Trade Alkali Resistant Primer at 9m<sup>2</sup> per as a primer to bare and chalky surfaces. Allow overnight drying. Fill minor plaster deficiencies with Pre-Paint Multi-Purpose ready Mix Crack Filler and allow to dry and sand smooth. For textured walls surface drag a dry paint brush through the till wet filler to best recreate the existing wall texture. Spot prime with Pre-Paint Multi-Purpose Ready Mix Crack Filler repaired areas with Trade Alkali Resistant Primer and allow drying. Apply 2 coats of Rainshield at 3-4m<sup>2</sup> per litre with a medium pile roller, to achieve a minimum total DFT of 300 microns. Apply as a full round coat, bridging repaired cracks. This coating should be applied from corner to corner – it will smooth over uneven surfaces, such as chipped valleys caused by layers of old peeling paint, and poor patching. Finish the walls with 2 coats of Wallguard at 8-10m<sup>2</sup> per litre with 4 hours drying time between coats

#### 4.1.11. Carports

The shade-cloth covered carports shall be designed, supplied, and installed to the Contractor's Design as per drawing 4087497-6-000-C-LA-0006-02-01-00-TD.

Contractor shall provide certificate of structural stability for the design.

Adequate holding down brackets are to be installed as per the manufacturer's data sheets or instruction and to be designed for extreme wind conditions.

#### 4.1.12. Sanitary ware

All sanware products shall be clear of material and manufacturing defects.

Appraisal of the above shall be done against ruling manufacturing specifications and standards at the date of manufacture.

The manufacturer of the sanware must be able to repair or exchanged defective product.

All sanware products shall be installed by a registered or accredited manufacturer's installer.

Sanware shall be used with or included in installations where water temperatures are outside of the temperature range stipulated for that product, or as laid down in the Standards for water supply and drainage (SANS 10252 & 10254) or an equivalent international standard.

Products shall be installed according to manufacturer's installation instructions or according to valid Water Regulations and general good plumbing practice.

All pipe work shall be flushed for clearance of dirt or debris in pipe-work prior to the use of terminal fittings.

All sanware handling shall be as per manufacturer's instruction.

All consumables e.g. filters, filter cartridges, aerators, batteries seals or hoses shall be used as per manufacturer's instruction.

All sanitaryware shall carry a warranty valid for :

- 20 years for taps & mixers, wastes, capillary and compression fittings
- 5 years for showerheads.
- 2 years for electronic mixers components and valves.
- 2 years for valves (geyser and toilet)
- 10 years for multi-layer pipe system must be used with compression fittings and Safe inserts.
- 10 years on all baths, shower trays and vanities.
- 10 years on all sanitaryware
- 6 months on all toilet seats.

#### 4.1.13. Protection of works

The Contractor shall provide all necessary dust sheets, hoarding, etc. and shall exercise all necessary care to prevent marking surfaces, walls, floors, glass, electrical fittings, etc. and shall keep all parts of the works perfectly clean and free at all times from spotting, accumulation of rubbish, debris of dirt arising from the operations. Any surface disfigured or otherwise damaged shall be completely renovated or replaced as necessary by the Contractor at his own expense to the *Supervisor's* approval. The premises shall be left clean and fit for occupation at completion of the work.

#### 4.1.14. Demolition

The Contractor shall carefully remove appliances and those that have been removed are described for re-use in the construction works or to be returned to the client.

Any floors, walls and surfaces damaged shall be made good by the Contractor.

All items removed are to be returned to the client.

All rubble and other debris are to be removed off site and dumped in a legal dump site.

## 4.2 Civil Engineering Works

This Works Information covers all civil aspects relating to the Tuzi Gazi Old Action Cricket building upgrade, for the TNPA office relocation in Richards Bay.

### 4.2.1. Supporting specifications

All work done, and materials supplied, must conform to the requirements of the relevant standards AND specifications, not necessarily comprehensive, as set out in the following schedules:

| Title                                                      | Document No.  | Revision/Date |
|------------------------------------------------------------|---------------|---------------|
| Earthworks (general)                                       | SANS 2001-BE1 | *             |
| Site Clearance                                             | SANS 2001-BS1 | *             |
| Concrete Works (Structural)                                | SANS 2001-CC1 | *             |
| Concrete Works (Minor works)                               | SANS 2001-CC2 | *             |
| Masonry walling                                            | SANS 2001-CM1 | *             |
| Earthworks for buried pipelines and prefabricated culverts | SANS 2001-DP1 | *             |
| Medium Pressure Pipelines                                  | SANS 2001-DP2 | *             |
| Cable Ducts                                                | SANS 2001-DP3 | *             |
| Sewers                                                     | SANS 2001-DP4 | *             |
| Stormwater Drainage                                        | SANS 2001-DP5 | *             |
| Below-ground water installations                           | SANS 2001-DP6 | *             |
| Sewers for buildings                                       | SANS 2001-DP7 | *             |
| Cement plaster                                             | SANS 2001-EM1 | *             |
| Joinery                                                    | SANS 2001-EJ  | *             |
| Road (general)                                             | SANS 1200-M   | *             |
| Subbase                                                    | SANS 1200-ME  | *             |
| Base                                                       | SANS 1200-MF  | *             |
| Segmented paving                                           | SANS 1200-MJ  | *             |
| Kerbing and channeling                                     | SANS 1200-MK  | *             |
| Ancillary roadworks                                        | SANS 1200-MM  | *             |

### 4.2.2. Demolition

#### 4.2.2.1. Works Information

This scope covers the demolition of existing structures viz. gates, stormwater pipes and manholes, as indicated in the design drawings.

#### 4.2.2.2. Existing services

All known services are provided on the drawing, however, due to the lack of adequate as-built records, the *Contractor* will be required to prove services prior to removal/construction. The *Contractor* shall take the necessary precautions to ensure that the services are not damaged.

As soon as any underground service not shown on the drawings is discovered, it shall be brought to the attention of the *Supervisor*. The *Contractor* must in collaboration with the *Supervisor*, ascertain whether or not the service is live. The *Contractor* shall not uplift any such service unless he is instructed to do so.

The *Contractor* shall be held responsible for any damage to known services (i.e., services that are within the site of the works and are shown on the drawing) and he shall take all necessary measures to protect them. In the event of a service being damaged, the *Contractor* shall immediately notify the *Supervisor*. The *Contractor* shall not repair any such service unless he is instructed to do so.

Any damage to the adjacent areas not designated for demolition shall be repaired by the *Contractor* to the satisfaction of the *Supervisor*.

#### 4.2.2.3. Reinstating of removed structures

Where required as per the design, any structures, where indicated in the drawings, are to be uplifted without damage to existing adjacent structures and replaced with new. Any damage to the adjacent structures shall be repaired by the *Contractor* to the satisfaction of the *Supervisor*. Existing high visibility fences are to be removed, stockpiled and reinstated as indicated in the design drawings

#### 4.2.2.4. Demolition of existing stormwater manholes, pipes and fencing

The *Contractor* shall dismantle and remove fencing, as indicated in design drawings, and place in storage for reinstating as indicated in design drawings.

Existing stormwater pipes, manholes and associated fittings shall be demolished where indicated in the drawings, uplifted and removed off site. As per 4.2.2.9 below, existing manholes will require some demolition in order to reset manhole covers to design levels.

#### 4.2.2.5. Excavation

For the purposes of uplifting of underground pipes, a trench width of 1m shall be used, and existing material to be excavated according to SANS 1200 DA.

#### 4.2.2.6. Compaction of insitu material

The insitu material shall be trimmed, levelled out and compacted to 95% MOD AASHTO density.

#### 4.2.2.7. Imported Backfill material

Backfill material shall be selected in accordance with the stipulated layerworks design from commercial sources and placed in 150mm layers compacted to 95% and 98% MOD MAASHTO density. No clay shall be used as backfill.

#### 4.2.2.8. Layerworks

The backfilled Layerworks shall comply with the specifications as detailed in the pavement design for the area.

#### 4.2.2.9. Resetting of existing manhole covers

Where indicated in the drawings, existing manhole covers shall be adjusted to suit the finished paving level. This shall include the demolition of existing cover slabs, recovery, cleaning and painting of the frames and covers for re-use, as well as for reconstruction of the cover slabs to the required levels.

#### 4.2.3. Site clearance, earthworks and layerworks

##### 4.2.3.1. Works Information

The works for the site clearance, earthworks and layer works include the following:

- Clearing of site.
- Exposing of existing services, where indicated by the *Project Manager*.
- Bulk excavation and treatment of insitu material.
- Construction of G6 subbase from commercial sources.
- Construction of G4 base from commercial sources.
- Construction of 30mm asphalt surface.
- Resurfacing of areas as indicated in design drawings.
- Construction of precast kerbing.
- Construction of manholes.

and any other work arising out of or incidental to the above, or required of the Contractor for the proper completion of the works.

##### 4.2.3.2. Clearing and grubbing

The site, as indicated in the drawings, is to be stripped and fine vegetation comprising of grass and reeds is to be removed. Removal of trees, if any, is required.

##### 4.2.3.3. Removal of topsoil

Topsoil of 100mm is required to be stripped and stockpiled in positions such that the stockpile shall not be disturbed during the construction of other services.

##### 4.2.3.4. Spoil Site

All excess material shall be spoiled off site in a spoil area to be identified by the *Contractor*. The *Contractor* is to allow for everything necessary to load haul, tip, and spread and compact if necessary. Spoiling on Transnet property shall not be permitted unless a specific authority is obtained in writing. The *Contractor* shall provide written confirmation that permission has been obtained from the operator /owner of the spoil site that they have accepted the material and all obligations in regarding to the spoiling of material has been met.

##### 4.2.3.5. Exposing existing services

A multitude of services are known to exist over the whole area of the works and based on the information available general layout plan indicating services have been prepared. Prior to commencing work in any area, the *Contractor* shall consult the *Project Manager* in regard to the location of services and shall assist him when required in locating the exact position and depths of services by means of proof trenching. The location and depth of all services discovered by the foregoing investigations shall be recorded and plotted by the *Contractor* on an "as-built" copy of the services plan.

The *Contractor* shall assist when required in alterations to services by providing labour, plant and material and shall carry out the necessary work as instructed by the *Project Manager*.

Claims for extension of time as a result of existing services will NOT be entertained if the operation of locating and/or protecting services is less than two weeks ahead of construction.

Responsibility for protection of all known services shall rest solely with the *Contractor* and he shall bear all costs, which may arise as a result of any damage which he may cause to such services, or which may arise as a result of his operations.

#### 4.2.3.6. Disposal of material

The excavated material is required to be carted to a spoil site of the *Contractor's* choice. The nature of the material varies. All vegetation, trees, etc. resulting from site clearance shall be removed off site to a disposal dump to be selected by the *Contractor*. The haulage, dump costs and any levies etc. shall be deemed to be included in his tendered rates. Burning of materials on site shall not be permitted.

#### 4.2.3.7. Bulk excavation

The area, as indicated in the design drawings is to be excavated to the required depth. The material to be spoiled is to be carted to a spoil site of the *Contractor's* choice.

#### 4.2.3.8. Subgrade

Preparation of the in-situ subgrade will be by means of ripping and compaction. Compaction of the in-situ subgrade will be done to a minimum of 93% of modified AASHTO maximum density for all materials, to a minimum depth of 150mm and at between -2% and +2% of the optimum moisture content. Where insitu material is not of similar quality to G8, material shall be imported to accommodate the deficiency.

#### 4.2.3.9. Subbase

150mm G6 sub- base layer shall conform to SANS 2001-BE1 and SANS 1200 ME and shall be imported from a commercial source, approved by the Project Manager. The layer shall be compacted 150 mm layers to 95% Mod AASHTO density respectively.

#### 4.2.3.10. Base

The base layer shall be a 150mm thick G4 gravel layer compacted to 95% Mod AASHTO density and shall conform to the requirements of SANS 2001-BE1 and SANS 1200 MF. The tolerance on the base levels will be -10mm to 0mm. Material shall be imported from a commercial source, approved by the Project Manager.

#### 4.2.3.11. Kerbing and channel

Kerbs and channels shall be of the sections shown on the drawings and shall comply with the relevant requirements of SANS 927, when applicable, SANS 1200 MK.

#### 4.2.3.12. Road marking

The Contractor shall provide all plant required to execute the works. The lines or markings are to be painted with Plascon - Hysheen Road and Runway Paint or similar approved, at an application rate the rate of 0,42l per m2. The colour of paint to be used shall be as specified in the Schedule of Quantities and indicated on the drawing issued. All paint shall conform to SANS 731-1.

The following must be noted by the Contractor in terms of SANS 731-1:

- The paint shall be a Type 2 Paint
- The paint shall be suitable for use in a parking area on a segmented concrete surface.
- The paint is not required to be retro reflective.

- Drying time classification shall be Class 1

The colors required for the completion of the contract shall be:

- White
- Red
- Golden Yellow (BS381C-356 or CKS 279 – D26)

All the above colours to meet classifications according to SANS 1091.

#### 4.2.3.13. Construction

##### 4.2.3.13.1. Approval of designs

The *Contractor* shall submit the mix details and properties of the design mixes for the asphalt surfacing.

##### 4.2.3.13.2. Removing unsuitable material

Any roadbed material which is considered by the *Supervisor* to be of a quality that would be detrimental to the performance of the completed road shall be removed to widths and depths as instructed by the *Supervisor* and shall be disposed of as prescribed. The excavated area shall then be backfilled with approved imported material compacted to the required density.

#### 4.2.3.14. Tolerances

##### 4.2.3.14.1. Surfacing as laid

The finished asphalt surface shall present the smooth surface or meet *Supervisor's* requirements.

##### 4.2.3.14.2. Measurement of deviations

Any deviation from the flatness of a plane surface will be measured as the maximum deviation of the surface from the straight line of length 3m joining two points on the surface, determining by means of a straight-edge the ends of which are supported on identical unit of suitable thickness placed over each of the points.

#### 4.2.3.15. Testing

##### 4.2.3.15.1. Checking

The Contractor shall carry out sufficient checks to satisfy himself that the materials used and the workmanship (construction, tolerances and strength) attained comply consistently with the specified requirements and SANS 1200 MG. The *Supervisor* will carry out checks and the result made available to the Contractor.

##### 4.2.3.15.2. Quality Control

Workmanship, tolerances and frequency of testing shall be in accordance with the relevant specifications with the following exceptions:

A minimum of 8 tests per lot shall be required for density tests. The nature of the remainder of the tests required is described in clause 7.2 of SANS 1200 ME and SANS 1200 MF

Frequency of concrete cube tests to be outlined by *Supervisor*.

##### 4.2.3.15.3. Method statement

The Contractor shall submit a detailed method statement setting out what quality control procedures will be implemented with respect to:-

- Quality assurance during the batching and mixing process. The *Contractor* shall indicate what certification, if any, they have in terms of SANS or ISP quality assurance schemes.
- Procedures, methods and plant for the transportation and batching of asphalt on site.
- Procedures, methods and plant to be used for placing of asphalt on site.

#### 4.2.4. Stormwater drainage

##### 4.2.4.1. Works Information

The *works* for the stormwater drainage shall include the following:

- Excavate, supply, bed and lay concrete Stormwater pipes.
- Construction of stormwater grid inlets and connection chambers.
- Construction of stormwater attenuation tank.

And any other work arising out of or incidental to the above, or required of the *Contractor* for the proper completion of the works.

##### 4.2.4.2. Materials

The stormwater pipes shall be precast reinforced concrete pipes conforming to SANS 677/69 with "Spigot and socket" joints and rubber collars throughout, with the class of the pipe as stated on the drawings.

##### 4.2.4.3. Plant

The *Contractor* shall ensure that only plant suitable for working in the confined limits of the site of works and able to obtain the required specification of layer works is used.

##### 4.2.4.4. Construction

###### 4.2.4.4.1. Brickwork Manholes

The construction of the brickwork manholes shall conform the specifications and requirements detailed in the drawings.

All brickwork shall be built in manhole bond i.e., stretchers only on the inside face, using cement mortar as specified.

Bricks shall be well soaked before use and the previous course shall be wetted before bricks are laid thereon.

All joints on the internal face (and the external face above ground) shall be half round recessed and shall be well rubbed with a standard jointing tool of suitable size to ensure that the entire exposed surface on the joint presents a smooth and polished appearance.

Intersecting walls shall be properly toothed with each other and all angles levelled and plumbed. Should cement bricks be utilised, then all internal surfaces shall be plastered with a 12mm thick 3:1 cement sand mortar mix.

When brick-built manholes are constructed in wet ground, the external surfaces shall be rendered with 12mm thick 3:1 cement sand mortar mix.

###### 4.2.4.4.2. Pipe crossings

Where pipes cross one another with a vertical height difference of less than 150mm, a polystyrene block must be placed between them, and the fill material around the pipes thoroughly moistened and compacted. The *Contractor* will be held responsible for any damage to pipes resulting from the construction of a pipe crossing.

#### 4.2.4.4.3. Cut pipe ends

All ends may be cut on site. Reinforcement exposed by such cutting is to be protected with 20mm thick cement mortar.

#### 4.2.4.4.4. Pipe Laying and Jointing

Rubber ring jointing may be carried out in the trench. The pipeline should be laid directly on to the prepared bedding in the trench, and bricks or other hard bodies must not be placed under the pipeline for either temporary or permanent support. Rubber rings used must be those supplied by the pipe or fitting manufacturer. All spigots must be checked to ensure that they are free from burrs, and spigots, sockets and rings must be cleaned with a dry cloth. The pipe end must be chamfered to an angle of approximately 15° and the depth of entry must be marked on the spigot. This mark must be so positioned as to allow a 6mm clearance between the spigot and the bottom of the socket. A thin film of a recommended lubricant, by the manufacturer, should be applied to each rubber ring and each spigot.

#### 4.2.4.4.5. Depths and cover

The minimum cover above pipes shall be 600mm where possible, with encasing, as indicated on the detail drawings, to lengths with insufficient cover.

### 4.2.5. Sewer reticulation

#### 4.2.5.1. Works Information

The works for the sewer include the following:

- The construction of sewer manholes.
- Excavate, supply, bed and lay class 24 uPVC pipes.
- Excavate, supply, bed and lay 6000lt conservancy tank.
- Provision for interim inspections and testing to final inspection and testing for acceptance.

And any other work arising out of or incidental to the above, or required by the Contractor for the proper completion of the works in accordance with the true meaning and intent of the contract documents.

#### 4.2.5.2. Materials

All new sewer pipes shall be 110mm diameter uPVC pipes, Class 34.

#### 4.2.5.3. Plant

The Contractor shall ensure that only plant suitable for working in the confined limits of the site of works and able to obtain the required specification of layer works is used.

#### 4.2.5.4. On-site storage

The Contractor shall be allocated a storage area on site and shall be responsible for all materials stored on site until such time that the water main has been tested and handed over to the main Contractor.

Pipes should be stored on level ground that is free from stones and sharp objects, and should be so stacked (in a stack of cross formation) that the load on each pipe is uniform throughout its length.

#### 4.2.5.5. Construction

##### 4.2.5.5.1. Pipe-Laying Personnel

The laying of pipes and ancillary fittings shall be performed only by a qualified person who is registered by the local authority as an artisan in the plumbing, pipefitting or drain-laying trades, or who is qualified by reason of having attended a course on pipe-laying of the Civil Engineering Industry Training Board.

#### 4.2.5.5.2. Preparation of Trench Bottom

All trench bottoms shall be prepared in accordance with SANS 1200 DB clause 5.5.

#### 4.2.5.5.3. Cutting of pipes

A fine-toothed hacksaw with mitre attachment set at 90° should be used to cut pipes to the required length. Each cut end should be square and the outer edge evenly chamfered by means of a rasp or file or specifically designed chamfering tool. The chamfer must not extend further than half the wall thickness. Cut ends must be free from swarf, burrs, channels, and loose material.

When the length of the pipe to be cut is determined, allowances must be made for the length of any socket attached to the pipe and for a movement of at least 6mm in any rubber ring type socket into which the pipe is to be inserted.

#### 4.2.5.5.4. Pipe laying and jointing

The pipeline should be laid directly on to the prepared bedding in the trench, and bricks or other hard bodies must not be placed under the pipeline for either temporary or permanent support. Jointing should be done using compression fittings. The Contractor is to ensure that overtightening of the nut does not occur as this may cause leakages. A thin film of a recommended lubricant, by the manufacturer, should be applied to the interior of the fittings and the pipe end.

#### 4.2.5.5.5. Depths and cover

The minimum cover above pipes shall be 900mm where possible, with encasing as indicated on the drawings to lengths with insufficient cover. At road crossings the minimum cover shall be 1200mm. The depth shall be gradually increased as specified in SANS 1200 L clause 5.1.4.2.

#### 4.2.5.5.6. Conservancy tank

The Contractor is required to supply, bed and lay a 6000lt conservancy tank at the position as indicated on the drawings, in compliance with SANS 2001-DP4. Bedding to be in accordance with SANS 2001-DP1.

Where required, the existing pipe shall be cut to provide sufficient space for the proposed fittings. Any damage to the existing mains or any existing specials shall be repaired to the Contractors' account if caused by negligence on the Contractors' part.

#### 4.2.5.5.7. Tolerances

Tolerances shall be determined on the basis as stated in the relevant clauses of the applicable sections of SANS 2001-DP4, relevant drawings and manufacturers' specification as applicable. The Contractor shall ensure that tolerances are complied with.

#### 4.2.5.5.8. Testing

Testing of the sewer system shall be in accordance with SANS 2001-DP4.

### 4.2.6. Cable ducts

#### 4.2.6.1. Works Information

The *works* for the cable ducts include the following:

- Excavation, bedding and backfill for cable ducts.
- Supply and lay uPVC – Class 34 (SANS 791) pipes.
- Laying of cable duct markers.
- Construction of electrical manholes.

And any other work arising out of or incidental to the above or required of the Contractor for the proper completion of the works.

#### 4.2.6.2. Materials

Electrical cable ducts shall consist of the indicated number and size of hard setting durable plastic pipes.

#### 4.2.6.3. Construction

##### 4.2.6.3.1. Laying

Unless otherwise directed by the *Supervisor*, the ducts shall be laid as shown on the drawings.

##### 4.2.6.3.2. Depth, position and marking of ducts

###### 4.2.6.3.2.1. Electrical Cable Ducts

All electrical cable ducts are to be laid approximately 800mm below finished road level and the pipes must protrude 500mm beyond the edge of the hardened roadway or stormwater drain. Both ends of each duct must be sealed with an end cap. The position of each duct crossing shall be indicated on site using suitable markers.

Draw wires must be provided in each duct and duct ends must be sealed with suitable stoppers. A double strand copper wire of at least 2,8mm<sup>2</sup> cross section that will serve as a screen and is to be installed approximately 200mm above all ducts over its entire length.

###### 4.2.6.3.2.2. Electrical manholes

All brickwork shall be built in manhole bond i.e., stretchers only on the inside face, using cement mortar as specified. Bricks shall be well soaked before use and the previous course shall be wetted before bricks are laid thereon. All joints on the internal face (and the external face above ground) shall be half round recessed and shall be well rubbed with a standard jointing tool of suitable size to ensure that the entire exposed surface on the joint presents a smooth and polished appearance. Intersecting walls shall be properly toothed with each other, and all angles levelled and plumbed. Should cement bricks be utilised, then all internal surfaces shall be plastered with a 12mm thick 3:1 cement sand mortar mix.

When brick built manholes are constructed in wet ground, the external surfaces shall be rendered with 12mm thick 3:1 cement sand mortar mix.

#### 4.2.7. Concrete works

##### 4.2.7.1. Works Information

The Works Information for concrete works shall include for the delivery to site of all materials necessary to complete the works, off-loading on site, storage on-site, setting out, installation, testing, commissioning and handover.

The *works* includes for the following:

- Construction of stormwater, sewer and electrical manhole slabs
- Construction of kerbs and channels
- Earthworks, including excavation, dewatering, preparation of base and foundations
- Reinforcing and formwork
- Casting of concrete

And any other work arising out of or incidental to the above or required of the *Contractor* for the proper completion of the *works*.

#### 4.2.7.2. Supporting specifications

The following specifications shall apply:

(NB: All in situ concrete work (mass and reinforced) shall comply with SANS Specification 1200G ("8 Measurement and Payment" is not applicable) supplemented by the clauses in this section. Where SANS Specification 1200G and the clauses in this section are in conflict, the clauses in this section shall take precedence.)

In addition, the "Model Preambles for Trades" as recommended and published by the Association of South African Quantity Surveyors, 1999 Edition, shall be read in conjunction with and shall apply to all items in the Bill of Quantities not covered by the 'SANS Standardised Specifications' SANS 1200 Series.

Where the term "plain concrete" appears in SANS Specification 1200G it shall be read as "mass concrete".

| SANS (and Other) Specifications |                                                                                     |
|---------------------------------|-------------------------------------------------------------------------------------|
| SANS 1200 G                     | Concrete                                                                            |
| SANS 1200 LE                    | Stormwater Drainage                                                                 |
| SANS 2001: CC1                  | Construction Works: concrete works (Structural)                                     |
| SANS 2001: CC2                  | Construction Works: concrete works (minor works)                                    |
| SANS 1083:2006                  | Aggregates from Natural Sources                                                     |
| SANS 10100-2:2000               | Structural Use of Concrete – Materials and Execution of Work                        |
| SANS 50197-1:2000               | Cement – Composition, Specifications and Conformity Criteria<br>Pt1: Common Cements |
| SANS 1491-1: 2005               | Portland Cement Extenders Pt1 – Ground Granulated Blast<br>Furnace Slag             |
| SANS 1491-2: 2005               | Portland Cement Extenders Pt1 – Fly Ash                                             |
| SANS 1491-3: 2006               | Portland Cement Extenders Pt1 – Condensed Silica Fume                               |
| S420 (1999)                     | Concrete Work (Transnet)                                                            |

#### 4.2.7.3. Cementitious binders

Cements, complying with SANS 50197-1 shall be used for all concrete work. The use of masonry cements shall not be allowed.

#### 4.2.7.4. Coastal zone

Where the Works is within one kilometre from the sea, one or more of the following cementitious binders shall be used in all concrete applications.

- Blast furnace cement, Type III/A, certified as containing not less than 40% and not more than 50% milled granulated blast furnace slag (MGBS), or
- A blend of Type 1 Portland cement with not less than 40% and not more than 50% MGBS. MGBS shall comply with SANS 1491 Part 1., or
- Fly ash cement Type II/B-V or Portland fly ash cement Type II/B-W, certified as containing not less than 25% and not more than 30% fly ash shall comply with SANS 1491 Part 2.

#### 4.2.7.5. Alkali reactive concrete

Alkali Reactive Aggregates shall not be used in this project. The equivalent  $\text{Na}_2\text{O}$  content of the concrete shall not exceed  $2,0 \text{ kg/m}^3$  where  $\% \text{Na}_2\text{O equivalent} = \% \text{Na}_2\text{O} + (0,658 \times \% \text{K}_2\text{O})$

#### 4.2.7.6. Aggregates

Fine and coarse aggregate shall comply with the relevant clauses of SANS 1083.

If required by the *Project Manager*, the *Contractor* shall submit 40kg samples for approval at least 6 weeks prior to the start of concrete construction. No aggregate shall be delivered for use in the works until approval is given.

#### 4.2.7.7. Admixtures

Admixtures containing chlorides will not be permitted in reinforced concrete. Where applicable, and as indicated on the drawings, water-retaining structures shall have 'Penetron Admix' as an additive to the concrete mix to 0.8% of cement content by weight by a certified Penetron batching plant.

#### 4.2.7.8. Cover blocks

Cover blocks used to ensure the cover to reinforcement shall be made of cement mortar.

Cover blocks shall be dense and have a minimum 28 day crushing strength of 50 MPa and shall be cured in water for at least 14 days before being used.

Cover/spacer blocks made of plastic will not be permitted.

#### 4.2.7.9. Concrete quality

The *Contractor* shall submit a quality assurance plan which will ensure compliance with specification and provide acceptable documentary evidence that all specified operations have been carried out satisfactorily.

Where the minimum dimension to be placed during a single pour is larger than 600mm, and the cement content of the reinforced concrete exceeds the following:

- Cement Types I and II/ \* S: 400 kg/m<sup>3</sup>
- Cement Types II/B-V and II/B-W: 450 kg/m<sup>3</sup>

The *Project Manager* may require that measures be instituted to reduce heat development in the concrete.

#### 4.2.7.10. Batching

All cementitious binders shall be batched by full sack or by mass batching with approved precision weighing equipment.

All aggregates shall be precisely measured by mass using approved precision weigh-batching equipment unless otherwise approved by the *Project Manager*.

Should any variation in the composition of the aggregate become apparent, the *Project Manager* shall be notified, and a further sample of aggregate submitted immediately for his approval.

#### 4.2.7.11. Concrete placing

The *Supervisor* shall approve the size, shape and depth of any excavation before concrete is placed.

Unless otherwise approved by the *Supervisor*, no concrete shall be placed until the fixed reinforcement has been accepted and confirmed in writing by a Release Certificate signed off by:

- The *Supervisor*
- The Surveyor - It shall be the responsibility of the *Contractor* to call the Surveyor prior to pouring concrete to verify and confirm all levels, co-ordinates and alignment of the structure to be cast.

No concrete shall be placed unless both the above signatories appear on the Pour Release Certificate.

#### 4.2.7.12. Construction Joints

Unless otherwise shown on the drawings, the exact position of horizontal construction joints shall be marked on the formwork by means of grout checks in order to obtain truly horizontal joints.

Stub columns, stub walls and stays on footings shall be cast integrally with the footing and not afterwards, even where another class of concrete is being used.

Joint lines shall be so arranged that they coincide with features of the finished work.

Where new concrete is to be cast against a hardened concrete surface, neat cement slurry mixed to a creamy consistency shall be brushed onto the cleaned concrete surface.

Contraction joints shall be smooth and shall have one coat of lime wash or PVA applied to the older surface prior to casting the fresher concrete.

#### 4.2.7.13. Finishes

Classification of finishes (Sub clause 5.2.1) - The surface condition required on all exposed finished concrete shall be smooth.

#### 4.2.7.14. Curing Compound

Unless otherwise directed by the *Project Manager*, the curing compound shall be:

- An approved trafficable, resin-based, white pigmented, membrane forming for slopes flatter than 1:1.
- An approved clear, aesthetically acceptable, membrane forming for all other concrete surfaces, including beam and slab soffits.

The curing compound shall comply with specification ASTM C309, except that the maximum permissible water loss in the test shall be 0,40 kg/m<sup>2</sup>.

Alternatively, the curing compound shall be acceptable if the treated concrete retains 90% or more of its mixing water when subject to the test set out in BS 8110 Part 1 – Chapter 6.6.

#### 4.2.7.15. Curing Compound Application

The total application rate of the curing compound shall be the greater of the supplier's specification or 0,90 l/m<sup>2</sup>. On textured concrete surfaces, the total application rate shall be 0,90 l/m<sup>2</sup>.

