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Transnet National Ports Authority

SCOPING AND ENVIRONMENTAL IMPACT REPORTING PROCESS FOR THE DEVELOPMENT OF NEW BERTH 605 AND ASSOCIATED INFRASTRUCTURE TO SUPPORT THE CONTAINER HANDLING FACILITY, PORT OF RICHARDS BAY, KWAZULU-NATAL

Draft Scoping Report

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Draft Scoping Report

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PUBLIC REVIEW OF THE SCOPING REPORT

This Draft Scoping Report is made available for comment for 30 days **from 19 November 2024 until 13 January 2025** on WSP's website and at the public places in the project area listed in the table below:

Name of Public Place	Address
WSP Website	https://www.wsp.com/en-za/services/public-documents
Richards Bay Public Library	Richards Bay Central, Richards Bay, 3900
Aquadene Public Library	4 Via Ammannia, Aquadene, Richards Bay, 3900

DUE DATE FOR COMMENT ON THE DRAFT SCOPING REPORT IS 13 JANUARY 2025

Please submit comments to:

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EXECUTIVE SUMMARY

BACKGROUND AND INTRODUCTION

The Transnet National Ports Authority (TNPA) functions in terms of the National Ports Act (No.12 of 2005) in which TNPA is responsible for the provision of port services and facilities within all ports of South Africa. In its role as the master planner, the TNPA also plans to improve, develop and maintain port infrastructure. Various development opportunities were identified by TNPA across three precincts namely South Dunes, Newark and Bayvue and are reflected in the Port Development Framework Plan (PDFP) and the Port of Richards Bay Master Plan 2021 – 2035.

The Berth 605 project is reflected in the Port Development Framework Plan (PDFP) and the Port of Richards Bay (PoRB) Master Plan, 2021-2035 and forms part of the Bayvue Precinct. The physical extent of the PoRB makes it the largest port in South Africa however, given the location of the port and the proposed expansion, the environmental sensitivities at the site and surrounding the port must be considered. Therefore, as part of the overall appointment, WSP has been commissioned to undertake the Scoping and Environmental Impact Reporting (S&EIR) process as the independent Environmental Assessment Practitioner (EAP).

This Draft Scoping Report (DSR) has been compiled as part of the S&EIR process.

PURPOSE OF THE SCOPING REPORT

In summary, the purpose of the DSR is to provide information, regarding:

- The Environmental Impact Assessment (EIA) process as stipulated in the EIA Regulations 2014, as amended, including the process to be followed in conducting the environmental and social impact assessment, and the stakeholder engagement including consultation with regulatory authorities,
- The policy and legislative context for the project,
- A motivation for the need and desirability for the project, in the context of the preferred location,
- The proposed activities, the location of the project and activities to be undertaken,
- The plan of study for the impact assessment phase,
- The current baseline environmental conditions within the project footprint;
- The potential environmental and social impacts provisionally identified for the project,
- The alternatives being investigated, and
- The methodology used to assess the significance of the impacts.

NEED AND DESIRABILITY OF THE PROJECT

According to the PDFP, *the PoRB aspires to be a premier dry bulk and liquid bulk port with diversification in other segments. The Port desires to be a growing, effective, efficient, and integrated port by investing in infrastructure and improving terminal and supply chain efficiencies.*

To achieve the goal of becoming a premier dry bulk and liquid bulk port, the PoRB must be able to accommodate for the capacity demand for the main commodities. Berth 605 fits into the ultimate goal for the PoRB as it will be used as a dedicated berth for the container handling facility which will ensure that the other berths in the 600 series i.e. 606 to 609 are utilized as multipurpose terminals and not for handling of containers, this will significantly improve the overall operational efficiency at the port.

LOCATION

Berth 605 is located within the PoRB, King Cetshwayo District Municipality and uMhlatuze Local Municipality within the KwaZulu-Natal (KZN) Province. The approximate centre point co-ordinates for the Berth 605 project area are:

28°47'23.82"S; 32° 1'34.43"E.

