

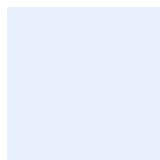
Environmental Management Programme: The proposed jockey and booster pump station for the firefighting system at the Durban Harbour: Island View Terminal

DEA Reference:
14/12/16/3/3/1/1485

Prepared for: Transnet
SOC limited

Revision: 1

30 September 2015



Document Control Record

Document prepared by:

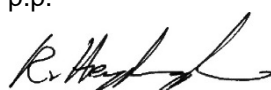
Aurecon South Africa (Pty) Ltd
 4 Davenry Street
 Lynnwood Bridge Office
 Lynnwood Manor
 0081

T +27 12 427 3080
 F 086 766 1473
 E Candice.Durr@aurecongroup.com
 W www.aurecongroup.com

A person using Aurecon documents or data accepts the risk of:

- a) Using the documents or data in electronic form without requesting and checking them for accuracy against the original hard copy version.
- b) Using the documents or data for any purpose not agreed to in writing by Aurecon.

Document control					aurecon	
Document ID		111843_EMPr	Authority Ref Number		14/12/16/3/3/1/14851 4/12/16/3/3/1/1485	
File Path		P:\Projects\111843 BIA Upgrade Island View Substation\03 PRJ Del\6 REP\EMPr				
Client		Transnet SOC limited	Client Contact		Sishosonke Dlamini	
Rev	Date	Revision Details/Status	Prepared by	Author	Verifier	Approver
1	23 September 2015	Draft EMPr	C. Durr	C. Durr	Reuben Heydenrych	B. Smit
Current Revision		1				

Approval			
Author Signature		Approver Signature	
		<p>p.p.</p> 	
Name		Name	
Candice Dürr		Barend Smit	
Title		Title	
Environmental Scientist		Technical Director	

The proposed jockey and booster pump station for the firefighting system at the Durban Harbour: Island View Terminal

Date | 30 September 2015
Reference | 14/12/16/3/3/1/1485
Revision | 1

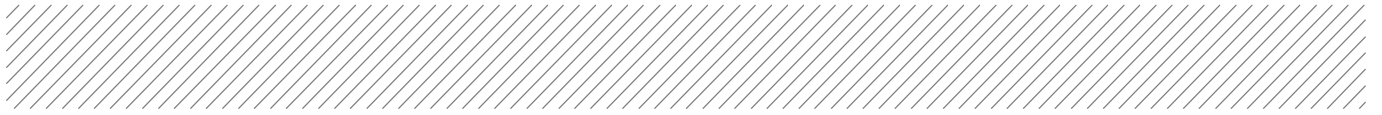
Aurecon South Africa (Pty) Ltd
4 Daventry Street
Lynnwood Bridge Office
Lynnwood Manor
0081

T +27 12 427 3080
F 086 766 1473
E Candice.Durr@aurecongroup.com
W www.aurecongroup.com



Contents

UNDERTAKING TO IMPLEMENT THE EMPr	1
1 CONTEXT AND INSTITUTIONAL MATTERS	1
1.1 Background to the project	1
1.2 Project locality	1
1.3 Purpose of document	2
1.4 Legislative context	3
1.5 EAP expertise	3
2 ROLES AND RESPONSIBILITIES	4
2.1 Environmental Control Officer	4
2.2 Project Manager	4
2.3 Contractor	4
2.4 Contractor's Environmental Officer	4
2.5 Organisational and Institutional arrangements	5
2.6 Monitoring and auditing framework	6
3 APPLICABLE ENVIRONMENTAL GUIDELINES, STANDARDS AND PERMITS	7
4 DESCRIPTION OF ACTIVITIES	9
4.1 Pre-construction and Construction phase	9
4.2 Rehabilitation phase	9
4.3 Operational phase	9
5 HIGHLIGHTED POTENTIAL ISSUES DURING THE PROJECT	10
5.1 Pre-construction	10
5.2 During construction	10
5.3 After construction	10
5.4 Possible solutions to the problems	10
5.5 Summary of Impacts and Mitigation Measures during Construction	11
6 PRE-CONSTRUCTION AND CONSTRUCTION SITE ENVIRONMENTAL MANAGEMENT	12
7 MATERIALS	19
8 WASTE	22
9 FLORA, FAUNA, AIR QUALITY, NOISE & OTHER	24
10 HERITAGE SITES	26
11 PLANNING AND ENGINEERING CONSIDERATIONS	27

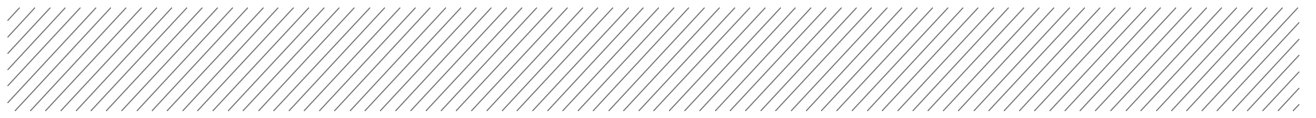


Index of Figures

Figure 1: Locality map of the Island View site	2
Figure 2: Proposed organisational and reporting structure.	5

Index of Tables

Table 1: General impacts and mitigation table	12
---	----



UNDERTAKING TO IMPLEMENT THE EMPr

A signed undertaking by the Contractor to indicate his/her understanding of the EMPr and commitment to its implementation is normally included in the EMPr. However, in this instance the undertaking will form part of Transnet's contract with the Contractor.

1 CONTEXT AND INSTITUTIONAL MATTERS

1.1 Background to the project

AURECON South Africa (Pty) Ltd has been appointed by Transnet SOC Limited (hereafter referred to as Transnet) to provide environmental services for the Basic Assessment (BA) for a proposed new booster pump station for the fire protection system and alteration to an already existing substation located at Island View Berth 1, in the Port of Durban, KwaZulu-Natal.

Highly flammable products are stored and handled 24 hours a day at the Island View Terminal. To address the high fire risk associated with the storage and handling of petrochemical products, Transnet currently has a central foam injection (CFI) system that consists of a pump-driven pressurised saltwater pipeline that combines with foam injection over various fire monitors on the Berths.

1.2 Project locality

The Island View complex is situated on the south-eastern side of the Port of Durban / Durban Bay on a property zoned as “Harbour”.

Site access is obtained via South Coast Road (The R102) on the western side of the harbour. The site is a National Key Point due to the large volumes of petrochemicals stored on the site and its resultant strategic importance for fuel supply to the eastern parts of South Africa. Access to the site is therefore strictly controlled.

The site is bounded on the northern side by Durban Bay and the harbour. Various berths for loading and offloading of petrochemicals are located on the south-western side of the site. The site is located almost at the north-eastern extremity of the Island View complex along Wharfside Road (an internal road within the complex). Various petrochemical storage tanks are located west of the site. Coal ore storage areas that feed a coal berth are located south of the site. The Bluff is located south of the site beyond the coal ore storage areas. Further ore export facilities are located north-east of the proposed site.

The entire area within close proximity to the site has been completely transformed and no natural habitat remains. Figure 1 below shows the Locality of the Island View site.