In cases of concrete surfaces with run-off problems, it may be necessary to apply more than one coat of membrane forming curing compound to obtain the specified total or cumulative application rate.

Curing in accordance with SABS 1200 G shall commence on all concrete surfaces as soon as it is practical in the opinion of the *Supervisor*.

On unformed surfaces the curing compound shall be applied after finishing and as soon as the free water on the surface has disappeared and no water sheen is visible, but not so late that the liquid curing compound will be absorbed into the concrete.

On formed surfaces, the exposed concrete shall be wet with water immediately after the forms are removed and kept moist until the curing compound is applied.

Application of the curing compound shall begin once the concrete has reached a uniformly damp appearance with no free water on the surface.

Application of the compound may be done by hand or power spray.

The compound shall be applied at a uniform rate with two applications at right angles to each other to ensure complete coverage.

Pigmented compounds, without a thixotropic agent, shall be adequately stirred to assure even distribution of the pigment during application.

Unless otherwise directed by the *Supervisor*, the initial 24 hour curing of concrete surfaces not covered by formwork shall be carried out by ponding, covering with constantly wetted sand or mats, or continuous spraying in accordance with SABS 1200 G when the following climatic conditions occur:

- Wind velocity greater than 5 m/s and/or
- Ambient temperature is above 25 °C and/or
- The relative humidity is below 60 %

If plastic shrinkage occurs, the concrete, while still plastic, shall be re-vibrated, floated and re-coated with curing compound as if no curing has previously taken place.

#### 4.2.7.16. Curing Period

The curing period for concrete containing only CEM 1 shall be 7 days.

The curing period for concrete containing CEM 1 plus cement extenders (MGBS, FA) shall be 10 days.

The curing period will start on completion of the concrete pour and for formed surfaces shall include the time for which forms are still in place after the pour.

#### 4.2.7.17. Concrete records

The *Contractor* shall maintain the following daily records for every part of the concrete structure and shall make these available at all times during the progress of the work for inspection by the *Supervisor* or *Project Manager*.

- The date and time during which concrete was placed
- Identification of the part of the structure in which the concrete was placed
- The mixed proportions and specified strength
- The type and brand of cement
- The slump of the concrete
- The identifying marks of test cubes made
- Curing procedure applied to concrete placed
- The times when shuttering was stripped, and props removed
- The date of despatch of the cubes to the testing laboratory
- The test results.

The records shall be delivered to the *Project Manager* each week except in the case of sub-standard concrete, when the *Project Manager* shall be informed immediately.

#### 4.2.7.18. Tolerances

Deviations shall be within the limits listed in SANS 1200 G for degree of accuracy II unless otherwise specified.

#### 4.2.7.19. Testing and monitoring

Frequency of sampling and testing shall be as specified in SANS 1200 G.

- If the quantity of concrete from which samples were taken exceeds 40 m<sup>3</sup>, it shall be subject to the testing of a minimum of 3 sets of samples per day from each grade of concrete placed in each independent structure.
- If the quantity of concrete from which samples were taken is less than 40 m<sup>3</sup>, it shall be subject to the testing of a minimum of 2 sets of samples per day from each grade of concrete placed in each independent structure.

#### 4.2.7.20. Formwork (Clause 5.2)

All exposed concrete corners shall be provided with 20mm x 20mm chamfers.

### 4.3 Civil Engineering Works – Structural Works

#### 4.3.1 Scope

An outline of the structural Works information for the proposed Upgrade to the 'Action Cricket Shed' (Tuzi Gazi):

- Construction of a new ablution facility.
- Construction of a new 'Bin' area.
- Construction of new 'Canopy' Structures.
- Construction of a new security kiosk.
- Construction of new Plinths for equipment support.
- Construction of new walling within the existing Building.
- Construction of new Walkways.
- Installation of new Carport Structures.
- Construction of a stormwater attenuation tank.

#### 4.3.2 General Specifications

The SANS 1200 Standardized Specification for Civil Engineering Construction as approved by the Council of the South African Bureau of Standards shall apply to this Contract. The Contractor shall be in possession of these Standardized Specifications and their related SANS 0120 Code of Practice that apply equally and shall keep a copy of each on site for reference by him and the Engineer for the duration of the Contract.

In order to avoid confusion, original SANS 1200 terms such as "Contractor, The Engineer, Material, Plant, Measurement and Payment", etc. have deliberately not been substituted with "Contractor, Project Manager, Supervisor, Plant and Materials, Equipment, Pricing Instructions", etc. as per the ECC2, except where the context is clear. For the purpose of variations to standardized specifications, these terms should be interpreted in their original SANS 1200 context.

The following standard specifications are applicable to this contract: -

| Specification    | Year | Description                                                                                        |
|------------------|------|----------------------------------------------------------------------------------------------------|
| SANS 0100-2      | 1992 | The structural use of concrete – Part 2: materials and execution of work.                          |
| SANS 1200 A      | 1986 | Section A General                                                                                  |
| SANS 1200 AB     | 1986 | Section AB Engineer's Office                                                                       |
| SANS 1200 C      | 1980 | Site Clearance                                                                                     |
| SANS 1200 D      | 1988 | Section D Earthworks                                                                               |
| SANS 1200 DA     | 1988 | Section DA Earthworks (small works)                                                                |
| SANS 1200 DB     | 1989 | Earthworks (pipe trenches)                                                                         |
| SANS 1200 DK     | 1996 | Section DK Gabions and pitching                                                                    |
| SANS 1200 DM     | 1988 | Section DM Earthworks (roads, sub-grade)                                                           |
| SANS 1200 DN     | 1982 | Section DN Earthworks (railway sidings)                                                            |
| SANS 1200 E      |      | Precast concrete.                                                                                  |
| SANS 1200 G      | 1982 | Section G Concrete (structural)                                                                    |
| SANS 1200 H      |      | Structural Steelwork                                                                               |
| SANS 1200 M      | 1996 | Section M Roads general                                                                            |
| SANS 1200 MM     | 1984 | Section MM Ancillary road works                                                                    |
| SANS 121         | 1973 | Hot-dip galvanized coating on fabricated iron and steel articles – specifications and test methods |
| SANS 0100-2      | 1992 | The structural use of concrete – Part 2: materials and execution of work.                          |
| SANS 1491-1      | 1989 | Portland cement extenders – Part 1: ground granulated blast furnace slag.                          |
| SANS 1491-2      | 1989 | Portland cement extenders – Part 2: fly ash.                                                       |
| SANS 1491-3      | 1989 | Portland cement extenders – Part 3: condensed silica fume.                                         |
| SANS 1700        |      | Fasteners (all relevant sections and parts)                                                        |
| SANS 1921-1:2004 | 2004 | Part 1: General Engineering and Construction Works                                                 |
| SANS 1921-2:2004 | 2004 | Part 2: Accommodation of traffic on public roads occupied by the Contractor                        |
| SANS 2001: CC1   |      | Construction Works: Concrete Works (Structural)                                                    |
| SANS ENV 197-1   |      | Cement composition, specifications and conformity criteria – Part 1: common cements.               |

#### 4.3.3 Particular Specifications

- S420 : Specification for concrete work

Excavation is required where the Contractor installs the foundations. Safety of excavations should be followed as per clause 5.1.1.2 of SANS 1200 D.

The Contractor shall monitor stability on a daily 24-hour basis, and arrange appropriate trench protection measures and stabilisation against risk of collapse; where the stability of the adjacent soil

body is at risk. In this case, shoring shall be designed to withstand the full earth pressure and the effects of surcharge. The Contractor shall provide a minimum quantity of 30m<sup>2</sup> of shoring, or more as instructed, for the duration of the earthworks irrespective of usage. Additional procurement shall be subject to instruction by the Project Manager.

To ensure over break limitation it is required that all stabilised surface layers be excavated with care. Subject to approval of the Technical Officer stabilised layers may be perforated along both edges of excavation and along intermediate rows if necessary

#### 4.3.4.1. Trench Excavation

All trench excavations deeper than 1.0 m is either properly shored as per sub-clause 5.1 of SANS 1200 DB or the sides are battered back to a safe angle as determined by the strength of the soil and any other safety specifications applicable.

No work is carried out in deep excavations unless the Engineer approves the protection measures. The shoring is also suitable for the protection of any structures adjoining the excavation, where applicable.

All shoring is removed on completion of the construction work.

#### 4.3.4.2. Protection of Excavations

All drainage related excavations are protected as required in the Occupational Health and Safety Act, Act 85 of 1993. These protection measures are inspected and maintained on a daily basis until the backfill and final layer works are complete.

#### Materials

#### 4.3.4.3. Hard and soft material

Hard material is defined as material proven to the *Supervisor* to be irremovable by a 30t excavator, fitted with a rock bucket, and requires to be broken by a woodpecker or jack hammers prior to removal. Any stabilised or other solid surface layer is excluded from this definition. Subject to drainage not being restricted and the geo-fabric blanket not being damaged, rock protrusions are permitted to encroach a maximum of 100mm into the design class B layer, whilst competent un-fractured and continuous layers of rock are allowed to encroach the entire class B layer.

Furthermore notwithstanding clause 3 of SANS 1200 D and SANS 1200 DB, all excavations are classified as hard or soft. Hard excavation comprises material that can only be removed with pneumatic tools or by blasting. All other excavations are classified as soft. The Contractor must inform the *Supervisor* and Project Manager prior to any such works to ensure safety of excavations.

If the material at founding level differs from that shown on the drawings, or is not approved, the *Supervisor* shall instruct the Contractor to do one of the following:

- Over-excavate to the depth required by the *Supervisor* and re-compact the in-situ material at founding level in layers not exceeding 150 mm until a density of at least 95% MOD AASHTO for cohesive materials and 100% MOD AASHTO for non-cohesive materials is attained to the founding level.
- Excavate the unapproved material to the depth instructed by the *Supervisor* and found at this level.
- Excavate the unapproved material to the depth instructed by the *Supervisor* and fill to the level instructed, either with mass concrete or approved backfill, as directed.

Exposed rock founding surfaces are roughened to provide sound bond with the foundation, brushed to remove all loose material, and flushed with water if so instructed. Surplus water is removed before concreting.

The *Supervisor* is notified as soon as possible if suitable material is encountered before reaching the designed level.

Where the Contractor makes the excavations larger or deeper than directed, the Contractor replaces the over break in the floor of the excavation with concrete of strength as directed or, if authorized, with approved backfill.

#### 4.3.4.4. Dewatering

All foundation concrete is poured in the dry. The Contractor provides all shoring, pumps, other equipment or material to ensure the stability of excavations and to keep them dry.

#### 4.3.4.5. Backfilling

After completion of concrete work, or when so directed, the Contractor shall restore the original ground level by backfilling with approved material. Where the material from excavations is not suitable for backfill, the Contractor shall provide approved material, from borrow pits or other sources, as directed. Backfilling compaction shall be in layers not exceeding 150 mm until a density of at least 95% MOD AASHTO for cohesive materials and 100% MOD AASHTO for non- cohesive materials is attained to the founding level.

#### 4.3.4 Falsework, Formwork and Concrete Finish

The Contractor shall take full responsibility for the design, manufacturing and installation of all falsework. Temporary platform, as well as hand railing shall be fully cladded with non- conducting wooden board of sufficient thickness to safely support any incidental load that may be applied during construction. The hand railing/ balustrade must be a minimum of 1500mm high. Any walkway structure made of conductive metal grating will not be allowed for overhead electrical safety precaution.

##### 4.3.5.1. Securing of formwork

Forms are provided with adequate devices for secure setting so that, when in place, they withstand, without visible spring or settlement, the impact of the vibration of the compacting and finishing equipment.

##### 4.3.5.2. Formwork ends

The ends of abutting forms lock tightly and securely together.

##### 4.3.5.3. Damaged formwork

Forms that are out of tolerance, bent, twisted or broken, or which have battered top surfaces, are not used. Forms are at all times kept clean and free from rust and adhesions so as to ensure clean stripping. The use of rough and dirty forms is not permitted.

##### 4.3.5.4. Deflection of formwork

The spacing of supports for formwork is such that the deflection of the formwork under load of wet concrete does not exceed 3 mm. The supports are adjustable by means of screw jacks or wedges, both of which are secured.

Temporary beams used to support formwork shall be designed to ensure that the deflection under the weight of wet concrete does not exceed 2,5 mm/m of clear span, or in the case in the case of reinforced concrete.

If placement of concrete in stages is specified or approved, the top barrel formwork must be fully supported by the falsework until all stages are completed. The stiffness of temporary trusses or beams used to support formwork must be such that the deflection under wet concrete placed during the first stage does not exceed 2,5 mm/m of clear span of the permanent structure, or such lesser figure as specified, multiplied by the ratio of first stage concrete to total deck concrete exclusive of parapets. Approval for any relaxation of these stipulations is obtained in writing from the *Supervisor*.

The false work is adjusted to ensure that the finished soffit has an upward camber of between 0 and 2 mm/m of clear span after removal of false work, under permanent loading due to parapets, surfacing and/or track.

Unless shown otherwise on the drawings or directed by the *Supervisor*, false work for all spans is kept in position until, in the case of concrete structures, the concrete of the last pour reaches the appropriate minimum age given in SANS 1200 G.

The alignment and levels of all formwork is checked and accepted by the *Supervisor* prior to placing concrete.

Forms are fixed in position not later than 12:00 on the working day prior to that on which concreting takes place, in order for the *Supervisor* to inspect them.

#### 4.3.5.5. Void formers

Contrary to clause 5.4 of SANS 1200 G, the following applies:-

- Void formers used in permanent work are ARMCO or similar approved by the *Supervisor*.
- Void formers are manufactured from material that will not leak, tear or be damaged during the course of construction, and are of such tight construction as to prevent undue loss of the mortar component of the concrete through leakage. The units are sufficiently rigid so as not to deform during handling or under the pressure of the wet concrete.
- Void formers must be 990mm diameter.

#### 4.3.5.6. Braced void formers

- 0,8 mm for diameters exceeding 800 mm and up to 1000 mm.
- 1,0 mm for diameters exceeding 1000 mm and up to 1200 mm.
- 1,2 mm for diameters exceeding 1200 mm.

The thickness specified for braced void formers applies to formers internally braced with timber or equivalent braces. The braces are at spacings not exceeding 2,0 m and not further than 1,0 m from the end of each unit. Timber cross braces consist of members with cross sectional dimensions of at least 50 mm x 50 mm.

#### 4.3.5.7. Vibrators

Internal (poker) and surface vibrators are capable of fully compacting each layer of concrete where compaction by vibration is used. At least one standby vibrator is available for every three (or smaller number of) internal vibrators necessary to maintain the rate of placement.

#### 4.3.5.8. Formwork and concrete finishes

- i. All concrete surfaces require a finish to a degree of accuracy II as specified in SANS 1200G as follows: Rough finish

The following surfaces may have a rough finish: -

- Unexposed surfaces.

- ii. Smooth finish

The following surfaces are to have a smooth finish: -

- Suspended Slab soffits and slab sides
- Suspended Beam soffits & sides
- Column Sides

Wood float finishes are provided to: -

- top surfaces of slabs

The Contractor takes particular care to ensure that formwork joints are tight enough to prevent leakage of cement mortar. Shutters that are damaged will leave a poor surface and they shall be deemed as unacceptable. The *Supervisor* shall request the Contractor to remove and repaired or discarded.

Concrete is not deposited in the forms until the *Supervisor* inspects the accuracy of alignment and dimensions of forms and the positioning of end blocks, reinforcement, anchorages, pre- stressing tendons and of the ducts, and gives his acceptance thereof on the concrete pour release certificate.

#### 4.3.5.9. Dismantling and removal of formwork (1200G: 5.2.5)

Tie-rods or their removable parts are extracted without damage to the concrete and remaining holes shall be filled with mortar. No permanently embedded metal parts of tie-rods shall have less than 40 mm cover to the finished concrete surface.

#### 4.3.6. Steel for Structures

##### 4.3.6.1. Reinforcement for Structures

All reinforcing shall be in accordance with SANS 920. High tensile steel Reinforcing to have a minimum characteristic strength of 450MPa. Reinforcement shall be fixed to comply with tolerances specified in SANS1200G.

##### 4.3.6.2. Welded mesh fabric

Welded mesh fabric complies with the requirements of SANS 1024-1991.

##### 4.3.6.3. Dowels

Dowel bars will be high tensile steel reinforcement and installed with an approved epoxy grout where specified.

##### 4.3.6.4. Stainless Steel

3Cr12 stainless steel complies with Euronorm Standards EN 10088 and EN 10028. Grade 316 and 316L stainless steel complies with AISI.

#### 4.3.6.5. Galvanizing of steel

Galvanizing complies with SANS 121 (SABS ISO 1461). The coating thickness is 25% greater than the standard and in accordance with SABS Specific Permit Conditions 1336/2494.

#### 4.3.7. Concrete material for Structure

##### 4.3.7.1. Slab Preparation

The concrete slabs shall be constructed over secure and approved formwork. The formed formwork is cleaned of any dirt of loose material using compressed air. There shall be no free-standing water at the time of pouring.

##### 4.3.7.2. Cement

The contractor shall submit a Concrete mix design to the *Project Manager* for approval at least 6 weeks prior to construction. Cement used for concrete work shall comply with SANS ENV 197-1. Cement extenders used for concrete work comply with SANS 1491. The cement types given below are acceptable for use in the works, however, the proportion of extenders of factory blended cement should conform to the requirements of SANS 1491, clause 12.5.3.4. On no account are masonry cements used for concrete work, even if the strength designations are the same as for ordinary cement.

Acceptable cement types: -

|             |                                   |
|-------------|-----------------------------------|
| CEM 1 42,5  | Portland cement                   |
| CEM 1 42,5R | Portland cement, rapid hardening. |
| CEM 11/B-V  | Portland fly ash cement.          |
| CEM 11/B-W  | Portland fly ash cement.          |
| CEM 111/A   | Blast furnace cement.             |

##### 4.3.7.3. Aggregates

Fine and coarse aggregates shall comply with SANS 1083.

Where aggregates have constituents which, in the opinion of the *Supervisor*, may give rise to damage due to alkali-aggregate reactions; the *Supervisor* shall request the Contractor to provide material data sheets and calculations for the total alkali-silica reaction to the *Project Manager* and *Supervisor* for approval prior to casting of concrete. Alkali-aggregate reaction is not permitted. This information will be required at least four weeks before concreting commences. Submission of material data sheets is at least six weeks before concreting commences.

##### 4.3.7.4. Admixtures

Admixtures containing chlorides are not permitted in reinforced concrete.

##### 4.3.7.5. Curing compound

In all cases where a concrete curing compound is specified, the curing compound is grey or white-pigmented membrane forming material shall comply with ASTM specification C309, except that the maximum permissible water loss in the test is 0,40 kg/m<sup>3</sup>.

Before any curing compound is used, the Contractor shall submit a one-litre sample of the compound, with full technical details, to the *Supervisor* for acceptance.

Technical details referred to include a recent SANS report showing the following: -

- Compliance with ASTM C-309.
- The relative density of the compound.
- The infrared spectrum of the compound.
- Alternatively, the concrete curing compound is acceptable if the treated concrete retains 90% or more of its mixing water when subject to the test set out in BS 8110: Part 1, clause 6.6I.

In addition:

- Clear curing compound is applied to all concrete surfaces except to barrel top surface as soon as bleed water have evaporated from unformed surfaces.
- White pigmented curing compound is applied to the wood floated portion of the top surface of the barrel.
- The rough screeded central portion of the top surface of the barrel that is to receive the track slab is moist cured.
- Where curing by retention of formwork is used as the only method of curing the concrete, it must be left in place for the minimum period specified but in no instance shall it be less than 7 days.
- The materials used for formwork shall take into account properties such as thermal insulation and moisture absorption when assessing the suitability of the material, to the approval of the *Project Manager*.
- If impermeable curing membranes are to be used as a curing method, they shall be installed at the same time as formwork is removed and no portion of a concrete surface may be left unprotected for a period in excess of 2 hours. If the surface is an unformed finish e.g. top of slab, then the surface must be protected immediately by appropriate methods approved by the *Project Manager* after it is finished, without damage to that surface, since it is vulnerable to plastic shrinkage cracking due to high rates of evaporation while the concrete is still in a plastic state. Plastic shrinkage and settlement shall not be permitted on any of the structural elements since it compromises the durability of the concrete.

#### 4.3.7.6. Concrete Alkali

##### **Alkali reactive concrete**

Alkali reactive aggregates are not used in this project. The equivalent Na<sub>2</sub>O content of the concrete does not exceed 2,0 kg/m<sup>3</sup>, where % Na<sub>2</sub>O equivalent = % Na<sub>2</sub>O+ (0,658 x % K<sub>2</sub>O).

#### 4.3.7.7. Concrete Quality

Before the start of concrete work on site, the Contractor shall submit a quality assurance plan to ensure compliance with specifications, and to provide acceptable documentary proof that all specified operations are carried out satisfactorily.

#### 4.3.7.8. Potential heat generation

Measures, subject to the acceptance of the *Supervisor*, are applied to reduce heat development in concrete of which the minimum dimension to be placed during a single pour is larger than 600 mm, and the cement content exceeds the values given in the table below.

| Structural element  | Cement types I and III/A<br>(kg/m <sup>3</sup> ) | Cement types II/B-V and II/B-W<br>(kg/m <sup>3</sup> ) |
|---------------------|--------------------------------------------------|--------------------------------------------------------|
| Reinforced concrete | 400                                              | 450                                                    |

#### 4.3.7.9. Durability

In order to enhance durability, and notwithstanding strength considerations, the concrete mixes satisfy one of the mixes given in the table below. Prior written acceptance for the mix is obtained from the *Supervisor*.

| Concrete type    | Cement type and % content | Extender type and % content | Minimum cement plus extender content kg/m <sup>3</sup> | Maximum water/cement ratio |
|------------------|---------------------------|-----------------------------|--------------------------------------------------------|----------------------------|
| Steel reinforced | CEM 1<br>50% - 60%        | GGBS<br>40% - 50%           | 420                                                    | 0.40                       |
| Steel reinforced | CEM 1<br>70% - 75%        | FA<br>25% - 30%             | 420                                                    | 0.40                       |
| Plain            | CEM 1<br>100%             | Nil                         | 340                                                    | 0.50                       |
| Plain            | CEM 1<br>75%              | FA<br>< 25%                 | 340                                                    | 0.50                       |
| Plain            | CEM 1<br>35% - 65%        | GGBS<br>35% - 65%           | 340                                                    | 0.50                       |
| Plain            | CEM 1<br>65% - 74%        | FA<br>26% - 35%             | 300                                                    | 0.55                       |

Note: -

- CEM 1 may be CEM 1 42, 5 or 42, 5 R.
- GGBS – Ground Granulated Blast furnace Slag.
- FA – Fly Ash.
- Factory blended cements (CEM 11/B-V, CEM 11/B-W or CEM 111/A) are accepted provided that they conform to one of the blends specified in the table. The Contractor supplies certification thereof.
- Water-reducing admixtures may be used to improve workability. The water cement ratio includes the water content of admixtures.

Blends of CEM 1 and condensed silica fume (CSF) are not acceptable for steel reinforced concrete. Ternary blends such as CSF with CEM 1 and FA or GGBS are considered provided that they are shown to be equivalent in durability to the mixes given. The onus is on the Contractor to prove to the *Supervisor* the adequacy of the blend.

#### 4.3.7.10. Concrete Strength of mix

The strength of the concrete mixes as specified on the drawings or given in the particular specifications for the works, conforms to the following requirements, as class x/y, where:

- X = minimum 28 days crushing strength in Mpa
- And y = maximum aggregate size in mm.
- Concrete shall be grade 40 MPa/19 mm stone and mass concrete 15/19. The concrete cover is 50mm for exposed surfaces to moisture.
- Reinforcing shall be high tensile steel in accordance with SANS 920.

#### 4.3.7.11. Placing

Inspection of excavation: The size, shape and depth of any excavation are approved by the *Supervisor* before concrete is placed.

Inspection of reinforcement: Unless otherwise permitted by the *Supervisor*, no concrete is placed prior to approval of fixed reinforcement by the *Supervisor*.

The *Supervisor's* written acceptance is obtained before any concrete is cast. In addition the following applications should be done by the Contractor:

##### i. Batching

All aggregates are precisely measured by mass using approved precision weigh batching equipment, unless otherwise permitted by the *Supervisor*.

Should any variation in the composition of the aggregate become apparent, the *Supervisor* is notified and a further sample of the aggregate submitted immediately to him for acceptance.

##### ii. Blinding layers

To facilitate the placing of reinforcement and erection of formwork, a blinding layer of grade 15/19 concrete is provided below foundations.

The thickness of the blinding layer is not less than 75 mm. Payment for blinding in excess of the specified thickness will not be made, unless ordered by the *Project Manager* in writing.

##### iii. Control of concreting operations (1200G: 5.5.3)

No relaxation regarding the provision of continuous supervision by a technician at the mixer is allowed and where the point of placing of the concrete is more than 150 m from the mixer, continuous supervision by a technician is also provided at the point of

placing. Supervision at the point of placing applies in cases where ready-mix concrete is used.

iv. Ready-mixed concrete

The use of ready-mixed concrete is permissible. Concrete test results obtained from the production facility are acceptable, provided that the tests are carried out in accordance with the specifications.

Where concrete is delivered to site ready mixed, the requirements of SANS 878 apply.

v. Construction joints

The joint surface of the concrete is roughened while still green by means of brush and water spray to expose the coarse aggregate. Retarders may be used on stop-ends, which are removed after 12 hours for green cutting. Mechanical roughening of hardened concrete using power tools is not permitted.

All surfaces are cleaned and kept continuously wet for 24 hours before pouring of the adjoining cast.

Stub-columns, stub-walls and stays on footings are cast integrally with the footings and not afterwards, even where another class of concrete is being used.

Joint lines are so arranged that they coincide with features of the finished work.

At contraction joints (joints having no reinforcement passing through the joint), no bond is required between casts. Contraction joints are smooth and have one coat of lime wash or PVA applied to the older surface prior to casting the newer concrete.

The *Supervisor's* prior written acceptance is obtained before the adjoining concrete is cast.

vi. Curing

All water for curing must be clean, fresh water.

The curing period for concrete containing CEM 1 only is seven days. The curing period for concrete's containing CEM 1 plus cement extenders (GGBS, FA) is ten days. The period starts on completion of the concrete pour, and for formed surfaces include the time for which forms are still in place after the pour.

The *Supervisor's* prior written acceptance of the curing method to be used is obtained before any concrete is cast.

In addition the following curing methods are permissible, except where otherwise specified: -

- For plain concrete: -

- Retaining of forms in place on vertical surfaces, provided they are made of non-absorbent facing materials.
- Ponding of water on horizontal surfaces. Curing water must be fresh and not be more than 10°C cooler than the concrete on which it is to be applied, in order to avoid surface cracking.
- Covering with sand, earth, straw, sawdust, cotton, jute, burlap or evelli or similar moisture retaining materials. The materials are kept continually moist and not allowed to dry out as alternate wetting and drying is detrimental to the curing process. The material is free of harmful amounts or substances such as sugar or fertilizer that may harm the concrete or cause discoloration.
- Sprinkling or spraying with water. This is done at frequent intervals such that the concrete surface remains continuously moist and is not allowed to dry out between wettings. Erosion of the fresh concrete surface is avoided.
- Covering with plastic sheeting, waterproof or other curing paper. The covering material is firmly and continuously held in place along its edges such that the concrete surface is not allowed to dry out. Care is taken not to tear, puncture or otherwise disrupt the continuity of the curing film. Plastic film is not black and preferably not white or clear.
- Liquid membrane-forming curing compounds. Only resin type compounds are permitted. The formulation is such as to form a moisture retentive film shortly after being applied and is not harmful to Portland cement paste. White or grey pigments or dyes are incorporated to enable the compound to be visible on the surface for inspection purposes.

For unformed surfaces, the compound is applied after finishing and as soon as the free water on the surface disappears and no water sheen is visible, but not so late that the liquid curing compound will be absorbed into the concrete. For formed surfaces, when forms are removed, the exposed concrete surface is wetted with water immediately and kept moist until the curing compound is applied.

Application of the compound is started immediately after the concrete has reached a uniformly damp appearance with no free water on the surface. The compound is applied at a uniform rate with two applications at right angles to each other to ensure complete coverage, and may be applied by hand or power sprayer. Pigmented compounds are adequately stirred to assure even distribution of the pigment during application, unless the formulation contains a thixotropic agent which prevents settlement.

The Contractor supplies a certificate confirming compliance and that the manufacturer's directions with respect to preparation and application, are strictly adhered to.

The total application rate is as specified by the manufacturer, or 0,30 litres per square meter, whichever is the greater.

In the case of concrete surfaces with run-off problems, it may be necessary to apply more than one coat of membrane forming curing compound, to obtain the specified total or cumulative application rate.

When the wind velocity exceeds 5 m/s and/or the ambient temperature is above 25 deg C and/or the relative humidity is below 60%, the initial 24 hour curing of concrete surfaces not covered by formwork is carried out by ponding, covering with constantly wetted sand or mats, or continuous spraying in accordance with SANS 1200 G, unless otherwise permitted by the *Supervisor*.

- For steel reinforced concrete:

- Covering with burlap or evelli or similar moisture retaining materials, as in clause 1 above for the wall base.
- Sprinkling or spraying with water, as in clause 1 above.
- Releasing the forms slightly and allowing a flow of water between the form and the concrete.
- Curing methods using sealing materials such as plastic or liquid membrane forming compounds is not allowed for steel reinforced concrete structures due to the low W/C ratio of the concrete mix.

vii. Concrete surfaces

All exposed concrete surfaces have a neat, smooth, even and uniform finish, free from any honeycombing and blow holes.

viii. Concrete placing Acceptance of aggregates

The Contractor shall submit 40 kg samples for acceptance at least six weeks before concrete construction is commenced. No aggregate is delivered for use in the works until the *Supervisor* gives acceptance. In addition, evidence of compliance of the aggregates with the requirements is furnished at least four weeks before concreting commences.

**Inspection of excavations**

The size, shape and depth of any excavation are approved by the *Supervisor* before concrete is placed.

**Inspection of reinforcement**

Unless otherwise permitted, no concrete is placed until the fixed reinforcement has been accepted by the *Supervisor* and confirmed in writing by way of a release certificate.

**Trimming of excavations**

In addition to requirements of clause 5.2.2.1 of SANS 1200 D, excavated surfaces that will act as forms for concrete works are trimmed so that concrete cover is not less than the cover stated on the drawings or 80 mm, whichever is greater.

ix. Compaction of concrete

The *Supervisor* approves the methods used to vibrate the concrete. The vibrating is done with care and in such a manner as to avoid displacement of reinforcement, tendons or ducts.

