



PART C3: WORKS INFORMATION

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C3.1 EMPLOYER'S WORKS INFORMATION

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SECTION 1

1 Description of the works

This works information covers the combined scope for the following works to be executed at various buildings at the Port of East London.

- Supply and Installation of heavy-duty grade 316 stainless steel windows and doors, burglar bars at the Manhattan building.
- Supply and Installation of grade 316 stainless steel round tubing handrails at the balcony section of the Harbour Master's office in the Port Control Building.

1.1 Scope of Works and Objectives

The appointed service provider shall perform the supply, fabrication, and installation of the above works as detailed below. All works are to comply with relevant SANS standards, the Occupational Health and Safety Act (Act No. 85 of 1993), and Transnet National Ports Authority (TNPA) safety requirements.

1.1.1 Supply and Installation of Burglar Bars – Manhattan Building

The *contractor* shall supply and install heavy-duty burglar bars on designated doors and windows at the Manhattan Building. The work aims to enhance the physical security of the building due to limited visibility from the security post.

The *Contractor* is required to:

- Take measurements of the proposed areas of installation to satisfy themselves with the required amount of work.
- Supply and install durable, tamper-proof burglar bars for the doors and windows.

A. Specification of the burglar bars

Doors

- Burglar frame to be 75 x 25 mm, drilled and epoxied into the walls.
- Internal bars to be 10mm in diameter. Maximum spacing 160mm centre to centre.
- Supplied with a heavy-duty burglar door lock.

Windows

- Burglar frame to be 15 x 15 mm, drilled and epoxied into the surrounding walls.
- Internal bars to be 10mm in diameter. Maximum spacing 160mm centre to centre.

1.1.2 Supply and Installation of Stainless-Steel Handrails – Port Control Balcony

The *contractor* shall remove the existing galvanized mild steel balustrade and supply, fabricate, and install new grade 316 stainless steel handrails at the balcony section of the Harbour Master's office in the Port Control Building.

The *Contractor* is required to:

- Remove and dispose of the existing galvanized mild steel balustrade and make good the concrete surface.
- Supply and install new grade 316 stainless steel balustrade comprising:
 - Post \varnothing 150 mm anchored into the concrete floor at 1.25 c/c with 150x60mm base plates, bolts, nuts and washers.
 - \varnothing 100mm top and central handrails
 - Minimum 1m high.
 - Provide all access scaffolding, tools, and equipment, and ensure compliance with site health and safety requirements.

2 Engineering and the *Contractor's* design

2.1 *Employer's* design

- 2.1.1** The *Employer's* design and specification for the works is indicated and limited to the scope of the works highlighted in Section 1.2 of this document, which should be read and executed in accordance with the Engineering drawings provided by the Employer.
- 2.1.2** The works shall be executed according to the relevant South African National Standard (SANS) codes.
- 2.1.3** 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

- 2.2.1** The *Contractor* is to design the following parts of the *works*:
- Temporary works, including scaffolding, access arrangements, and safety equipment.
 - Fabrication details and balustrade sections.
- 2.2.2** Unless expressly stated to form part of the design responsibility of the *Employer* as stated under 2.1 *Employer's* design above and whether or not specifically stated to form part of the design responsibility of the *Contractor* under this paragraph 2.2, all residual design responsibility and overall responsibility for the total design solution for the *works* rests with the *Contractor*.

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

- 2.3.1** The *Contractor* shall submit fabrication drawings, method statement, and quality plans for acceptance prior to commencement of the installation.

2.4 Review and Acceptance of *Contractor* Documentation

The *Contractor* documentation shall be submitted to the Project Manager for review and acceptance in accordance with Transnet's document control procedures.

3 Construction

3.1 Temporary works, Site services & construction constraints

3.1.1 Temporary works, Site services & construction constraints

The *Contractor* shall:

- Prepare the working area with appropriate safety measures.
- Provide access scaffolding, tools, and safety equipment.
- Carefully dismantle and remove the existing balustrade and repair any concrete damage.
- Install the new stainless-steel handrails according to specifications.
- Carry out final inspection with the project manager.