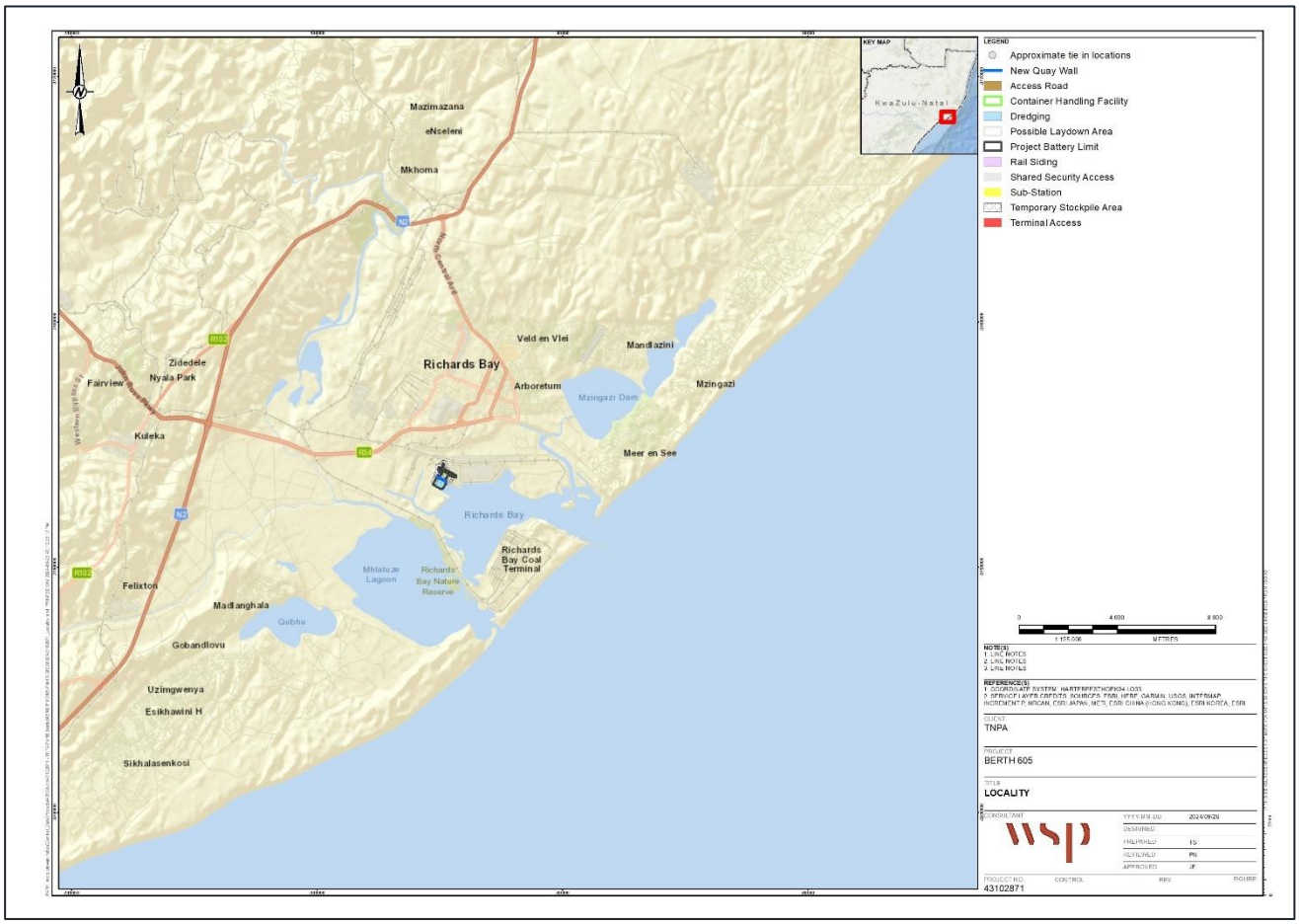

Figure 1: Locality Map of the Berth 605 project area

SUMMARY OF PROJECT COMPONENTS

The following structures and infrastructure are deemed necessary to achieve the overall objective of the project and are included in the project description:

- **New berth pocket and quay wall** – A new berth pocket and quay wall. The quay wall will be a mass concrete gravity wall with backfill infill. It will have a wide base and hollow in the middle to allow for the void to be backfilled with sand. This provides a wider footprint but a lower density which will result in a more stable foundation. The quay wall is expected to be 360 m in length.
- **End of berth basin slopes** – The Berth 605 must fit within the space between the end of the existing Berth 606 and the South Dunes Road. The location of the end of Berth 606 berth pocket is defined as the end of the existing berth which is the lower retained earth wall. With a slope of 1V:3H from -14.5 CD to the existing ground level is 60 m long, this provides a total berth length of

338 m from the toe of the embankment to the start of Berth 606. This will support a vessel of 315 m Length Overall (LOA).