Each layer of concrete is thoroughly compacted before the next layer is placed, and is covered by the next layer within 30 minutes of completion of compaction. If more than 30 minutes have elapsed since completion of compaction of a layer, concreting may not be resumed unless the concrete in place is still soft enough to be penetrated by the vibrator. If the vibrator can penetrate, a layer of fresh concrete not exceeding 150 mm

in thickness is placed over the concrete already placed and the vibrator passed through the fresh concrete into the concrete previously placed so that both are vibrated and a knitting of fresh and older concrete is satisfactorily achieved. If the concrete already placed has hardened so that a vibrator will not penetrate, concreting is stopped and instructions are obtained from the *Supervisor*.

Stub-columns, stub-walls or kickers on footings are cast integrally with the footings and not afterwards, even when a different class of concrete is used.

x. Removal of excess mortar

After concrete is brought to the correct level and struck off, the surface is smoothed by means of a Steel- or wood-float. The thickness of the mortar cover over particles of coarse aggregate is then measured by light scraping of a few representative areas. If this thickness exceeds 1,5 mm, the surplus mortar is removed by scraping with a rubber-edged squeegee approximately 750 mm wide.

xi. Final finishing (delayed power-trowel finishing)

Where specified, this operation is performed only:

- after bleeding of the concrete has ceased and
- After bleed water has evaporated or has been removed from the surface of the concrete, and the concrete has stiffened appreciably (to the extent that a footprint will barely show).

Allowance is, therefore, made for a delay period of two to three hours or more, especially in cold weather, after bull nosing or wood floating, before finishing operations can start.

Trowelling continues at intervals until an even surface with a slightly matt texture is obtained.

4.3.7.12. Documentation for control of concreting operations (1200G: 5.5.15)

In addition to the requirements of 1200G, clause 5.5.15, two specific documents are used to assist in the control of concreting operations.

- The concrete pour release certificate is completed by the Contractor's agent prior to any checking of formwork and reinforcement by the *Supervisor*. Only after the Contractor's agent has personally checked all aspects of the shuttering and reinforcement and levelling the document in the relevant spaces, is it submitted to the *Supervisor*.
- The concrete placing records

The Contractor maintains the following daily records for every part of the concrete structure and makes these available at all times during the progress of the work for inspection by the *Supervisor*: -

- The date and times during which concrete is placed.
- Identification of the part of the structure in which the concrete is placed.
- The mix proportions and specified strength.
- The type and brand of cement.

- The slump of the concrete.
- The identifying marks of test cubes made.
- Curing procedure applied to concrete placed.
- The times when shuttering is stripped and props are removed.
- The date of dispatch of the cubes to the testing laboratory.
- The test results.

The records are delivered to the *Supervisor* each week except in the case of sub-standard concrete, when the *Supervisor* is informed immediately.

#### 4.3.7.13. Tolerances

Tolerances are within the limits listed in SANS 1200 G for degree of accuracy II, specified in clause 6, unless stated otherwise on drawings.

#### 4.3.8. Joints

##### 4.3.8.1. Neoprene compression seal

The neoprene compression seal complies with the requirements of ASTM 1056, Type 2, Class B, Grade 2 or AASHTO T-42-84 Modified.

##### 4.3.8.2. Joint fillers

The Contractor furnishes details and specifications of joint fillers he proposes to use, for acceptance. Jointex or similar joint filler must be durable and non-extruding, composed of closed-cell expanded polyethylene and comply with AASHTO 153 modified as follows: -

|                                                     |                           |
|-----------------------------------------------------|---------------------------|
| Minimum density                                     | 25 kg/m <sup>3</sup>      |
| Load causing compression to 50% of volume           | 100 to 150 kPa            |
| Minimum recovery after compression to 50% of volume | To 80% of original volume |
| Maximum water absorption after immersion of         | 3% by volume 28 days      |

Polystyrene joint fillers consist of closed-cell foam and have the following properties: -

|                                                                                                  |
|--------------------------------------------------------------------------------------------------|
| Adequate rigidity for handling                                                                   |
| Minimum density of 16 kg/m <sup>3</sup>                                                          |
| An increase in density of not more than 1% when a cement slurry is rubbed into exposed surfaces. |
| An accuracy of $\pm 2$ mm on specified thickness.                                                |

|                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensional stability at a temperature of 40° C.                                                                                                          |
| Vaporization only when in contact with a flame                                                                                                            |
| Compression to not less than 50% of its original thickness under a load not exceeding 240 kPa after saturation with cement slurry and curing for 14 days. |

Joint filler sheeting is used in the longest lengths possible. Joints are neatly butted and sealed with waterproof adhesive tape.

Joint fillers are attached to the concrete previously cast in such a manner that it will neither displace during concreting or thereafter if the filler is to remain permanently in the joint. On the side to be concreted, polystyrene is lined to ensure that the joint surfaces are formed without defect.

After removal of formwork, mortar fouling the chamfers is taken out neatly and the joint filler removed to a depth of 20 mm beyond the chamfer depth, or as shown on the drawings. Polystyrene may be removed by flame evaporation.

#### 4.3.8.3. Joint sealing

Preformed elastomeric compression joint seals: -

- Comply with SANS 1023 for Type 1 and 2 seals
- Are supplied in the longest lengths possible.
- A 2 m long sample of each size and type of seal, which the Contractor proposes to use, is submitted for acceptance.
- Adhesive used with compression seals is as recommended by the manufacturer of the seal and has lubricating qualities.

Alternative sealants:-

- Cold-applied, one component, low modulus silicone sealant;
- Cold-applied, two component polyurethane;
- Cold-applied, two component elastomeric sealant with resistance to diesel, petrol and other fuel oils;

Cold-applied sealant consists of two-component polysulphide complying with SANS 110.

Can be considered provided that full details of the sealant's characteristics and applicable specification (SANS as above or any other standard specification for bridge structures accepted by the *Supervisor*) are submitted to the *Supervisor* for acceptance prior to application. Application of these sealants is subject to the manufacturer's instructions.

#### 4.3.9. Bolt Group

4.3.9.1. Holding down bolt groups for electrification masts are assembled into accurately fabricated, welded cages, and cast into position in the deck slab, to a tolerance of  $\pm 10$  mm. Refer to rail OHTE drawings for setting out.

4.3.9.2. Electrification brackets

Electrification brackets are cast into position in the deck soffit to a tolerance of  $\pm 10$  mm. Refer to rail OHTE drawings for setting out.

#### 4.3.9.3. Dowels and tie-bars

Any required Dowels and ties are accurately set and firmly held in position parallel to the finished surface and to the longitudinal joints at mid-slab depth and at the spacing specified.

#### 4.3.10. Testing Material and Workmanship

##### 4.3.10.1. Concrete

Before the start of any concrete work on the site, the Contractor supplies the *Supervisor* with a statement of the mix proportions which he proposes to use, and the target strength for each grade of concrete.

All testing shall conform to the relevant clauses in SANS 1200.

Where required, the two-point loading method of the flexural strength tests, as described in SANS Method 5864 (1994) is used.

##### 4.3.10.2. Frequency of sampling

Frequency of sampling and testing is as specified in SANS 1200 G, Sections 7.1 and 7.2, subject to the testing of:

- a minimum of three sets of samples per day from each grade of concrete placed in each independent structure if the concrete quantity from which these samples were taken, exceeds 40 m<sup>3</sup>,
- A minimum of two sets of samples per day when such quantity is equal to or less than 40 m<sup>3</sup>.

##### 4.3.10.3. Acceptance criteria

Acceptance criteria are as specified in SANS 1200 G, section 7.3. If the Contractor disputes test results on concrete cubes, the concrete represented by the cubes are considered acceptable if the Contractor, at his own cost, proves to the satisfaction of the *Supervisor* that the estimated actual strength of the cores taken from the structure, determined in accordance with SANS Method 5856 (SABS Standard Method SM 856), is not less than the specified strength.

If the strength of concrete fails to meet the acceptance criteria stipulated, the *Supervisor* may in his sole discretion, and in addition to the options listed in SANS Method 5864 and 5856: -

- accept the concrete subject to approved remedial measures being undertaken by the Contractor or
- Permit the concrete to remain subject to the payment of a penalty. The penalty is determined as follows: -erratic
- $\text{Penalty} = V \times R \times F$

Where:

- $V$  = Volume of concrete of unsatisfactory strength represented by the test result.
- $R$  = Relevant schedule rate.

$$F = 1 - \frac{\text{Average strength of unsatisfactory concrete}}{\text{Specified strength} + 6 \text{ MPa}}$$

Where the relevant scheduled rate (R) excludes the cost of formwork or where no formwork was involved.

Allowance is, therefore, made for a delay period of two to three hours or more, especially in cold weather, after bull nosing or wood floating, before finishing operations can start.

Trowelling continues at intervals until an even surface with a slightly matt texture is obtained.

#### 4.3.10.4. Documentation for control of concreting operations (1200G: 5.5.15)

In addition to the requirements of 1200G, clause 5.5.15, two specific documents are used to assist in the control of concreting operations.

- The concrete pour release certificate is completed by the Contractor's agent prior to any checking of formwork and reinforcement by the *Supervisor*. Only after the Contractor's agent has personally checked all aspects of the shuttering and reinforcement and levelling the document in the relevant spaces, is it submitted to the *Supervisor*.
- The concrete placing record

The Contractor maintains the following daily records for every part of the concrete structure and makes these available at all times during the progress of the work for inspection by the *Supervisor*: -

- The date and times during which concrete is placed.
- Identification of the part of the structure in which the concrete is placed.
- The mix proportions and specified strength.
- The type and brand of cement.
- The slump of the concrete.
- The identifying marks of test cubes made.
- Curing procedure applied to concrete placed.
- The times when shuttering is stripped and props are removed.
- The date of dispatch of the cubes to the testing laboratory.
- The test results.

The records are delivered to the *Supervisor* each week except in the case of sub-standard concrete, when the *Supervisor* is informed immediately.

#### 4.3.10.5. Tolerances

Tolerances are within the limits listed in SANS 1200 G for degree of accuracy II, specified in clause 6, unless stated otherwise on drawings.

#### 4.3.11. Joints

#### 4.3.11.1. Neoprene compression seal

The neoprene compression seal complies with the requirements of ASTM 1056, Type 2, Class B, Grade 2 or AASHTO T-42-84 Modified.

#### 4.3.11.2. Joint fillers

The Contractor furnishes details and specifications of joint fillers he proposes to use, for acceptance. Jointex or similar joint filler must be durable and non-extruding, composed of closed-cell expanded polyethylene and comply with AASHTO 153 modified as follows: -

|                                                     |                           |
|-----------------------------------------------------|---------------------------|
| Minimum density                                     | 25 kg/m <sup>3</sup>      |
| Load causing compression to 50% of volume           | 100 to 150 kPa            |
| Minimum recovery after compression to 50% of volume | To 80% of original volume |
| Maximum water absorption after immersion of         | 3% by volume 28 days      |

Polystyrene joint fillers consist of closed-cell foam and have the following properties: -

|                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Adequate rigidity for handling                                                                                                                            |
| Minimum density of 16 kg/m <sup>3</sup>                                                                                                                   |
| An increase in density of not more than 1% when a cement slurry is rubbed into exposed surfaces.                                                          |
| An accuracy of $\pm 2$ mm on specified thickness.                                                                                                         |
| Dimensional stability at a temperature of 40° C.                                                                                                          |
| Vaporization only when in contact with a flame                                                                                                            |
| Compression to not less than 50% of its original thickness under a load not exceeding 240 kPa after saturation with cement slurry and curing for 14 days. |

Joint filler sheeting is used in the longest lengths possible. Joints are neatly butted and sealed with waterproof adhesive tape.

Joint fillers are attached to the concrete previously cast in such a manner that it will neither displace during concreting or thereafter if the filler is to remain permanently in the joint. On the side to be concreted, polystyrene is lined to ensure that the joint surfaces are formed without defect.

After removal of formwork, mortar fouling the chamfers is taken out neatly and the joint filler removed to a depth of 20 mm beyond the chamfer depth, or as shown on the drawings. Polystyrene may be removed by flame evaporation.

#### 4.3.11.3. Joint sealing

Preformed elastomeric compression joint seals: -

- Comply with SANS 1023 for Type 1 and 2 seals
- Are supplied in the longest lengths possible.
- A 2 m long sample of each size and type of seal, which the Contractor proposes to use, is submitted for acceptance;
- Adhesive used with compression seals is as recommended by the manufacturer of the seal and has lubricating qualities.

Alternative sealants:-

- Cold-applied, one component, low modulus silicone sealant;
- Cold-applied, two component polyurethane;
- Cold-applied, two component elastomeric sealant with resistance to diesel, petrol and other fuel oils;

Cold-applied sealant consists of two-component polysulphide complying with SANS 110.

Can be considered provided that full details of the sealant's characteristics and applicable specification (SANS as above or any other standard specification for bridge structures accepted by the *Supervisor*) are submitted to the *Supervisor* for acceptance prior to application. Application of these sealants is subject to the manufacturer's instructions.

#### 4.3.12. Bolt Group

4.3.12.1. Holding down bolt groups for electrification masts are assembled into accurately fabricated, welded cages, and cast into position in the deck slab, to a tolerance of  $\pm 10$  mm. Refer to rail OHTE drawings for setting out.

4.3.12.2. Electrification brackets

Electrification brackets are cast into position in the deck soffit to a tolerance of  $\pm 10$  mm. Refer to rail OHTE drawings for setting out.

4.3.12.3. Dowels and tie-bars

Any required Dowels and ties are accurately set and firmly held in position parallel to the finished surface and to the longitudinal joints at mid-slab depth and at the spacing specified.

#### 4.3.13. Testing Material and Workmanship

4.3.13.1. Concrete

Before the start of any concrete work on the site, the Contractor supplies the *Supervisor* with a statement of the mix proportions which he proposes to use, and the target strength for each grade of concrete.

All testing shall conform to the relevant clauses in SANS 1200.

Where required, the two-point loading method of the flexural strength tests, as described in SANS Method 5864 (1994) is used.

#### 4.3.13.2. Frequency of sampling

Frequency of sampling and testing is as specified in SANS 1200 G, Sections 7.1 and 7.2, subject to the testing of:

- a minimum of three sets of samples per day from each grade of concrete placed in each independent structure if the concrete quantity from which these samples were taken, exceeds 40 m<sup>3</sup>,
- A minimum of two sets of samples per day when such quantity is equal to or less than 40 m<sup>3</sup>.

#### 4.3.13.3. Acceptance criteria

Acceptance criteria are as specified in SANS 1200 G, section 7.3. If the Contractor disputes test results on concrete cubes, the concrete represented by the cubes are considered acceptable if the Contractor, at his own cost, proves to the satisfaction of the *Supervisor* that the estimated actual strength of the cores taken from the structure, determined in accordance with SANS Method 5856 (SABS Standard Method SM 856), is not less than the specified strength.

If the strength of concrete fails to meet the acceptance criteria stipulated, the *Supervisor* may in his sole discretion, and in addition to the options listed in SANS Method 5864 and 5856: -

- accept the concrete subject to approved remedial measures being undertaken by the Contractor or
- Permit the concrete to remain subject to the payment of a penalty. The penalty is determined as follows: -erratic
- Penalty = V x R x F

Where:

- V = Volume of concrete of unsatisfactory strength represented by the test result.
- R = Relevant schedule rate.

$$F = 1 - \frac{\text{Average strength of unsatisfactory concrete}}{\text{Specified strength} + 6 \text{ MPa}}$$

Where the relevant scheduled rate (R) excludes the cost of formwork or where no formwork was involved.

#### 4.3.13.4. Equipment (concrete batching)

Concrete batching equipment includes bins and mass measuring equipment for each size of aggregate and cement, if used in bulk. The mass measuring equipment is accurate to within 0, 5 percent throughout its working range. The Contractor provides a certificate of accuracy of all measuring equipment on a quarterly basis.

#### 4.3.13.5. Testing Methods

During the progress of the work tests are conducted on concrete and soil materials and workmanship to ensure compliance with the requirements of the specifications.

All tests are conducted in accordance with the standard methods specified in the following, in order of precedence:

- Standard methods for testing road construction materials (TMH1 and TMH6) and for calibration (TMH2), compiled by the Committee of State Road Authorities (CSRA) and published by the Department of Transport as part of the series Technical Methods for Highways.
- South African National Standards specifications, test methods, codes of practice and co-ordinating specifications (abbreviated as SANS and CKS).
- British Standards Institute Specifications (abbreviated as BS).
- The specifications of the American Society for Testing and Materials (abbreviated as ASTM).
- The specifications of the American Association of State Highway and Transportation Officials (abbreviated as AASHTO).
- In addition to the above standard methods of testing, standards specifications or test methods of other bodies may also be referred to in these specifications, or test methods may be described where no acceptable standard methods exist.

#### 4.3.13.6. Cost of testing

##### i. Process Control

The cost of testing undertaken by the Contractor in terms of his obligations under the contract for purposes of process control, including the taking of samples, reinstating where samples have been taken and all testing equipment, labour, materials, etc., is included in the rates tendered for the various items of work supplied and will not be paid for separately.

##### ii. Producing certificates

Where the properties of materials or manufactures products are required in these specifications to comply with specified specifications published by a standards authority, the Contractor produces, when called upon to do so, certificates from the manufacturer confirming that the materials or products supplied comply with the relevant specifications. The cost of providing such certificates is borne by the Contractor. Where it is specified that a product complies with a SANS specification, it means that the product shall have been tested and evaluated in accordance with the requirements of the relevant SANS specification. Where the SANS mark is specified, a certificate is required.

##### iii. Testing materials and products covered by certificates

The *Supervisor* is entitled to take samples of and order tests to be made on products and materials in respect of which certificates of compliance may be required as described in section 3(b) above. The Contractor is paid at the appropriate rates if the cost of such tests are itemized in the schedule of quantities, and, if no appropriate rates exist, such tests are classed as a and will be dealt with in terms of the NEC with a *Project Manager's* instruction, provided that such tests indicate compliance with the specifications, otherwise the cost is borne by the Contractor.

#### 4.3.14. Steel Work

a) Governing Codes and Standards

|                    |                                                                                                           |
|--------------------|-----------------------------------------------------------------------------------------------------------|
| ANSI/AWS D1.1      | Structural Welding Code - Steel                                                                           |
| BS-EN 287 Part 1   | Approval testing of welders/fusion welding                                                                |
| BS-EN 288 Part 3   | Specification and approval of welding procedures for metallic materials                                   |
| BS 5135            | Metal arc welding of carbon and carbon manganese steels                                                   |
| BS 4360/SANS 50025 | Weldable structural steel                                                                                 |
| BS 2573 Part 1     | Classification, stress calculations and design of structures                                              |
| BS 3923            | Methods for ultrasonic examination of welds                                                               |
| BS 2600            | Radiographic examination of fusion welded butt joints in steel                                            |
| BS 4 Part 1        | I and H sections                                                                                          |
| DIN 1026           | Metric channels                                                                                           |
| ISO R657           | Angles                                                                                                    |
| BS 4848 Part 2     | Hot finished hollow sections                                                                              |
| BS 6363            | Cold formed sections                                                                                      |
| SANS 10094         | The use of high strength friction grip bolts and nuts                                                     |
| SANS 135           | ISO metric bolts, screws and nuts (hexagon and square)<br>(coarse thread free fit series)                 |
| SANS 136           | ISO metric precision hexagon-head bolts and screws, and<br>hexagon nuts (coarse thread medium fit series) |
| SANS 435           | Mild steel rivet                                                                                          |
| BS 29              | Forgings                                                                                                  |
| BS 3100            | Steel castings                                                                                            |
| BS 1452            | Cast iron                                                                                                 |

b) Structural Steelwork

The design of all structural steelwork shall be such as to provide a robust and rigid structure requiring the minimum of maintenance and providing a long service life.

In the design of steel structures, due cognisance shall be taken of environmental and wind load conditions as specified in the main specification.

Due to the highly corrosive conditions experienced in South African Ports, the permissible stresses shall not exceed those set out in British Standard No. 2573. The minimum thickness of steel for load bearing members shall be 15mm for gussets, 10mm for angles, tees, plates and flats and 9mm for webs of channels and joists. Punching of holes over and above that permitted in BS 2573, shall not be permitted. Other structural steel shall be of not less than 6 mm thickness.

The design of mobile structures shall be such that the induced von Mises stress (effective stress in triaxial loading) will not exceed 90% of the elastic limit strength of the steel when the equipment is travelling at maximum speed and colliding with either other stationary equipment or fixed stop blocks. In calculating von Mises stresses, due cognisance must be taken of stress concentrations. If the elastic limit strength of the steel is not known, it will be determined by using a 0.5% strain offset on the stress-strain curve of the material.

Where applicable, the design may be in bolted, riveted or welded box construction except that no site welding will be permitted in the final erection at the port except with the approval of the *Project Manager*.

Alternatively, a welded hollow section lattice type structure will be acceptable, subject to the following requirements:

- i. The members must be structural sections made from BS 4360/SANS 50025 grade S355JR / 43C weldable structural steel - welded for sizes up to and including 110mm outside diameter (BS 1775 HFW) - seamless for sizes over 110mm outside diameter (BS 1775 HFS).
  - ii. Tube wall thickness must not be less than 6mm.
  - iii. All joints must be completely seal welded in accordance with BS 5135. Special care must be taken to prevent the ingress of moisture into hollow section members by ensuring that each member is airtight.
  - iv. Bolted or screwed attachments which require drilled holes through a hollow section will not be permitted.
  - v. Non-hollow structural sections and plate used on the structure, in conjunction with the hollow section framework, must comply with the relevant requirements of this specification.
- c) All steel plates and rolled steel sections used in the construction of the structures shall be of steel made by the open-hearth process (acid or basic) and shall comply in every respect with BS 4360, "A" quality Structural Steel for Bridges and General Building Construction, Grade 43A or Grade 50B or SANS 50025 grade S355JR, where sections sizes allow. That is, the percentage of phosphorous and sulphur shall not exceed 0,06.
- i. The above is laid down as a standard, but tenders will also be considered for rolled steel not conforming strictly to the above standard. Full particulars of the guaranteed

- ii. properties of the steel tendered for should in this case be furnished, i.e. chemical composition, tensile strength, yield point, reduction in area, bend tests, etc.
- iii. Forgings and drop forgings shall be free from flaws and surface defects of any kind and be accurately finished to the prescribed dimensions.
- iv. Steel castings shall be sound, clean and free from all defects and distortion of any kind and should, except where otherwise specified, conform with the conditions and tests specified in B.S. No. 3100/Latest Edition, for grades A, B and C according to requirements. They shall be thoroughly annealed and all working parts and bearing surfaces shall be machined and turned accurately with correct finish.
- v. Cast iron used throughout must be close grained, tough and free from all defects, and shall conform to the conditions and tests specified in B.S. 1452/Latest Edition, for grades 12 to 14 according to requirements.
- vi. This applies to functional components only. A lower grade is acceptable for portal and machinery house ballast. Tenderers to state grade of cast iron proposed.
- vii. The dimensional and out-of-square tolerance as specified in the above Standards shall also apply to built-up components. Edge preparations, welding techniques, straight beds and material fit-up shall be considered when welded joints are designed.
- viii. The shape of all members and connections must allow easy accessibility for maintenance painting of all surfaces. No members shall comprise a double member which cannot be painted and maintained.
- ix. Structural details must be so designed as to eliminate or seal off any cavities or pockets where water or condensation could collect and promote corrosion. Horizontal members with upstanding flanges require special drainage.
- x. All hollow sections shall be completely closed and airtight, and all welding is to be of such size and quality as to ensure complete airtightness. No tapping or drilling of holes into sealed sections will be permitted.

d) Welding

- i. All the provisions of BS 5135 shall be complied with as far as applicable.
- ii. Design of weld joints shall be such that crevices, overlaps, pockets, arc strikes and dead ends do not exist.
- iii. All joints shall be completely seal welded in accordance with BS 5135. Special care must be taken to prevent the ingress of moisture into the tubular members by ensuring that each such tubular member is airtight. "Stitch" welding will not be permitted. Only continuous welding will be accepted.
- iv. Weld cracks, undercut, or pock marks will not be accepted.
- v. All welds on the load bearing frame structure, containers, piping, pipe line flanges, etc., shall be continuous and shall be visually inspected for cracks and other discontinuities.
- vi. Welds on the main chords must be tested ultrasonically in accordance with BS 3923 or X-rayed in accordance with BS 2600 and those on minor joints by the dye-penetrant method. The equipment required for these tests must be supplied by the Contractor and the testing done at his cost.
- vii. Steel, except in minor details, which has been partially heated, shall be properly annealed. (Electrically welded structural members accepted.)
- viii. All brackets, clamps, lugs, straps, suspenders, etc. required for attaching mechanical and electrical equipment must be welded on prior to erection and special precautions must be taken not to damage welds or puncture tubes during erection.

- ix. The welding of all rails shall be done by an approved method.
- x. Welding shall only be carried out by a coded welder according to SANS 10044, BS-EN 287 Part 1 and BS-EN 288 Part 3 or ANSI/AWS D1.1.
- xi. All parts to be welded shall be thoroughly cleaned and dried before welding. The welding will only be done in dry surroundings and all steps taken to prevent hydrogen embrittlement.
- xii. Where materials of different compositions are joined by welding, especially carbon steel to chrome steel, the filler welding method and post welding treatment shall be such that embrittlement and other degradation of both steel and filler is prevented.
- xiii. It must be ensured that welded joints are ductile.

e) Fasteners

- i. All bolts, nuts and rivets shall be manufactured in accordance with the following standards:-

|                                            |   |            |
|--------------------------------------------|---|------------|
| Commercial bolts and nuts Grade 4.6        | : | SANS 135   |
| Precision bolts and nuts Grade 8.8         | : | SANS 136   |
| Friction Grip Bolts and nuts Grade General | : | SANS 10094 |
| Rivets                                     | : | SANS 435   |

- ii. All friction grip fasteners shall be hot dip galvanised, including high tensile bolts (and their nuts and washers), structural rivets and Huck bolts.
- iii. All holding down bolts and nuts and brackets, as well as all fixing bolts, studs, nuts and washers shall be of stainless steel. Fixing rivets shall be of either stainless steel or brass.
- iv. Bolts and set screws shall be locked in an approved manner and shall not be stressed in tightening to beyond the recommended loads.
- v. The quality of friction grip bolts, nuts and washers, bolt lengths, sizes of holes, tightening standards, surface condition of clamped components, shop and site assembling and acceptance inspection of friction grip joints shall comply with the latest edition of SANS 10094. Certificates shall be supplied for all bolts of grade 8.8 and 10.9.
- vi. All bolt and rivet holes must be accurate to size and location, the centres of holes shall not be placed nearer the edge of a plate than 1,5 diameters with an extra allowance of 3mm for sheared edges. All holes in the structural work shall be drilled or otherwise punched to a diameter not exceeding 1,5mm less than the diameter of the finished hole on the die side, and afterward reamed out to the exact size
- vii. Where possible the adjoining parts forming a connection shall be drilled or reamed together, with holes not exceeding 1,5 mm diameter the rivet or bolt for which it is made. No rough or broken edge shall be left around any of the holes.
- viii. For turned and fitted bolts, the holes shall be accurately drilled or reamed; the diameter of the hole shall not exceed the finished diameter of the bolt by more than 0,25mm.
- ix. The holes, after assembly of the parts, shall be true throughout the thickness of all the parts and perpendicular to the axis of the member.
- x. Rivets shall be cup-headed or countersunk as required, unless otherwise specified. No rivet head shall contain less metal than does a length of the rivet equal to 1,25 times its diameter. All loose and defective rivets shall be cut and replaced by sound ones; also others when required for the purpose of examining the work. Rivets shall be driven with pressure tools whenever possible and pneumatic hammers shall be used in preference to hand driving.

- xi. All field rivets must be supplied with shanks of suitable length for pneumatic riveting.
- xii. Bolts shall be of such a length as to accommodate a full nut when tightening up, and project at least two thread pitches beyond the nut. Excessive projection of threads beyond the nuts should be avoided.
- xiii. All bolts having countersunk heads shall have strong feathers forged on the neck and head to prevent turning and the bolt holes shall be cut to receive same. All nuts and bolts (excluding countersunk bolts) shall be furnished with circular washers of sufficient thickness, the outside diameter being at least twice the nominal diameter of the bolt, and washers fitted correctly.
- xiv. Where bolt heads or nuts are seated on bevelled surfaces of beams or channel flanges, bevelled washers must be inserted.

f) Joints and Mating Surfaces of Members

- i. Mating surfaces of members to be joined by high tensile steel bolts in friction grip shall be cleaned and primed as specified for the rest of the steelwork. Mating surfaces shall lay flat against each other to eliminate gaps which may allow ingress of water. After joining, the edges shall be sealed with an approved brand of Butyl/ Rubber sealing compound by means of a suitable caulking gun, or shall be seal welded.

Other joints shall be formed by one of the following methods:

- i. The mating surfaces of members shall be blast cleaned, primed and protected prior to sub-assembly by the liberal application of caulking compound. While the compound is still wet, the members shall be bolted together and caulking compound which is squeezed out shall be completely removed.
- ii. The mating surfaces shall be protected with the full corrosion protection system as specified, the surfaces joined together and the joint so formed shall be sealed with butyl rubber sealer.
- iii. After being cleaned and primed the surface shall be joined together and the joint so formed shall be seal welded.
- iv. The primer coating on mating surfaces must be applied not more than 4 hours after cleaning and the edges must be sealed within 3 weeks of assembly of the part.

g) Fabricated Parts

- i. All fabricated parts shall be properly fitted during assembly to result in properly aligned equipment having a neat appearance. Fabrications of load bearing members shall have no abrupt changes in cross section and regions of severe stress concentration. All sharp corners accessible by personnel during erection or operation shall be ground, rounded, or removed by other methods.
- ii. Burrs, welding spatter and stubs of welding wire shall be removed.

h) Ballast or Counter Mass

- i. Tenderers must include for the supply of all necessary ballast or counter mass.
- ii. These must preferably be of cast iron and be removable for maintenance of structural steelwork.
- iii. Concrete ballast is not recommended but will be accepted provided the Tenderer satisfies Transnet that it will not cause corrosion of any steel parts.

- iv. Fastenings used for removable pieces must be of non-corrosive material.
- v. Ballast must be in suitable shapes to be secured in position against movement but in sizes easily removable for maintenance.
- vi. Lifting hooks or eyes of non-corrosive material and of adequate strength must be provided in the removable ballast pieces.
- vii. Concrete ballast must be reinforced so as to prevent cracking or breaking, and must be coated with an approved corrosion protection system for concrete.

#### 4.3.15. Corrosion Protection

Structural steelwork in coastal area (within 10km from coast):

Structural steelwork is to be protected against corrosion as follows:

This specification covers requirements for protective coating of iron and steel structures, electrical motors, gear boxes etc. against corrosion and must be read in conjunction with the main specification as well as the following (latest editions): -

SANS 10064 "Preparation of steel surfaces for coating"

SABS 121 "Hot-dip (galvanized) zinc coatings".