3.1.2 Health and safety facilities on Site

- All works to comply with TNPA SHE standards and access requirements.
- Risk assessment, toolbox talks, and appropriate PPE compliance is mandatory before work begins.
- Safe disposal of any construction debris or removed material.
- Fall protection and equipment certifications for working at height (if required).



PART C4: SITE INFORMATION

TRANSNET NATIONAL PORTS AUTHORITY - PORT OF EAST LONDON
TENDER NUMBER: TNPA/2026/02/0172/1591/RFQ
DESCRIPTION OF WORKS: SUPPLY AND INSTALLATION OF HEAVY-DUTY GRADE 316 STAINLESS STEEL BURGLAR BARS FOR WINDOWS AND DOORS AT MANHATTAN BUILDING, AND SUPPLY AND INSTALLATION OF HEAVY-DUTY GRADE 316 STAINLESS STEEL ROUND TUBING BALCONY HANDRAILS AT PORT CONTROL BUILDING IN THE PORT OF EAST LONDON FOR A PERIOD OF SIX (6) WEEKS.

C4: Site Information

C4.1: Information about the site at the time of tender that may affect the work in this contract

1. GENERAL DESCRIPTION OF THE SITE

1.1 THE MANHATTAN BUILDINGS

The site is located on the East Bank of the Buffalo River, at the Port of East London, near the Princess Elizabeth Graving Dock (Dry Dock) area. The area forms part of the operational port infrastructure and is under the jurisdiction of the Transnet National Ports Authority (TNPA).



Figure 1: The Manhattan Building Site Location

The Site can be accessed from the Dry Dock gate on the Pontoon Road. The same gates will be used to exit the site

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Table 1: Windows and Doors requiring the installation of the burglar bars at the Manhattan Building



2.1 PORT CONTROL BUILDING

The site is located on the East Bank of the Buffalo River, at the Port of East London. The area forms part of the operational port infrastructure and is under the jurisdiction of the Transnet National Ports Authority (TNPA).

The Site can be accessed from the Ganteaume Crescent road in Quigney. The same gates will be used to exit the site

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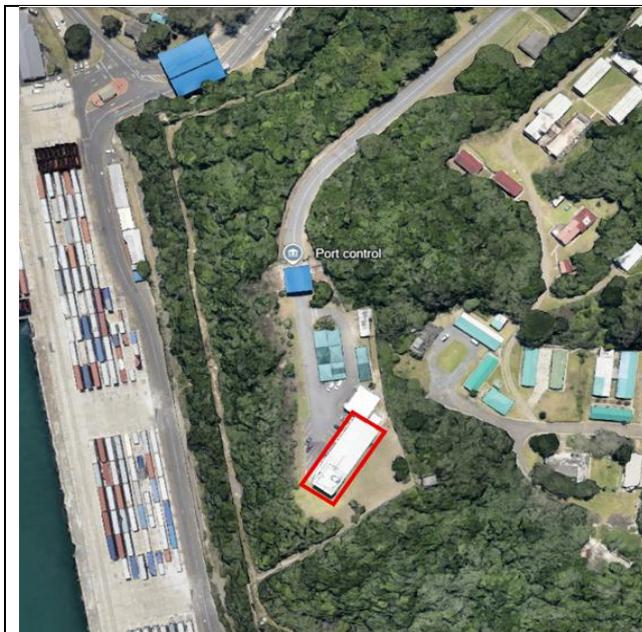


Figure 2: Port Control Building Site Location



Figure 3: Port Control Balcony Section

2. ACCESS LIMITATIONS

The *Contractor* will be required to obtain a work permit from the *Employer's* Security Department, which will be valid for the duration of the contract. The work permit will be issued to the *Contractor* free of charge. The *Contractor* must have this permit with him/her every time him/her enter or exit the *Employer's* premises.

The *Contractor* will be allowed to access the site within the *Employer's* working hours, from Monday to Friday, from 08h00 to 16h30. A formal request must be submitted to the *Employer* should the *Contractor* wish to work outside the stipulated working times.