- **Dredging** – Dredging activities will be undertaken to a depth of -14.5 m Chart Datum (CD) to match the existing depth of the basin however the quay wall will be designed to accommodate a -19 CD depth for future dredging if required.
- **Dredge disposal** – An estimated 2.5 million cubic metres of dredged material will be disposed of at an authorised offshore disposal site.
- **New rail siding** – The proposed rail siding design is based on the container handling facility design capacity of 1 million Twenty Foot Equivalent Units (TEUs) per annum, which differs from that of the other design components which caters for 275 000 TEU design throughput per annum. Based on the design throughput and the current requirement of a 50-wagon container train, it is proposed that the rail siding will consist of two rail lines that are 370m each in length, each servicing 2 rakes of 25-wagons each. The existing Mhlatuze Yard will be used for shunting and staging purposes to service the new proposed rail siding.
- **New access road** – a new shared access road and vehicle access control point to the PoRB, the Container Handling Facility (CHF) and the adjacent vacant land surrounding the CHF is proposed. The new road will be an estimated 735 m length with a width of 30 m. It will consist of two (2) lanes each direction and three (3) intersections; at Urania Road, at Ventura Road and one to the container handling facility.
- **Footprint of the Container Handling Facility (CHF) and apron area** – The CHF will be built and operated by the container handling facility operator therefore this S&EIR process only considers the disturbance footprint of the CHF and not the associated permits that it will require when operational. The total area considered is 6.75 Ha for the container handling facility. The apron area is an operational area located behind the quay wall and is used for the movement of trucks. The apron area is an estimated 33 m wide and 400 m in length.
- **Provision of electrical supply to feed the facility operations and equipment** – The preferred alternative is applicable where the required electrical demand is within the available capacity of the current existing 11 kV network. A new feed will be taken from the existing 11 kV network to provide electrical power to the new container handling facility and quay wall. However, while there is existing capacity on the current 11 kV network, this is limited and may not be able to provide for the full electrical demands in the future. To protect against restricting future electrical supply constraints, a new 11 kV Switching Station fed from the existing Primary Substation is proposed.
- **Water** – The existing 225mm diameter water main will be extended along with the new quay wall to supply ship water along the new quay. At the end of the new quay wall extension the water main will follow Urania Road to tie into the existing 150mm diameter pipe in the vicinity of the existing gate house. Connections to new buildings will be off takes from either the existing network directly, or via extensions to the existing network brought to the boundary of the proposed CHF. A tie in point will be provided. Connections to new buildings will be off takes from either the existing network directly, or via extensions to the existing network brought to the boundary of the proposed container handling facility. A tie in point will be provided which will consist of approximately 500 m of pipework with a diameter of 150 mm. Inside the quay wall, water will be provided to landing valves for ships and firefighting.
- **Sewerage** – The existing sewer network has been evaluated to identify areas that require upgrades to accommodate the extension of the sewer network for the new proposed container handling facility. The sewerage system will allow for wastewater from new toilets, basins, baths and showers.

The proposed sewer will be designed to tie into the closest existing pipe network or an existing pump station closest to the proposed container handling facility. Sewerage inside the container handling facility will be designed to accommodate for approximately 160 people. The new sewerage pipeline will have a connection point at the northwestern boundary of the container handling facility. It will be approximately 100 m in length and 160 mm pipe diameter. The preferred alternative involves designing a sump to accommodate the facility's sewer through gravity flow, with pumping from the sump to the existing pumpstation PS20, located north of the facility. The final sewer pipe route will be determined during the design phase.

- **Stormwater** – The existing stormwater network has been evaluated to identify areas that require upgrades to accommodate the extension of the stormwater network for the new proposed CHF. The existing stormwater network located east of the proposed CHF discharges into the basin through the existing quay wall. It is therefore proposed that the same principal apply with the new stormwater pipe through the new quay wall.Stormwater pipes will be installed to collect stormwater runoff from the container handling facility to the new quay wall. The pipeline will be approximately 360 m along the quay line and 400 m on the other side with a 900mm pipe diameter. It will have a velocity of 0.6 m/s for self-cleaning, to prevent sand settling inside the pipe and blocking. There will also be cross drainage at the new rail siding which will be 400 m in length and 600 mm diameter. The existing network discharges into the bay through the existing quay wall.
- **Provision for temporary laydown and stockpile areas** – Areas for temporary stockpiles and laydown areas have been designated and will be further assessed as part of the project. An approximate area of 4.2 Ha, 220 m in length and 170 m wide to be used as a potential lay down area for the project. In addition, two temporary stockpile areas are proposed. The first image is an area of approximately 2.4 Ha, 250 m in length and 100 m wide. The area is located SE of the CHF. The second area is split into two areas across the Harbour Arterial Road. These areas cover an area of approximately 6 Ha. The infilling of approximately 6 Ha of the basin is also being considered for stockpiling (this infilled area also forms part of the basin to be dredged).