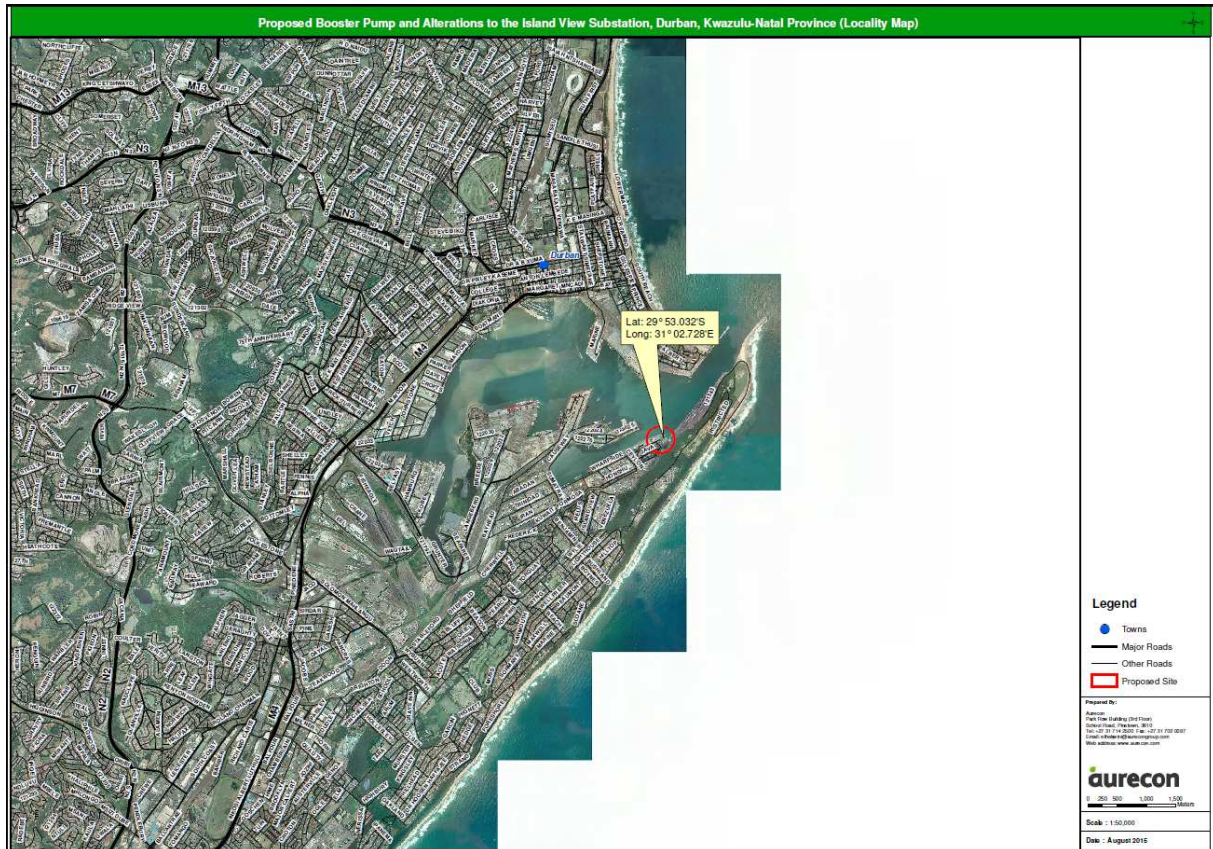


Figure 1: Locality map of the Island View site

1.3 Purpose of document

The purpose of this document is to provide guidelines for environmental recommendations and guidelines for environmental monitoring to the Contractor commissioned to construct the proposed project. This document shall be seen as part of the contract. **The EMPr will thus be part of the enquiry document to make the recommendations and constraints, as set out in this document, enforceable under the general conditions of contract.**

The EMPr has a long-term objective to ensure that:

- 1) Environmental Management considerations are implemented from the start of the project,
- 2) The development complies with regulatory authority stipulations and guidelines which may be local, provincial, national and/or international;
- 3) Precautions against damage and claims arising from damage are taken timeously, and

Transnet requires a commitment from the Project Manager and Contractor on the following issues:

- 1) *Take into consideration the tenants adjacent to the site.*
- 2) *Always behave professionally on and off site.*
- 3) *Ensure quality in all work done, technical and environmental.*
- 4) *Resolve problems and claims arising from damage immediately to ensure a smooth flow of operations.*
- 5) *To underwrite Transnet's Safety Health Environment and Quality (SHEQ) Policy and Transnet Capital Projects' SSHEQ Policy and related requirements at all times.*
- 6) *To use this EMPr for the benefit of all involved.*
- 7) *To preserve the natural environment by limiting destructive actions on site.*



1.4 Legislative context

This EMPr has been compiled in terms of the EIA Regulations, published in accordance with Appendix 4 of Government Notice No. 982 of 2014, which provides a framework for the content and intent of an Environmental Management Programme. The EMPr also follows the rationale of the ISO 14001: Environmental Management System international standard in that it addresses and differentiates between *Activity, Aspect, Impact, Mitigation Measures, Performance Indicators, Responsibility, Resources and Time Schedule*.

1.5 EAP expertise

This EMPr has been compiled by Ms Candice Dürr and Mr Reuben Heydenrych of Aurecon South Africa. For a detailed description of expertise and previous project experience please refer to Appendix A for the curricula vitae of the environmental assessment practitioner (EAP).



2 ROLES AND RESPONSIBILITIES

2.1 Environmental Control Officer

The Environmental Control Officer (ECO) is the independent person responsible for monitoring of the implementation of the EMPr and is the liaison person between Transnet and the landowners / tenants on and around the site. The ECO may not be appointed by the Contractor, and will report to the Ethekwini Municipality (if required) and the Department of Environmental Affairs (DEA). The ECO has the authority to stop any works if, in his/her opinion, there is or may be a serious threat to or impact on the environment; caused directly by the contractor's actions or activities during the construction phase. In all such work stoppage situations the ECO is to inform the Contractor of the reasons for the stoppage within 24 hours. All ECO reports will be sent on a monthly basis to Transnet to keep abreast of compliance on site.

Upon failure by the Contractor or his employees to show adequate consideration to the EMPr, the ECO may recommend to the Contractor to have the Contractor's representative or any employee(s) removed from the site, or work suspended until the matter is resolved.

2.2 Project Manager

The Project Manager responsible for the management of construction of the project will be a Transnet appointment. It will be the responsibility of the Project Manager to oversee the overall implementation of the project as well as the compliance of the EMPr and incorporate any potential environmental aspects mentioned into the design.

2.3 Contractor

As part of being responsible for the construction of the proposed project, the Contractor will be responsible for the overall implementation of the EMPr. The Contractor will nominate a representative on site as his environmental representative, known as the Contractor's Environmental Control Officer (CEO). The contractor must issue site instructions to rectify any environmental non-compliance, based on the CEO's findings. The Transnet Site Manager can also issue site instructions.