SANS 1091 "National colour standards for paint"

BS 5493 "Code of practice for protective coating of iron and steel Structures against corrosion"

#### Types of Corrosion Protection to BE USED

- The coatings specified in this specification are chosen according to BS 5439, Table 3, part 9, to ensure that the condition of the surface will be at least RE2 on the European scale of degree of rust, after 10 years in a environment of frequent salt spray, chemicals and polluted coastal atmosphere. During the 10 years, the normal maintenance painting will be done.
- The paint manufacturer shall guarantee the paint for at least 10 years.
- Should a tenderer wish to offer coating systems other than those specified, as an alternative, he shall submit full technical details and a list comparing all appropriate details of the alternatives proposed, with the original specified.
- Tenderers must ensure that the different coats they offer in their tenders are compatible with each other.
- The coating of proprietary items must be done according to Clause 3.
- All galvanized components including bolts and nuts but excluding walkway gratings, must be painted with the specified system, unless otherwise approved.
- The following coating systems must be used unless otherwise specified in the main specification: -

| Substrate        | Coat No | Generic Description                                   | Approved Brand Products                                                                                                               | Dry Film Thickness (μm) |
|------------------|---------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 3CR12 steel      | 1       | Surface tolerant epoxy primer                         | DULUX /SIGMA<br>Sigmacover primer                                                                                                     | 65-75                   |
|                  |         |                                                       | INTERNATIONAL (PLASCON)<br>Intergard 269<br>STONCOR<br>(CHEMRITE COATINGS)<br>Carboline 193 Primer                                    |                         |
|                  | 2       | Two component recoatable, polyurethane finish (Gloss) | DULUX / SIGMA Sigmadur gloss<br>INTERNATIONAL (PLASCON)<br>Interthane 990<br>STONCOR<br>(CHEMRITE COATINGS)<br>Carboline 134          | 65-75                   |
| Galvanized Steel | 1       | Surface tolerant epoxy primer                         | DULUX /SIGMA- Sigmacover primer<br>INTERNATIONAL (PLASCON)<br>Intergard 269<br>STONCOR<br>(CHEMRITE COATINGS)<br>Carboline 193 Primer | 65-75                   |
|                  | 2       | Two component recoatable, polyurethane finish (Gloss) | DULUX /SIGMA- Sigmadur gloss<br>INTERNATIONAL                                                                                         | 65-75                   |
|                  |         |                                                       | (PLASCON)<br>Interthane 990<br>STONCOR<br>(CHEMRITE COATING S)<br>Carboline 134                                                       |                         |

| Substrate  | Coat No | Generic Description                                                                                             | Approved Brand Products                                                                                                                                                                                     | Dry Film Thickness (μm) |
|------------|---------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Mild steel | 1       | Two component self curing inorganic zinc ethyl silicate OR two component zinc rich polyamide cured epoxy primer | DULUX /SIGMA- Sigma MC60<br>OR Sigma-cover primer<br><br>INTERNATIONAL (PLASCON)<br>Interzinc 233 OR<br>Interzinc 52 or 53<br><br>STONCOR<br><br>(CHEMRITE COATINGS) Carbo Zinc 11 OR Carbo-line 658 Primer | 65-75                   |
|            | 2       | Flexible recoatable high build polyamide cured MIO epoxy                                                        | DULUX/SIGMA – SigmacoverCM MIO<br><br>INTERNATIONAL (PLASCON)<br>Interseal 010 MIO<br><br>STONCOR<br><br>(CHEMRITE COATINGS)<br>Carboline 190 HB M.I.O. or Carboline 193 M.I.O.                             | 125-150                 |
|            | 3       | Two component recoatable, polyurethane finish (Gloss)                                                           | DULUX/SIGMA Sigmadur gloss<br><br>INTERNATIONAL                                                                                                                                                             | 65-75                   |

|  |  |  |  |                                                                                    |         |  |
|--|--|--|--|------------------------------------------------------------------------------------|---------|--|
|  |  |  |  | (PLASCON)<br>Interthane 990<br><br>STONCOR<br><br>(CHEMRITE<br>S)<br>Carboline 134 | COATING |  |
|--|--|--|--|------------------------------------------------------------------------------------|---------|--|

- The paint manufacturer's recommendations for the application of the different coating systems, curing time before handling or application of subsequent coats, health and safety recommendations etc. must be carefully adhered to.
- Paint contractors must have a quality management system which must be submitted to the Engineer for approval before commencement of the work.
- Galvanizing shall be done to SANS 121 heavy duty hot dip galvanizing to a thickness of at least 85mm. Electroplated components in zinc or cadmium are not acceptable.
- All mounting bolts, nuts, washers and brackets as well as all fixing bolts, studs nuts and washers shall be of stainless steel. Fixing rivets shall be of either stainless steel or brass.
- High tensile bolts for friction grip joints must be hot dip galvanized and painted. High tensile bolts must be certificated after galvanizing.
- The full paint system shall be applied to all surfaces which are to be covered with wear pads, linings etc.
- For steelwork which will be transported over long distances and erected on site the two pack epoxy primers is preferred.
- Propriety Items  
Proprietary items such as gearboxes, motors, brakes etc. must either be painted according to this specification or where the coating system is equal to or exceeds this specification sufficient proof of the coating system applied must be provided. Items which are nearly equal to this specification shall be given a finishing coat according to this specification's thicknesses and final colours and to the following procedure:-
  - A cross cut test must be done to SANS SM159 to determine if the original coating adheres correctly to the substrate;
  - The original coating shall be rubbed down to remove any smooth finishing to form a suitable key for the finish coat and any damaged areas prepared and patch primed with a suitable primer;
  - The item must then be detergent washed to remove any foreign matter, taking care that no dust, solvent etc. contaminates any working part of the item;
  - A test shall be done on the existing coat to ensure that the finish coat will not react with and cause undue dissolving and lifting of the existing coat. This can be done by applying a small quantity of the finishing coat thinners.

- Should any undue dissolving or lifting occur, a suitable intermediate or barrier coat must be applied before the finishing coat is applied.
  - Proprietary items which failed the cross cut test and which generally have inadequate protection shall be dismantled and the full corrosion protection specification applied.
- Surface Preparation
  - All steel surfaces shall be detergent washed and fresh water rinsed to remove all oil, grease and surface contaminants before shot blasting.
  - Sharp edges shall be radiused and major roughness of welds shall be removed by grinding.
  - Welding spatter and flux shall be removed.
  - Components manufactured from hot rolled steel sections and steel plate shall be blast cleaned to base metal in accordance with SANS 10064 grade SA2½ - very thorough blast cleaning, to remove all mill scale, rust, weld spatter etc.
    - "Sharp" chilled iron shot, chilled iron grit, or granular abrasive slag is to be used to produce a proper degree of surface roughness.
    - Blast profile shall be determined by micrometre profile gauge, Keane-Tator surface profile comparator or Testex press-o-film.
    - The profile height shall be between 40 and 50mm at any point.
  - Good quality blast cleaning and spray-painting equipment shall be used. Air used for spraying and blast cleaning shall be free from all traces of oil, water and salinity. Water and oil traps must be fitted to all equipment.
  - Wheel abrading equipment shall not be used unless an angular profile the same as clause 4.3.3 is achieved.
  - When wet blasting is done the primer shall be applied before oxidization starts or surface contamination occurs.
  - Components manufactured from 3CR12 steel shall be lightly abraded. The components shall then be passivized by using a mixture of 10 - 15% nitric acid in water which is rinsed off after 10 - 15 minutes. The surface shall be neutralized to pH 7 before it is coated.
  - Hot-dip galvanized components, galvanized bolts and nuts etc. shall be lightly abraded with a galvanizing pre-cleaner. The components shall then be washed with detergent and water and washed down with clean water until a water break free surface is achieved. Allow to dry thoroughly.

#### Joints and Mating Surfaces of Members

- Mating (faying) surfaces of members which have to be joined by high tensile steel bolts in friction grip shall be cleaned according to Clause 4 and painted with primer only.
- After being assembled joints so formed shall be seal welded and painted or after the intermediate coat was applied the edges shall be sealed with an approved brand of paintable flexible sealant or mastic (e.g. Butyl rubber, polyurethane sealer or two component epoxy), by means of a suitable caulking gun.
- All rivets, bolts, welds, sharp edges etc. must be covered with a "stripe coat" of the primer or intermediate coat specified to ensure the correct dry film thickness on sharp edges, as well as sealing of bolt threads to head etc.

- All other mating surfaces must be sealed with an approved brand of flexible Butyl rubber, paintable Silicone, polyurethane sealer or two component epoxy sealer, and joined while still wet. All excess compounds must be completely removed.
- Colour Codes

Machinery and equipment shall be painted in the following final colours: -

| Area                                                                                   | Colour                          | Code No. [SABS 1091 and International No's]                       |
|----------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------------------------------|
| Mobile equipment (cranes, loaders etc.)                                                |                                 |                                                                   |
| a) Structure, machinery and electrical houses, operator's cabins, chutes, hoppers etc. | Transnet White                  | RAL 9016                                                          |
| b) Undercarriage, travel bogies, rubber tyred rims                                     | Transnet dark grey              | RAL 7024 (Graphitgrau)<br>SABS 1091 GO4 (Bluegrey)<br>BS 381C-633 |
| Industrial buildings, structures conveyor                                              |                                 |                                                                   |
| General                                                                                |                                 |                                                                   |
| a. Guards                                                                              | Golden yellow                   | SABS 1091-B49<br>RAL 1003                                         |
| b) Sheaves                                                                             | Orange                          | RAL 2008                                                          |
| c) Cable reels (Stainless steel                                                        | Orange                          | RAL 2008                                                          |
| Machine buffers and parts of                                                           | Golden Yellow (High Gloss) with | SABS B49 and                                                      |
| machine which could constitute a                                                       | Luminous greenstripes in        | Luminous green                                                    |
| serious hazard                                                                         | chevron pattern                 |                                                                   |

| Area                                                                                                                                                                                          | Colour                           | Code No. [SABS 1091 and International No's] |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------------------|
| e) Any exposed rotating part of machinery, electrical Switch-gear (other than starting and stopping devices and emergency stop control), electrical services e.g. conduit and allied fittings | Light Orange (High Gloss)        | SABS 1091 B26<br>BS 381C-557                |
| f) Low voltage switchgear panels where orange is not aesthetically acceptable                                                                                                                 | Light grey                       | SABS 1091-G29<br>BS 381C-631                |
| g) Medium voltage cable trays, switchgear and motors (3,3 kV and up)                                                                                                                          | Oxford Blue                      | SABS FO2<br>BS 381C-105<br>RAL5003          |
| h) Starting devices, low voltage cable trays and switchgear                                                                                                                                   | Mid Brunswick green (high gloss) | BS 381C-228<br>SABS1091-EO4<br>RAL6005      |
| i) Parts of stationary machinery (Electrical, motors, gearboxes, brakes, transformers, etc.)                                                                                                  | Light Grey                       | SABS G29 BS<br>381C-631                     |
| j) Hand levers, hand wheels, oiling points, handrails on walkways, ladders                                                                                                                    | Golden Yellow (High Gloss)       | SABS 1091 B49<br>BS 381C-356                |
| k) Stopping devices, grease points, motor fan covers and danger signs (not symbolic safety signs for which see SABS 1186)                                                                     | Signal red (High Gloss)          | SABS 1091 A11<br>BS 381C-537<br>RAL3001     |
| l) Walkways (non-slip surfaces) (galvanized gratings not to be painted)                                                                                                                       | Shop floor green                 |                                             |

|                                                                                      |                                     |                                        |
|--------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------|
| m) Informatory signs and notices (not symbolic safety signs for which see SABS 1186) | White on Emerald Green (High Gloss) | White on SABS 1091 E14<br>BS 381C- 228 |
|--------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------|

| Area                      | Colour                      | Code No. [SABS 1091 and International No's] |
|---------------------------|-----------------------------|---------------------------------------------|
| Pipe lines                |                             |                                             |
| a) Reclaim water piping   | Aluminium                   |                                             |
| b. Slurry pipe lines      | Dark admiralty grey         | SABS 1091-G12                               |
| c. Fire protection piping | Signal red                  | SABS 1091-A11                               |
| d. Washwater drain pipes  | Light grey                  | SABS 1091-G29                               |
| e. Instrument air         | White with Strong blue band | White and SABS 1091-F11                     |
| f. Plant air              | White with Flag blue band   | White and SABS 1091-FO4                     |
| g. Potable water          | Grass green                 | SABS 1091-D14                               |

Colour bands for pipes shall be 75 mm wide for pipe sizes up to 150 mm diameter and 100 mm wide for 150 mm and above. The colour bands shall be applied to the pipe flanges, valves, junctions, walls or structures etc. in such a manner that the pipe may be easily identifiable. On straight sections the maximum spacing shall be 100 x the pipe diameter.

#### Field Touch-up Painting

- Damaged and unpainted areas, fasteners, welds, etc. shall be cleaned by wire brushing with hand tool or power tool in a manner which will minimize damage to sound paint. Grinding will not be allowed. Rust spots shall be cleaned to bright metal. Thick edges of old paint abutting on bare metal surfaces shall be feathered by scraping and sanding.
- Where welding is required on areas already coated with the coating system, the coat should be stepped back for  $\pm 30$ mm around the weld area.
- The paint shall be applied to match the original coats in accordance with the manufacturer's recommendations for the specific paint system.

Note: Inorganic zinc primers shall not be re-covered with an inorganic primer, but only with an organic zinc primer.

- Areas of damaged galvanizing shall be repaired with an approved cold galvanizing product or metal sprayed by the wire spraying process with Zinc, and then touched up with the specific paint system.

- General
  - Exposed machined surfaces must be coated with a strippable corrosion inhibitor (e.g. Tectyl).
  - Where different materials will be in contact with each other and galvanic corrosion can occur the contact areas of the materials must be isolated from each other or the joints made water proof to prevent ingress of moisture.
  - All components must be designed with corrosion prevention in mind and specifically the following:-
    - No entrapment of dirt, product, moisture etc.
    - No areas must be inaccessible for maintenance such as too narrow gaps etc.
    - Large flat areas rather than complicated shapes and profiles.
    - No sharp corners and discontinuous welds.
  - Parts of equipment which are exposed to high temperatures must be coated with the following system:-

| Coat Nb | Generic Description                                                              | Approved Brand Products                                                                                                                           | Dry Film Thickness (mm) |
|---------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 1       | Two component self-curing inorganic zinc ethyl silicate                          | w. DULUX /SIGMA- Sigma MC60<br><br>INTERNATIONAL<br><br>(PLASCON)<br><br>Interzinc 233<br><br>STONCOR<br><br>(CHEMRITE COATINGS)<br>Carbo Zinc 11 | 65-75                   |
| 2       | Single component high temperature moisture curing silicone with aluminium flakes | DULUX/SIGMA – Sigmatherm Silicate<br><br>INTERNATIONAL<br><br>(PLASCON)                                                                           | 40                      |

|  |  |                     |  |
|--|--|---------------------|--|
|  |  | Intertherm 50       |  |
|  |  | STONCOR             |  |
|  |  | (CHEMRITE COATINGS) |  |
|  |  | Carboline 1248      |  |

- Maintenance Painting of Structures

Areas which are only lightly corroded must be cleaned by means of high pressure water blasting or wire brushing by power tool and the following system applied:-

| Coat No | Generic Description                                            | Approved Brand Products                                                                                                           | Dry Film Thickness (mm) |
|---------|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 1       | Surface tolerant two pack epoxy primer with aluminium pigments | Dulux/SIGMA Aluprimer<br><br>STONCOR<br>(CHEMRITE COATINGS)<br>Carbomastic 15<br><br>INTERNATIONAL<br>(PLASCON)<br>Intergard 468, | 125-150                 |
| 2       | Same as first coat OR micaceous iron oxide (MIO) epoxy         | DULUX/SIGMA – Sigmacover<br>CM MIO<br><br>INTERNATIONAL<br>(PLASCON)<br>Interseal 010 MIO                                         | 125-150                 |

|   |                                                          |                                                                                         |       |
|---|----------------------------------------------------------|-----------------------------------------------------------------------------------------|-------|
|   |                                                          | STONCOR<br>(CHEMRITE<br>COATINGS)<br>Carboline 190 HB M.I.O. or<br>Carboline 193 M.I.O. |       |
| 3 | Two component recoatable,<br>polyurethane finish (Gloss) | DULUX/SIGMA Sigmatur<br>gloss                                                           | 65-75 |
|   |                                                          | INTERNATIONAL                                                                           |       |
|   |                                                          | (PLASCON)                                                                               |       |
|   |                                                          | Interthane 990                                                                          |       |
|   |                                                          | STONCOR                                                                                 |       |
|   |                                                          | (CHEMRITE COATINGS)                                                                     |       |
|   |                                                          | Carboline 134                                                                           |       |

- Alternatively, the Noxyde paint system can be used, consisting of two to three coats of water based Noxyde paint to achieve a DFT of 350 to 400 microns. Where the Noxyde system is used on areas other than slightly corroded structural areas, the following additional requirements must be observed:
- Very smooth surfaces (e.g. 3CR12, stainless steel or hot-dip galvanized components, bolts, nuts and fittings, and HT bolts): Parts must be thoroughly degreased using OptiDegreaser, washed down with potable water, and immediately when dry, a single coat of OptiPrimeAqua applied.
- Paintable flexible sealant/mastic: Only sealant approved by the paint manufacturer may be used, and an initial coat of OptiPrimeAqua applied over it before the further coats of Noxyde are applied.
- Bolted/riveted connections: After blasting or and/or cleaning as required, apply a coat of OptiPrimeAqua and an additional stripe coat of Noxyde, in contrasting colour, to all bolt/nut and plate edges and crevices.
- The adhesion of old coatings must be verified by doing a cross cut adhesion test on selected areas.
- The compatibility of the new paint system on the old coating must be tested and guaranteed in writing by the paint supplier.
- The work and coating system must be guaranteed for a minimum of 12 months.
- All heavily corroded areas must be shot blasted to minimum SA2 and the three coat system indicated in clause 2.6 applied.
- Areas where the old coating is still sound need only be high pressure cleaned with a suitable solvent and coated with one of the primers suggested in clause 10.2 (as tie coat) and then with one of the top coats suggested in clause 2.6 to get the appropriate colour and finish. The minimum dry film thickness of this tie coat must be 75 microns and top coat must be 50 microns, but the previous coating colour shall be completely obliterated to present a uniform colour.
- Note: Inorganic zinc primers shall not be re-covered with an inorganic primer, but only with an organic zinc primer.

- Repairs to the insides of all the enclosed sections of the booms as well as the insides of the crane legs, sill beams, cross beams, pylon cross bracing members etc. shall be done as above but the top coat need not be applied.
- Maintenance Painting of Structures

Areas which are only lightly corroded must be cleaned by means of high pressure water blasting or wire brushing by power tool and the following system applied:

| Coat No | Generic Description                                            | Approved Brand Products                                                                                                                                                            | Dry Film Thickness (µm) |
|---------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 1       | Surface tolerant two pack epoxy primer with aluminium pigments | Dulux/SIGMA Aluprimer<br><br>STONCOR<br>(CHEMRITE COATINGS)<br>Carbomastic 15<br><br>INTERNATIONAL<br>(PLASCON)<br>Intergard 468                                                   | 125-150                 |
| 2       | Same as first coat OR micaceous iron oxide (MIO) epoxy         | DULUX/SIGMA – Sigmacover CM MIO<br><br>INTERNATIONAL<br>(PLASCON)<br>Interseal 010 MIO<br><br>STONCOR<br>(CHEMRITE COATINGS)<br>Carboline 190 HB<br>M.I.O. or Carboline 193 M.I.O. | 125-150                 |
| 3       | Two component recoatable, polyurethane finish (Gloss)          | DULUX/SIGMA Sigmadur gloss<br><br>INTERNATIONAL<br>(PLASCON)<br>Interthane 990                                                                                                     | 65-75                   |

|  |  |                                                 |  |
|--|--|-------------------------------------------------|--|
|  |  | STONCOR<br>(CHEMRITE COATINGS)<br>Carboline 134 |  |
|--|--|-------------------------------------------------|--|

- Alternatively, the Noxyde paint system can be used, consisting of two to three coats of water based Noxyde paint to achieve a DFT of 350 to 400 microns. Where the Noxyde system is used on areas other than slightly corroded structural areas, the following additional requirements must be observed:
  - Very smooth surfaces (e.g. 3CR12, stainless steel or hot-dip galvanized components, bolts, nuts and fittings, and HT bolts): Parts must be thoroughly degreased using OptiDegreaser, washed down with potable water, and immediately when dry, a single coat of OptiPrimeAqua applied.
  - Paintable flexible sealant/mastic: Only sealant approved by the paint manufacturer may be used, and an initial coat of OptiPrimeAqua applied over it before the further coats of Noxyde are applied.
  - Bolted/riveted connections: After blasting or and/or cleaning as required, apply a coat of OptiPrimeAqua and an additional stripe coat of Noxyde, in contrasting colour, to all bolt/nut and plate edges and crevices.
- The adhesion of old coatings must be verified by doing a cross cut adhesion test on selected areas.
- The compatibility of the new paint system on the old coating must be tested and guaranteed in writing by the paint supplier.
- The work and coating system must be guaranteed for a minimum of 12 months.
- All heavily corroded areas must be shot blasted to minimum SA2 and the three coat system indicated in clause 2.6 applied.
- Areas where the old coating is still sound need only be high pressure cleaned with a suitable solvent and coated with one of the primers suggested in clause 10.2 (as tie coat) and then with one of the top coats suggested in clause 2.6 to get the appropriate colour and finish. The minimum dry film thickness of this tie coat must be 75 microns and top coat must be 50 microns, but the previous coating colour shall be completely obliterated to present a uniform colour.
- Note: Inorganic zinc primers shall not be re-covered with an inorganic primer, but only with an organic zinc primer.
- Repairs to the insides of all the enclosed sections of the booms as well as the insides of the crane legs, sill beams, cross beams, pylon cross bracing members etc. shall be done as above but the top coat need not be applied.

- Construction Sequence Planning

Prior to construction the *Project Manager* and Contractor should plan the complete construction and erection sequence, as per the Works Information.

The planning process for construction sequence should be documented as part of the work method statement. The following should be taken into account

- Establish site limitations.

- Local street access for plant machinery and cranes
- Casting Sequence
- Overhead obstructions including overhead powerlines
- Proximity to railway and roadway
- Requirements for road and railway occupation or use
- Temporary works
- Applicable authorities regulations
- Height access and safe working platforms
- Occupational health and safety requirements for maximum work and rest periods
- Contingency plan for worst case scenarios
- Erection stages providing flexibility to promptly discontinue works if required
- Site emergency planning and notification to relevant local authorities
- Work Plan for working near or over water and rail

The Contractor should submit a construction method statement and detailed construction sequence to the Engineer for approval.

## 4.4 Mechanical works

### 4.4.1 The Detailed Works to be Carried Out by the Contractor Shall Include:

- Complete review of the existing drawings for the building
- Physical Assessment/evaluation of the existing building's HVAC, fire detection, water reticulation and fire protection systems (Sprinkler System, Portable fire suppression equipment, Fire and emergency signage and evacuation plans). The Contractor shall be responsible for the detailed plan and removal of all items that shall be replaced by the new designs.
- The Contractor shall conduct flow and pressure analysis on all existing water tie in points to ensure sufficient flow and pressure requirements are met to comply to SANS, ASIB requirements for the sprinkler systems and local regulations as well as correct operation. This shall include the flow and pressure on both the potable water lines as well as the manual and automatic fire suppression systems.
- Detailed design of the Fire Sprinkler Systems in accordance with the latest ASIB rules. The designs shall be submitted to the *Employer* for acceptance prior to Manufacture and construction.
- Detailed design of the control system for the smoke extraction fans and for the interface and shutting down of HVAC equipment when a fire is detected. The activation of the fire detection system shall shut down all HVAC equipment to ensure fire is not spread throughout the building. The smoke extraction system shall activate when the fire detection system activates.
- The Contractor's scope shall include the design and installation of all supporting infrastructure required for all mechanical works. Including but not limited to all structural supports for the HVAC, fire and potable water reticulation systems, thrust blocks, and anchoring down supports for the pipeline or bridges, plant bases or plinths, plant supports and fixings for all equipment of the mechanical systems.
- The Contractor shall ensure all painting and corrosion protection is designed to comply with the SANS codes, Transnet standards and to meet the environmental conditions.
- The Contractor shall make allowance for BMS and BACnet integration of the systems. All components and systems required for the BACnet integration as well as all electrical

infrastructure such as all control and actuation systems; MCC panels and Electrical Distribution Boards required for the mechanical Plant; and Electrical work including connection to power isolators, wiring between switchboards, unit mounted sensors, control devices, etc. and wiring between controllers and remote sensors, remote set point adjusters, etc. required for the correct working of the systems shall form part of the scope of the Contractor.

- The Contractor shall provide ECSA approved drawings for all systems that they have designed. The drawings shall be accompanied by all calculations and all drawings shall be provided in both PDF and DWG format.
- The Contractor shall supply, construct, test, commission and hand over, in complete working order, the Air Conditioning, Ventilation, Smoke extraction, Water Reticulation, Portable and fixed Fire Suppression Equipment, Fire and emergency signage, Fire detection, Sprinkler Systems, controls and electrical plant as well as all other systems and plant required as per the accepted designs.
- The Contractor shall provide a complete set of as-built drawings comprising of the existing as well as new plant and systems in the building. This shall include but not be limited to the Air Conditioning, Ventilation, Smoke extraction, Water Reticulation, Portable and fixed Fire Suppression Equipment, Fire and emergency signage, Fire detection, Sprinkler Systems, controls and electrical plant.
- The Contractor shall ensure all drawings mentioned in the Works Information, be supplied to the *Employer*, in both PDF a native DWG format for use on AutoCAD software.
- Once complete the Contractor shall obtain an approval certification from ASIB showing that the entire building sprinkler system complies and is approved. Should there be any items that need rectification, the Contractor shall be liable to resolve these issues as well as to bear any further cost for reapplying for the certification. The works will only be regarded as complete once the ASIB approval is obtained.
- The Contractor shall provide a detailed testing and commissioning plan including all FAT, SAT and Commissioning tests and activities prior to the commencement of any testing activities.
- The Contractor shall test and commission the systems in line with the guidelines as per the Works Information as well as the manufacturer's requirements, ASIB requirements and industry best practices.
- The Contractor shall provide 3 hard copies and 2 soft copies (On a USB 64gb Flash drive) of the Operation and Maintenance manuals that will include, but not be limited to, quality certificates and tests conducted during fabrication and installation, all FAT and SAT tests conducted, all commissioning documentation, detailed as built drawings and technical specifications of all plant and systems, operation methodologies and information, maintenance methodologies and information and details of spares and replacement components.
- The Contractor shall guarantee all installations and equipment for twelve (12) months after "practical completion" date of the completed installation, or sections thereof. This is the date confirmed in writing by the *Project Manager*.

#### 4.4.2 General

The Contractor shall inform themselves with local site conditions such as safety requirements, access area available on site, type of ground, space available for on-site fabrication, storage, transport, loading and unloading facilities, scaffolding, tackles, and tools needed, as no claims by the Contractor, which may arise from ignorance of the site conditions, shall be considered.

#### 4.4.3 Standard of Work, Equipment, and Materials

All equipment and material used shall be of high quality and the work shall be of a high standard of workmanship carried out by qualified staff under proper supervision by experienced and competent officers.

All equipment and material shall comply with the relevant National or International standard specifications. Where equipment does not comply, it shall be submitted to the TNPA mechanical engineer for approval prior to installation.

All installation, testing and termination must be approved by the TNPA Engineer prior to commissioning.

#### 4.4.4 Specifications

The design shall be undertaken using the latest revision of applicable SANS and other relevant standard specifications. The sprinkler designs shall comply with the latest edition of the ASIB rules. The Contractor shall employ a registered Professional Engineer to review and sign off all design documents and drawings submitted to the *Employer* for acceptance. The design shall be such that it is built by others to satisfy the functional and serviceability requirements and be cost-effective and safe. Sound Engineering judgment shall be exercised in applying these criteria to the system and its components. The Contractor shall communicate with the *Employer* to coordinate all designs.

The following publications and specifications (latest edition) shall apply. A full list of publications and specifications is found in the technical specifications documents:

|               |                                                                                                                                       |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------|
| SANS 10400    | The Application of the National Building Regulations                                                                                  |
| SANS 10400-T  | Fire Protection                                                                                                                       |
| SANS 10400-W  | Fire Installation                                                                                                                     |
| SANS 10400-O  | Lighting and Ventilation                                                                                                              |
| SANS 10400-XA | Energy Usage in Buildings                                                                                                             |
| SANS 10287    | Automatic sprinkler installations for firefighting purposes                                                                           |
| SANS 50054-1  | Fire Detection and Fire Alarm Systems                                                                                                 |
| SANS 10139    | Code of practice for design, installation, commissioning and maintenance of fire detection and alarm systems in non-domestic premises |
| ASIB          | Rules for Automatic Sprinkler Installations, Latest Edition                                                                           |

|                                                                                       |                                                                                  |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| SANS 193                                                                              | Dampers Installation and Testing                                                 |
| EN 15650                                                                              | Duct Mounted Fire Dampers                                                        |
| SANS 1424                                                                             | Filters for Use in Air-Conditioning and General Ventilation                      |
| SANS 1238                                                                             | Air Conditioning Ductwork                                                        |
| SANS 10173                                                                            | The Installation, Testing, and Balancing of Air Conditioning Ductwork            |
| SANS 10147                                                                            | Refrigerating Systems, Including Plants Associated with Air-Conditioning Systems |
| SANS 10252                                                                            | Water Supply and Drainage for Buildings                                          |
| ASHRAE 55                                                                             | Thermal Environmental Conditions for Human Occupancy                             |
| ASHRAE 62.1                                                                           | Ventilation for Acceptable Indoor Air Quality                                    |
| ASHRAE 90.1                                                                           | Energy Standard for Buildings Except Low-Rise Residential Buildings              |
| ASHRAE 2013                                                                           | Handbook of Fundamentals                                                         |
| ASHRAE 2012                                                                           | Handbook HVAC Systems and Equipment                                              |
| ASHRAE 2011                                                                           | Handbook HVAC Applications                                                       |
| Occupational Health and Safety Act 85 of 1993.                                        |                                                                                  |
| The S.A. National Building Regulations and Building Standards Act. (Act 103 of 1977). |                                                                                  |
| South African National Standards and Codes of Practice.                               |                                                                                  |
| IEC Standards and Recommendations.                                                    |                                                                                  |
| International Standards and Codes – ISO, DIN, BS, ASME, ASCE, ANSI, ASTM, EU, NFPA.   |                                                                                  |
| The local, provincial or S.A. Government laws in force at the time.                   |                                                                                  |

Construction Regulations 2014

National Heritage Resource Act (Act 25 of 1999)

#### 4.4.5 Materials and Workmanship

- The Contractor shall ensure all materials shall be of the quality specified and the Contractor shall, furnish proof that the materials are of the specified quality. The Engineer is not responsible for Quality Assurance on behalf of The Contractor but shall be entitled to condemn unsatisfactory work.
- The Contractor shall ensure all materials and equipment used for the installations shall be new and undamaged. The Contractor shall, if requested by the *Project Manager*, provide samples of material and Plant for approval. If judged necessary by the *Project Manager*, such samples may only be returned after the completion of the installation, to ensure that the quality of the installed product is the same as that of the approved sample
- Material for which a SABS specification exists, shall be in accordance with such a specification, and shall bear the SABS mark.
- All fire protection Plant used shall originate from suppliers which have been certified in accordance with SABS ISO 9001 (ISO 9001) or SABS ISO 9002 (ISO 9002) for Quality assurance. Copies of certificates of approval shall be provided by the tenderers with their tenders. Plant designed to BS 5446, Fire systems for residential premises, or similar other standards, are not acceptable.