The *Employer* has a zero-tolerance policy on the use of alcohol or drugs on the port premises. Breathalysers are located at every access point, which will be used to test the *Contractor* every time he/she enters the *Employer's* premises. If anyone is found intoxicated, they will be denied access to the port.

PART C3: WORKS INFORMATION

Document reference	Title: Repairs, Installation, Testing, and Commissioning of the Second Vertical Centrifugal Turbine Pump & Gearbox at the Tanker Berth	No of page
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SECTION 1

1 Purpose

This document outlines the scope of work for the repairs, installation, testing, and commissioning of the second vertical centrifugal turbine pump & gearbox at the tanker berth in the Port of East London.

2 Background

The tanker berth is a critical infrastructure asset responsible for handling large quantities of highly flammable petroleum products and gases to the oil industry in the region.

The berth relies on the seawater firefighting system initially upgraded and commissioned in the 2016 financial year to provide readiness and firefighting capabilities to safeguard personnel, key infrastructure, vessels, and the environment in the event of a fire emergency. The system comprises of seawater pumps, steel pipes, foam pumps and tanks, fire monitors, and hydraulic pumps to draw and drive seawater and foam used to extinguish fires.

The system utilizes two vertical centrifugal turbine pumps, powered by an electric motor and a diesel engine, respectively. The electric motor-driven pump is intended for normal operations, while the diesel-driven pump serves as a backup. However, in practice, the diesel pump is sometimes used more frequently than the electric pump due to issues in the electrical pump line, such as water hammer, excessive pressure, or faults with the electric motor.

The second diesel engine-driven vertical centrifugal turbine pump and gearbox require complete refurbishment of its mechanical components. The pump retainer bearings and bushes have worn out due to prolonged usage without replacement, and corrosion. The condition has caused excessive shaft vibrations and increased risk of shaft breaks, which can result in premature failure of the pump. The internal bearings on the gearbox have also worn out, resulting in reduced transmission efficiency and increased gearbox vibrations and noise.

The overall system's hydraulic efficiency has reduced from 14-15 bar pressure output to 1-2 bar pressure output, which is greatly inadequate for the intended use of the system.

3 Description of the works

The scope includes, but is not limited to, the following tasks:

3.1 Vertical Turbine Centrifugal Pump Repair Works

- De-assembly and transportation to the mechanical workshop
- Replacement of pump retainer bearings.
- Replacement of bushes.
- Assessment and repairs of the shafts.
- Balancing of impellers.
- Mechanical packing.
- Sandblasting of the outer casing and repair of corrosion damages.
- Spray painting of casing with marine-grade protective coating.
- Reassembly of pump and gearbox.
- Installation, testing, and commissioning of the pump.

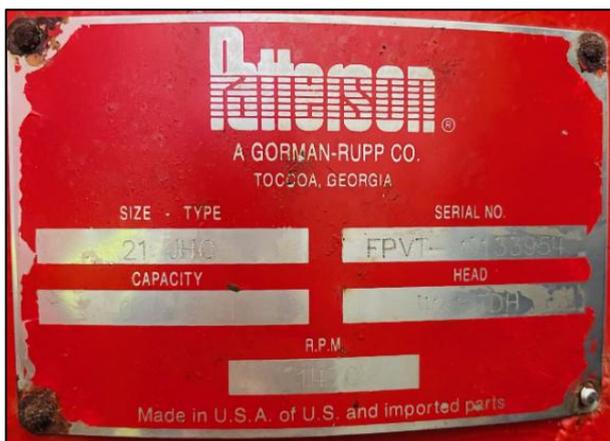


Figure 1: Vertical Turbine Centrifugal Pump Specification

3.2 Gearbox Repair Works

- De-assembly and transportation to the mechanical workshop.
- Replacement of all internal bearings.
- Replacement of oil seals.
- Replacement of gearbox oil.
- Reassembly, testing, and commissioning.



Figure 2: Right Angle Gear Drive Specification

4 Engineering and the *Contractor's* design

4.1 *Employer's* design

- 4.1.1 The *Employer's* design and specification for the works is indicated and limited to the scope of the works highlighted in Section 3 of this document, which should be read and executed in accordance with the Engineering drawings provided by the Employer (**DWG. No. D03-135331**)
- 4.1.2 The works shall be executed according to the relevant South African National Standard (SANS) codes.