2.4 Contractor's Environmental Officer

The Contractor's Environmental Officer (CEO) will be responsible, on behalf of the contractor, to ensure that the EMPr is implemented and complied with on site on a daily basis. The CEO will liaise with the ECO (see below) in all matters relating to the implementation of the EMPr. The CEO needs a certain amount of environmental management experience in the field.

2.4.1 Environmental awareness training

Prior to construction all contractor teams involved in work on the project are to be briefed on their obligations towards environmental controls and methodologies in terms of this EMPr. It is recommended that the briefings take the form of an on-site talk and demonstration by the CEO. The education/awareness programme should be aimed at all levels of management and construction

workers within the contractor team. All new employees arriving on site shall undergo this training. Environmental induction must be done according to the Contractors Environmental Management System and must include all aspects of the site specific EMPr.

Toolbox talks are to be used as a tool for continuous training of employees and must be conducted on a weekly basis. Toolbox talks must be conducted in an interactive way as to ensure the employees understand the content and purpose of the specific EMPr requirements.

As construction continues, an effort must be made by the Contractor to assess the training needs of workers on site. Cognisance must be given to the specific work to be undertaken at the time and, if necessary, additional training on environmental requirements must be conducted to ensure all workers understand the risks involved as well as how to adequately implement mitigation measures.

An effort to ensure environmental awareness on site must be made at all times during construction.

A signed register documenting all employees' environmental training and awareness programmes must be kept on record.

2.4.2 Record keeping

The CEO is responsible for maintaining all records in relation to the EMPr requirements on site. Such records must be made available to the ECO on request during the monthly audits, as well as at any time as requested by the ECO, auditor or project managers. Record keeping must be done in an orderly fashion with the intent of ensuring easy reference.

2.5 Organisational and Institutional arrangements

Any changes to the EMPr or conditional requirements of the EA must be communicated in writing to the DEA within the timeframe as specified in the Environmental Authorisation (EA). A provisional reporting and communications structure is indicated in **Figure 2** below.

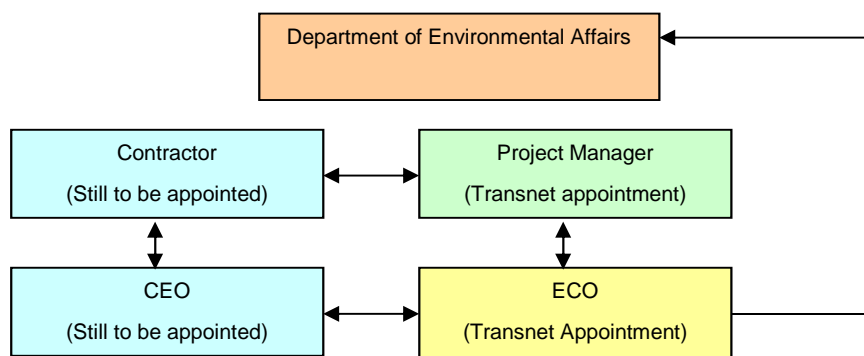


Figure 2: Proposed organisational and reporting structure.



2.6 Monitoring and auditing framework

2.6.1 Monitoring Programme

The purpose of the monitoring programme is to ensure that mitigation measures identified and described in the EMPr are implemented. Construction activities will be monitored and recorded by the ECO and audited against the EMPr on a monthly basis. A report must be submitted at the end of each month prior to the progress meetings where they will form part of the agenda. The aim is to achieve 100% compliance with the EMPr.

It is also the responsibility of the applicant to ensure compliance with any prescribed environmental management standards or practices as set out in this EMPr. Monitoring of compliance to the EMPr must be correlated to the compliance to such standards and practices.

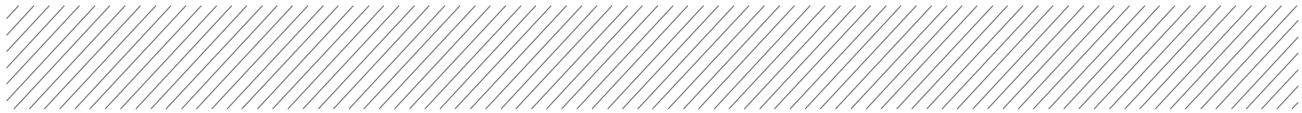
2.6.2 Penalties

Transnet will not impose penalties for non-compliance with the EMPr directly on the Contractor. However, the Contractor must take note that the EMPR will be an extension of the authorisation by the DEA. Therefore, any contravention of the EMPr by the contractor may be regarded as an offence and the Contractor may be liable to prosecution (including criminal prosecution and fines) by the Department of Environmental Affairs.

3 APPLICABLE ENVIRONMENTAL GUIDELINES, STANDARDS AND PERMITS

The following is a summary of the environmental legislation applicable to the proposed project.

Legislation	Sections	Relates to
The Constitution (Act No. 108 of 1996)	Chapter 2	Bill of Rights
	Section 24	Environmental Rights
National Environmental Management Act (Act No. 107 of 1998)	Section 2	Defines the strategic environmental management goals and objectives of the government. Applies through-out the Republic to the actions of all organs of state that may significantly affect the environment.
	Section 24	Provides for the prohibition, restriction and control of activities that are likely to have a detrimental effect on the environment.
	Section 28	The developer has a general duty to care for the environment and to institute such measures as may be needed to demonstrate such care.
Environment Conservation Act (Act No. 73 of 1989) and regulations	Sections 19 and 19A	Prevention of littering by employees and subcontractors during construction and the maintenance of phases of the proposed project.
National Heritage Resources Act (Act No. 25 of 1999) and regulations	Section 32	No person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site.
	Section 34	No person may, without a permit issued by the SAHRA or a provincial heritage resources authority destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority.
	Section 35	This section provides for Heritage Impact Assessments (HIAs), which are not already covered under the ECA.
National Environmental Management: Biodiversity Act (Act No. 10 of 2004)		Provides for the protection of species and ecosystems that warrant national protection and the sustainable use of indigenous biological resources.
National Water Act (Act No. 36 of 1998) and regulations	Section 19	General duties of employers to their employees.
	Section 20	General duties of employers and self-employed persons to persons other than their employees.
SANS 10103 (Noise Regulations)		The measurement and rating of environmental noise with respect to annoyance and to speech communication.
National Environmental Management: Integrated Coastal Management Act (Act No. 24 of 2008)	Chapter 7	The purposes of the Act include the protection of enhancement of the status of the coastal environment. Chapter 7 of the Act requires owners and occupiers of coastal land to take reasonable measures to avoid adverse effects on the coastal environment in accordance with the National Environmental Management Act.



		<p>The Act does not require new environmental authorisations for activities in the coastal zone, but provides criteria that the environmental decision-making authority must consider when issuing an environmental authorisation.</p>
--	--	--



4 DESCRIPTION OF ACTIVITIES

The activities that are going to be undertaken involve, but are not limited to:

4.1 Pre-construction and Construction phase

- Establishment of the laydown area / storage area;
- Removal and stockpiling of topsoil and excavation / dredging of sand around the areas where piles for the pump structure must be sunk;
- Fencing of the construction sites;
- Personnel conduct;
- Storage of potentially hazardous materials; and
- Handling and disposal of construction waste.