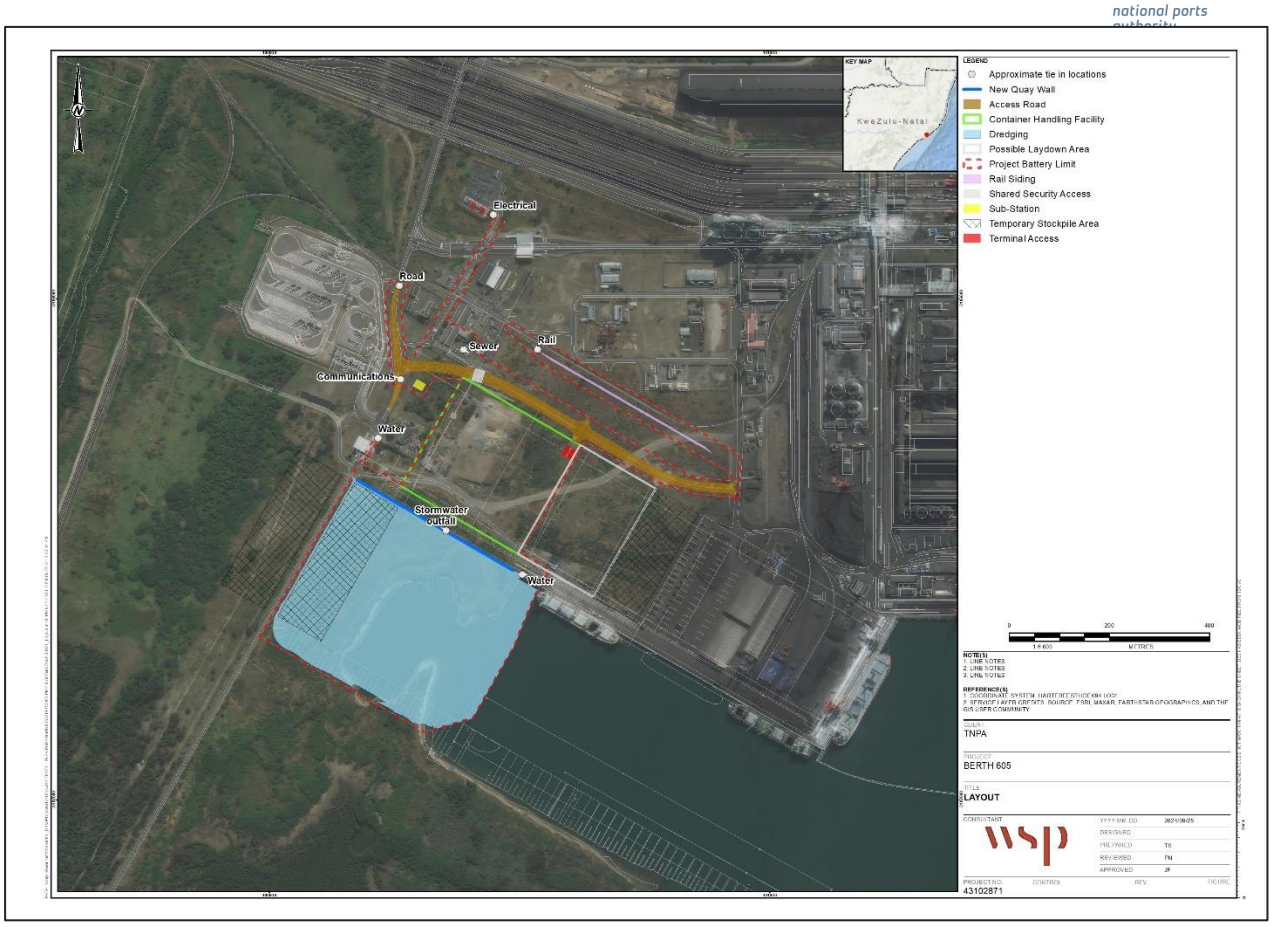

Figure 2: Layout map of the Berth 605 project components

SITE SENSITIVITY

The entire project area is located with an Estuarine Functional Zone (EFZ) and a Critical Biodiversity Area (CBA). However, historical imagery and assessments conducted for other projects in the vicinity of the project area indicates that the site was significantly transformed as a result of previous port development and expansion activities and therefore the vegetation on site is a result of regeneration following anthropogenic disturbance and does not align with the CBA status of the site. This will be further investigated by specialists in the EIA phase of the project.

LEGISLATIVE CONTEXT

In terms of Section 24(2) of the National Environmental Management Act (No. 107 of 1998) (NEMA), the Minister may identify activities which may not commence without prior authorisation. The Minister thus published GNR 327 (Listing Notice 1), 325 (Listing Notice 2) and 324 (Listing Notice 3), as amended, listing activities that may not commence prior to authorisation.

The regulations outlining the procedures required for authorisation are published in GNR 326 [2014 Environmental Impact Assessment Regulations (EIA)] (as amended) (EIA Regulations). Listing Notice 1 identifies activities that require a Basic Assessment (BA) process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity. Listing Notice 2 identifies activities that require an S&EIR process to be undertaken, in terms of the EIA Regulations, prior to commencement

of that activity. Listing Notice 3 identifies activities within specific areas that require a BA process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity.

WSP undertook a legal review of the listed activities according to the proposed project description to conclude that the activities listed in this section are considered applicable to the development: A S&EIR process must be followed subject to confirmation by the Department of Forestry, Fisheries and the Environment (DFFE).

The full legal context of the project is provided in **Section 4** of this document.

SUMMARY OF IMPACTS TO BE FURTHER INVESTIGATED

The table below is a summary of the impacts identified during the Scoping Phase that will require further assessment in the EIA phase:

Aspect	Impact	Nature	Probability	Consequence	Significance (Before Mitigation)	Further Assessment Required
Climate	GHG emissions	Negative	2	2	**Low**	**Yes (Climate Change Impact Assessment)**
	Climate change trends on the project	Negative	3	2	**Medium**	
Topography and Geology	Constructability	Negative	3	2	**Medium**	**Yes (Geotechnical Assessment)**
Aquatic and Freshwater Environment	Changes in water flow regime	Negative	2	2	**Low**	**Yes (Aquatic and Freshwater Impact Assessment)**
	Changes in sediment volume	Negative	2	2	**Low**	
	Introduction and spread of alien vegetation	Negative	2	2	**Low**	
	Loss and disturbance of watercourse habitat and fringe vegetation	Negative	2	2	**Low**	
	Changes in water quality	Negative	2	2	**Low**	
	Loss of aquatic biota	Negative	2	2	**Low**	
	Loss and direct disturbance of wetland habitat	Negative	3	2	**Medium**	
	Impact on marine ecology as a	Negative	4	2	**Medium**	**Yes (Baseline estuarine and**