#### 4.4.6 Design and Drawings

- The Contractor shall ensure all Plant is positioned and installed in such a way as to ensure proper access for service and maintenance.
- The Contractor shall ensure that all control panels, wiring and components of the electrical installation comply with all application safety codes standards and regulations. All electrical works associated with the mechanical plant shall comply with the requirements of electrical works detailed in this document.
- The Contractor shall ensure the designs must be cost effective and energy efficient.
- The Contractor shall furnish details of any Plant that is other than, or different to, that specified by the *Employer's Engineers*, to the *Supervisor* for Approval by the *Employer's Engineers*. The Contractor is prohibited from installing said without the required prior authorization from the *Employer's Engineers*. The approval shall only apply to the selection of the type of Plant and in doing so, the *Employer's Engineers* assume no responsibility or accountability for the proper functionality of Plant or associated systems designed by the Contractor in any way whatsoever.
- The Contractor shall ensure All design calculations and simulations shall be submitted to the *Project Manager* for acceptance by the *Employer's Engineer* together with the workshop Drawings. The drawings shall be submitted in PDF as well as DWG formats for all submissions. The Contractor shall price in the works for the submission of the calculations and drawings as well as schedule the time for acceptance of all designs and approval of plant type (should there be any deviation from the specifications).

#### 4.4.7 Plant Supports, Bases and Foundations

- The Contractor shall design all foundations required for mechanical Plant as per the recommendations of the Plant suppliers and to comply with the requirements of the Works Information and Technical Specifications.
- The Contractor shall design supports, stands, hangers, and suspended platforms for equipment, tanks or other Plant as required.
- The Contractor shall design bases and plinths for all items of plant to comply with the requirements as specified in this document.
- The Contractor shall ensure that all designs of foundations, bases and plinths are compatible with the type of floor designed by the Structural Engineers and be able to tie into the floor to provide a continuous surface.

#### 4.4.8 Workshop Drawings

The *Contractor* shall ensure Preparation of complete workshop drawings is the responsibility of the *Contractor*. The *Contractor* shall submit all workshop drawings to the Employer's Engineer for acceptance prior to any materials being ordered. The workshop drawings must be prepared based on:

- The Contractor shall ensure the latest Architect's, Structural Engineer's, Civil Engineer's and Electrical Engineer's drawings regarding co-ordination, layout, and design.
- The Contractor shall make use of the actual Plant offered in the Tender and Approved by the *Project Manager*. No work may be put in hand before the relevant workshop drawings have been reviewed by the *Project Manager* for acceptance. The *Employer's* responsibility in this regard is limited to checking conformance with the works information and co-ordination with other disciplines where necessary. This does not absolve the Contractor of any responsibility in terms of the contract or for errors or omissions in the shop drawings. Comments, amendments, or corrections of shop drawings are not intended to cause any variation in the cost of the work, and
- The Contractor shall include time in the schedule for acceptance of workshop drawings and Approval of Plant by the *Employer*. All workshop drawings submitted shall be signed by an ECSA registered Professional Engineer.
- The workshop drawings shall include but not be limited to the following:
  - P&ID showing the entire system layout and plant details.
  - Detailed drawings of all plant.
  - Plant Specifications, including fixing details and materials.
  - Piping schedules.
  - Detailed piping drawings, including joint details and positions.
  - Welding schedules and weld maps (if applicable).
  - Foundation, Plinth and Base details of all plant.
  - Corrosion protection specifications for all plant and materials.
  - Cable schedules; and
  - General arrangement drawings and component lists for electrical and controls works associated with the mechanical Plant.

#### 4.4.9 Builders Work Drawings

##### Openings

- The Contractor shall show all openings and other finishes on layout drawings in such a way as to constitute a clear instruction to others.

##### Plant Foundations, Bases and Plinths

- The Contractor shall be responsible for providing detailed Builder's Work drawings for all foundations, plinths, and plant bases as per the manufacturer's recommendations for the Plant selected.

##### Noise and Attenuation

- In respect of noise control and attenuation, the Contractor shall be responsible for the selection, supply and installation of all sound attenuators, spring mounts, mass bases, flexible connections, spring hangers, etc. as required by the Contractor's detailed design to comply with all relevant SANS standards and the OHS Act.
- The Contractor shall ensure that where ducts and pipes pass through concrete, brick or other structural members and finishes, this is achieved without transmission of noise and vibration.

#### 4.4.10 Responsibilities of the Contractor

- Ordering of Plant and Materials
- The Contractor shall be responsible to ensure that the project programme is adhered to and that no delays are caused by late deliveries of Plant and materials. All other activities which must proceed placing of orders must be considered when The Contractor schedules his activities.

#### 4.4.11 Storage of Materials and Plant

The Contractor shall be responsible for the proper storage of all materials and Plant on site to ensure protection against the elements, damage by impact, dirt, builder's rubble, dust, theft etc.

#### 4.4.12 Protection of the Works

The Contractor shall programme his work to avoid damage by other Trades and shall be responsible for protection of the works against such damage until handover to the Client.

#### 4.4.13 Accessibility

- The Contractor shall plan suitable accessibility for thermometers, gauges, controls, dampers, and other devices which require reading adjustment, inspection, repair removal or replacement.
- The Contractor shall design all systems and plant positioning to enable ease of maintenance or repair and provide sufficient space for removal or replacement of plant if required.

#### 4.4.14 Weather Proofing

- All outdoor Plant shall be weatherproof and corrosion resistant including minor items such as screws fixers, brackets, etc.
- The IP rating for waterproofing of all Plant must be accepted by the *Project Manager*.

- In addition to the above mentioned, The Contractor may comment on aspects of the *Employer's* design with a view to improvement or cost saving but must draw to the attention of the Engineer any aspect of the design which in his view is not appropriate. The final decision and responsibility rests with the Engineer.

#### 4.4.15 Service Conditions

- The Plant and Material shall be designed and rated for continuous operation under the following conditions.
- Ambient/Environment Conditions:
- All Plant and Material offered shall be rated for continuous operation under the following conditions:

#### External Conditions

|                      |                                                                                                   |
|----------------------|---------------------------------------------------------------------------------------------------|
| Summer ambient       | : 40 °C DB Maximum                                                                                |
| Winter ambient       | : 11 °C Minimum                                                                                   |
| Humidity             | : Average 80%                                                                                     |
| Altitude             | : 8m above sea level                                                                              |
| Lightning conditions | Severe, with a maximum lightning ground flash density of 2.0 lashes per km <sup>2</sup> per annum |
| Atmosphere           | Atmosphere will be of a highly saline and dust-laden nature                                       |

#### Internal Conditions (air-conditioned areas)

|        |                                             |
|--------|---------------------------------------------|
| Summer | : 22.5 °C Dry bulb – 55 % Relative Humidity |
| Winter | : 22.5 °C Dry bulb – 55 % Relative Humidity |

#### 4.4.16 Noise levels

Maximum noise levels caused by the operation of items of Plant shall comply with the OHS Act 85 of 1993 and all other regulations.

The SI ("Le Systeme International d' Unites") – Metric System of Units shall apply. Refer to SANS – M33A: The International Metric System: Guide to the use of the SI in South Africa.

The Contractor shall additionally read the Engineering Works Information for the mechanical works in conjunction to this with the Specifications provided separately in the annexures.

#### 4.4.17 Technical Specification

The Contractor's designs, plant procured, and construction works shall be completed to meet the requirements specified in the technical specification documents. The following technical specification will be provided to the Contractor:

| Description            |      |                                                                                                                                                               |
|------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Document No.           | Rev. | Description                                                                                                                                                   |
| 4087497-ENG-M-SP-0001  |      | Technical Specification for Supply, Delivery, Installation, Testing and Commissioning of Heating, Ventilation, and Air Conditioning (HVAC) System             |
| 4087497-ENG-M-SP-0002  |      | Technical Specification for Supply, Delivery, Installation, Testing and Commissioning of Fire Suppression System                                              |
| 4087497-ENG-M-SP-0003  |      | Technical Specification for Supply, Delivery, Installation, Testing and Commissioning of Internal Water Reticulation System                                   |
| 4087497-ENG-M-SP-0004  |      | Technical Specification for Supply, Delivery, Installation, Testing and Commissioning of Fire Detection System                                                |
| 4087497-ENG-M-RPT-0002 |      | Design Report for Supply, Delivery, Installation, Testing and Commissioning of HVAC, Internal Water Reticulation, Fire Detection and Fire Suppression Systems |

#### 4.4.18 Testing and Commissioning of the Works

- The Commissioning of each system is done in accordance with the following high-level procedure:
- All work is inspected by The Contractor to ensure all defects are identified and rectified. The Contractor informs the *Employer* of all defects identified and the remedial action taken.
- Once the defects identified by The Contractor have been rectified, The Contractor and the *Supervisor* shall jointly inspect the Works. Any further defects shall be recorded and categorised according to the following:
- Defects that are urgent and require immediate attention to enable testing and commissioning to be completed.

- Defects that can be rectified after Commissioning.
- Items that are out of scope and require approval to be implemented.
- The Contractor and the *Supervisor* shall jointly inspect once all identified defects have been rectified.
- The *Project Manager* notifies The Contractor that commissioning may proceed.
- A safety review is held with the Contractor, *Supervisor*, *Project Manager*, and necessary experts for the system being commissioned.
- Each system and item of major equipment is thoroughly checked using an accepted pre-commissioning check list.
- Functionality is checked for all items under no load conditions.
- Once all checks are complete and functionality confirmed, the system is started under test conditions and then put into operation.
- Contractor rectifies all further defects identified during the commissioning process and previously identified defects including approved compensation events.
- The Contractor and the *Supervisor* shall jointly inspect once all identified defects have been rectified.
- The Contractor shall invite the *Employers Engineer* for all testing and commissioning activities at least 2 weeks prior to the start of the activities. the *employer's engineer* must be present for all testing and commissioning activities.

## 4.5 Electrical Works

The following specifies and describes the electrical works that the Contractor is to provide and any constraints thereof. The works detailed, to be undertaken by the Contractor include but are not limited to:

- Supply, delivery and installation of 1mVA, 400V low voltage (LV) Standby Generator
- Supply, delivery and installation of 20kVA, 400V LV Back-up uninterruptable power supply (UPS) system
- Supply, delivery, and installation of LV cables.
- Supply, delivery, erection, and installation of LV kiosks for electrical power supply reticulation
- Supply, delivery, and erection of buried fibreglass light poles.
- Supply, delivery, and installation of exterior luminaires.
- Supply, delivery, and installation of interior luminaires for all buildings and facilities.
- Supply, delivery, and installation of building cabling, distribution board, wireways and associates
- Supply, delivery,, and installation of photovoltaic solar panels, microinverters, mounting rails and, associates.
- Commissioning and testing of the entire installation and hand over to the *Employer*.

If required, the Contractor may undertake designs and submit them to the *Employer's* responsible personnel for approval. The high-level designs by the *Employer* which illustrates the overall design methodology is detailed and shown in the drawings and specifications accompanying this document. The Contractor shall read this document in conjunction with all the drawings and the specifications mentioned herein this document.

### 4.5.1 List of Abbreviations

| Abbreviation    | Description                               |
|-----------------|-------------------------------------------|
| °C              | Degree Celsius                            |
| A               | Ampere                                    |
| AC              | Alternating Current                       |
| ACB             | Air Circuit Breaker                       |
| CCTV            | Closed Circuit Television                 |
| DB              | Distribution Board                        |
| ECC             | Earth Continuity Conductor                |
| FAT             | Factory Acceptance Test                   |
| FEL             | Front End Loading                         |
| Hz              | Hertz                                     |
| HDG             | Hot Deep Galvanised                       |
| HML             | High Mast Lighting                        |
| IEC             | International Electrotechnical Commission |
| IP              | Ingress Protection                        |
| kA              | kilo-Amps                                 |
| kV              | kilo-Volts                                |
| LED             | Light Emitting Diode                      |
| LV              | Low Voltage                               |
| m               | Metres                                    |
| mm <sup>2</sup> | Squared millimetres                       |
| MCB             | Miniature Circuit Breaker                 |
| MCCB            | Moulded Case Circuit Breaker              |
| OEM             | Original Equipment Manufacture            |
| PAS             | Public Address System                     |
| PVC             | Polyvinyl chloride                        |
| RMU             | Ring Main Unit                            |
| SAT             | Site Acceptance Test                      |
| SWA             | Steel Wire Armouring                      |
| SANS            | South African National Standards          |

|      |                                   |
|------|-----------------------------------|
| TNPA | Transnet National Ports Authority |
|------|-----------------------------------|

#### 4.5.2 Governing Codes, Standards and Specifications

##### 4.5.2.1. Sans Standards

All Design's undertaken, Plant's and Materials supplied, Equipment to be used by the Contractor, in agreement with the *Employer*, with the intention to execute the works detailed in this document, shall comply as a minimum, to the requirements of the SANS/IEC standards listed in the table below. Where reference is made to a standard, the reference shall be taken to mean the latest edition of the standard, supplements and revisions thereto.

| Standard No.           | Description                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------------------|
| SANS 32/SANS121        | Hot Dip Zinc (galvanised) Coatings                                                                                        |
| SANS 156               | Moulded-case circuit-breakers                                                                                             |
| SANS 767 - 1           | Fixed earth leakage protection circuit-breakers                                                                           |
| SANS 780               | Distribution Transformers                                                                                                 |
| SANS 950               | Unplasticized chloride rigid conduit and fittings for use inelectrical installations                                      |
| SANS 1063              | Earth rods, couplers and connections                                                                                      |
| SANS 1085              | Wall outlet boxes for the enclosure of electrical accessories                                                             |
| SANS 1091              | National colour standards for paint                                                                                       |
| SANS 1213              | Mechanical cable glands                                                                                                   |
| SANS 1279              | Floodlight Luminaires                                                                                                     |
| SANS 1433 - 1          | Electrical terminals and connectors Part 1 terminal blocks having screw and screw less terminals                          |
| SANS 1433 - 2          | Electrical terminals and connectors Part 2: Flat push-on connector                                                        |
| SANS 1507 (part 1 – 4) | Electric cables with extruded solid dielectric insulation forfixed installations (300/500 V to 1900/3300V) Part 1 - 4     |
| SANS 1777              | Photoelectric control units for lighting (PECUs)                                                                          |
| SANS 10199             | The design and installation of earth electrodes                                                                           |
| SANS 60137             | Insulating Bushings for Alternating Voltages above 1000V                                                                  |
| SANS 60439 - 2         | Low-voltage switchgear and controlgear assemblies Part 2: Particular requirements for bus bar trunking systems (busways)  |
| SANS 60669 - 2 - 1     | Switches for household and similar fixed electrical installations Part 2-1: Particular requirements - Electronic switches |

|                    |                                                                                                                                                                                             |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SANS 60669 - 2 - 4 | Switches for household and similar fixed electrical installations Part 2-4: Particular requirements - Isolating switches                                                                    |
| SANS 60947 - 7 - 1 | Low Voltage Switchgear and Controlgear Part 7 – 1: Ancillary equipment – Terminal blocks for copper conductors                                                                              |
| IEC 60998 - 2 -1   | Connecting devices for low-voltage circuits for household and similar purposes Part 2-1: Particular requirements for connecting devices as separate entities with screw-type clamping units |
| IEC 61643 - 1      | Low-voltage surge protective devices Part 1: Surge protective devices connected to low-voltage power distribution systems - Requirements and tests                                          |

#### 4.5.2.2. Codes Of Practice

All Design's, Construction works (i.e. excavation), installation works to be undertaken by the Contractor, in agreement with the *Employer*, with the intention to execute the works detailed in this document, and shall adhere to as a minimum, the requirements of the Codes of Practice listed in the table below. Where reference is made to a Code of Practice, the reference shall be taken to mean the latest edition of the Code of Practice, including latest amendments, supplements and revisions thereto.

| Standard No. | Description                                                                                                             |
|--------------|-------------------------------------------------------------------------------------------------------------------------|
| OHS Act 1993 | Occupational Health and Safety Act (Electrical Installation regulations)                                                |
| SANS 10142-1 | Code of Practice for the Wiring of Premises<br>Part 1 Low Voltage Installations.                                        |
| SANS 10389-1 | Exterior lighting Part 1: Artificial lighting of exterior areas for work and safety                                     |
| SANS 10389-2 | Exterior lighting Part 2: Exterior security lighting                                                                    |
| SANS 10389-3 | Exterior lighting Part 3: Guide on the limitation of the effects of obtrusive light from outdoor lighting installations |
| SANS 10114-1 | Interior Lighting Part 1 The artificial lighting of Interiors                                                           |
| SANS 10114-2 | Interior Lighting Part 2                                                                                                |
| SANS 10313   | Code of Practice for protection of buildings against lightning                                                          |

#### 4.5.2.3. TRANSNET SPECIFICATIONS

All Design's undertaken, Plant's and Materials supplied by the Contractor in agreement with the *Employer*, with the intention to execute the works detailed in this document, shall comply in general with all associated Transnet Specifications listed below. It is understood that Transnet Specification

requirements are more stringent than the SANS requirements, the Contractor is required to fully comply with the Transnet Specifications. In the case where SANS is stringent than Transnet Standard, the Contractor shall comply with SANS.

| Specification No.        | Description                                                                                                                      |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| TPD-001-EL&PSPEC         | Technical specification for electrical installations to building other than dwelling houses                                      |
| TPD-002-DBSPEC           | Technical specification for low voltage distribution boards                                                                      |
| TPD-003-CABLESPEC        | Technical specification for the installation of medium and low voltage cables.                                                   |
| TPD-004-EARTHINGSPEC     | Technical specification for earthing and the protection of buildings and structures against lightning.                           |
| TPD-011-UPSSPEC          | Specification for the supply, delivery, offloading, installation and commissioning of an uninterrupted power supply (UPS) system |
| TPD-009-STANDBYPLANTSPEC | Specification for the supply, delivery, offloading, installation and commissioning of diesel driven standby generator sets       |
| TPD-008-MINISUBSPEC      | Specification for the supply, delivery, offloading and installation of miniature substations                                     |

#### 4.5.3 Plant Service Condition

##### 4.5.3.1. AMBIENT/ENVIRONMENTAL CONDITIONS

All Plant and associates to be supplied by the Contractor shall be designed and rated for continuous operation under the following conditions:

|                      |                                                                                                                                                   |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Altitude             | 0 to 1800m above Sea Level.                                                                                                                       |
| Ambient temperature  | - 5°C to +40°C (daily average +35°C)                                                                                                              |
| Relative humidity    | As high as 96%                                                                                                                                    |
| Lightning conditions | Severe, with a maximum lightning ground flash density of 0.9 flashes per km <sup>2</sup> per annum                                                |
| Atmosphere           | Salt laden and corrosive industrial chemical and dust laden nature.<br>Frequent heavy rains driven by wind reaching speeds of 100 Km/h and above. |

##### 4.5.3.2. Electrical Conditions

###### Low Voltage System

The Low Voltage system of supply will be three phase, 4 – wire system, 50Hz alternating current (AC) at a nominal voltage of 400V.

The voltage may vary within the range of 95% to 105% of the nominal and all equipment installed shall be suitably rated.

#### **Medium Voltage System**

The Medium Voltage system of supply will be three phase, 3 – wire system, 50Hz alternating current (AC) at a nominal voltage of 11kV.

The voltage may vary within the range of 95% to 105% of the nominal and all equipment installed shall be suitably rated.

#### **4.5.4 Detailed Work to be carried out by the Contractor**

This works information shall be read in conjunction with the drawings listed in section 4.6.<sup>22</sup> SANS listed in section 4.5.2 codes of practice listed in section 3.2 and Transnet specifications listed in section 4.5.2.3 herein this document.

All works to be carried out shall be performed with full adherence to safe practice of electrical installations as stipulated in SANS 10142-1, SANS 10142-2 and OHS Act 85 of 1993 (Electrical Installation Regulations).

#### **4.5.5.1. Exterior Works: Low Voltage Reticulation**

##### **4.5.5.1.1. Generator and Mains Supply Cable**

- a) The Contractor shall uninstall the existing generator, cable, cable support system as well as the changeover panel at the Admin Quay substation yard. The Contractor shall load, transport and issue the removed items to the maintenance manager at the TNPA Richard's Bay depot. The Contractor shall inspect and test all existing wiring and circuitry. Damaged wires shall be replaced.
- b) The Contractor shall supply, deliver, offload, install, and commission a 1 x 1 MVA, 4 – Pole, 3 – 3-phase, 50Hz, 400V rated Standby Diesel Generator Plant at the same position as the existing generator as shown in drawing number 4087497-1-000-E-LA-0006-01. The Generator shall have a minimum Power Factor of 0.9. The total time taken for the diesel generator to achieve stabilised running from the start shall not exceed 10 seconds. The Diesel Generator shall be designed and constructed in compliance with Transnet Specification TPD-009-STANDBYPLANTSPEC. The base support structure and fuel tank shall be manufactured in grade 304 stainless steel and epoxy powder coated. The generator exhaust system shall be manufactured in grade 316 stainless steel.
- c) The Contractor shall design, supply, deliver, offload, and install a Mains/Standby Automatic Change over Panel with an electrical distribution board. The Panel shall contain similar or equal approved to OTM 1600E series Automatic Transfer switch rated; 4 – Pole, 400V, 1600A with a handle for manual operation. The Panel shall allow top/bottom cable entry access to be aligned with the new cable chamber system shown in drawing no: 4087497-1-000-E-LA-0006-01. The Panel shall be supplied on the same Contract as the Standby Generator. The Panel shall contain 3 LED indication lamps (Green for Mains in Operation, Orange for Standby Generator in operation, and Red for none of the supply systems in operation). The Panel shall be fully

equipped with a cable glanding plate, protective earth bar and all necessary mechanical supports accessories. The Panel shall be made of 3CR12 type stainless steel, powder coated to 40 microns and painted orange with the essential section being red in colour.

- d) The Contractor shall supply, deliver, offload and install 240mm<sup>2</sup>, single core, SWA, PVC insulated, low voltage copper cable. The Contractor shall terminate the low voltage copper cable between the LV distribution board and changeover panel to the new backup Generator as shown in drawing number: 4087497-1-000-E-LA-0006-01. The cables shall be installed and terminated in accordance to the cable manufacture's specifications and also in adherence to Transnet specification TPD-003- CABLESPEC. The low voltage cables shall be installed in PVC sleeves in the allocated pipe and chamber system as shown in drawing number 4087497-1-000-E-LA-0006-01.
- e) The Contractor shall supply, deliver, offload and install 240mm<sup>2</sup>, 4 core, ECC, PVC insulated, low voltage copper cable. The Contractor shall terminate the low voltage copper cable between the LV Board at Admin Quay substation and the new Main DB-A in the shed as shown in drawing number: 4087497-1-000-E-LA-0006-01. The cables shall be installed and terminated in accordance to the cable manufacture's specifications and also in adherence to Transnet specification TPD-003- CABLESPEC. The low voltage cables shall be installed in PVC sleeves in the allocated pipe and chamber system as shown in drawing number 4087497-1-000-E-LA-0006-01.
- f) The Contractor is required to test the installation in the presence of the *Employer's* Engineer and issue compliance certificates for the electrical installation, lightning protection and earthing system.

#### **4.5.5.2. Interior Works:**

##### **4.5.5.2.1. Building and Facilities**

##### **4.5.5.2.1.1. Low Voltage Switchboard**

The Contractor shall modify the existing Low Voltage Distribution Board at Admin Quay substation. The Low Voltage Distribution Board shall be modified as per drawing number 4087497-1-000-E- LA-0006-01.

The Contractor shall then re-programme the arc guard optical sensors in the Low Voltage Distribution Board.

The LV Distribution Board modifications shall contain the following signage:

- Description of circuits fed by the associated circuit breaker as indicated in drawing number 4087497-1-000-E-LA-0006-01. For example Control Room DB-B.
- Full description of the type of cable (Copper PVC insulated ECC, SWA), the size in mm<sup>2</sup> of the cable terminated in the associated circuit breaker and the cable run length to the load.

##### **4.5.5.2.1.2. Main Distribution Board (DB-A)**

The Contractor shall construct, supply, deliver, offload, install the Main Distribution Board DB-A, in the DB room as shown in drawing no: 4087497-1-000-E-LA-0004-01. The distribution board shall be floor standing, made of 3CR12 stainless steel with a minimum thickness of 2mm, Form type 3B, IP20 and shall be powder coated at 40 microns as shown in drawing number 4087497-1-000-E-LA-0003-01. The

Contractor shall conform to the paint colours indicated in drawing number 4087497-1-000-E-LA-0003-01. The distribution board shall be bottom and top cable entry to allow ease of access of incoming and outgoing cables through the cable trench and cable ladder system.

The Contractor shall ensure that the size of the distribution boards is suitable to fit inside the demarcated spaces/rooms.

The distribution boards shall contain the following signage:

- Name of the Distribution Board as indicated in drawing number 4087497-1-000-E-LA-0003-01 ("Main Distribution Board DB-A").
- Naming of the different sections of the Distribution Board i.e., Non-Essential Supply, Essential Supply and UPS Supply.
- The rated Voltage level of the Distribution Board
- The rated Short Circuit Current in all different sections of the distribution board
- The rated current in different sections of the distribution board
- Description of circuits fed by the associated circuit breaker as indicated in drawing number 4087497-1-000-E-LA-0003-01. For example, Control Room DB-B.
- Full description of the type of cable (Copper PVC insulated ECC, SWA), the size in mm<sup>2</sup> of the cable terminated in the associated circuit breaker and the cable run length to the load.
- Danger sign in all sections of the Main Distribution board with a specific caution indication of the UPS supply section of the board.

#### **4.5.5.2.1.3. Sub-Distribution Boards (DB-B and DB-C)**

The Contractor shall construct, supply, deliver, offload, install the Sub-Distribution Boards DB-B and DB C, in the training room and plant room respectively, as shown in drawing no: 4087497-1-000-E-LA-0004-01. The distribution boards shall be surface mounted, made of 3CR12 stainless steel with a minimum thickness of 2mm, Form type 3B, IP20 and shall be powder coated at 40 microns as shown in drawing number 4087497-1-000-E-LA-0003-01. The Contractor shall conform to the paint colours indicated in drawing number 4087497-1-000-E-LA-0003-01. The distribution boards shall be top cable entry to allow ease of access of incoming and outgoing cables through the cable ladder system.

The Contractor shall ensure that the size of the distribution boards are suitable to fit inside the demarcated spaces/rooms.

The distribution boards shall contain the following signage:

- Name of the Distribution Board as indicated in drawing number 4087497-1-000-E-LA-0003-01 ("Distribution Board DB-B").
- Naming of the different sections of the Distribution Board i.e., Non-Essential Supply, Essential Supply and UPS Supply.
- The rated Voltage level of the Distribution Board
- The rated Short Circuit Current in all different sections of the distribution board
- The rated current in different sections of the distribution board
- Description of circuits fed by the associated circuit breaker as indicated in drawing number 4087497-1-000-E-LA-0003-01. For example, Plant Room DB-C.

- Full description of the type of cable (Copper PVC insulated ECC, SWA), the size in mm<sup>2</sup> of the cable terminated in the associated circuit breaker and the cable run length to the load.
- Danger sign in all sections of the Main Distribution board with a specific caution indication of the UPS supply section of the board.

#### **4.5.5.2.1.4. Uninterrupted Power Supply Unit (UPS)**

The Contractor shall design, construct, supply, deliver, offload and install a similar or equal approved to Eaton, modular, online double conversion, 20kVA, 400V operating voltage UPS system according to Transnet Specification TPD-011-UPSSPEC. The UPS system shall be housed inside a panel with all necessary provision for terminating 1 x 4mm<sup>2</sup> 4 core SWA ECC PVC insulated Copper cable providing mains supply to the UPS system and 1 x 4mm<sup>2</sup> 4 core SWA ECC PVC insulated Copper cable going to the LV UPS Distribution Board A1 as indicated in the equipment layout drawing 4087497-1-000-E-LA-0003-01.

The UPS Panel shall contain the following signage:

- The description of the panel (LV Switchgear 400V UPS supply).
- The kVA rating of the UPS system
- The in-going and out-going cable description (Copper PVC insulated ECC, SWA cable), the size in mm<sup>2</sup>
- Hazardous disclaimer for battery cabinet
- Danger sign for electrical power exposure.

#### **4.5.5.2.1.5. Interior Lighting**

- a) The Contractor shall uninstall existing luminaires and issue the removed items to the TNPA maintenance manager at the TNPA Richard's Bay Depot.
- b) The Contractor shall supply and install luminaries as shown on drawing 4087497-1-000-E-LA-0001- 01.
- c) The Contractor shall liaise with the electrical engineer regarding the reception area lighting installation. The mounting heights of the pendants shall be determined on site.
- d) The Contractor shall design, supply, deliver and install SABS approved, 20mm outer diameter, PVC conduit flush mounted in the wall. The PVC conduit shall be used as a wireway, linking all flush mounted 4x2 PVC boxes to the distribution board and luminaires. All necessary accessories such as fasteners, bends, junction boxes, adaptors, etc shall be included to ensure a safe neat link for the conduit system.
- e) The Contractor shall design, supply, deliver and install SABS approved, 32mm outer diameter, PVC conduit flush mounted in the wall. The PVC conduit shall be used as a wireway, linking all flush mounted 4x2 PVC boxes to the distribution board and luminaires. All necessary accessories such as fasteners, bends, junction boxes, adaptors, etc. shall be included to ensure a safe neat link for the conduit system.
- f) The Contractor shall supply, deliver, offload and install SABS approved PVC insulated 2.5 mm<sup>2</sup> house wire for all lighting circuits as shown in drawing 4087497-1-000-E-LA-0001-01. The PVC insulated wire shall comply with Transnet specification TPD-003-CABLESPEC. All luminaires shall be installed according to SANS 10142-1 and specification No. TPD-001-EL&PSPEC, Specification for electrical installations to buildings other than dwelling houses.