4.2 **Parts of the works which the *Contractor* is to design**

- 4.2.1 The *Contractor* is to design the following parts of the *works*:
- Temporary works, access arrangements, and safety equipment.
 - Fabrication details

5 HEALTH AND SAFETY COMPLIANCE

The *Contractor* shall abide by the following:

- Accept his obligation to comply fully with the Act.
- Provide a comprehensive health and safety plan detailing his proposed compliance with the regulations. The Health and Safety Management Plan must provide a systematic method of managing hazards and implementing control measures.
- Prepare and submit the Safety file to the Project Manager for acceptance. The Safety file will then be forwarded to the TNPA SHEQ Department for approval before the start of the works.

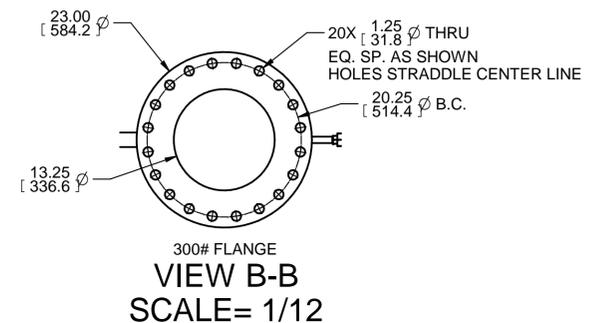
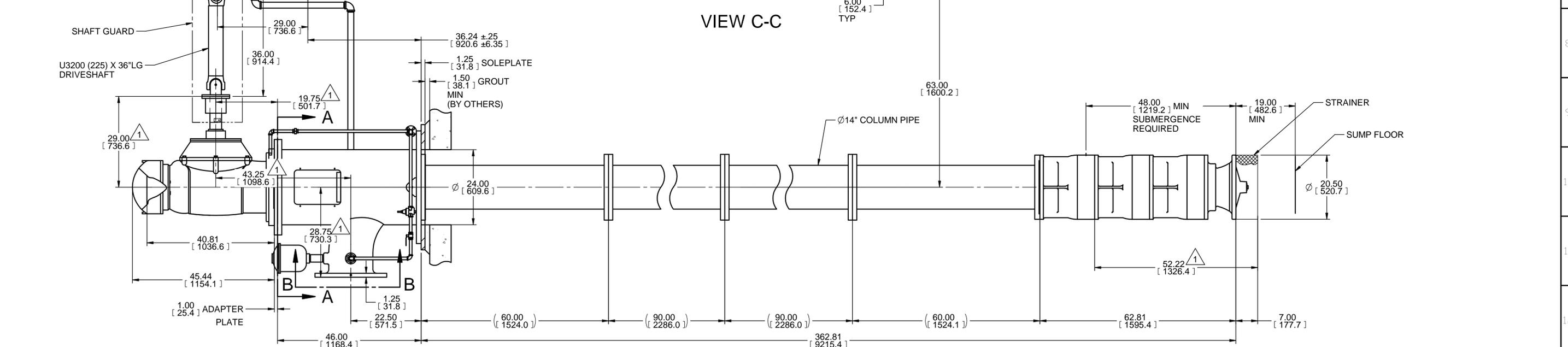
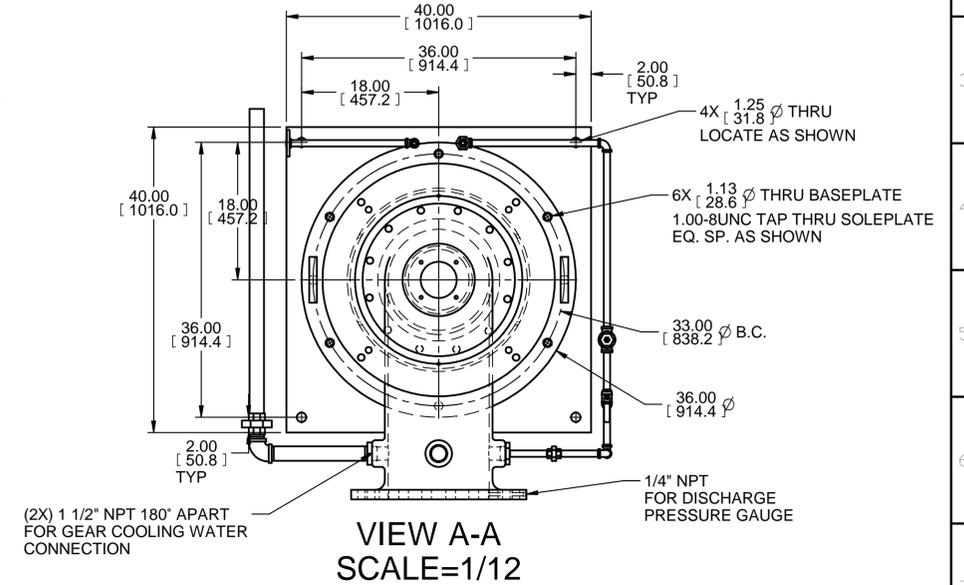
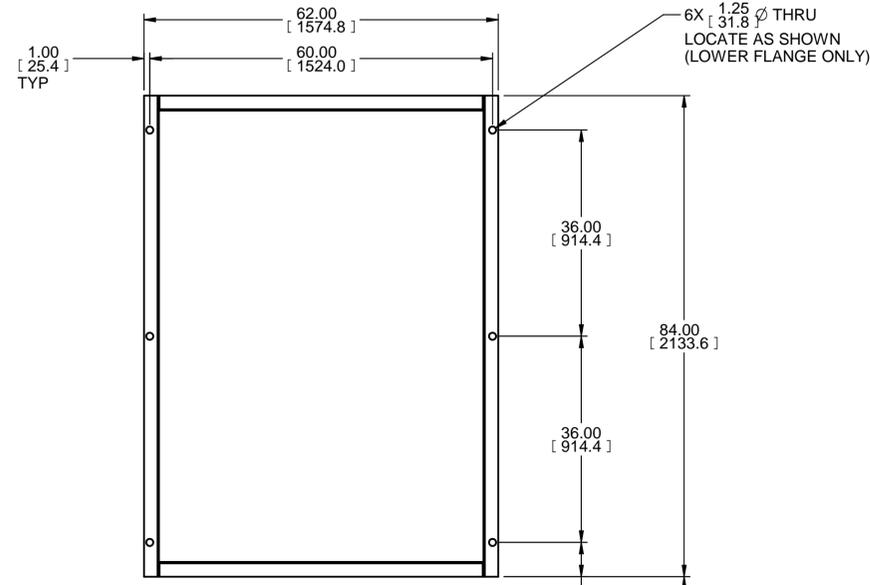
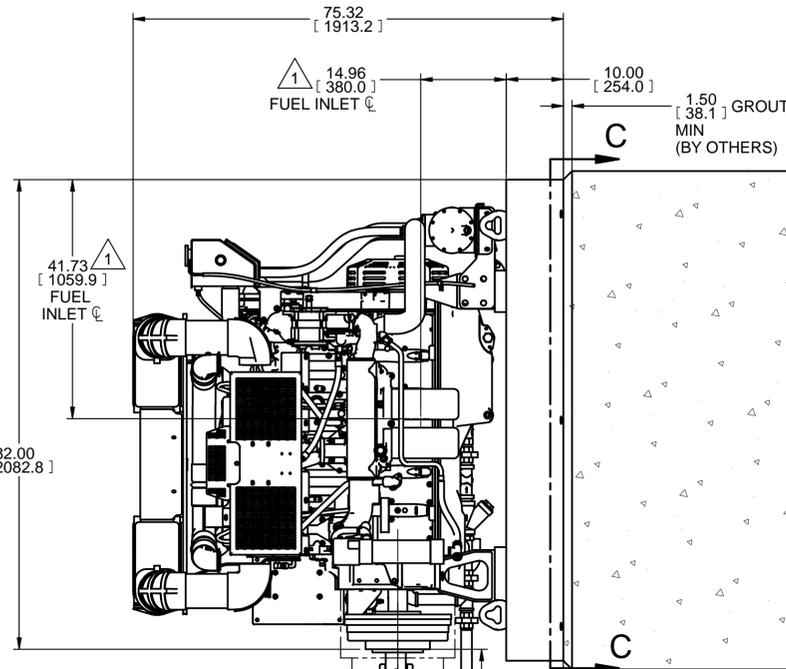
- The Service provider shall at all times be responsible for full compliance with the approved plan.
- Keep a safety file at all times during the execution of the work.
- Needs to undergo TNPA SHE induction training before the commencement of the work.