Aspect	Impact	Nature	Probability	Consequence	Significance (Before Mitigation)	Further Assessment Required
Estuarine and Marine Ecology	result of water-based construction activities					**Marine Ecology Assessment)**
	Loss of estuarine and marine fauna	Negative	4	2	**Medium**	
	Changes in water quality	Negative	4	2	**Medium**	
	Noise impacts on marine ecology	Negative	4	2	**Medium**	
	Marine habitat loss and fragmentation	Negative	4	2	**Medium**	
Terrestrial Biodiversity	Habitat loss and fragmentation (CBA)	Negative	2	2	**Low**	**Yes (Terrestrial Biodiversity Assessment)**
	Direct loss and disturbance of habitat and associated flora Species of Conservation Concern	Negative	2	2	**Low**	
	Establishment and Spread of Alien Invasive Species	Negative	2	2	**Low**	
	Loss and Fragmentation of Faunal Habitats	Negative	2	2	**Low**	
	Injury and mortality of faunal Species of Conservation Concern	Negative	2	2	**Low**	
Avifauna	Disturbance of avifauna due to construction activities	Negative	3	2	**Medium**	**Yes (Avifaunal Assessment)**
	Loss of avifaunal habitat	Negative	3	2	**Medium**	
	Loss of avifaunal Species of	Negative	3	2	**Medium**	

Aspect	Impact	Nature	Probability	Consequence	Significance (Before Mitigation)	Further Assessment Required
	Conservation Concern					
Heritage and Cultural Resources	Disturbance to known land and marine cultural resources	Negative	2	2	**Low**	**Yes (Land and Marine Archaeological and Heritage Impact Assessment)**
	Chance Find of Cultural Resources	Negative	2	2	**Low**	
Palaeontology	Chance Find of Palaeontological resources	Negative	2	2	**Low**	**Yes (Desktop Palaeontology Impact Assessment)**
Socio-Economic	Creation of local employment, training, and business opportunities	Positive	3	1	**Low**	**Yes (Socio-economic Impact Assessment)**
	Increased opportunity for local businesses and suppliers	Positive	3	2	**Medium**	
	Impact of construction workers on local communities	Negative	2	1	**Very low**	
	Nuisance impacts associated with construction related activities	Negative	3	1	**Low**	
Noise	Noise impacts on sensitive receptors	Negative	3	2	**Medium**	**Baseline modelling and a compliance statement for terrestrial noise however there will be no piling in the marine environment therefore no underwater noise assessment will be undertaken**
	Noise impacts on marine ecology	Negative	3	2	**Medium**	
	Noise impacts on avifauna	Negative	3	2	**Medium**	
Visual	Visual impacts	Negative	3	1	**Low**	**Visual baseline and compliance statement**

Aspect	Impact	Nature	Probability	Consequence	Significance (Before Mitigation)	Further Assessment Required
Traffic	Increased traffic generation around the study area by construction vehicles	Negative	3	1	**Low**	**A Traffic Assessment will be conducted as part of the engineering scope of works**
	Deterioration of the surrounding road network due to an increase of traffic around the site	Negative	2	1	**Very low**	
	Transportation of abnormal loads during the construction phase	Negative	3	1	**Low**	
	Increased traffic due to new roads to and from the project area	Negative	3	1	**Low**	

SUMMARY OF THE SCOPING AND ENVIRONMENTAL IMPACT REPORTING PROCESS

The S&EIR process consists of various phases with associated timelines as defined in the EIA Regulations. The process can generally be divided into four main phases, namely; (i) an unregulated pre-application phase, (ii) an Application and Scoping Phase (**current phase**), (iii) an Impact Assessment Phase and (iv) Authorisation and Appeal Phase.

The main objectives of the phases can be described as follows:

- Pre-Application Phase:
  - Undertake consultation meetings with the relevant authorities to confirm the required process and general approach to be undertaken;
  - Identify stakeholders, including neighbouring landowners/residents and relevant authorities;
  - Compile a DSR describing the affected environment and present an analysis of the potential environmental issues and benefits arising from the proposed project that may require further investigation in the Impact Assessment Phase;
  - Develop draft terms of reference for the specialist studies to be undertaken in the EIA Phase; and
  - Inform stakeholders of the proposed project, feasible alternatives and the S&EIR process and afford them the opportunity to register and participate in the process and identify any issues and concerns associated with the proposed project.
- Application and Scoping Phase:

- Compile and submit application forms to the CA and pay the relevant application fees;
- Incorporate comments received from stakeholders during the pre-application phase into the DSR;
- Release the DSR for a 30-day comment period to provide stakeholders with the opportunity to review as well as provide input; and
- Submit the finalised Final Scoping Report (FSR), following the consultation period, to the relevant CA, in this case the DFFE, for acceptance/rejection.