- g) The Contractor shall supply, deliver and install occupancy sensors as detailed in drawing number 4087497-1-000-E-LA-0001-01. The time delay DIP switch setting on the occupancy sensors shall be set at thirty (30) minutes.
- h) All electrical works pertaining to the electrical lighting should be done in accordance with the referenced drawing, if clarity is needed in any regard the electrical engineer should be contacted prior to any commencement of work.

#### **4.5.5.2.1.6. Switched Socket Outlets**

- a) The Contractor shall supply and install switched socket outlets as shown on drawing number 4087497-1-000-E-LA-0002-01. The mounting height for the power points shall be as specified in the drawing.
- b) The conduit droppers and the socket outlet boxes if required shall be cast into concrete and built into brick walls or partitions. All conduit terminations to socket outlet boxes shall be done using a PVC male adaptor and a suitable PVC washer.
- c) All PVC conduits, couplers, male adaptors, boxes and PVC adhesives shall be SABS approved.
- d) All socket outlets shall be installed according to SANS 10142-1 and specification No. TPD: 001- EL&PSPEC; Technical specification for the supply and installation of electrical lighting and power in buildings other than dwelling houses.

#### **4.5.5.2.1.7. Switched Isolators**

- a) The Contractor shall supply, deliver, offload and install switched disconnectors (isolators) as shown in drawing number 4087497-1-000-E-LA-0002-01. The isolators shall be installed at various heights as shown in drawing number 4087497-1-000-E-LA-0002-01.
- b) The Contractor shall design, supply, deliver and install SABS approved PVC conduits flush mounted in the wall. The PVC conduit shall be used as a wireway, linking all isolators to the distribution board. All necessary accessories such as fasteners, bends, junction boxes, adaptors, etc shall be included to ensure a safe neat link for the conduit system.
- c) The Contractor shall supply, deliver, offload and install SABS approved PVC insulated house wire for all isolator circuits as shown in drawing 4087497-1-000-E-LA-0002-01. The PVC insulated wire shall comply with Transnet specification TPD-003-CABLESPEC. The PVC insulated house wire shall be installed in conduit.

#### **4.5.5.2.1.8. Cable and Cable Way System**

- a) The Contractor shall supply, deliver and install 32mm PVC sleeve pipes which will be chased into the floor as shown in drawing number 4087497-1-000-E-LA-0002-01.
- b) The Contractor shall supply, deliver, offload and install 70mm<sup>2</sup>, 4 core, ECC, PVC insulated, low voltage copper cable. The Contractor shall terminate the low voltage copper cable between the Main DB-A and DB-C in the plant room as shown in drawing number: 4087497-1-000-E-LA-0006-01. The cables shall be installed and terminated in accordance to the cable manufacture's specifications and also in adherence to Transnet specification TPD-003-CABLESPEC. The low voltage cables shall be installed in the cable ladder as shown in drawing numbers 4087497-1-000-E-LA-0006-01 and 4087497-1-000-E-LA-0004-01 .
- c) The Contractor shall supply, deliver, offload and install 50mm<sup>2</sup>, 4 core, ECC, PVC insulated, low voltage copper cable. The Contractor shall terminate the low voltage copper cable between the Main DB-A and DB-B in the training room as shown in drawing number: 4087497-1-000-E-

LA- 0006-01. The cables shall be installed and terminated in accordance to the cable manufacture's specifications and also in adherence to Transnet specification TPD-003-CABLESPEC. The low voltage cables shall be installed in the cable ladder as shown in drawing numbers 4087497-1-000- E-LA-0006-01 and 4087497-1-000-E-LA-0004-01 .

- d) The Contractor shall supply, deliver, offload and install 2.5mm<sup>2</sup>, 2 core, ECC, PVC insulated, low voltage copper cable for power supply to the ICT CCT TV camera's. The cables shall be installed and terminated in accordance to the cable manufacture's specifications and also in adherence to Transnet specification TPD-003-CABLESPEC. The low voltage cables shall be installed in the cable ladder as shown in drawing numbers 4087497-1-000-E-LA-0006-01 and 4087497-1-000-E-LA- 0004-01 .

#### **4.5.5.2.1.9. Earthing and Lightning Protection**

- a) The Contractor shall supply, deliver, offload, and install an earth bar configuration system with reference to a typical schematic layout shown in drawing number 4087497-1-000-E-LA-0005-01. The earth bar configuration system shall be inclusive of but not limited to all bars, bolts, nuts, spring washer and the crimping lugs. All abrasive materials used shall be stainless steel.
- b) The Contractor shall design, supply, deliver, offload and install a suitable earthing system to the relevant DB's in the shed as shown in drawing number 4087497-1-000-E-LA-0005-01.
- c) The Contractor shall also design, supply and install a suitable earthing and lightning protection system for the shed as shown in the typical layout provided in drawing number 4087497-1-000-E- LA-0005-01. The earthing and bonding installation shall be designed to meet the requirements of SANS 10142 and SANS 61312 and SANS 10313. The design of the lightning protection system shall conform to Transnet specification TPD: 004-EARTHINGSPEC, SANS 10142-1 and SANS 10313. The Contractor shall supply and install Aluminium earth protective bare solid conductor around the edges of the roof of the shed. All necessary support accessories for installing this cable shall be included as part of the scope of this works. The Contractor shall also supply and install similar or equal approved to Aberdare 1-core, flexible, PVC insulated, earth protective cable down conductors as shown in drawing number 4087497-1-000-E-LA-0005-01. The down conductors shall be installed in building downpipes or in recessed 50–100mm in diameter PVC conduit. The Contractor shall furthermore provide suitable earth test points with detailed name plates as shown in drawing number 4087497-1-000-E-LA-0005-01. The test joints shall include but not limited to; a fixed earth terminal with a 9.3kA rating for 1s and end pieces, allowing for minimum sized termination of a 35mm<sup>2</sup> single core cable.

#### **4.5.5.3. Security Kiosk**

##### **4.5.5.3.1. Distribution Board**

The Contractor shall construct, supply, deliver, offload, install and commission Distribution Board, Security Kiosk DB-S. The distribution board shall be recessed into the wall, made of 3CR12 type material with a minimum thickness of 1.6mm, IP20 and paint type shall be powder coated at 40 microns as shown in drawing number 4087497-1-000-E-LA-0003-01. The Contractor shall conform to the paint colours indicated in drawing number 4087497-1-000-E-LA-0003-01. The distribution board shall be bottom cable entry.

The Distribution Board shall contain the following signage:

- Name of the Distribution Board as indicated in drawing number 4087497-1-000-E-LA-0003- ("Distribution Board DB-S").
- Naming of the different sections of the Distribution Board i.e. Non-Essential Supply or Essential Supply and UPS Supply.
- The rated Voltage level of the Distribution Board
- The rated Short Circuit Current in all different sections of the distribution board
- The rated current in different sections of the distribution board
- Description of circuits fed by the associated circuit breaker as indicated in drawing number 4087497-1-000-E-LA-0003-01.
- Full description of the type of cable (Copper PVC insulated ECC, SWA), the size in mm<sup>2</sup> of the cable terminated in the associated circuit breaker and the cable run length to the load.
- Danger sign in all sections of the Distribution board.

#### 4.5.5.3.2. Cables and Cableway System

The Contractor shall supply, deliver, offload and install 16mm<sup>2</sup>, 4-core, ECC, PVC insulated, low voltage copper cable. The Contractor shall terminate the low voltage copper cable between Kiosk K and the Security distribution board DB-S as shown in drawing number 4087497-1-000-E-LA-0008-01. The cable shall be installed and terminated in accordance to the cable manufacture's specifications and also in adherence to Transnet specification TPD-003-CABLESPEC. The low voltage cable shall be installed in PVC sleeves in the allocated pipe and chamber system as shown in drawing number 4087497-1-000-E-LA-0008-01.

#### 4.5.5.3.3. Lighting Installation

- a) The Contractor shall supply and install luminaries as shown on drawing 4087497-1-000-E-LA-0001- 01.
- b) The Contractor shall design, supply, deliver and install SABS approved, 20mm outer diameter, PVC conduit flush mounted in the wall. The PVC conduit shall be used as a wireway, linking all flush mounted 4x2 PVC boxes to the distribution board and luminaires. All necessary accessories such as fasteners, bends, junction boxes, adaptors, etc shall be included to ensure a safe neat link for the conduit system.
- c) The Contractor shall supply, deliver, offload and install SABS approved PVC insulated house wire for all lighting circuits as shown in drawing 4087497-1-000-E-LA-0001-01. The PVC insulated wire shall comply with Transnet specification TPD-003-CABLESPEC. All luminaires shall be installed according to SANS 10142-1 and specification No. TPD-001-EL&PSPEC; Specification for electrical installations to buildings other than dwelling houses.
- d) The Contractor shall supply, deliver and install occupancy sensors as detailed in drawing number 4087497-1-000-E-LA-0001-01. The time delay DIP switch setting on the occupancy sensors shall be set at thirty (30) minutes.
- e) All electrical works pertaining to the electrical lighting should be done in accordance with the referenced drawing, if clarity is needed in any regard the electrical engineer should be contacted prior to any commencement of work.

#### 4.5.5.3.4. Switched Socket Outlets

- a) The Contractor shall supply and install switched socket outlets as shown on drawing number 4087497-1-000-E-LA-0002-01.

- b) The power supply to the socket outlet shall be installed in existing PVC conduits recessed into the wall or slabs, unless otherwise stated. The mounting height for the power points is as specified in the drawing.
- c) The conduit droppers and the socket outlet boxes if required shall be cast into concrete and built into brick walls. All conduit terminations to socket outlet boxes shall be done using a PVC male adaptor and a suitable PVC washer.
- d) All PVC conduits, couplers, male adaptors, boxes and PVC adhesives shall be SABS approved.
- e) All socket outlets shall be installed according to SANS 10142-1 and specification No. TPD: 001-EL&PSPEC; Technical specification for the supply and installation of electrical lighting and power in buildings other than dwelling houses.

#### 4.5.5.3.5. Switched Isolators

- a) The Contractor shall supply, deliver, offload and install similar or equal approved to Legrand switched disconnectors (isolators) as shown in drawing number 4087497-1-000-E-LA-0002-01. The isolators shall be installed at various heights as shown in drawing number 4087497-1-000-E-LA-0002-01.
- b) The Contractor shall design, supply, deliver and install SABS approved PVC conduits flush mounted in the wall. The PVC conduit shall be used as a wireway, linking all isolators to the distribution board. All necessary accessories such as fasteners, bends, junction boxes, adaptors, etc shall be included to ensure a safe neat link for the conduit system.
- c) The Contractor shall supply, deliver, offload and install SABS approved PVC insulated house wire for all isolator circuits as shown in drawing 4087497-1-000-E-LA-0002-01. The PVC insulated wire shall comply with Transnet specification TPD-003-CABLESPEC. The PVC insulated house wire shall be installed in conduit.

#### 4.5.5.3.6. Earthing and Lighting Protection

- a) The Contractor shall supply, deliver, offload and install an earth bar configuration system with reference to a typical schematic layout shown in drawing number 4087497-1-000-E-LA-0005-01. The earth bar configuration system shall be inclusive of but not limited to all bars, bolts, nuts, spring washer and the crimping lugs. All abrasive materials used shall be stainless steel.
- b) The Contractor shall design, supply, deliver, offload and install a suitable earthing system to Security Kiosk DB-S as shown in drawing number 4087497-1-000-E-LA-0005-01.
- c) The Contractor shall also design, supply and install a suitable earthing and lightning protection system for the Security Kiosk as shown in the typical layout provided in drawing number 4087497-1-000-E-LA-0005-01. The earthing and bonding installation shall be designed to meet the requirements of SANS 10142 and SANS 61312 and SANS 10313. The design of the lightning protection system shall conform to Transnet specification TPD: 004-EARTHINGSPEC, SANS 10142-1 and SANS 10313. The Contractor shall supply and install Aluminium earth protective bare solid conductor around the edges of the roof of the Security Kiosk. All necessary support accessories for installing this cable shall be included as part of the scope of this works. The Contractor shall also supply and install similar or equal approved to Aberdare 1-core, flexible, PVC insulated, earth protective cable down conductors as shown in drawing 4087497-1-000-E-LA-0005-01. The down conductors shall be installed in building downpipes or in recessed 50 -100mm in diameter PVC conduit. The Contractor shall furthermore provide suitable earth test points with detailed name plates as shown in drawing number 4087497-1-000-E-LA-0005-01. The test joints shall include but not limited to; a fixed

earth terminal with a 9.3kA rating for 1s and end pieces, allowing for minimum sized termination of a 35mm<sup>2</sup> single core cable.

#### 4.5.5.4. Photovoltaic (PV) System

##### 4.5.5.4.1. Distribution Board

The Contractor shall construct, supply, deliver, offload, install and commission Kiosk K in the parking area as per drawing 4087497-1-000-E-LA-0007-01. The kiosk shall be floor standing, made of 3CR12 type material with a minimum thickness of 1.6mm, Form type 1, IP65 and shall be powder coated at 40 microns as shown in drawing number 4087497-1-000-E-LA-0007-01. The Contractor shall conform to the paint colours indicated in drawing number 4087497-1-000-E-LA-0007-01. The kiosk shall be bottom cable entry to allow ease access of outgoing cables to loads.

Kiosk K shall contain the following signage:

- a) Name of the Distribution Board as indicated in drawing number 4087497-1-000-E-LA-0007-01 ("KIOSK K").
- b) Naming of the different sections of the Distribution Board.
- c) The rated Voltage level of the Distribution Board
- d) The rated Short Circuit Current in all different sections of the distribution board
- e) The rated current in different sections of the distribution board
- f) Description of circuits fed by the associated circuit breaker as indicated in drawing number 4087497-1-000-E-LA-0007-01.
- g) Full description of the type of cable (Copper PVC insulated ECC, SWA), the size in mm<sup>2</sup> of the cable terminated in the associated circuit breaker and the cable run length to the load.
- h) Danger sign in all sections of the Main Distribution board with a specific caution indication of the UPS supply section of the board.

##### 4.5.5.4.2. Photovoltaic Panel System

- a) The Contractor shall supply, deliver, offload and install 5 x equal or similar approved to Jasolar JAM72S20, 460/MR mono MBB perc half-cell silver frame MC4 photovoltaic panels. The panels shall be installed on the entrance structure, supported by suitable hot-dip galvanised (HDG) structural steel members as per drawing: 4087497-1-000-E-LA-0007-01.
- b) The Contractor shall supply, deliver, offload and install 5 x equal or similar approved to Enphase IQ7 Micro Inverter. The Contractor shall connect 1 photovoltaic panel per micro-inverter as per drawing: 4087497-1-000-E-LA-0007-01. The contractor shall supply and deliver 5 x equal or similar approved to CCG utility junction box as per drawing: 4087497-1-000-E-LA-0007-01.
- c) The Contractor shall supply, deliver, offload, install and configure an equal or similar approved to Enphase Envoy-s metered communications gateway Data Transfer Unit (DTU). The DTU shall be installed inside Kiosk K for monitoring and data storage of the PV installation. The Contractor shall install a Cat6 UTP network cable with UV protection jacket from DTU to the closest network source. The Cat6 UTP network cable shall be terminated with RJ45 male connectors.
- d) The Contractor shall supply and install a 4mm<sup>2</sup>, 2-core, ECC, PVC copper cable. The Contractor shall terminate the low voltage copper cable between the PV system compartment of Kiosk K to the first junction of the PV circuit. Thereafter the Contractor shall supply and install a 2.5mm<sup>2</sup>, 2- core, ECC, PVC copper cable to complete the PV circuit. The Contractor shall

supply, deliver and install a 20A miniature circuit breakers in Kiosk K for each circuit as per drawing: 4087497-1-000- E-LA-0007-01.

#### 4.5.5.4.3. Cables and Cableway System

The Contractor shall supply, deliver, offload and install 35mm<sup>2</sup>, 4-core, SWA, ECC, PVC insulated, low voltage copper cable. The Contractor shall terminate the low voltage copper cable between the Main Distribution Board DB-A to the PV Distribution board as shown in drawing number 4087497-1-000-E-LA-0007-01. The cables shall be installed and terminated in accordance to the cable manufacture's specifications and also in adherence to Transnet specification TPD-003- CABLESPEC. The low voltage cables shall be installed in PVC sleeves in the allocated pipe and chamber system as shown in drawing number 4087497-1-000-E-LA-0007-01.

#### 4.5.5.4.4. Earthing and Lightning Protection

The Contractor shall design, supply, install and commission a suitable earthing and bonding system as shown in drawing number 4087497-1-000-E-LA-0007-01.

#### 4.5.5.4.5. Testing and Commissioning the Entire Installation

The Contractor shall conduct a Factory Acceptance Test (FAT) for all Plant's to be installed as part of the Works to be executed in this Contract prior to delivery to site. The FAT shall be conducted in the presence of the *Employer's Engineer*. The legal transfer of ownership from the Plant's supplier to the Contractor shall be held by the Contractor until the Plant is fully installed, tested commissioned on the *Employer's* designated site.

The Contractor shall conduct a Site Acceptance Test (SAT) for all Plant's supplied, offloaded and delivered to the designated *Employer's* site. The SAT shall be conducted in the presence of the *Employer's Engineer*. The legal transfer of ownership from the Plant's supplier to the Contractor shall be held by the Contractor until the Plant is fully installed, tested commissioned on the *Employer's* designated site.

The Contractor shall test the entire installation, including but not limited to the LV installation and the lighting installation as per SANS 10142, part 1 and 2 and hand over all relevant test certificates to the *Employers Project Manager* for acceptance. The Contractor shall hand over the LV certificate of compliance as per the OHS Act of 85 and SANS 10142-1 and SANS1042-2 for the installation.

The Contractor shall test and commission the entire Earthing and Lightning protection system as per Transnet Specification TPD-004-EARTHINGSPEC, SANS 10142-1 and SANS 10313 in the presence of the *Employer's Engineer*. The Contractor shall handover all test certificates to the *Employer's Project Manager* for acceptance by the *Employer's Engineer*.

## 4.6 ICT Infrastructure

### 4.6.1 Description of the Works

#### 4.6.1.1 Executive overview

The Employer seeks to acquire the services of a suitably qualified and resourced Multidisciplinary Engineering Contractor to undertake project execution work and all engineering related activities,

procure all material and equipment and execute the Works. The Works must be in accordance with Employers designs.

As part of the Works Informations, the *Contractor* is to perform all *Works* related to provision of ICT Infrastructure comprising of Transnet Local area network wired and wireless connectivity infrastructure, LAN connection infrastructure for the electronic security technologies as well as boardroom video conferencing and booking technologies provided by *Others* on the existing Old Action Cricket building.

This document shall be read in conjunction with the issued *Works* information, drawings, and specifications.

#### 4.6.1.2 Scope

The scope for the *Contractor* includes but is not limited to finalising the design drawings to 100% then carry out the supply, installation, construction, integration, testing and commissioning of equipment and associated infrastructure for the ICT and Electronic Security LAN networks to be provided in the following areas of the Port.

- a. Provision for boardroom Video/Voice teleconferencing and communication technology consisting of:
  - Boardroom wired and wireless LAN infrastructure
- b. Existing Old Action Cricket Building:
  - ICT and Security System LAN infrastructure which consists of wired network points as per the drawing layouts
  - Performing Wi-Fi Site Surveys and providing Wi-Fi access points for areas as indicated o the floor layouts
  - All necessary ICT network infrastructure including cabinets, switching technology and cabling (fibre and copper), etc.
  - All necessary network switches and fibre optic cabling for Electronic Security system which are provided by *Others*.
  - Integration of all the infrastructure to the Transnet corporate and security networks

#### 4.6.2 General Requirements

The *Contractor* will be required to interface with all other *Contractors* to ensure the successful integration of ICT and Security system infrastructure and communication.

In addition to the above area specific requirements, the *Contractor* shall further cover the following requirements as part of Scope.

##### a. Power Supplies

All ICT infrastructure and provision of boardroom technology socket outlets shall be supplied power via a UPS power supply (UPS will be provided by the Electrical *Contractor*).

##### b. Cabling and Cable Management Systems

All required electrical, communication cabling and wiring for the ICT infrastructure and provision boardroom technology socket outlets shall form part of the *Works*. All cables and wires shall be of the fire resistant, self-extinguishing low toxic-emission type, irrespective of whether they are for power or communication/data supply provision.

Cable management system comprising of cable trays, skirting will be provided by *Others* on the Project. Only conduits pipes and flexible PVC pipes where required shall form part of scope for the *Contractor*. The *Contractor* shall make his/her own assessment together with the *Employer's* engineers to confirm the installation against the scope. Where discrepancies are identified, *Contractor* will then make provision for installation.

c. Handover documentation

*Contractor* to provide handover documentation files including all design, testing and as-built documentation and drawings as required in the technical specification.

#### 4.6.3 Employer's Design

##### 4.6.3.1 The *Employer's* design for the *Works* is:

All preliminary design work, for all permanent *Works* associated with this contract, is done by the *Employer*, this excludes all detailed designs and sections of the permanent *Works* specifically marked on the drawings, or described in the *Works* Information or Specifications thereto, as 'to be determined by' or 'to be designed by' the *Contractor*.

The *Employer's* design for the *Works* is contained in:

- a. Drawings
- b. Technical Specifications
- c. *Works* Information

The relevant construction specifications are listed ICT Specification. The tender drawings are listed this document under section 8. These documents have to be read in conjunction with the Bill of Quantities or activity schedule.

The *Employer* grants the *Contractor* a licence to use the design data presented to the *Contractor* for the purpose of the *Works* ONLY.

**Note:** The *Contractor*, as an expert in his/her respective field, is therefore required to review the designs and advise on their appropriateness to the challenge he/she must provide a solution.

#### 4.6.4 Parts of the *Works* which the *Contractor* is to design

##### 4.6.4.1 Permanent *Works*

The *Contractor* shall be responsible for the final engineering solution and all detailed designs of the *Works*, including overall integration of the *Works* with those of *Others* and existing infrastructure in compliance with the *Employer's* specifications. The *Contractor* shall carry finalise the detailed design, procure required infrastructure, installation, and commissioning of the ICT Infrastructure for all the areas in scope.

The *Contractor* is required to submit all system designs and associated information to the *Employer* for review prior to procuring the systems equipment, this includes but is not limited to the following deliverables:

- a. Redlines of Floor plans showing the final wired and wireless access points layout and cable routing

- b. Redlines of *Employer's* network layout drawings
- c. Indoor panel Layout drawings
- d. Equipment lists
- e. Equipment data sheets
- f. Cable Schedules
- g. Patching and IP address schedule
- h. Product specific specification for boardroom automation technology
- i. Method statements (where required by the technical specification)
- j. Drawing Register
- k. Document Register

#### 4.7 Access Control and CCTV Surveillance

The Works of the Contractor is to perform involves the completion of all outstanding scope (Design and Build) in relation to access control and CCTV surveillance as to be identified on-site by the successful service provider to ensure full functionality of the related infrastructure in the building.

This includes (but is not limited to):

- a) Design, Supply, Deliver, Install, Test and Commission - Access control system and all related required infrastructure
- b) Design, Supply, Deliver, Install, Test and Commission - CCTV Surveillance system and all related required infrastructure
- c) Design, Supply, Deliver, Install, Test and Commission – Public Address System and all related required infrastructure

The Works of the Contractor is to perform all work related to CCTV and Access Control Systems in the Accommodation located at the Port of Richards Bay site.

The Contractor shall be responsible for the interface to the existing security network and infrastructure.

##### 4.7.1 Scope

The Employer seeks to acquire the services of a suitably qualified and resourced Multidisciplinary Engineering Contractor to undertake project execution work and all engineering related activities, procure all material and equipment and execute the Works. The Works must be in accordance with Employer's designs

##### a) Accommodation Building

###### 1. Access Control

- 1.1. Waist-high turnstile, include waist-high paraplegic gate complete with biometric readers and break glass unit for the main entrance
- 1.2. Maglocks, biometric readers and BGUs for all critical areas as indicated on drawings

- 1.3. Equal or similar approved to XMP K32 door controllers
- 1.4. Door monitors and magnetic locks for emergency exits

## 2. CCTV Surveillance

### 2.1. Installation of surveillance cameras.

- a. Design a route for cabling of surveillance cameras
- b. Indoor/outdoor, ceiling/wall mounted PoE fixed HD dome camera units with built-in motion detection
- c. Dome cameras shall be used for indoor monitoring or where covert monitoring is required
- d. Fixed box or bullet cameras shall be used to monitor outdoor areas
- e. Fixed position and fixed focus cameras shall be used where a specific risk has been identified.
- f. PTZ cameras shall be used outdoor to monitor busy areas or to give a general overview of the site.
- g. PoE Network switch(es), onto which CCTV cameras connect directly via CAT 6A STP cabling.

## 3. Public address

- 3.1. Design, supply, and installation of public address system
- 3.2. Main controller and amplifier shall be installed in a cabinet or rack in the admin building
- 3.3. All equipment shall be neatly and professionally labelled using Traffolyte or equivalent approved labelling.
- 3.4. All outdoor equipment shall be IP66 rated, or at least installed in a field enclosure that complies

The Contractor shall read the works information in conjunction with the security systems technical specification, drawings, and other referenced documents.

Contractor shall integrate all these new systems to the existing systems for monitoring and control by the Client.

### 4.7.2 Employer's objectives

The *Employer's* main objectives are to:

- Ensure restricted/controlled access to the building's main entrance
- Provide fully functional access control systems to all critical areas
- Provide fully functional surveillance systems to areas as indicated on drawings.
- Eliminate existing risks that the Port is currently faced with due to lack of proper security infrastructure.
- Upgrade Port infrastructure to modern and acceptable standards.

This is to be achieved by providing all the outstanding scope and incorporating it with the completed/existing access control, security infrastructure and systems in the building

As part the objectives, the Employer aims to achieve the Completion of the Works whilst maintaining the highest quality and safety standards, minimising disruptions to ongoing Port operations, and to carry out the Works in line with their overarching sustainability objectives.

Emphasis is placed on the *Employer's* commitment to environmental management and safety and their objectives of "Zero Harm", of achieving a zero LTI and a zero environmental legal contravention construction contract.

Furthermore, it is emphasised that the *Works* fall within an environmentally sensitive and protected zone and as such, it is the *Employer's* objective to ensure full compliance with the guidelines and recommendations of the Department of Environmental Affairs Environmental Authorisation, Transnet's Construction Environmental Management Plan, Standard Environmental Specifications and all Permits and Licenses authorised by the relevant Authorities.

#### 4.7.3 Employer's design

##### 4.7.3.1 The *Employer's* design for the *Works* is:

All preliminary design work, for all permanent *Works* associated with this contract, is done by the *Employer*, this excludes all detailed designs and sections of the permanent *Works* specifically marked on the drawings, or described in the *Works* Information or Specifications thereto, as 'to be determined by' or 'to be designed by' the *Contractor*.

The *Employer's* design for the *Works* is contained in:

- Layout drawings
- Technical Specifications
- *Works* Information

##### 4.7.3.2 The *Employer* grants the *Contractor* a licence to use the copyright in design data presented to the *Contractor* for the purpose of the *works* (and the *Contractor's* obligation under paragraph 2.2 of the *Employer's* *Works* Information) ONLY.

**Note:** The *Contractor*, as an expert in his/her respective field, is therefore required to review the designs and advise on their appropriateness to the challenge he/she must provide a solution.

#### 4.7.4 CCTV and Access Control Systems works

All installation, testing and termination must be approved by the Employers Engineer prior to commissioning.