4.2 Rehabilitation phase

- Removal/decommissioning of the laydown area;
- Removal of all construction, hazardous and domestic waste;
- Rehabilitation of the disturbed areas as a result of construction works.

4.3 Operational phase

- Inspections, maintenance and repair of roads, access roads and signage.



5 HIGHLIGHTED POTENTIAL ISSUES DURING THE PROJECT

5.1 Pre-construction

Some members of the neighbouring community and tenants may regard construction as an interference with their daily activities on the site. However, as indicated above, the site for the proposed development is situated almost at the extremity of the Island View site, and interference with other existing activities should be minimal. Members of the surrounding communities and tenants may nevertheless be apprehensive toward changes they do not control. Affected landowners and tenants must hence be informed timeously of the construction programme, duration and all interference with their daily activities. Activities that could cause flames and other sources of fire must be particularly well-controlled due to the storage of petrochemicals on the site.

5.2 During construction

Due to the sensitivity regarding the storage of petrochemicals in the Island View complex, construction workers must be particularly mindful of activities taking place in the surroundings. No sources of flame of any form or any electrical equipment of any form (even cellphones) may be used on the site. Construction teams should also be particularly careful not to cause impacts in the estuarine environment. All complaints must be dealt with appropriately, taking these sensitivities into account.

5.3 After construction

If damaged infrastructure is not repaired to the expectations of the neighbouring landowners or tenants of the Island View site, they may issue formal complaints against the Contractor.

5.4 Possible solutions to the problems

- Proper liaison between Transnet, the Contractor and members of neighbouring communities and tenants.
- A physical access plan along the site shall be compiled and the Contractor shall adhere to this plan at all times. Proper planning when the physical access plan is drawn up by the Environmental Control Officer in conjunction with the Contractor shall be necessary to ensure access to the site.
- The landowners shall be informed of the starting date of construction as well as the phases in which the construction shall take place. This information shall be displayed at the cemetery entrance as information to all visitors.
- The Contractor must adhere to all conditions of contract including the Environmental Management Programme.
- All structures shall be protected against damage at all times and any damage shall be rectified immediately.

- The Contractor shall ensure that all damaged infrastructure (e.g. paving and roads that have been opened up for laying of pipes) are rehabilitated to the satisfaction of the Client.
- Proper site management and regular monitoring of site works must take place.
- Proper documentation and record keeping of all complaints must take place.
- Regular site inspections and good control over the construction process throughout the construction period.
- A positive attitude towards Environmental Management by all site personnel.
- Appointment of a Landowner Liaison Officer on behalf of the Contractor to implement this EMPr and deal with all Landowner and tenant related matters.
- All the Contractor's personnel must undergo safety and environmental induction for the Island View site and must strictly comply with the health and safety requirements, particularly with regards to issues such as preventing flames and sparks.
- Environmental Audits to be carried out on a monthly basis during and upon completion of construction (at least two for the project).

5.5 Summary of Impacts and Mitigation Measures during Construction

The following table covers the construction activities and associated environmental impacts that will occur during the construction of the cemetery expansion project.

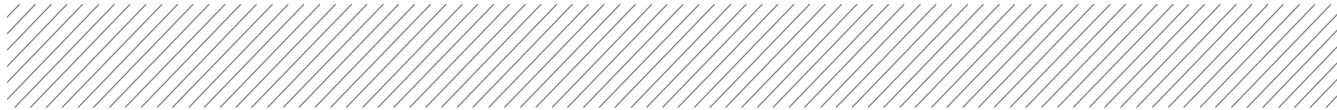
The table considers the expected impacts on-site during the different phases of the project, as well as the mitigation measures and environmental management procedures required to manage the expected impacts. The following sections are dealt with in the table:

- Section 6 : Pre-construction and construction site environmental management
- Section 7 : Materials
- Section 8 : Waste
- Section 9 : Flora, fauna, air quality, noise and other
- Section 10 : Heritage sites
- Section 11 : Planning and engineering considerations

6 PRE-CONSTRUCTION AND CONSTRUCTION SITE ENVIRONMENTAL MANAGEMENT

Table 1: General impacts and mitigation table

Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
6.1 Engineering Design	All the aspects listed in the EMPr	Design incompatible with environment	<p>Objective: To ensure the design of the proposed infrastructure takes into account the environment.</p> <p>Outcome:</p> <ul style="list-style-type: none"> Assimilate requirements of the EMPr in the design and construction management, where appropriate. The Contractor shall submit a plan of the laydown area and proposed layout of the construction area to Transnet for review prior to site establishment. This plan shall take into account any relevant requirements of the EMP as indicated below. 	ECO audits	Once-off	n.a.	Design	Contractor, Transnet	n.a.
6.2 Establishment of the laydown area and construction commencement	Laydown area and affected environment	Damage or loss of existing infrastructure and changes to the area's water quality	<p>Objective: To prevent negative influence to the surrounding surface and groundwater.</p> <p>Outcome:</p> <ul style="list-style-type: none"> Site establishment shall take place in an orderly manner and all amenities shall be installed at laydown areas before the main workforce moves onto site. A method statement is required from the Contractor at tender stage that includes the layout of the laydown area, management of ablution facilities (if not making use of existing facilities), wastewater management and storage of hazardous chemicals (if any). The planning and design for the laydown area must ensure that there is a minimum impact on the environment. A site plan of the laydown area must be provided indicating waste areas, storage areas and placement 	ECO audits	Once-off	n.a.	Site establishment	Transnet	ECO auditing



Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
			<p>of ablution facilities.</p> <ul style="list-style-type: none"> The laydown area shall have the necessary ablution facilities with chemical toilets where such facilities are not available at commencement of construction. The Contractor shall supply a wastewater management system that will comply with legal requirements and be acceptable to Ethekewini Municipality and Transnet Where Ethekewini Municipality facilities are available the Contractor shall make use of such facilities where it is viable and possible. The Contractor shall inform all site staff to the use of supplied ablution facilities and under no circumstances shall indiscriminate excretion and urinating be allowed other than in supplied facilities. The laydown area must be placed on an area that causes minimum disturbance to existing operations and activities on the Island View site. The laydown area must be fenced off. Fencing and security access must be maintained throughout the project as per the requirements of the Island View complex health and safety rules. Emergency and contact numbers of the contractors must be available and prominently displayed on a signage board that is clearly visible. 						
6.3 Establishment of the laydown area site	Laydown area	Pollution of the estuarine environment	<p>Objective The environmental objective when establishing the laydown area is to minimise the footprint of disturbance, thereby preventing the potential for pollution of the estuarine environment.</p> <p>Outcome:</p> <ul style="list-style-type: none"> Allowance is made for a single laydown area on the site. Storage areas for hazardous chemicals (if any) must be properly banded. The laydown area and storage areas for hazardous chemicals must be chosen to ensure that drainage from this area into Durban Bay is avoided. 	ECO audits	Once-off	n.a.	Site establishment	Contractor	ECO auditing



Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
6.4 Closure of the laydown area during breaks and holiday periods	Laydown area	Potential impacts associated with the closure of the laydown area	<p>Objective(s): To limit potential impacts on the environment for the period for which the laydown area is closed.</p> <p>Outcome : Should the laydown area be closed for a period of more than one week, a report on compliance will be lodged with the Contractor, and Project Manager confirming the following:-</p> <ul style="list-style-type: none"> • No persons allowed other than project employees; • Minimal materials are stored; • Materials are stored in leak-proof, sealable containers or packaging; • The store area is secure and locked; • Fire extinguishers are serviced and accessible; • The area is secure from accidental damage through vehicle collisions, etc.; • Emergency and contact numbers of the contractor are available and prominently displayed; • All stores will be secured; • Chemical toilets are empty, kept hygienically clean and secured; and • 24 hour security will be on site during this period. 	ECO audits Compliance report submission as per requirements	During closure of the site during breaks	n.a.	As and when required	Contractor	ECO auditing
6.5 Construction of infrastructure	Site buildings and materials	Pollution and permanent alteration to the environment	<p>Objective(s): To ensure the material for site buildings (if any) are recyclable and to minimise the impacts of the construction of the buildings on the environment.</p> <p>Outcome :</p> <ul style="list-style-type: none"> • No permanent structures will be permitted at the laydown area. • Temporary structures shall be founded on a platform, either subsoil or a screed slab. • Buildings should preferably be pre-fabricated or constructed of re-usable/recyclable materials. • All temporary structures must be soundly built and not pose a danger to workers. • Closed containers are to be used for the storage of materials which have the potential to release pollutants into the environment. • All structure footprints to be rehabilitated to their pre-construction condition once construction is complete. 	ECO audits	Once off	n.a.	Site establishment	Contractor	ECO auditing

Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
6.6 Fencing of the construction site	Demarcation of the site	Safety	<p>Objective(s); Whilst establishing the site, the footprint of disturbance must be minimised and excavations must be clearly demarcated to prevent injuries.</p> <p>Outcome:</p> <ul style="list-style-type: none"> All excavations must be demarcated as indicated in the EMPr using safety nets or other methods approved by the ECO. The width of the construction footprint must be agreed upon by the ECO and the Project Manager and as far as possible must be kept to a minimum. No personnel or construction materials will be allowed to move outside the designated/demarcated site during construction activities. 	ECO audits	Monthly	Occupational Health and Safety Act and regulations National Building Regulations	Site establishment	Contractor	ECO auditing
6.7 Cooking of food	Cooking facilities	Type and placement of cooking facilities used, and how they will be used.	<p>Objective(s); To ensure that the cooking facilities used on site do not pose risks to the environment or to safety of the site.</p> <p>Outcome:</p> <ul style="list-style-type: none"> No fires or any flames of any form will be allowed on the construction site. All food must be pre-packed or bought on the site from an approved vendor. 	ECO audits	Monthly	Safety rules of the Island View complex	Construction	Contractor	ECO auditing
6.8 Operation of the sanitation system(s)	Sanitation systems	Unpleasant odours on site Inadequate number of latrines on site Position of latrines	<p>Objective(s); To ensure good sanitation system and management throughout the construction period.</p> <p>Outcomes:</p> <ul style="list-style-type: none"> Adequate chemical toilets must be provided for all staff. Alternatively, existing ablution facilities on site can be utilised if available. Chemical toilets must be emptied / serviced on a regular basis to prevent them overflowing. Proof of this must be provided to the ECO. A minimum of one toilet must be provided per 15 persons at each working area within 100m from worker activity. 	ECO audits	Monthly	National Water Act Ethekwini Municipality sanitation and storm water bylaws	Construction	Contractor	ECO auditing

Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
6.9 Vehicle parking areas. Storage of equipment	Vehicle parking and parking area(s). Equipment storage	Pollution of soils and water	<p>Objective(s): To ensure vehicles are parked according to the specifications in the EMPr and that equipment is handled appropriately.</p> <p>Outcome:</p> <ul style="list-style-type: none"> No storage of vehicles or equipment will be allowed outside of designated areas. Drip trays or any form of oil absorbent material must be placed underneath vehicles and equipment when not in use. 	ECO audits	Monthly	National Water Act Ethekewini Municipality storm water bylaws	Construction	Contractor	ECO auditing
6.10 Servicing and washing of vehicles and machinery	Workshop and equipment storage areas	Water contamination, Soil contamination, Noise pollution	<p>Objective(s): To ensure that the environment is not polluted by ensuring that service areas and wash bays for vehicles and machinery are made available and utilised.</p> <p>Outcome:</p> <ul style="list-style-type: none"> All maintenance of vehicles and equipment shall take place in a designated workshop area. No servicing may take place on the construction site. During servicing of vehicles or equipment, a suitable drip tray shall be used to prevent spills onto the soil or into water especially where emergency repairs are effected outside the workshop area. Leaking equipment shall be repaired immediately or be removed from site to facilitate repair. All potentially hazardous and non-degradable waste shall be collected and removed to a registered waste site. Workshop areas shall be monitored for oil and fuel spills and such spills shall be cleaned and re-mediated to the satisfaction of the ECO. A method statement is required from the Contractor showing how emergencies e.g. fire and spillages, will be dealt with. The Contractor shall be in possession of an emergency spill kit that must be complete and available at all times on site. In the event of equipment failure or breakdown, preventative measures must be implemented to contain any leaks and the equipment must be removed off site 	ECO audits	Monthly	National Water Act Ethekewini Municipality storm water bylaws	Construction	Contractor	ECO auditing

Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
			<p>for repairs. Only emergency repairs shall be allowed on site.</p> <ul style="list-style-type: none"> The contractor must ensure that delivery drivers and plant operators are informed of all relevant procedures and restrictions required ensuring compliance with this document. All vehicles and equipment must be well maintained to ensure that there are no oil or fuel leakages. The following shall apply: <ul style="list-style-type: none"> All contaminated soil / yard stone shall be removed and be placed in containers for further disposal; Smaller spills can be treated on site; A specialist Contractor shall be used for the bio-remediation of contaminated soil where the required remediation material and expertise is not available on site; and All spills of hazardous substances must be reported according to the incident classification system in Transnet's standard Construction Environmental Management Plan (CEMP). Level 1 and 2 incidents must be reported to the environmental authorities. Levels 3 and 4 incidents must be reported to Transnet. 						
6.11 Personnel conduct	Personnel	Infringement of the EMPr requirements by personnel	<p>Objective(s): To ensure that personnel are adhering to the EMPr requirements.</p> <p>Outcome:</p> <ul style="list-style-type: none"> The Contractor will adhere to all requirements of the Occupational Health and Safety Act (Act 56 of 2004), including the drafting of a suitable Health and Safety Plan which will be implemented during the construction phase. All personnel to undergo Environmental Awareness Training. A signed register of attendance must be kept for proof. Transnet induction must be attended by all parties involved in construction. Tool box talks to include aspects of the EMPr. Labourers associated with the contractor must be easily recognizable (i.e. company issued overalls with company name/logo etc.), and other persons will not be 	ECO audits	Monthly	Occupational Health and Safety Act Island View complex safety rules and regulations	Construction	ECO	<p>Confirmation that personnel are wearing appropriate PPE</p> <p>Confirmation through observation whether personnel are adhering to EMPr requirements</p>



Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
			<p>allowed within the laydown area at any time without prior permission from the project manager.</p> <ul style="list-style-type: none"> Warning signs must be placed on and around the site as per the Occupational, Health and Safety requirements for the Island View site. Adequate first aid services must be provided by the contractor at the contractor's work area. The contractor will be responsible for his own security arrangements and shall comply will all site security instructions. Basic firefighting equipment must be available on site. PPE to be provided and well maintained in working area. All incidents should be reported to ECO, investigated, documented and kept in the safety file. 						
6.12 Construction activities	Safety of the public / surrounding landowners and tenants	Health and safety of the public and users of the Island View site	<p>Objective(s): To ensure that the public at large is not injured or affected negatively in any way.</p> <p>Outcome:</p> <ul style="list-style-type: none"> The Contractor shall recognise that the Site is situated within a large petrochemical storage facility and shall therefore take all reasonable measures to ensure the safety of people in this area. Where users of the site could be exposed to danger by any of the Works or Site activities, the Contractor shall as appropriate provide suitable flagmen, barriers and/ or warning signs in English, Afrikaans and isiZulu, all to the approval of the Project Manager. All unattended open excavations shall be adequately demarcated (fencing shall consist of a minimum of three strands of wire and made clearly visible). Adequate protective measures must be implemented to prevent unauthorised access to and climbing of protective scaffolding. No firearms shall be permitted on Site without the prior approval of the Project Manager. 	ECO audits	Monthly	Occupational Health and Safety Act Island View complex safety rules and regulations	Construction	ECO	<p>Confirmation that personnel are wearing appropriate PPE</p> <p>Confirmation through observation whether personnel are adhering to EMPr requirements</p>

7 MATERIALS

Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
7.1 Transport of material	Material transport	Traffic congestion. Dust during transportation. Excessive noise.	<p>Objective(s) To ensure that whilst material is transported, it cannot negatively influence the surrounding environment.</p> <p>Outcome: The contractor should note that existing roads are sufficient to facilitate access to the site but the following should be adhered to:</p> <ul style="list-style-type: none"> • Access to privately owned land will be arranged with the various landowners by the contractor. • Adequate and appropriate traffic warning signage must be erected where applicable, along transport routes and access roads. • The Contractor shall take preventative measures e.g. screening, muffling, timing, pre-notification of affected parties to minimise complaints regarding noise and vibration nuisance from sources. • Fine materials (such as sand) must be covered during transportation. • Appropriate response plans must be prepared by Contractors to ensure the fastest possible reaction to spills or accidents. • All trucks and vehicles removing spoil from the site must have load areas and must be covered by a tarpaulin (plastic/synthetic sheets (covers) to prevent rocks and spoil falling onto the road surfaces. • Vehicle speeds on site must not exceed speed limits specified for the Island View complex. • All drivers and operators must have licences for driving and moving of plant on site. • All road vehicles must be roadworthy. No un-roadworthy vehicles will be allowed on the site. 	<p>ECO audits</p> <p>Checking of driver and vehicle documentation upon entry to the site</p> <p>Checking of vehicle condition upon site entrance</p>	Monthly and upon every entry to the Island View site	<p>Occupational Health and Safety Act</p> <p>National Road Traffic Act</p> <p>Island View complex safety rules and regulations</p>	Construction	Contractor	<p>Checking of documentation</p> <p>Checking of driver and vehicle documentation upon entry to the site</p> <p>Checking of vehicle condition upon site entrance</p>



Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
7.2 Storage of Hazardous Material	Hazardous material storage	Contamination of soil by hazardous material Inadequate remediation measures for spills	<p>Objective(s): To ensure adequate protection of soil and soil remediation measures in case of spills.</p> <p>Outcome:</p> <ul style="list-style-type: none"> • Hazardous materials – such as paint, cement, fuels, bitumen, fuel, oil, herbicides, battery acid or detergents – must be stored in sealed, lockable containers when not in use • A register shall be kept on all substances and be available for inspection at all times. Areas shall be monitored for spills and any spills shall be contained, cleaned and rehabilitated immediately • No decantation into unmarked containers or containers with irrelevant or incorrect labelling. • No decanted fuel to be left unattended in the sun to avoid fire. • When handling hazardous materials, manufacturer's specifications must be complied with. The 16 point Material Safety Data Sheet is available on site. • All reasonable care must be taken to prevent spills of any hazardous material when in use. • All spills (minor and major) must be cleaned and remediated to the satisfaction of the ECO and CEO within 24 hours of occurrence. • The contractor must ensure that there is a supply of absorbent material (e.g. Drizit) and cleanup materials readily available to absorb, breakdown and, where possible, encapsulate minor hazardous material spillages. • No material may be stacked higher than 2m. • All products are to be stored with compatibility in mind. • Storage areas shall display the required safety signs depicting "No smoking", "No naked lights" and "Danger". Containers shall be clearly marked to indicate contents as well as safety requirements. • The contractor shall supply a method statement to the Project Manager for approval for the storage of hazardous materials prior to site preparation works. 	ECO audits	Monthly or more frequently during unscheduled audits	Occupational Health and Safety Act National Water Act Ethekwini pollution control bylaws	Construction	Contractor	Auditing of the condition of hazardous material storage areas

Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
7.3 Storage of Fuel	Storage areas	Contamination of soil or water by fuel Inadequate remediation measures for spills	<p>Objective(s): To ensure that there is optimum environmental protection (especially soil and the estuarine environment) from fuel spills.</p> <p>Outcome:</p> <ul style="list-style-type: none"> Fuel must be stored in above ground storage tanks or sealed containers, contained within a bunded area with sump drainage. All bunds must be designed to contain at least 110% of the tank or drum storage capacity (this shall apply to above ground storage, and include fuels, welding equipment and oxy-acetylene cutting equipment). No drainage from fuel storage areas shall be permitted. Any other hazardous substances stored in bulk will require bunding. 	ECO audits	Monthly or more frequently during unscheduled audits	Occupational Health and Safety Act National Water Act Ethekeini pollution control bylaws	Construction	Contractor	Auditing of the condition of fuel storage facilities
7.4 Use of cement	Cement	Contamination of soil and surrounding environment (especially the estuarine environment) by cement Decrease in ambient air quality	<p>Objective(s): To ensure that the environment is protected from cement that will be used on site.</p> <p>Outcome:</p> <ul style="list-style-type: none"> Cement must be delivered in sound and properly secured bags or in approved bulk containers. Cement products in bags must be stored in storage containers to be provided at the laydown area and should only be opened when needed. The storage facility and surrounding area must be swept and cleaned regularly as required to ensure that cement products do not pollute the surrounding environment. Cement bags are not to be burnt on site but should be disposed of at a registered waste disposal site. No concrete mixing may take place on bare soil. 	ECO audits	Monthly or more frequently during unscheduled audits	National Environmental Management: Air Quality Act National Ambient Air Quality Regulations National Water Act	Construction	Contractor	Auditing of the condition of air and water throughout construction Inspection of the condition of cement storage facilities