- Impact Assessment Phase:
  - Continue to inform and obtain contributions from stakeholders, including relevant authorities, stakeholders, and the public and address their relevant issues and concerns;
  - Assess in detail the potential environmental and socio-economic impacts of the project as defined in the DSR;
  - Conduct the required specialist studies in accordance with Appendix 6 of the EIA Regulations;
  - Identify environmental and social mitigation measures to avoid and/or address the identified impacts;
  - Develop and/or amend environmental and social management plans based on the mitigation measures developed in the EIR;
  - Submit the EIR to the competent authority to undertake the decision making process;
  - Authorisation and Appeal Phase;
  - The CA to provide written notification of the decision to either grant or refuse environmental authorisation for the proposed project; and
  - Notify all registered stakeholders of the decision and right to appeal.

CONCLUSION

A number of environmental impacts have been identified which require more in-depth investigation and the identification of detailed mitigation measures, namely the impacts on the aquatic and terrestrial environment. Therefore, a detailed EIA is required to be undertaken to assess these potential impacts and recommend appropriate mitigation measures. The scoping phase did not identify any fatal flaws associated with the project.

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PRE APPLICATION MEETING MINUTES

ABBREVIATIONS

Abbreviation	Definition
BPEO	Best Practicable Environmental Option
CA	Competent Authority
CARA	The Conservation of Agricultural Resources Act (No. 43 of 1983)
CBA	Critical Biodiversity Areas
CD	Chart Datum
CRR	Comments and Responses Report
CV	Curriculum Vitae
DFFE	Department of Forestry, Fisheries and the Environment
DSR	Draft Scoping Report
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA Regulations	Environmental Impact Assessment Regulations, 2014, as amended (GNR 326)
ESAs	Ecological Support Areas
FSR	Final Scoping Report
GA	General Authorisation
Ha	Hectares
NDP	National Development Plan of 2030
NEMBA	National Environmental Management: Biodiversity Act, 2004 (No. 10 of 2004)
NEMA	National Environmental Management Act (No. 107 of 1998)
NHRA	The National Heritage Resource Act (No. 25 of 1999)
NWA	The National Water Act (No. 36 of 1998)

Abbreviation	Definition
ONAs	Other Natural Areas
PPP	Public Participation Process
SAHRA	South African Heritage Resources Agency
SANBI	South African National Biodiversity Institute
S&EIR	Scoping and Environmental Impact Reporting
SR	Scoping Report
WUL	Water Use License
WULA	Water Use License Application

UNITS OF MEASUREMENT

Abbreviation	Definition
CD	Chart Datum
Ha	Hectares
kV	Kilovolt
km	Kilometre
m	metre
m^3	Cubic metres
mm	millimetre
MV	Medium voltage
sqm	Square metres
TEU	Twenty-foot equivalents

GLOSSARY

Term	Definition
Berth	A berth is a designated location in a port or harbour used for mooring vessels when they are not at sea.
Competent Authority	The department responsible for processing and assessing the application, in this case it is the DFFE.
Chart Datum	A chart datum is the water level surface serving as origin of depths displayed on a nautical chart and for reporting and predicting tide heights.
Cope line	The interface between land and water.
Critical Biodiversity Areas	The competent authority in respect of the activities listed in this part of the Notice is the competent authority in the province in which the activity is to be undertaken.
Dredging	Dredging is the excavation of material from a water environment such as a lake, river or harbour.
EIA Regulations	These Regulations regulate procedures and criteria as contemplated in Chapter 5 of the National Environmental Management Act for the submission, processing, consideration and decision of applications for environmental authorization of activities and for related matters.
Estuarine Functional Zone	The EFZ is defined as the area that not only encapsulates the estuary waterbody, but also the supporting physical and biological processes necessary for estuarine function and health.
Twenty-Foot Equivalent Units	TEU is a general unit of cargo capacity, often used for container ships and container ports. It is based on the volume of a 20-foot-long (6.1 m) intermodal container
Quay wall	A quay wall is an earth retaining structure which is used to dock floating vessels and transfer goods.

1 INTRODUCTION

WSP Group Africa (Pty) Ltd (WSP) has been appointed by TNPA a Division of Transnet SOC Ltd for the provision of feasibility studies for the development of Berth 605 and associated infrastructure to support the Container Handling Facility, located within the PoRB, KZN Province (**Figure 2-1**).

The TNPA functions in terms of the National Ports Act (No.12 of 2005) in which TNPA is responsible for the provision of port services and facilities within all ports of South Africa. In its role as the master planner, the TNPA also plans to improve, develop and maintain port infrastructure. As such, the Berth 605 project is reflected in the PDFP and the PoRB Master Plan, 2021-2035. The physical extent of the PoRB makes it the largest port in South Africa however, given the location of the port and the proposed expansion, the environmental sensitivities at the site and surrounding the port must be considered.

Therefore, as part of the overall appointment, WSP has been commissioned to undertake the S&EIR process as the independent EAP.

This DSR has been compiled as part of the S&EIR process.