#### 4.7.5 Codes of Practice

|                  |                                                                                                                                                        |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| SANS 10222-5-1-1 | Electrical security installations Part 5: CCTV Installations – CCTV surveillance systems for use in security applications – Operational requirements   |
| SANS 10222-5-1-2 | Electrical security installations Part 5: CCTV Installations – CCTV surveillance systems for use in security applications – System design requirements |
| SANS 10222-5-1-3 | Electrical security installations Part 5: CCTV Installations – CCTV surveillance systems for                                                           |

|                  |  |                                                                                                                                                                               |
|------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  |  | use in security applications – Installation, planning and implementation requirements                                                                                         |
| SANS 10222-5-1-4 |  | Electrical security installations Part 5: CCTV Installations – CCTV surveillance systems for use in security applications – Testing, commissioning and hand-over requirements |
| SANS 10222-5-1-5 |  | Electrical security installations Part 5: CCTV Installations – CCTV surveillance systems for use in security applications – Maintenance requirements                          |
| SANS 10222-5-2   |  | Electrical security installations Part 5-2: CCTV Installations – Applications guidelines                                                                                      |

#### 4.8 List of Drawings

| Drawing No.                         | Rev. | Description                         |
|-------------------------------------|------|-------------------------------------|
| 4087497-6-000-A-LA-0001-02-01-00-TD | 0A   | Floor Plan layout                   |
| 4087497-6-000-A-LA-0002-02-01-00-TD | 0A   | Elevations & Sections               |
| 4087497-6-000-A-LA-0003-02-01-00-TD | 0A   | Ceiling layout                      |
| 4087497-6-000-A-LA-0004-02-01-00-TD | 0A   | Furniture layout plan               |
| 4087497-6-000-A-LA-0005-02-01-00-TD | 0A   | Entrance canopy & security building |
| 4087497-6-000-A-LA-0006-02-01-00-TD | 0A   | Carport                             |
| 4087497-6-000-A-GA-0001-02-01-00-TD | 0A   | Demolition layout                   |
| 4087497-6-000-A-SC-0001-02-01-00-TD | 0A   | Sanitary & Finishes schedule        |
| 4087497-6-000-A-SC-0002-02-01-00-TD | 0A   | Door & Window schedule              |
| 4087497-6-000-A-SC-0003-02-01-00-TD | 0A   | Shopfront & Partition schedule      |

|                                     |    |                                                                                     |
|-------------------------------------|----|-------------------------------------------------------------------------------------|
| 4087497-6-000-A-DE-0001-02-01-00-TD | 0A | Kitchen & Ablution details                                                          |
| 4087497-6-000-A-DE-0002-02-01-00-TD | 0A | Timber screen details                                                               |
| 4087497-6-000-A-DE-0003-02-01-00-TD | 0A | Kitchen details                                                                     |
|                                     |    |                                                                                     |
| 4087497-6-000-S-LA-0001-01          | 01 | Layouts & Details                                                                   |
| 4087497-6-000-S-LA-0002-01          | 01 | Entrance Canopy Section & Details                                                   |
| 4087497-6-000-S-LA-0003-01          | 01 | Generator Canopy<br>Structural Layouts, Sections & Details                          |
| 4087497-6-000-S-LA-0004-01          | 01 | Security Kiosk<br>Structural Layouts and Sections (Foundation, Surface Slab & Roof) |
| 4087497-6-000-S-LA-0005-01          | 01 | Concrete Apron and Ramp Structural Layouts and Details                              |
| 4087497-6-000-S-LA-0006-01          | 01 | Attenuation Tank<br>Structural Layouts and Sections (Base Slab & Roof)              |
|                                     |    |                                                                                     |
| 4087497-6-000-C-LA-0001-01          | 01 | General arrangement                                                                 |
| 4087497-6-000-C-LA-0001-02          | 01 | Road marking and setting out layout                                                 |
| 4087497-6-000-C-LA-0001-03          | 01 | Combined services layout                                                            |
| 4087497-6-000-C-LA-0001-04          | 01 | Sewer layout, long section and conservancy tank details                             |
| 4087497-6-000-C-DE-0001-01          | 01 | Stormwater grid inlet and long sections                                             |
| 4087497-6-000-C-DE-0001-02          | 01 | Stormwater manhole details – Type SD2                                               |
| 4087497-6-000-C-DE-0001-03          | 01 | Sewer manhole and water details                                                     |
|                                     |    |                                                                                     |

|                            |    |                                                               |
|----------------------------|----|---------------------------------------------------------------|
| 4087497-6-000-M-LA-0006-01 | 0B | Office Relocation Air Conditioning Layout                     |
| 4087497-6-000-M-LA-0002-01 | 0B | Office Relocation Controllers                                 |
| 4087497-6-000-M-LA-0003-01 | 0B | Office Relocation Air Conditioning and Ventilation Elevations |
| 4087497-6-000-M-LA-0004-01 | 0B | Office Relocation Air Conditioning and Ventilation Layout     |
| 4087497-6-000-M-LA-0005-01 | 0B | Office Relocation Ventilation Layout                          |
| 4087497-6-000-M-LA-0007-01 | 0  | Emergency Evacuation Plan                                     |
| 4087497-6-000-M-LA-0007-01 | 0  | Fire Detection Upper Section Layout                           |
| 4087497-6-000-M-LA-0009-01 | 0  | Fire Suppression Layout<br>Main Building                      |
| 4087497-6-000-M-LA-0010-01 | 0  | Fire Sprinkler System Layout<br>Lower Level                   |
| 4087497-6-000-M-LA-0011-01 | 0  | Water Reticulation Layout<br>Main Building                    |
| 4087497-6-000-M-LA-0012-01 | 0  | Fire Detection Lower-Level Layout                             |
| 4087497-6-000-M-LA-0013-01 | 0  | Fire Suppression Layout<br>Guard House                        |
| 4087497-6-000-M-LA-0014-01 | 0  | Fire Sprinkler System Layout – Upper Level                    |
| 4087497-6-000-M-LA-0015-01 | 0  | Water Reticulation Layout                                     |
| 4087497-1-000-E-LA-0001-01 | 0B | Lighting Layout                                               |
| 4087497-1-000-E-LA-0002-01 | 0B | Power Layout                                                  |
| 4087497-1-000-E-LA-0003-01 | 0B | Distribution Board Layout                                     |
| 4087497-1-000-E-LA-0004-01 | 0B | Sleeve and Power Layout                                       |
| 4087497-1-000-E-LA-0005-01 | 0B | Lightning Protection Layout                                   |
| 4087497-1-000-E-LA-0006-01 | 0B | Electrical Site Plan Layout                                   |
| 4087497-1-000-E-LA-0007-01 | 0B | Carport Photovoltaic Installation                             |

|                            |    |                                      |
|----------------------------|----|--------------------------------------|
| 4087497-1-000-E-LA-0008-01 | 0B | Parking and Entrance Lighting Layout |
|----------------------------|----|--------------------------------------|

## SECTION 2

### 5 Management and start up

#### 5.1 Management meetings

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:                                                                                                    |
|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Contract Management (overall contract progress and feedback, including risk register and compensation events) | Every 2 weeks                                           | TRANSNET Richardsbay offices          | CM, <i>Project Manager</i> , Supervisor, Contractor's <i>Project Manager</i> , Project Team, Contractor's Planner |
| SHE meetings                                                                                                  | Monthly                                                 | MS Teams                              | CSHEO, CM, <i>Project Manager</i> , SHEC, ProjEM, Contractor's <i>Project Manager</i> , Project Team              |
| Safety Action Meetings                                                                                        | Weekly                                                  | On-Site                               | CM, <i>Project Manager</i> , HSR, Contractor's <i>Project Manager</i> , Project Team                              |
| SHE Pre-mobilisation Meeting                                                                                  | Within 1 week prior to site establishment by Contractor | On-Site/ TRANSNET Richardsbay offices | CM, <i>Project Manager</i> , HSR, EO, ProjEM, CSHEO, Contractor's <i>Project Manager</i>                          |
| Stakeholder Engagement Meetings                                                                               | Monthly                                                 | TRANSNET Richardsbay office           | Client, CM, <i>Project Manager</i> , HSR, Contractor's <i>Project Manager</i> , Project Team                      |

Meetings of a specialist nature may be convened as specified elsewhere in this Works Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the

progress of the works. Records of these meetings are to be submitted to the *Project Manager* by the person convening the meeting within five days of the meeting.

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

## 5.2 Documentation Control

- 5.2.1 The Project Management Office filing system will be utilized for the control of all relevant documentation. All documents will be delivered via document control with a proof of transmittal. Copies of all correspondence, specifications and drawings, contracts and agreements, data sheets, minutes of meetings, *Employers* agent instructions, invoices and payment certificates, access certificates, quality, and any variations, (compensation events or project change notices) will be filed and archived in the project folder by the Doc Controller. A document register will also be developed to capture incoming and outgoing documents. All documents issued to 3rd Party contractors and to the *Employer* must be submitted through the *Employer's* Document Control Department.
- 5.2.2 The final documentation to be handed to TNPA which will be the property of TNPA is the designs, costings, specifications, drawings, tender documentation, and the feasibility study report. The documentation will be supplied in hard copy 2 of, in PDF format 2 CD's and in native electronic format 2 CD's.
- 5.2.3 The *Contractor* is to ensure that the latest versions of the required application software and a suitable 'IT' Infrastructure are in place to support the electronic transmission of documentation
- 5.2.4 The control, maintenance and handling of these documents will be the *Contractor's* sole responsibility and at its expense and managed with a suitable document control system. The Contractor Documentation Register should be submitted; Document Control will allocate the *Employer's* documentation numbers on the Contractor Documentation Register and return it to the *Contractor*.
- 5.2.5 A unique sequence number will be allocated to each document and remains the same for each submittal of that specific document. The *Contractor* shall use the *Employer's* document numbers and titles exactly as per the Contractor Documentation Register on all documentation submitted. Electronic file names for all documentation shall be exactly as per the *Employer's* documentation numbers, including the revision numbers. The format of these documents shall be in native format and/or PDF format and will be discussed at the kick-off meeting.
- 5.2.6 Each Supplier of documentation and data to the Project is responsible for ensuring that all documentation and data submitted conforms to the Project Standards and Data Quality requirements in terms of numbering, uniqueness, quality, accuracy, format, completeness and currency of information. Data not meeting the Project Standards and Data Quality requirements will be cause for rejection and returned to the Contractor for corrective action and

re-submission. Should any change be made to documentation already submitted, then a revised document shall be issued to replace the outdated information.

5.2.7 The *Contractor* is to ensure that the latest versions of the required application software and a suitable 'IT' Infrastructure is in place to support the electronic transmission of documentation. Electronic files submitted to the Project shall be clear of known viruses and extraneous "macros". The Supplier of documentation is required to have, at all times, the latest generation of virus protection software and up-to-date virus definitions.

5.2.8 The *Contractor* shall be responsible for the supply of all Sub-Supplier / Contractor Manufacturer, etc documentation and data related to their package of work and shall ensure that these Sub-Suppliers have the capability to supply the necessary documentation and data in the required time frame and quality as outlined in the specified standards prior to awarding sub-orders.

5.2.9 Ownership of data, designs and documents – The parties agree that copyright in the data, design and documents shall, after payments by the *Employer* of the services to the *Contractor*, lie with the *Employer* subject to the *Employer's* indemnification against any claim from any party that may arise as a result of the *Employer's* use of such a document due to the *Contractor's* infringement of copyright.

5.2.10 All documents issued to 3rd party contractor and the *Employer* should be submitted through the EPCM Contractor's document control department. Any contractual communication between TRANSNET and the contractors shall be issued by the *Contractor* on behalf of TRANSNET. These communications shall be similarly recorded through the Contractor's document control department.

5.2.11 The documentation to be submitted for review shall be submitted on or before the dates specified on the Documentation Register under cover of the Contractor's Transmittal Note, and the Transmittal Note must state the purpose of the submission. Documentation for different purposes must be sent on separate transmittals. The *Contractor* shall note that documentation will be rejected if this requirement is not met.

5.2.12 Acceptance of documentation by the *Project Manager* will in no way relieve the *Contractor* of his responsibility for the correctness of information, or conformance with his obligation to provide the Works. This obligation rests solely with the *Contractor*.

5.2.13 After review, a copy of the original reviewed/marked-up drawing/document, with the *Project Manager's* consolidated comments and document status marked on the *Contractor Review Label*, is scanned and the hard copy shall be returned to the *Contractor* under cover of the *Project Manager's* Transmittal Note for revision or re-submittal as instructed.

5.2.14 **The code resulting from the review is as follows, i.e.: -**

Code C1 - "Proceed, No Exception Taken"

Code C2 – "Proceed, with Exceptions as Noted, Revise and Resubmit"

Code C3 – "Do Not Proceed, Revise as Noted and Resubmit"

Code C4 – “Information Only – Accepted as Submitted”

Code C5 (FN) – “Certified Final – No Further Submittal Required”

Code C6 (AB) – “Certified As-Built - No Further Submittal Required”

5.2.15 The *Contractor* shall allow the *Project Manager* 2 weeks to review and respond to the *Contractor's* submission of the documentation, i.e., from time of receipt to the time of dispatch. However, work shall proceed without delay in the event of the late return of the documentation by the *Project Manager* with prior notification in writing by the *Contractor*.

5.2.16 On receipt of the reviewed documentation the *Contractor* shall make any modifications requested/marked-up and resubmit the revised documentation to the *Project Manager* within 2 weeks. Queries regarding comments/changes should be addressed with the *Project Manager* prior to resubmittal.

5.2.17 All revised data shall be submitted by the *Contractor* in its entirety and shall reflect the revision control numbers and shall also indicate with documentation the revised documentation supersedes, if applicable. In the case of drawings every sheet has its own revision number and is revised as an individual document. In the case of the documents all sheets under cover of one document number shall be under the same revision number and be resubmitted, even if the revision is a minor one.

5.2.18 Upon completion of Contract Documentation Close-out checklist/criteria the *Project Manager* shall make arrangements for formal Hand-over. Hand-over shall be conducted as per the agreed and approved handover plan. In the event that no such plan exists the *Project Manager* shall formulate the hand-over criteria and the set of documentation required for such Hand-over. During the hand-over/ submission the *Contractor* shall submit: 2 x hard copies and Electronic version to document control or the *Projects Manager*.

Changes of any form to the scope shall follow the Change Management Process and be correctly communicated (through the project communication plan/process) to all disciplines and documented. All changes to the project shall be reviewed and evaluated for their impact to the project.

### 5.3 Safety Risk Management

#### 5.3.1 The **Employer** has a strict Health and Safety policy.

Under the policy, the following apply:

- a) The *Contractor's* attention is directed to the TNPA SHE Specification for Construction, and in particular to his Health & Safety Management Plan, which must be submitted with his tender, as well as the requirements of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) as amended and Regulations issued in terms thereof or un-repealed regulations issued in terms of the former Act no. 6 of 1983, in their entirety.

- b) The *Contractor* makes available and ensures compliance to the TNPA SHE Specification for Construction by its employees and Subcontractors in the language of this contract.
- c) The *Contractor* employs his own health and safety coordinator to ensure compliance with both TNPA SHE Specification for Construction and the Occupational Health & Safety Act and its latest regulations.
- d) The *Contractor* shall provide a Health & Safety Management Plan addressing the requirements in the TNPA SHE specification and a Baseline Risk Assessment addressing the construction activities. The *Project Manager* has the right to request additional specific work method statements should, in his opinion, this be required.
- e) The compliance with all applicable legislation, regulations issued in terms thereof, and TNPA safety rules, shall be entirely at the *Contractor's* cost, and shall be deemed to be allowed for in the tendered prices.
- f) Without derogating from the Act or any un-repealed regulations issued in terms of legislation, or without purporting to limit the *Contractor's* responsibilities, the following are brought to the *Contractor's* attention:
- The *Contractor* shall appoint a Health and Safety coordinator to liaise at least fortnightly with the *Project Manager* or *Supervisor* on matters pertaining to occupational health and safety.
  - The *Contractor* shall advise the *Project Manager* of any hazardous, or potentially hazardous situation, which may arise from work being performed either by the *Contractor* or Sub-Contractor.
  - A letter of good standing in terms of Section 80 (*Employer* to register with the Compensation Commissioner) of the Compensation for Occupational Injuries and Deceases Act 1993 (Act 130 of 1993) must also be furnished.
  - All clauses in this contract pertaining to health and safety form an integral part of this contract, and any non-compliance therewith may be construed as breach of contract entitling the *Employer* to the appropriate remedies.
  - The *Contractor* and his staff shall attend a compulsory induction course to be arranged by the *Project Manager* on or before the date when the site is made available to the *Contractor*.
- g) The *Contractor's* appointed Site Representative and the *Project Manager* shall finalise a site-specific HIRA (Hazard Identification and Risk Assessment) document, on the day of site handover to the *Contractor*. This site-specific HIRA document, based on a continuous HIRA, must cover site-specific hazards and the safe management of these hazards. The HIRA document must be signed by the above-mentioned representatives as well as the *Supervisor*, and be approved by the *Project Manager*, before any construction work can commence.
- h) The OHS Act 85 of 1993 clearly states in the Safety Regulations Clause No. 2A:

“INTOXICATION” An *employer* or user, as the case may be, shall not permit any person who

appears to be under the influence of intoxicating liquor or drugs, to enter or remain at a workplace”. The *Employer* enforces this legislation by means of its Substance Abuse Policy, and therefore reserves the right to do substance abuse testing on anyone who enters his premises

- i) The *Contractor* shall ensure that a suitably qualified safety representative is appointed, and monthly safety meetings are held. Written minutes of these safety meetings shall be forwarded to the *Project Manager*. All costs related to the safety aspects required under this contract will be carried by the Contractor and therefore be covered under the rates tendered

### 5.3.2 Site Supervision

The *Contractor* shall comply with OH&S Act – Section 8, 9, 13 and 16 and the Construction Regulations 2014.

The *Contractor* must nominate and appoint a responsible person on site to whom the *Project Manager* may refer in connection with the Works. Persons are nominated for all shifts worked or whilst any activity relating to the Contract is being performed on site and must have the authority to bind the Contractor with respect to the Contract. (OH&S Act - 16 Sections (2)).

The *Contractor* must ensure that the performance of all specified Works is supervised throughout by a sufficient number of qualified and competent appointed representatives of the Contractor, who have experience in the type of work specified. (OH&S Act – Construction Reg. 8 (1) and 8 (2.)) The *supervisor* must have legal liability training, HIRA and construction safety training e.g IRCON.

Note: No work may commence and or continue without supervisory Appointees present on site. The *Contractor's Site Supervisor* must be equipped with a mobile telephone with message bank and/or pager or an equivalent communication device so that communication throughout the Contract can be maintained at all times.

The *Contractor's Site Supervisor* must provide a list of names and contact telephone numbers of all *Contractors* and Sub-Contractor's contact persons on Site. This list is updated as a new *Contractor* or Sub-Contractor employee commences on Site.

The *Contractor's Site Supervisor* must keep a record of all employees, including date of induction, relevant skills and licences, and be able to produce this list at the request of the *Supervisor*.

The *Contractor's Site Supervisor* must complete manning sheets describing the day's activities, labour numbers and classifications and issue these to the *Supervisor* prior to 9.00 am on a daily basis.

The *Project Manager's Site Safety Representative* is notified of any new starter with evidence of induction and site specific induction prior to commencement of work.

### 5.3.3 Contractor's Health and Safety Manager

The *Contractor* Health and Safety Manager specific tasks are

- Design the health and safety management systems specific to the need of the project, organisational and specific construction project management system.
- Facilitate and coordinate the preparation of a site specific construction health and safety plan.

- Manage the process for the assessments and approval of sub-contractors health and safety plan in line to the Client requirements.
- Facilitate monthly health and safety meetings.
- Ensure identification of the hazards and risks relevant to the construction project through regular coordinated site inspections.
- Attend and participate in all project meetings
- Use of trends analysis to identify systems deficiencies and incident trends, outline relevant improvements
- Manage the necessary changes to the health and safety plans
- Manage the reporting and investigation of project related incidents
- Manage and maintain health and safety and communication structures and systems, distribution of health and safety specific documents to contractors
- Monitor, measure and report on health and safety system performance through facilitating compliance health and safety audits
- Analysing of audit results and trends to ensure continual improvement
- Evaluate the levels of compliance of contractors to the project health and safety plan and TRANSNET site specific health and safety specifications.
- Manage and evaluate processes for reporting of non-compliance issues and implementation of identified appropriate corrective and preventative action
- Manage site health and safety during defects liability period
- Prepare a health and safety close-out report as per Client requirements

Health and Safety Manager must register with SACPCMP to be allowed to practise construction safety in TRANSNET managed projects.

Before placing a Health and Safety Manager on the project site(s), the *Contractor* must forward a copy of the person's CV and proof of registration with SACPCMP to the nominated project management representative or to the TRANSNET Stream Health and Safety Manager for review and acceptance. A proposed candidate may be rejected should he/she not meet the experience and / or qualification requirements, or due to poor work performance on previous projects.

#### 5.3.4 **Contractor's Safety Officer**

The *Contractor* must appoint a full-time Health and Safety Officer for the duration of the contract that is registered with the SACPCMP (The South African Council for Project Construction Management Professions). If more than 100 employees are deployed on the project site(s) (directly or through sub-contractors), at least two full-time Health and Safety Officers must be appointed, with an additional Health and Safety Officer appointed for every 100 additional employees thereafter.

The Health and Safety Officer must be on site when work commences at the start of the day and must remain on site until all activities for that day (including the activities of sub-contractors) have been completed. A Health and Safety Officer must be present during all shifts, so if work is carried out over more than one shift per day, the *Contractor* must make provision for an additional Health and Safety Officer.

Each *Contractor* Health and Safety Officer shall be responsible for:

- Reviewing all applicable legal and project health and safety requirements and providing guidance to *Contractor* and sub-contractor personnel (particularly the Contractor's Project Manager) to help ensure compliance at all times;
- Assisting with the implementation of effective hazard identification and risk management processes for all work to be carried out by the *Contractor*.
- Participating in the Baseline Risk Assessment for the Contractor's Works Information (prior to site establishment) and ensuring that identified control measures are implemented;
- Participating in all Task-Based Risk Assessments conducted for the work to be carried out by the Contractor and ensuring that identified control measures are implemented;
- Conducting Contractor health and safety induction training for all Contractor and sub-contractor personnel;
- Compiling and maintaining all health and safety related documents and records required of the *Contractor*;
- Communicating relevant health and safety information to Contractor and sub-contractor personnel (e.g. incidents and lessons learnt, leading practices, hazards, risks and control measures, etc.);
- Evaluating (on a daily basis) the content of the Daily Safe Task Instructions (DSTI's) conducted by the contractor's appointed supervisors, and attending at least one DSTI each day;
- Attending monthly Contractor and Site Health and Safety Meetings;
- Assisting with the implementation of the contractor's Health and Safety Management Plan and associated Safe Work Procedures;
- Carrying out Planned Task Observations on an ad hoc basis;
- Assisting with the implementation, testing and maintenance of an effective Emergency Response Plan for all Contractor and sub-contractor activities;
- Responding to workplace incidents (as appropriate);
- Participating in incident investigations;
- Maintaining accurate health and safety statistics (for the Contractor and all sub-contractors), and compiling health and safety performance reports as required;
- Auditing the health and safety management system and workplace activities of the Contractor and each sub-contractor on a monthly basis to assess compliance with the project health and safety requirements; and
- Tracking and reporting on the implementation of corrective actions (arising from incident investigations, audits, inspections, etc.).
- The Contractor must ensure that they have made adequate provision of safety officers as per the works information works packages i.e (construction of mechanical and electrical works) Health and Safety Officer is adequately equipped to enable him to perform his duties effectively. Each Health and Safety Officer must be provided with the following:
  - A computer with access to all necessary systems, including access to e-mail and the internet;
  - A mobile telephone on contract or with adequate pre-paid airtime; and
  - A vehicle where required or instructed by a nominated project management representative (depending on the size and location of the project site(s)).
  - A Health and Safety Officer must be computer literate, fluent in English, and must have the following minimum qualifications, training and experience:
  - At least 5 years' experience as a Health and Safety Officer on construction projects;

- SAMTRAC or an equivalent training course as a minimum qualification;
- Experience and appropriate training with regard to implementing and maintaining a health and safety management system compliant with national legislation or an international standard;
- Experience and appropriate training with regard to construction related hazard identification and risk management processes;
- Competence, experience and relevant training with regard to incident investigation procedures and causation analysis;
- Health and safety auditing experience and training;
- A valid First Aid certificate of competency;
- Fire prevention and protection training; and
- A valid Driving Licence (light motor vehicle).

Registered as a Health and Safety Officer or Health and Safety Manager with SACPCMP depending on the size of the project and on the risk.

Before placing a Health and Safety Officer on the project site(s), the *Contractor* must forward a copy of the person's CV and proof of registration with SACPCMP to the nominated project management representative or to the Programme Health and Safety manager for review and acceptance. A proposed candidate may be rejected should he not meet the experience and/or qualification requirements, or due to poor work performance on previous projects.

#### 5.3.5 **Contractor's Safety File**

The *Contractor* must provide a hard copy of its safety file, policies and procedures to the *Project Manager* for acceptance prior to the commencement of any site work. The *Contractor* must ensure that his personnel, at all times, strictly observe and comply with the procedures set out therein. The *Project Manager* or the *Project Manager's* nominated Representative may from time to time request safety procedures applicable to the area of operations. The *Contractor* must forward to the *Project Manager* any updates or revisions to its safety file, policies or procedures as soon as practicable following revision or update.

The *Project Manager* may require the *Contractor* from time to time to supplement its safety file, policies and procedures with guidelines and/or operating standards provided to the *Contractor* by the *Project Manager*. The *Contractor* must comply with such requests where the request is consistent with the requirements of the Contract. The *Contractor* must give prompt written notice to the *Project Manager* of any objection to the requested supplement, including the reasons for objection. The *Project Manager's* rights under this Clause are not intended, and must not be construed, to relieve the *Contractor* from any obligations to ensure compliance with all provisions of this Contract.

#### 5.3.6 **Performance Measurement and Reporting**

##### a) Health and Safety Statistics

The *Contractor* and each of its Sub-contractors must complete and submit Health and Safety statistics to the *Project Manager* or the *Project Manager's* nominated representative, or as amended by the *Project Manager*, before mid-day on the Friday of each week. The *Contractor* must submit monthly Health & Safety Statistics before mid-day on the last day of each month to the *Project Manager's* H&S nominated representative.

##### b) Safety Management Records

The *Contractor* must submit to the *Project Manager* for acceptance a schedule of the specific Health and Safety records it intends to maintain for the Contract. As a minimum, such records are as specified by applicable legislation. Copies are provided to the *Project Manager* or the *Project Manager's* nominated Representative if requested.

c) Field Technical/Safety Audit by the *Project Manager*

The *Project Manager* or the *Project Manager's* nominated Representative has the right to conduct audits/inspections of the Consultant, Professional Service Provider (PSP) and *Contractor* Safety Management Plan implementation, operations, equipment, emergency procedures, etc., at any time, and the *Contractor* must fully cooperate with the *Project Manager* or the *Project Manager's* nominated Representative during such audits/inspections. The *Project Manager's* rights under this clause does not, must not and will not relieve the Consultant, Professional Service Provider (PSP) and *Contractor* of its own obligations to conduct audits and reviews of its own Health and Safety performance.

Where such audits/inspections reveal deficiencies in the *Contractor* procedures, drills, training or equipment, or non-conformities with the *Contractor* accepted project Safety Management Plan, minor nature, the *Contractor* must investigate the cause of the nonconformity and initiate corrective and preventive action to rectify such deficiencies and non-conformities and prevent recurrence as soon as practicable.

Where such audits/inspections reveal deficiencies of a major nature the *Contractor* must stop work on the operation/activity concerned, immediately investigate the cause of the nonconformity, and initiate corrective actions to rectify such deficiencies and non-conformities and to prevent recurrence. These corrective action plans are submitted to the *Project Manager* for review and comment within 24 hours of the audit finding.

Where such deficiencies include an unsafe practice or a breach of the statutory or the Contract's requirements, the *Project Manager* or the *Project Manager's* nominated Representative may in accordance with the General Conditions of Contract suspend the work associated with the unsafe practice or breach until the deficiency is rectified.

The *Project Manager* or the *Project Manager's* nominated Representative will establish a schedule of regular field safety audits which will be based on an audit tool aligned to the legislative requirements. The *Contractor* audit conformance will be assessed as a percentage and where conformance is better than 80% it will be considered satisfactory and the *Contractor* must develop and implement an action plan within 4 weeks, to be reviewed at the next regular audit. Where the *Contractor* level of conformance is between 70 – 79%, a corrective action plan will be required to be developed and implemented within 2 weeks, and a follow up audit will be carried out. Where the *Contractor* conformance is less than 69% the *Contractor* must stop work until an investigation of the cause/s has been completed and corrective actions have been developed and implemented by the *Contractor*.

The *Contractor* must provide to the *Project Manager* or the *Project Manager's* nominated Representative, at a time to be agreed, but not to exceed monthly intervals, a regular status report on all outstanding corrective actions until they are successfully closed out.

d) Unsafe Act/Condition Auditing

The *Contractor* must implement a system to recognize, correct, and report unsafe acts/conditions (Unsafe Act/Condition Auditing) associated with all Site activities.

All such observations must be recorded and delivered to the TNPA Project Health and Safety Manager.

#### 5.3.7 Involvement, Communication and Motivation

The *Contractor* and subcontractor's workforce must, through their supervision, safety notice boards, toolbox meetings and daily pre-start meetings be kept aware of safety related matters.

##### a) Safety Meetings

The *Contractor* must implement and comply with OH&S Act, Section 19

The *Contractor* must conduct weekly safety meetings with his employees to foster safety awareness. Copies of minutes and action items arising from such Toolbox meetings is submitted or otherwise made available for review by the *Project Manager* or the *Project Manager's* nominated Representative.

Such meetings should at least address:

- Accident / safety incidents
- Hazardous conditions
- Hazardous materials / substances
- Work procedures
- Protective clothing / equipment
- Housekeeping
- General safety topics
- Job or work look-ahead issues
- Safety statistics
- Incident Review

The *Contractor* must conduct at least one formal safety meeting per month and must maintain appropriate records of attendance and meeting content. Such records are made available to the *Project Manager's* Representative. In addition to Daily Safe Task Instructions, the *Contractor* must conduct at least weekly "tool box" meetings to discuss safety issues and procedures.

##### b) Pre Start Safety Briefings

The *Contractor* must hold documented Daily Safe Task Instructions with each work team before the start of each shift. Attendance records and brief topic notes is kept for auditing and record purposes.

##### c) Safety Review Meetings

The *Contractor* Site Manager and a Site Safety Representative must take part in monthly safety review meetings between the Contractor and the *Project Manager* or the *Project Manager's* nominated Representative.

The *Contractor* must attend all project safety meetings as outlined in the Project Safety Management Plan.

d) Site Safety Review Committee

The *Contractor* complies with the requirements of the SSRC with respect to his own activities and others on the Site and Working Areas.

### 5.3.8 Roles and responsibilities

The roles and responsibilities of the various personnel acting on behalf of the *Project Manager* with respect to the SMP and health and safety issues are as stated in the paragraphs following:

#### Construction Manager

The CM is responsible for health and safety on the Site and Working Areas and reports to the *Project Manager* the CM must be registered with SACPCMP as a Pr.CM

The CM specific tasks are:

- Implement the safety management system
- Monitor compliance to the established safety management system
- Ensure risk is at an acceptable level
- Ensure Consultant Construction Management Team are competent
- Provide for:
  - Planning, organisation, leadership and control
  - Particular technical competencies for critical work
  - Supervision and control on each shift
  - Regular monitoring and assessment
  - Workplace inspections

### 5.3.9 Commissioning Safety Plan

The *Project Manager*, through his Construction Management Team, will facilitate and coordinate a formal Commissioning Safety Plan and ensure that required procedures are prepared prior to the commencement of the commissioning phase.

The Commissioning Safety Plan will provide a final checkpoint for the completed work and is part of the process for ensuring that all necessary actions have been completed. The elements to be considered include:

- Mechanical and electrical integrity systems are in place (e.g. equipment tests and inspections of critical equipment, quality control procedures, etc.) which will confirm that construction, equipment and materials are in accordance with design specifications
- Formal hazard analyses for pre-commissioning and commissioning activities have been completed, appropriately documented and communicated, and are available to all personnel.
- Punch-list work has been sufficiently completed so that installations are safe to apply hazardous energy.
- Documentation relevant to any modifications has been created/updated.

- Safe operating, maintenance and emergency procedures are in place.
- Operating and maintenance manuals are available and training of commissioning employees has been completed.
- Red Line drawings are available.
- A Commissioning Permit (to apply hazardous energy) is developed and implemented.
- The *Project Manager* will ensure that after commissioning there is a formal documented hand over to operations and maintenance personnel and others who will be impacted by hazards that have been identified during project activities. This will involve communication of any changes to the process hazards, procedures and operating philosophy. Safe systems of work will be established and updated throughout the Project. Safe systems of work will be subject to on-going review to ensure their effectiveness.

#### Document Control

All safety documents shall comply with the Project Document Control Procedures.

### 5.4 Environmental Constraints and Management

The *Contractor* shall comply with the following minimum environmental requirements during an Upgrade of the Tuzi Gazi Waterfront Old Action Cricket Building for TNPA Offices in the Port of Richards Bay.