8 WASTE

Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
8.1 Storage, removal and disposal of construction waste	Construction waste	Land pollution Decreased aesthetic integrity of the site	<p>Objective(s): To ensure that waste is correctly stored and disposed of, decreasing the visual impact during the construction and post construction period. To keep the site neat and clean. Disposal of rubble and refuse in an appropriate manner. Minimise litigation. Minimise landowner complaints.</p> <p>Outcomes:</p> <ul style="list-style-type: none"> • The Contractor shall supply waste collection bins where such are not available and all solid waste collected shall be disposed of at a registered disposal site. • A certificate of disposal shall be obtained by the Contractor and kept on file for all waste removed from the site. • Where a registered waste site is not available close to the construction site, the Contractor shall provide a method statement with regard to waste management. Under no circumstances may solid waste be burned on site. • Refuse bins will be emptied and secured. All waste will be collected and disposed of at a registered waste disposal site. Proof of this must be provided to the ECO. • No material shall be left on site that could be of harm to humans and animals. • Broken, damaged and unused nuts, bolts and washers shall be picked up and removed from site • Surplus concrete may not be dumped indiscriminately on site, but shall be removed from site when nearing completion of the different stages of work. • Concrete trucks shall not be washed on site unless adequate washing and concrete collection facilities are available on site. • Temporary storage of construction waste will take place within the site, and within areas designated by the ECO and the contractor although construction waste will not be stored on site for longer than 30 days. • No burning of waste is permitted on the site under any circumstances. 	ECO audits	During monthly audits or more frequently during unscheduled audits	<p>National Environmental Management Waste Act</p> <p>Ethekwini Municipality littering and waste bylaws</p> <p>Environment Conservation Act: Sections 19 and 19A</p>	Construction	Contractor	<p>Inspection of waste management facilities e.g. waste skips or bins</p> <p>Inspection of waste and waste removal documentation (e.g. waste manifests and certificates of safe disposal)</p>

Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
8.2 Storage, removal and disposal of domestic waste	Domestic waste	Land pollution Bad odours Decreased aesthetic integrity of the site	<p>Objective(s) To ensure that waste is correctly stored and disposed of, decreasing the visual and possible environmental impact during the construction and post construction period.</p> <p>Outcome:</p> <ul style="list-style-type: none"> The Contractor must supply sealable waste bins at the laydown area for the storage of domestic waste. Personnel must be informed about the necessity of using the waste drums. The Contractor must do site clean-ups of litter other than construction waste on a daily basis, and dispose of it in the designated refuse bins provided at the laydown area. The contractor must ensure that general site-wide litter clean-up will occur at least once a week. The Contractor must dispose of all domestic refuse generated by his staff and Sub-Contractors on a weekly basis at a registered waste disposal facility. The Contractor must provide proof of this to the ECO in the form of a safe disposal certificate. Sealable waste drums should be provided at strategic places on site. 	ECO audits	During monthly audits or more frequently during unscheduled audits	National Environmental Management Waste Act Ethekwini Municipality littering and waste bylaws Environment Conservation Act: Sections 19 and 19A	Construction	Contractor	Inspections of site conditions and waste management facilities
8.3 Storage, removal and disposal of hazardous waste	Hazardous waste	Soil pollution Water pollution	<p>Objective(s): To ensure that soil and the rest of the surrounding environment on site is protected from hazardous waste.</p> <p>Outcome:</p> <ul style="list-style-type: none"> The Contractor is required to refer to the Hazardous Substances Act No 15 of 1973 act to determine whether any substance (new or waste) stored on site is subject to controls contained within the act. All hazardous waste must be stored in sealed and suitably marked containers for removal to a registered hazardous waste disposal facility. Any oil spillage on site will be excavated to a depth determined between the CEO and ECO and disposed of for removal to a registered hazardous waste disposal site. Excavated areas are to be refilled with suitable replacement material. Alternative in-situ remediation techniques could be used, if approved by the ECO. Grey water must be stored in sealable marked containers and disposed of with other waste water from the construction works. 	ECO audits	During monthly audits or more frequently during unscheduled audits	Hazardous Substances Act National Environmental Management Waste Act Ethekwini Municipality littering and waste bylaws Environment Conservation Act: Sections 19 and 19A	Construction	Contractor	Inspections of site conditions, waste management facilities and hazardous chemical storage facilities

9 FLORA, FAUNA, AIR QUALITY, NOISE & OTHER

Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
9.1 Construction activities (physical issues and their control)	Terrain	Scarring of soil surface Loss of oil	<p>Objective(s): Minimise scarring of the soil surface and land features. Minimise disturbance and loss of topsoil. Rehabilitate all disturbed natural areas on the site.</p> <p>Outcome:</p> <ul style="list-style-type: none"> The areas within and around the site will most likely be disturbed by construction activities and rehabilitation is required to reinstate such areas. Topsoil shall be stockpiled separately from subsoil or any other materials and shall be used for rehabilitation and landscaping of the cemetery. Sand removed from the estuarine environment during the construction of piles. 	ECO audits	During monthly audits or more frequently during unscheduled audits	n.a.	Construction	Contractor	Inspections of site conditions
9.2 Removal and control of alien vegetation	Alien vegetation	Introduction of alien plants/seeds on site.	<p>Objective(s): To prevent alien plants/ seeds from being introduced on site. To remove alien plants where possible, from site</p> <p>Outcomes:</p> <ul style="list-style-type: none"> All sites disturbed by construction activities must be monitored for exotic or invasive plant species and weeds. Chemical removal shall be used in accordance with manufacturer's specification for weeds. The type of chemical to be utilised must be approved by the ECO. Any eradicated exotic/invasive plant or weed vegetation must be removed from site and disposed of at an approved waste disposal facility. The operator must have a Pest Control Operators licence. Transnet will be responsible for the implementation of the maintenance schedule. 	ECO audits	During monthly audits or more frequently during unscheduled audits	Conservation of Agricultural Resources Act National Environmental Management: Biodiversity Act	Construction	Contractor	Inspections of site conditions for establishment of invasive alien species

Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
9.3 Protection and handling of fauna on site	Protection of fauna	Intentional or unintentional killing of fauna on site	<p>Objective(s): To ensure that fauna found on site are protected and not interfered with.</p> <p>Outcome:</p> <ul style="list-style-type: none"> The contractor must ensure that the site is kept clean and free of rubbish that could potentially attract animal pests, and that rubbish bins are scavenger proof. Workers should be educated so as not to kill any fauna (e.g. do fishing in the estuary). No fish species shall be released into the estuarine environment. 	ECO audits	During monthly audits or more frequently during unscheduled audits	National Environmental Management: Biodiversity Act	Construction	Contractor	Inspections of site conditions
9.4 Trenching	Dust control	Air pollution	<p>Objective(s): To reduce the generation of dust on the construction site.</p> <p>Outcome:</p> <ul style="list-style-type: none"> Dust suppression is to be conducted during construction, or as complaints are received. Warning barricading should be placed around open trenches and should be suitable for high winds. The Contractor is to take appropriate measures to minimise the generation of dust as a result of excavation works. Such measures include frequent spraying during low rainfall periods or by using chemical dust binding agents approved by the ECO. Speed limits must be enforced in all areas to reduce the generation of dust. 	ECO audits Complaints from surrounding land owners or users of the site	During monthly audits or more frequently during unscheduled audits	National Environmental Management: Air Quality Act National Dust Control Regulations	Construction	Contractor	Inspections of site conditions Response to complaints
9.5 Use of construction vehicles and equipment	Construction vehicles, plant and machinery.	Noise and vibration	<p>Objective(s): Reduction in the amount of noise on site.</p> <p>Outcome:</p> <ul style="list-style-type: none"> Working hours shall start at the earliest at 07h30 and end at 16h30 at the latest. The Contractor must give reasonable advance notice of work on weekends. Should construction have to continue after hours, all potentially affected residents of surrounding residential areas must be notified timeously. All machinery and equipment must be maintained in good working order, and fitted with mufflers approved by the manufacturers of the machinery. 	ECO audits Complaints from surrounding land owners or users of the site	During monthly audits or more frequently during unscheduled audits	National Noise Control Regulations Ethekewini Municipal noise control bylaws	Construction	Contractor	Inspections of site conditions Response to complaints

10 HERITAGE SITES

Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
10.1 Excavation and piling	Heritage chance finds	Destruction of heritage resources	<p>Objective(s): To make sure that articles of heritage interest are preserved, if any are found.</p> <p>Outcome:</p> <ul style="list-style-type: none"> • Should any archaeological remains (e.g. bones) be uncovered during construction, their existence shall be reported to the appropriate heritage authority immediately. • Artefacts may not be removed under any circumstances. • A qualified and registered archaeologist must be appointed and consulted at such a finding to appropriately excavate any artefacts in agreement with SAHRA. • An archaeologist will then take the necessary action so that construction can continue 	ECO audits	As and when needed, depending whether any heritage artefacts are found	National Heritage Resources Act KwaZulu-Natal Heritage Act	Construction	Contractor	Inspections of site conditions

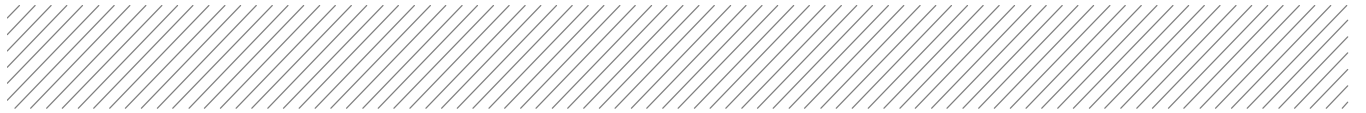
11 PLANNING AND ENGINEERING CONSIDERATIONS

Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
11.1 Construction activities	Existing infrastructure	Disruption of services, damage to installations, damage or loss of plant	<p>Objective(s): To have control over and prevent temporary or permanent damage to plant and facilities. To prevent interference with the normal operation of plant and facilities. Securing of the safe use of infrastructure, plant and facilities and to have control over actions and activities in close proximity to inhabited areas.</p> <p>Outcome:</p> <ul style="list-style-type: none"> • Where pipe lines are found in the working area, the depth of the pipes under the surface shall be determined to ensure that proper protection is afforded to such structures. • Any damage to pipe lines shall be repaired immediately. • The speed limit in the Port environment is 30km/h. This shall be enforced and all drivers shall be sensitised to this effect. 	ECO audits Complaints from other users of the Island View site	As and when needed	n.a.	Construction	Contractor	Inspections of site conditions

Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
11.2 Batching concrete	Batching plants	Surface water contamination Disturbance to area Inconvenience to other users of the site	<p>Objective(s): To ensure all agreements with other users of the site are adhered to. To prevent complaints from other tenants and users of the sites. Successful rehabilitation of disturbed areas to avoid nuisance or inconvenience for other users of the site.</p> <p>Outcome:</p> <ul style="list-style-type: none"> • Development structures should be clustered as close as possible to existing development. • The siting of batching plants shall be done in conjunction with the Project Manager and ECO. Also see detail mitigation measures in later sections. • Should a concrete batching plant be required, Transnet specifications regarding batching plants must be adhered to. • The batching plant area shall be operated in such a way as to prevent contaminated water to run-off the site and polluting nearby streams or water bodies. To this effect diversion berms can be installed to direct all wastewater to a catchment area. • It shall be ensured that all agreements reached with the landowner and tenants are fulfilled, and that such areas be rehabilitated once construction is completed. 	ECO audits Complaints from other users of the Island View site	Monthly	National Water Act Ethekewini Municipal water and storm water bylaws	Construction	Contractor	Inspections of site conditions
11.3 Construction activities on private land	Interaction with other parties	Disruption of services or inconvenience to other users of the Island View site	<p>Objective(s): To maintain good relationships with other parties that use the Island View site</p> <p>Outcome:</p> <ul style="list-style-type: none"> • The success of the project depends heavily on the good relations with the Landowners (Transnet) and tenants. It is required that the Contractor will supply one person to be the liaison officer (CLO) for the entire contract, and that this person shall be available to investigate all problems arising on the work sites concerning the Landowners. • All negotiations for any reason shall be between the Transnet Project Manager and the Contractor. • No verbal agreements shall be made. All agreements shall be recorded properly and all parties shall co-sign the documentation. • The Contractor shall keep a photographic record of the 	ECO audits Complaints from other users of the Island View site	Monthly	n.a.	Construction	Contractor	Inspections of site conditions



Activity	Aspect	Potential Impact	Mitigation Measure (Objective and Outcome)	Method of monitoring implementation	Monitoring frequency	Applicable standards or practices	Time period for implementation	Implementation Responsibility	Mechanism for monitoring compliance
			<p>condition of pre-existing facilities on the site. This will then be available should any claims be instituted by any other parties.</p> <ul style="list-style-type: none">• All claims instituted by the other parties shall be investigated and treated promptly.• Unnecessary delays should be avoided at all costs.• Other parties shall always be kept informed about any changes to the construction program should they be affected.• If the ECO is not on site the Contractor's liaison officer should keep the other parties informed.• The contact numbers of the Contractor's liaison officer shall be made available to other users of the Island View site. This will ensure open channels of communication and prompt response to queries and claims.• All contact with the other site users shall be courteous at all times.• The rights of the other site users shall be respected at all times and all staff shall be sensitised to this.						





Aurecon South Africa (Pty) Ltd
4 Daventry Street
Lynnwood Bridge Office
Lynnwood Manor
0081
T +27 12 427 3080
F 086 766 1473
E Candice.Durr@aurecongroup.com
W www.aurecongroup.com

Aurecon offices are located in:
Angola, Australia, Botswana, China,
Ethiopia, Hong Kong, Indonesia,
Lesotho, Libya, Malawi, Mozambique,
Namibia, New Zealand, Nigeria,
Philippines, Singapore, South Africa,
Swaziland, Tanzania, Thailand, Uganda,
United Arab Emirates, Vietnam.