1.1 PURPOSE OF THIS REPORT

This DSR documents the process and findings of the Scoping Phase of the S&EIR process for the proposed Berth 605 project.

The DSR aims to provide stakeholders with information on the proposed project including its considered location, layout and technological alternatives, identified potential impacts and the corresponding scope of the impact assessment and specialist studies, as well as the consultation process to be undertaken throughout the S&EIR process.

The outcome of this DSR has not identified any fatal flaws associated with the development of Berth 605 and associated infrastructure. The currently proposed footprint of the development may overlap with sensitive features identified by the participating specialists during the EIA Phase.

Subject to the outcome of the Public Participation Process (PPP), it is the reasoned opinion of WSP that the project should proceed to the EIA Phase.

1.2 BACKGROUND INFORMATION

1.2.1 HISTORY OF THE PORB

On 1 April 1976, the first phase of the PoRB was officially opened with anchor terminal operators; South African Railways and Harbours and Richards Bay Coal Terminal Pty Ltd, which is now considered one of the leading coal export terminals in the world.

The strategic decision to build a harbour at Richards Bay transformed the fishing village into a thriving industrial hub. The port is therefore a vital link to promoting trade globally. The PoRB is located approximately 160 km north-east of Durban and 465 km south of Maputo on the eastern seaboard of South Africa. Besides the massive rail infrastructure

challenges, dredging the harbour was done on an unprecedented scale. The new port also gave birth to several other associated international entities such as Alusaf (now South 32) and Richards Bay Minerals.

The Richards Bay Industrial Development Zone (RBIDZ) is also strategically located within proximity to the PoRB, it is a prime industrial business and trade hub attracting export-orientated investors as one of the Special Economic Zones (SEZs). The PoRB is also one of South Africa's leading port in terms of cargo volumes handled. It is also the largest port in size, covering an area of approximately 3 773 ha, some of which is still available for further expansion and forms part of the PoRB Masterplan.

1.2.2 BERTH 605 PROJECT WITHIN THE PORB MASTERPLAN

Various development opportunities were identified by TNPA across three precincts namely South Dunes, Newark and Bayvue and are reflected in the PDFP and the PoRB Master Plan 2021 – 2035 (**Figure 2-3)**. The following projects form part of the Masterplan for the Bayvue Precinct:

1. New Berth 605 CHF
2. New Berths 709 and 710
3. Extension of Ferro slab to cater for future growth
4. Reconfiguration of Bayvue Railroad
5. Powership
6. New Berths 802 and 803 (Mega Chrome Berths)
7. Relocation of South 32
8. Additional Chrome Storage Area
9. Provision for DLH bulk relocation commodities
10. Provision for Container Handling Facility – Land

The Berth 605 project area is located within the Bayvue Precinct of the PoRB and identified in **Figure 2-3** as Project 1. The Bayvue Precinct was identified as a strategic location for the handling and consolidation of general cargo (dry bulk, liquid bulk (Phosphoric acid and liquid Pitch) and break bulk, including containers) in the PoRB. The precinct is situated on the northern side of the port, between Alusaf aluminium smelter in the west, Thulazihleka pan in the north and Tuzi-gazi in the east. Effectively the precinct accommodates dry bulk, break bulk and liquid bulk terminals which include significant road, rail, building and services infrastructure.

The following structures and infrastructure are deemed necessary to achieve the overall objective of the project and are included in the project description:

- **New Berth Pocket and quay wall** – A new berth pocket and quay wall will be constructed. The quay wall will be a mass concrete gravity wall with backfill infill. It will have a wide base and hollow in the middle to allow for the void to be backfilled with sand. This provides a wider footprint but a lower density which will result in a more stable foundation. The quay wall will be approximately 360 m in length and 33 m wide. The new quay wall will interface with the western end of the existing Berth 606 quay wall. The cope level (i.e. the interface between land and water) is to match

the existing cope level of 5.2m CD. The quay wall will be founded to facilitate a future design dredge level of -19m CD.