- 5.4.1 The *Contractor* shall at all times, comply with all relevant statutes relating to various aspects of Environmental Management as well as associated regulations that will include but not limited to the NEMA (National Environmental Management Act, Act 107 of 1998), Specific Environmental Management Acts such as the National Environmental Management Waste Act 59 of 2008, National Environmental Management Biodiversity Act 10 of 2004, Air Quality Act 39 of 2004, Protected Areas Act 57 of 2003 as well as the Integrated Coastal Management Act 24 of 2008 and Sectoral Specific legislation such as the National Water Act, Act 36 of 1998;
- 5.4.2 All required licences and/or permits shall be obtained by the TNPA from relevant authorities prior to the commencement of project activities.
- 5.4.3 The following documents, included as annexures of the Works Information, provide the minimum acceptable standards that shall be adhered to:
- Transnet Integrated Management System Policy Commitment Statement
  - Standard Environmental Specification (ENV-STD-02 Rev 04).
  - Construction Environmental Management Plan (ENV-STD-01 Rev 04).
- 5.4.4 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 outlined in section 5.4.3 above.
- 5.4.5 The CEM describes the main roles and responsibilities of the project team with respect to Environmental Management.

- 5.4.6 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.
- 5.4.7 The Project Environmental Specification (PES) describes more particularly the environmental standards applicable to the works, the Site and the Working Areas and sets out variance (including additions) to the SES. The PES may require higher minimal standards than those described in the SES as may be required by the relevant environmental authorities but may not necessarily be limited to: Environmental Approvals (e.g. Environmental Authorisations, Water Use Licenses, Waste Management Licences, etc.); Environmental Management Programmes/Plans.
- 5.4.8 The above requirements shall be applicable to the main Contractor, its Subcontractors, Service providers and Suppliers. The Contractor must comply with all the requirements of the CEMP, SES and PES as mentioned in section 5.4.3 above.
- 5.4.9 The Contractor must sign the Declaration of Understanding as a commitment to abide with Transnet's Environmental Governance Framework and any applicable Project Environmental Specification issued by the authorities.
- 5.4.10 The *Contractor* must make a sufficient budget provision to meet all the project environmental management requirements for the duration of the contract including the rehabilitation phase.
- 5.4.11 The *Contractor* must appoint a Fulltime Environmental Officer (EO) to monitor and manage compliance with the Environmental Specifications and all applicable environmental legislation. The EO must as a minimum have at least 3 (three) year's work experience in environmental management within the electrical construction projects. The roles and responsibilities of the Contractor's EO are stated in CEMP.
- 5.4.12 The *Contractor* will be required to submit an environmental file to the *Employer* post tender award. Detailed requirements such as Audits dates, deadlines etc. from the *Employer* will be made known on award of the contract. Site access certificate will not be granted until the Environmental file has been approved by the *Employer's* Environmental representatives.
- 5.4.13 The *Contractor* shall identify the kinds of environmental impacts that will occur as a result of their activities and accordingly prepare separate method statements describing how each of these impacts will be prevented or managed so that the standards set out in the SES document are achieved. The method statements will be prepared in accordance with the requirements set out in the CEMP. These method statements shall form part of the environmental file. The *Contractor* shall ensure that his management, foremen and the general workforce, as well as all suppliers and visitors to Site have attended the Environmental Induction Programme 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 Environmental Induction Programme and are made aware of the environmental specifications on Site.

Method statements need to be compiled by the *Contractor* throughout the Construction and Commissioning phase of the project. These Method Statements must be approved by the TNPA Construction Manager and TNPA Environmental Manager or Environmental Officer. Approval

must at least be two weeks 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 TNPA Environmental Manager or Environmental Officer.

5.4.14 The Contractor shall be responsible for rehabilitating and cleaning all areas to the satisfaction of the *Employer* as detailed in the SES and the Rehabilitation Method statement.

## 5.5 Quality Assurance Requirements

5.5.1 The *Contractor* shall have, maintain and demonstrate its use to the *Project Manager* (and/or the *Supervisor* as appropriate) the documented Quality Management System to be used in the performance of the works. The *Contractor's* Quality Management System shall conform to International Standard ISO 9001 (or an equivalent standard acceptable to the *Project Manager*).

5.5.2 The *Contractor* submits his Quality Management System documents to the *Project Manager* as part of his programme under ECC 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

5.5.3 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.

5.5.4 The *Project Manager* indicates those documents required to be submitted for either information, review or acceptance and the *Contractor* indicates such requirements within his register of documents. The register shall indicate the dates of issue of the documents with the *Project Manager* responding to documents submitted by the *Contractor* for review or acceptance within the *period for reply* prior to such documents being used by the *Contractor*.

5.5.5 The Quality Plan means the *Contractor's* statement, which outlines strategy, methodology, resources allocation, QA and Quality Control co-ordination activities to ensure that the *works* meet the standards stated in the *Works Information*.

5.5.6 Where specified, the *Contractor* shall submit a project quality plan to Transnet Port Authorities within 28 working days after the Contract start date. The quality plan shall detail how the Contractor's Quality System will be applied to the Works Information specified in the Contract, and shall address the following:

- Satisfying the technical and quality requirements of the Supplier/*Contractor's* Works Information, and relevant elements of the applicable ISO 9001 standard

- Include all quality activities relevant to the Works Information, identifying all procedures, reviews, audits, controls and records used to control and verify compliance with the specified Contractual requirements
- List of all applicable codes, standards and specifications
- Include a listing of all special processes (e.g. welding and non-destructive testing, cube testing etc.) envisaged for use, including confirmation of personnel certification as required
- Include all proposed method statements (for site-based work activities)
- Include a description of the Supplier/Contractor's project organization, with key positions and responsibilities identified and individuals named. The organization structure shall also indicate the resources committed to the management/coordination of QA/QC activities
- Include a listing of all Quality Control Plans (QCP's), and associated Field Inspection Checklists (FIC's), as applicable
- Identify in the Project Quality Plan any Sub-Supplier/Sub-Contractor work.
- Include the proposed Authorised Inspection Authority (where applicable - for pressurised equipment and systems)
- Include a schedule / index of proposed quality records

The Project Quality Plan shall be controlled and re-submitted for approval when required to incorporate any change necessary during the Contract duration to ensure that the document is maintained as an effective control, change management and records. The change management will be done to an agreed policy or procedure.

5.5.7 The Quality Policy means the overall intentions and directions of the *Contractor* related to quality as formally expressed by top management.

5.5.8 The Index of Procedures means a list or schedule of the *Contractor's* Quality Control procedures that will be employed during the contract.

## 5.6 Programming Constraints

5.6.1 The *Contractor* presents his first programme and all subsequently revised programmes (see ECC Clauses 31.2 and 32.1) in hard copy format printed in full colour in A3 size and in soft copy 'Native' format with activity layout files (Note that PDF soft copy versions are not acceptable). Within seven days of award of contract, the *Contractor* submits his Level 4 programme to the *Project Manager* for acceptance, together with the associated works method statements and a supporting Basis of Schedule document.

5.6.2 The *Contractor* shows on each programme he submits to the *Project Manager*, the requirements as outlined in the ECC (Clause 31 and associated contract specific clauses).

Additionally the *Contractor* shows on each programme he submits all internal procurement activities conducted by himself as well as associated works and/or deliveries of materials and/or services the *Contractor* procured via external parties.

5.6.3 The *Contractor* complies with the *Employer's* site access restrictions and occupation windows. It is expected that the *Contractor* allows sufficient Time Risk Allowances and/or plans concurrent works so as not to hinder progress should changes to occupation windows occur.

5.6.4 The *Contractor* uses Primavera version 6 for his programme submissions or a similar programme software package equivalent to Primavera version 6 subject to the prior written notification and acceptance by the *Project Manager*.

5.6.5 The *Contractor* shows on his Accepted Programme and all subsequently revised programmes schedules showing the critical path or paths and all necessary logic diagrams demonstrating sequence of operations.

5.6.6 The *Contractor's* programme shows duration of operations in working days. A normal working week comprises five working days, each of eight working hours. Alternative working hours are to be submitted to the *Project Manager* for approval.

**5.6.7 The *Contractor's* programme shows the following levels:**

Level 1 Master Schedule – defines the major operations and interfaces between engineering design, procurement, fabrication and assembly of Plant and Materials, transportation, construction, testing and pre-commissioning, commissioning and Completion.

Level 2 Project Schedule – summary schedules 'rolled up' from Level 3 Project Schedule described below

Level 3 Project Schedule – detailed schedules generated to demonstrate all operations identified on the programme from the starting date to Completion. Individual operations will be assigned codes as agreed with the *Project Manager*, this will be agreed post Contract award. The *Project Manager* notifies any subsequent layouts and corresponding filters on revised programmes

Level 4 Project Schedule – detailed discipline speciality level developed and maintained by the *Contractor* relating to all operations identified on the programme representing the daily activities by each discipline

5.6.8 The *Contractor* shows on each revised programme he submits 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*.

5.6.9 The *Contractor* submits progress tracker sheet information to the *Project Manager* at least 1 (one) full working day prior to progress meetings at weekly intervals. Tracker reports are to have back to back relationships with Fabrication and GA Drawings with the works detailed such that all aspects of the works can be monitored and tracked through its fabrication/construction sequence. Sheets to have work steps and weight factor percentages utilized to develop the progress tracking sheets. Where necessary multiple tracking sheets may be required to track each assembly member throughout its development.

5.6.10 The *Contractor* submits programme report information to the *Project Manager* at least 1 (one) full working day prior to progress meetings at fortnightly intervals in addition to the intervals for submission of revised programmes stated under Contract Data Part One.

5.6.11 The ***Contractor's* weekly programme narrative report includes:**

- Level 4 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.
- 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 programme.
- Manpower Histogram – reflecting actual, forecasted and planned activities
- Progress Tracker Sheets for Fabrication, Erection, Installation, Construction & Commissioning.
- S-curves – reflecting the actual percentage complete versus the planned percentage for the overall contract utilising the earned values as calculated by the detailed progress report.
- Detailed narrative status and performance of operations on the Site and Working Areas.
- Detailed narrative status and performance of operations outside the Working Areas.
- Deviation from the Accepted Programme register with associated action plans to rectify.
- Critical action items (Top 10)
- Key Risks (Top 10)

## 5.7 Contractor's management, supervision and key people

### 5.7.1 ***Contractor's* Project Manager**

The *Contractor* employs a *Project Manager* (CPM) as a key person under ECC3 Clause 24.1.

The CPM is employed on a full-time basis and shall be site-based for the duration of the construction activities.

The CPM must be familiar with, and have a solid understanding of, the operation of the NEC3 ECC and will have at least five years' experience gained in a similar position on projects operating the NEC3 suite of contracts. Where the CPM cannot demonstrate the required level of experience in the NEC3 suite of contracts, the *Contractor* arranges for training to be given by an experienced independent trainer in the understanding and application of those management procedures contained in the NEC Contracts.

### 5.7.2 ***Contractor's* Safety Health and Environmental Officer**

The *Contractor* employs a CSHEO as a key person under ECC Clause 24.1

The CSHEO reports to the SHEC on the Site. The CSHEO ensures that the works (to include any part thereof) are subject to a prior environmental method statement(s) approved by the Construction Manager and ensures that the CEMP is implemented by the *Contractor* in a timely and proper manner. The CSHEO provides the *Project Manager* with all environmental method statements.

#### 5.7.3 The CSHEO tasks are:

Daily, weekly and monthly inspections of the Site and Working Areas. The *Contractor* is referred to Annexure 6 and 3 of the CEMP.

Monitor compliance with the CEMP (to include the SES and PES) and the environmental method statements submitted to the *Project Manager*

Reporting of an environmental incident as defined in section 6.4 to the *Project Manager*.

Attendance at all SHE meetings, toolbox talks and induction programmes as envisaged in the Standard Environmental Specification.

Litter control and ensuring the *Contractor* clears litter from the Site and Working Areas and ensuring that environmental signage and barriers are correctly placed.

The CSHEO submits daily, weekly and monthly checklists to the SHEC. Report templates are included in the Starter Pack issued to the *Contractor* at the Kick-off Meeting hours, conditions of employment, work permits, etc. The *Contractor* shall further adhere to the requirements of any Industrial Relations Policy of the *Employer* applicable to the particular area, detail of which would be made available by the *Project Manager* when requested.

5.7.4 The *Contractor* employs a CIRP as a key person under ECC Clause 24.1.

5.7.5 The CIRP is based on the Site and ensures that all reports and IR requests are submitted accurately and in a timely manner to *Project Manager*, CM, PIRM, PSIRM or SIRM].

5.7.6 The CIRP tasks are:

- 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;
- Represent the *Contractor* at all industrial relations meetings
- Represent the *Contractor* on the IRCC

#### 5.7.7 The *Contractor* employs an HSR as a key person under ECC Clause 24.1

The *Contractor* provides an Organogram of all his key people (both as required by the *Employer* and as independently stated by the *Contractor* under Contract Data Part Two) and how such key people communicate with the *Project Manager* and the *Supervisor* and their delegations of C3.1 *Employer's Works* Information.

## 5.8 Training workshops and technology transfer

### 5.8.1 Safety and Environmental Awareness

Inductions

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

- The *Employer's* Site Induction - All personnel must complete the Project Site Induction prior to working on the site. The purpose will be to ensure that all personnel are made aware of and are conversant with the requirements of this Safety Plan, site rules, environmental requirements, cultural heritage and community relations
- *Contractor* Job Specific Induction - All personnel shall complete Job Specific Inductions for the contracted works prior to commencing work. These inductions will be the responsibility of specific contractors
- Visitors - A Visitors Safety Induction program will be established at all sites explaining the site, the conditions applicable to their entry onto site and the necessary PPE they will be required to wear

#### Contractor's Training Programs

*Contractor's* training programs will include coverage of the following where relevant to individual's duties:

- The Project's Safety Plan
- Contractor's Safety Plans
- Fitness for Work
- Operating mobile plant
- Slings and moving loads and using lifting devices
- Manual handling
- Working at height
- Purpose of inspections and inspection reports
- Contractor's site specific inductions
- Confined space
- Hot work
- Pre start checks
- PPE use and training
- Isolation
- Scaffolding; and
- Hazardous substance handling, storage and use

At the completion of all training, competency of individuals shall be validated by the trainer. This will be by means of an examination (written, oral or practical) or an assessment of the trained person's

performance during the training. A record of safety training undertaken by each employee will be documented and retained permanently on a database and the employee's site identification and security card.

#### Competency

All personnel engaged to carry out work on the Project must have the necessary skills and knowledge and be competent to perform the tasks for which they have been employed. Contractors and new employees will be required to furnish proof by way of licences, permits, certificates or by recognition of prior learning (RPL) or by written certification by a qualified assessor of their skills, competencies and knowledge of their work tasks.

No person may carry out any work on the Project unless proof of competency has been provided to the *Project Manager*.

#### Training Workshops and Technology Transfer for the Owner's personnel

The installation of the new plant will make a significant change in the operation and maintenance requirements. Both Operations and Maintenance personnel will be exposed to new technology

5.8.2 It is therefore essential that the *Contractor* provides comprehensive training (both theoretical and practical) to the *Employer's* staff members in the operation and maintenance of the works. On completion of the training, it is expected that the *Employer's* personnel will be able to deal competently with any out-of-course situation that may arise during daily operation of the plant and the associated controls.

5.8.3 The *Contractor* compiles a Training Manual containing easy-to-understand notes on all the subject matter covered in the training courses. Separate manuals may be prepared for Operations training and Maintenance training. Each Learner must receive a copy of the Training Manual for the course that he/she has attended. In addition, three copies of the Training Manual must be handed to the *Employer* for reference purposes.

5.8.4 The *Contractor* submits a Training Programme to the *Project Manager* for review no later than two weeks before the commencement of the cold commissioning. Because the *Employer's* personnel are engaged on shift work, it may be necessary to schedule a number of training courses at different times in the day.

5.8.5 The *Contractor* maintains an accurate record of the training given and is to submit a report on completion of the training. The report will include, but not be limited to, details of the Trainer, the scope of the training, the duration of training on each topic and the *Employer's* personnel who received training.

### 5.9 Insurance provided by the *Employer*

5.9.1 Insurance provided by the *Employer* is contained in the Contract Data – Part 1. The Contractor is required to provide an All Risk Insurance and this must be included on the tendered rates.

### 5.10 Contract change management

5.10.1 No additional requirements apply to ECC Clause 60 series.

## **5.11 Provision of bonds and guarantees**

The form in which a bond or guarantee required by the conditions of contract (if any) is to be provided by the Contractor is given in Part 1 Agreements and Contract Data, document C1.3, Sureties.

The Contractor provides a bond or guarantee as required by the conditions of contract concurrently with the execution by the Parties of the form of agreement for the ECC contract.

The form in which a bond or guarantee required by the conditions of contract (if any) is to be provided by the Contractor is given in Part 1 Agreements and Contract Data, document C1.3, Sureties.

The Contractor provides a bond or guarantee as required by the conditions of contract concurrently with the execution by the Parties of the form of agreement for the ECC contract.

## **6 Records of Defined Cost, payments & assessments of compensation events kept by Contractor**

The Contractor keeps the following records available for the Project Manager to inspect:

- Records of design employee's location of work;
- Proof of payments for actual expenditure; and
- Rate breakdown for activities concerned.
- A statement of invoices;
- Escalation is calculated on a separate sheet and presented to the Project Manager for acceptance;
- The amount paid to date;
- Retention monies to be deducted from the invoice;
- Interest payable;
- Escalation formula used;
- Settlement discount;
- Proof of ownership of materials supplied;
- Copies of delivery notes of Plant and Material;
- Summary sheet of manning;
- Summary of progress covered by invoice; and
- The invoice is presented as an original.

## 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:

The Transnet Procurement Procedures Manual (PPM);

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

The Public Finance Management Act (PFMA);

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

The Anti-Corruption Act.

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.

#### ***Prohibition of Bribes, Kickbacks, Unlawful Payments, and Other Corrupt Practices***

Transnet is in the process of transforming itself into a self-sustaining State Owned Enterprise, actively competing in the logistics industry. Our aim is to become a world class, profitable, logistics organisation. As such, our transformation is focused on adopting a performance culture and to adopt behaviours that will enable this transformation.

- 1. Transnet will not participate in corrupt practices and therefore expects its suppliers to act in a similar manner.*

Transnet and its employees will follow the laws of this country and keep accurate business records that reflect actual transactions with and payments to our suppliers.

Employees must not accept or request money or anything of value, directly or indirectly, to:

Illegally influence their judgement or conduct or to ensure the desired outcome of a sourcing activity;

Win or retain business or to influence any act or decision of any decision stakeholders involved in sourcing decisions; or

Gain an improper advantage.

There may be times when a supplier is confronted with fraudulent or corrupt behaviour of Transnet employees. We expect our Suppliers to use our "Tip-offs Anonymous" Hot line to report these acts. (0800 003 056).

- 2. Transnet is firmly committed to the ideas of free and competitive enterprise.*

Suppliers are expected to comply with all applicable laws and regulations regarding fair competition and antitrust.

Transnet does not engage with non-value adding agents or representatives solely for the purpose of increasing B-BBEE spend (fronting)

3. *Transnet's relationship with suppliers requires us to clearly define requirements, exchange information and share mutual benefits.*

Generally, *Contractors* have their own business standards and regulations. Although Transnet cannot control the actions of our suppliers, we will not tolerate any illegal activities. These include, but are not limited to:

Misrepresentation of their product (origin of manufacture, specifications, intellectual property rights, etc);

Collusion;

Failure to disclose accurate information required during the sourcing activity (ownership, financial situation, B-BBEE status, etc.);

Corrupt activities listed above; and

Harassment, intimidation or other aggressive actions towards Transnet employees.

Suppliers must be evaluated and approved before any materials, components, products or services are purchased from them. Rigorous due diligence is conducted and the supplier is expected to participate in an honest and straight forward manner.

Suppliers must record and report facts accurately, honestly and objectively. Financial records must be accurate in all material respects.

### **Conflicts of Interest**

1. *A conflict of interest arises when personal interests or activities influence (or appear to influence) the ability to act in the best interests of Transnet.*

Doing business with family members

Having a financial interest in another company in our industry

## **7.1 The Contractor's Invoices**

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

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

### **7.1.3 The invoice states the following:**

Invoice addressed to Transnet SOC Ltd;

Transnet SOC Limited's VAT No: 4720103177;

Invoice number;

The *Contractor's* VAT Number; and

The Contract number:

The invoice contains the supporting detail, which shall include a statement of the contract account, indicating invoices, dates, debit/credit notes, and payments.

## 7.2 People

### 7.2.1 Minimum requirements of people employed on the Site:

Direct employment of all labour is preferred.

reside within the boundaries of the City of uMhlathuze) where possible.

The Contractor performs the works having due regard and in compliance with the following Act/s:

- Basic Conditions of Employment Act.
- Labour Relations Act.
- Employee Equity Act.
- Workman's Compensation Act.
- Compensation of Occupational Injuries and Diseases Act.

Recruitment of labour in and around the site is not permitted.

All personnel shall provide proof of competency appropriate to their appointment.

All personnel shall undergo medical examination prior to undergoing site induction and be certified fit to work on the site, with particular reference to working at heights.

### 7.2.2 The Contractor complies with the following PIRPMP

#### *Contractor Liability*

1. 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;
2. 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.

3. 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.
4. 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.
5. 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.

#### 7.2.3 Industrial Action by *Contractor* Employees

1. 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.
2. 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.
3. In the event of any industrial action by the *Contractor's* employees, the *Contractor* is obliged:
  - a. 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.
  - b. The Industrial Action Report must provide at least the following information:
    - i. Industrial incident report,
    - ii. Attendance register,
    - iii. Productivity / progress to schedule reports,
    - iv. Operational contingency plan,
    - v. Site security report,
    - vi. Industrial action intelligence gathered.
4. The final Industrial Action Report is to be delivered 24 hours after finalisation of the industrial action.

5. 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.
  6. 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 be deemed to be trespassing.
- 7.2.4 The *Contractor* performs the works having due regard to the PLA that are negotiated between the *Employer* and the appropriate trade unions on this contract.
- 7.2.5 The *Contractor* complies with the requirements of the IRCC involving the engineering construction *Contractors* engaged (including all future *Contractors*) by the *Employer*
- 7.2.6 The roles and responsibilities of the various personnel acting on behalf of the *Project Manager* with respect to IR issues are stated in the paragraphs following:
- 7.2.7 The PIRM is responsible for ensuring that the *Contractor* complies with the PIRPMP. The PIRM acts on behalf of the *Project Manager*.
- 7.2.8 **The PIRM specific tasks are:**
- To complete the PLA prior to the Contract Date; and
  - To assign specific duties to the PSIRM.
- 7.2.9 **The PIRM specific tasks are:**
- The PSIRM is responsible for IR (to include the PLA) on the Site and Working Areas and reports to the *Project Manager*.
- 7.2.10 The SIRM is responsible, inter alia, for day-to-day IR on the Site and Working Areas through the implementation of the PIRPMP. The SIRM reports directly to the PSIRM and the *Project Manager*.
- 7.2.11 **The SIRM specific tasks are:**
- To liaise with the *Contractor* prior to the commencement of construction activities (as per the *Contractor's* programme accepted by the *Project Manager*) with respect to IR issues under the SIP

## 7.3 Plant and Materials

### 7.3.1 Quality

The *Contractor* provides Plant and Materials for inclusion in the works in accordance with SANS 1200A sub-paragraph 2.1, unless otherwise stated elsewhere in the *Works Information* provided by the *Employer*. All Plant and Materials are new, unless the use of old or refurbished goods and/or

Materials are expressly permitted as stated elsewhere in this *Works Information* or as may be subsequently instructed by the *Project Manager*.

Where Plant and Materials for inclusion in the *works* originate from outside the Republic of South Africa, all such Plant and Materials are new and of merchantable quality, to a recognised national standard, with all proprietary products installed to manufacturers' instructions.

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 specifications stated and notifies the *Project Manager* and the *Supervisor* on each occasion where replacement is required.

#### 7.3.2 Plant & Materials provided "free issue" by the *Employer*

No "free issue" material will be supplied by the *Employer* for the *works*.

#### 7.3.3 Contractor's Procurement Of Plant And Materials

The *Contractor* performs the following with respect to Plant and Materials procured for the *works*:

Submit manufacturers' certificates of origin;

Submit manufacturers' test certificates detailing the international standard or code of practice under which the testing was performed;

Ensure that the English language is used for data plates attached to components

Arrange for all manufacturer and vendor warranties to be vested in the *Employer*;

Any shipment originating from outside the Republic of South Africa is inspected immediately prior to shipment to confirm its condition and a condition report delivered to the *Project Manager*.

All shipments are to be opened on site and inspected for transit damage in the presence of the *Supervisor*. The *Contractor* compiles a damage report, signed and countersigned by the *Contractor* and *Project Manager*, and submits this to the Contractor's insurance broker (see notes at Contract Data - Part One) with copies to the *Project Manager* and the *Employer*.

All warranties provided by manufacturers of Plant and Materials procured by the Contractor, either directly or through sub-contracts, for incorporation in the *works* are to be in favour of the *Employer*.

Provides a waiver of lien in respect of goods that have been supplied but not yet incorporated in the *works* and for which the *Contractor* claims payment.

#### 7.3.4 Schedule of spares and consumables

The *Contractor* provides a schedule of recommended spare parts for the complete dust control plant. The recommended spare parts list should cover the anticipated requirement for a minimum of 12 months operation of the plant from hand-over.

The following data is to be listed for each item:

- Part Description,
  - Positional Assembly Indication,
  - Part/Drawing Number,

- Quantity Used,
- Quantity Recommended,
- Delivery Time and Price,
- Vendor Details.

The *Contractor* identifies on the schedule those spare parts which are regarded as essential for the continuous operation of the plant.

The *Contractor* submits the schedule of spares and consumables as indicated in the CDS.

#### 7.3.5 Provision of Spare Parts And Consumables

The *Contractor* provides all spare parts and consumables that may be required during commissioning of the plant, including the performance test.

The *Contractor* does not supply any other spare parts or consumables. However, the *Contractor* must guarantee availability within 24 hours of all parts that may be required for breakdown repairs during the Defect Period.

### 7.4 Tests and Inspections before Delivery

The *Supervisor* may, at his discretion, perform surveillance inspection at the *Contractor's* premises, Sub-Contractor's premises or at the location of the Works Information.

Dependent on the nature of the Works Information and the frequency of inspections the *Supervisor* may elect to have inspection personnel resident at the place of manufacture, fabrication, or assembly.

The *Contractor* shall ensure free entry and access is given to the *Supervisor* (or his representative), certifying authorities and statutory authorities to inspect the Works Information and review procedures and quality records at all parts of the *Contractor's* and Sub- Contractor's premises, or at the location of the Works Information while any work or test is in progress.

The *Contractor* shall provide the *Supervisor* with all necessary tools, calibrated measuring equipment, safety equipment and workspace to verify or witness tests in progress.

Where the *Supervisor* cannot easily visit the *Contractor's* or Sub-contractor's premises for any reason, the *Supervisor* may direct that the tests and inspections be undertaken by an approved inspection authority or independent nominated consultant.

Where inspections and test are carried out by such inspection authority, the *Contractor* submits to the *Supervisor* details to certify that tests and inspections have been carried out on Plant and Materials by Others.

### 7.5 Tests and inspections before delivery

The *Contractor* submits to the *Supervisor* details to certify that tests and inspections have been carried out on Plant and Materials by others which include:

- Fabrication of all the steel works;
- HVAC systems; and
- Furniture including kitchen units

## 7.6 Marking Plant and Materials outside the Working Areas

The *Contractor* prepares and marks items of Plant and Materials outside the Working Areas with 'Property of Transnet SOC Ltd' and the Contract number.

Plant and Material outside the Working Areas are to be clearly and indelibly marked using hard stamping, or security tags. The *Contractor* provides designated areas sealed off from the rest of the manufacturer's production run in which to store Plant and Material that complete and is awaiting delivery to site.

The *Contractor* delivers digital photographs to the *Supervisor* as proof of marking and storage in designated areas.

## 7.7 Contractor's Equipment (including temporary works).

The *Contractor* provides all Equipment necessary to provide the works in a safe and efficient manner.

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.

The *Contractor* shall notify the PSSM 24 hours in advance prior to bringing any new mobile equipment on site. All required documentation and certificate of fitness (COF) issued by a competent person shall accompany the equipment.

The *Contractor* shall inspect Equipment on a daily basis prior to use in accordance with statutory regulations and legislation.

The *Contractor* shall ensure that all Equipment complies with statutory requirements (Construction Regulations / Occupational Health and Safety Act) and with the Health and Construction Health and Safety Baseline Risk Assessment included in Annexure A

## 7.8 Subcontracting

- a) The *Contractor* shall not employ or bring a subcontractor onto the Site and/or Working Areas without the prior approval of the *Project Manager*.
- b) Where the *Contractor* employs a subcontractor who constructs or installs part of the works or who supplies Plant and Material for incorporation into the works which involves a Subcontractor operating on the Site and/or Working Areas, then the *Contractor* shall ensure that any such Subcontractor shall comply with 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 reflects the *Contractor's* obligations under the CEMP and Project Quality plan.

- c) The *Contractor* shall ensure 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 shall be 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.

## 7.9 Preparation of post Completion Contracts

Not applicable.

### ANNEXURES

- Annexure A - Construction Health and Safety Baseline Risk Assessment
- Annexure B - Transnet SHEQ policy
- Annexure C - Standard Environmental Specifications (ENV-STD-002-rev02)
- Annexure D - Construction Environmental Management Plan (ENV-STD-001-Rev02)
- Annexure E - General Quality Requirements for *contractor* and suppliers (QAL-STD-0001)

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## **Part C4: Site Information**

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## PART C4: SITE INFORMATION

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## **1. Description of the Site and its surroundings**

### **1.1. General Site Description**

Richards Bay is located approximately 160 km north-east of Durban in northern KwaZulu-Natal (KZN), close to the southern extremity of the Zululand Coastal Plain with the following GPS coordinates: 28°47'08.8"S 32°02'18.2"E. The climate is subtropical with warm to hot summers with a relatively low diurnal temperature range. Mean maximum and minimum temperatures during summer (December, January and February) are approximately 29°C and 21°C respectively. Winters (June, July and August) are mild with mean maximum and minimum temperatures of approximately 23°C and 12°C respectively. Although the area is a summer rainfall region significant falls may occur at any time of year. Wind directions are typically from the north-east or south-west throughout the year.

The Contractor shall attend a site visit and get acquainted with the nature of the services, the conditions under which the work is to be performed, and the means of access to the site, any limitations or other authorities and in general with all matters that may influence or affect the contract.

The Contractor shall be deemed to have allowed in their tender for any additional cost to be involved due to the foregoing.

The Transnet National Port Authority Infrastructure needs to relocate from the Port to an existing Action cricket warehouse site located in the Small Craft Harbour in the Port of Richards Bay.



Figure 1: Aerial View of the port showing the site



Figure 2: Street View of Warehouse

The warehouse is an existing steel portal frame structure of approximately 2500m<sup>2</sup> with face brick infill and large aluminium framed windows. It has existing ablutions and open plan interior. The site is fenced on three sides, with Newark Road along the street edge.



Figure 3: Rear View of Warehouse