6 Completion Of Works

- All work will be checked by the relevant supervisor or their representative.
- Any snags on the works or errors in the use of material will be rectified before any invoicing is done by the Contractor.
- The pump repair work will occur in an operational area, so it must be scheduled for a day when there are no tankers at the berth.
- Standard dimensions

ALL ANCHOR BOLTS SUPPLIED BY OTHERS

1 36584 10/16/2014 BC



CUSTOMER REF: TNPA EAST LONDON
 CAPACITY: 4000 GPM (908.4 M³/HR)
 PRESSURE: 426 THD (130 M) 184.4 PSI
 PUMP SIZE: 21 JHC 3 STAGE
 PUMP SPEED: 1470 RPM
 ENGINE: CATERPILLER T3 C18-800 HP
 1760 RPM 1/50/220
 GEAR: RANDOLPH F1000, 6 : 5 RATIO

WEIGHT	lbs	kgs
Pump WT:	6915	3137
Gear WT:	1810	821
Engine WT:	4673	2120
Base WT:	1135	515

TOTAL PUMP LENGTH DIMENSION TOLERANCE IS ±1.00/25.4, ALL DIMENSIONS IN () ARE FOR REFERENCE ONLY.



OUTLINE DIMENSION 21JHC-3 STAGE
 CAT C18-800 HP W/ RANDOLPH F1000 GEAR
 VERTICAL TURBINE PUMP

DWG. NO. D03-135331		REV. 1
DRAWN bcarswell	DATE 10/10/2014	
SCALE 1/16	APPRD. TS	SHEET OF 1 1



PART C4: SITE INFORMATION

PART 4: SITE INFORMATION

1. Description of the Site and its surroundings

1.1. General description

The site is located at the Tanker Berth, which is on the West Bank precinct of the Port of East London. Port entrance to the site is through the Prison Gate entrance that is located on Dr. Zahn Road. See Annexure A1. The berth is equipped with fire suppression infrastructure, including fire monitors, a seawater pipe system, foam pumps, hydrants, and vertical centrifugal pumps. The site operates 24/7 with scheduled vessel traffic and strict safety and environmental regulations.

Access to the site is controlled and requires prior authorisation from the Port Security Department at the CRD building. The contractor's personnel are required at all times to have the access permit when entering the Port.

Normal working hours at the Port of East London are from 07:00 to 16:30, Monday to Friday, Inclusive. Transnet National Ports Authority has a strict Health and Safety policy in place. No person(s) may enter the site and undertake work on the site without undergoing the mandatory induction. The induction must be arranged by the Port personnel at no cost to the Contractor. Prior arrangements must be made with the project manager.

1.2. Existing buildings, structures, and plant & machinery on the Site

Existing buildings in the Tanker berth area include pump houses, a foam mixing pump house, a diesel tanker building, a tanker berth ablution building, a transformer room, and a firefighting system control room. The contractor must provide their own equipment and plant for the removal and installation of the existing monitors.

1.3. Subsoil information

N/A

1.4. Hidden services

The Tenderer is to apply care not to damage existing services during the removal and installation of the pump and gearbox.

1.5. Other Information

- Heavy equipment and materials will be transported via the designated port access route.
- Construction vehicles must comply with the port speed limit and parking regulations.

Annexure A1 (Tanker Berth Site Location)



Figure 1: Site Location - Tanker Berth