- **End of berth basin slopes** – The Berth 605 must fit within the space between the end of the existing Berth 606 and the South Dunes Road. The location of the end of Berth 606 berth pocket is defined as the end of the existing berth which is the lower retained earth wall. With a slope of 1V:3H from -14.5 CD to the existing ground level is 60 m long, this provides a total berth length of 338 m from the toe of the embankment to the start of Berth 606. This will support a vessel of 315 m Length Overall (LOA).
- **Dredging** – The limit of dredging is to enable a water depth of –14.5m CD at Berth 605 and in the extension to the existing series 600 basin opposite Berth 605. This is aligned to the current dredging depth of the existing series 600 basin. This is the full extent of the dredging. The quay wall will be designed to accommodate a -19 CD depth for future dredging if required.
- **Dredge disposal** – An estimated 2.5 million cubic metres of dredged material will be disposed of at an offshore disposal site. Based on the information available at the time of this report, disposal of the dredged material will be at sea at the existing offshore disposal site.
- **New rail siding** – The proposed rail siding design is based on the container handling facility design capacity of 1 million Twenty Foot Equivalent Units (TEUs) per annum, which differs from that of the other design components which caters for 275 000 TEU design throughput per annum. Based on the design throughput and the current requirement of a 50-wagon container train, it is proposed that the rail siding will consist of two rail lines that are 370 m each in length, each servicing 2 rakes of 25-wagons each. The existing Mhlatuze Yard will be used for shunting and staging purposes to service the new proposed rail siding.
- **New access road** – a new shared access road and vehicle access control point to the PoRB, the Container Handling Facility (CHF) and the adjacent vacant land surrounding the CHF is proposed. The new road will be an estimated 735 m length with a width of 30 m. It will consist of two (2) lanes each direction and three (3) intersections; at Urania Road, at Ventura Road and one to the container handling facility.
- **Footprint of the CHF and apron area** – The CHF will be built and operated by the operator therefore this S&EIR process only considers the disturbance footprint of the CHF and not the associated permits that it will require when operational. The total area considered is 6.75 Ha for the container handling facility. The apron area is an operational area located behind the quay wall and is used for the movement of trucks. The apron area is an estimated 33 m wide and 400 m in length.
- **Provision of electrical supply to feed the facility operations and equipment** – The preferred alternative is applicable where the required electrical demand is within the available capacity of the current existing 11 kV network. In the instance a new feed will be taken from the existing 11 kV network to provide electrical power to the new container handling facility and quay wall. However, while there is existing capacity on the current 11 kV network, this is limited and may not be able to provide

for the full electrical demands in the future. To protect against restricting future electrical supply constraints, a new 11 kV Switching Station fed from the existing Primary Substation is proposed.

- **Water** – The existing 225 mm diameter water main will be extended along with the new quay wall to supply ship water along the new quay. At the end of the new quay wall extension the water main will follow Urania Road to tie into the existing 150 mm diameter pipe in the vicinity of the existing gate house. Connections to new buildings will be off takes from either the existing network directly, or via extensions to the existing network brought to the boundary of the proposed CHF. A tie in point will be provided. Connections to new buildings will be off takes from either the existing network directly, or via extensions to the existing network brought to the boundary of the proposed container handling facility. A tie in point will be provided which will consist of approximately 500 m of pipework with a diameter of 150 mm. Inside the quay wall, water will be provided to landing valves for ships and firefighting.
- **Sewerage** – The existing sewer network has been evaluated to identify areas that require upgrades to accommodate the extension of the sewer network for the new proposed container handling facility. The sewerage system will allow for wastewater from new toilets, basins, baths and showers. The proposed sewer will be designed to tie into the closest existing pipe network or an existing pump station closest to the proposed container handling facility. Sewerage inside the container handling facility will be designed to accommodate for approximately 160 people. The new sewerage pipeline will have a connection point at the northwestern boundary of the container handling facility. It will be approximately 100 m in length and 160 mm pipe diameter. The preferred alternative involves designing a sump to accommodate the facility's sewer through gravity flow, with pumping from the sump to the existing pumpstation PS20, located north of the facility. The final sewer pipe route will be determined during the design phase.
- **Stormwater** – The existing stormwater network has been evaluated to identify areas that require upgrades to accommodate the extension of the stormwater network for the new proposed CHF. The existing stormwater network located east of the proposed CHF discharges into the basin through the existing quay wall. It is therefore proposed that the same principal apply with the new stormwater pipe through the new quay wall. Stormwater pipes will be installed to collect stormwater runoff from the container handling facility to the new quay wall. The pipeline will be approximately 360 m along the quay line and 400 m on the other side with a 900mm pipe diameter. It will have a velocity of 0.6 m/s for self-cleaning, to prevent sand settling inside the pipe and blocking. There will also be cross drainage at the new rail siding which will be 400 m in length and 600 mm diameter.
- **Provision for temporary laydown and stockpile areas** – Areas for temporary stockpiles and laydown areas have been designated and will be further assessed as part of the project. An approximate area of 4.2 Ha, 220 m in length and 170 m wide to be used as a potential lay down area for the project. In addition, two temporary stockpile areas are proposed. The first image is an area of approximately 2.4 Ha, 250 m in length and 100 m wide. The area is located SE of the CHF. The second area is

split into two areas across the Harbour Arterial Road. These areas cover an area of approximately 6 Ha. The infilling of approximately 6 Ha of the basin is also being considered for stockpiling (this infilled area also forms part of the basin to be dredged).

1.3 KEY ROLE PLAYERS

1.3.1 PROJECT PROPONENT

TNPA is the project proponent (Applicant) with regards to this application for the development and operation of the proposed Berth 605 project. **Table 1-1** provides the relevant details of the project proponent.

Table 1-1 – Details of Project Proponent

Proponent:	**Transnet National Ports Authority**
Contact Person:	Thami Sithole
Postal Address	Queens Warehouse 237 Mahatma Gandhi Rd, Point, Durban, 4001
Telephone:	031 361 1738
Email:	Thami.sithole@transnet.net

1.3.2 COMPETENT AUTHORITY

According to Appendix 1 of Listing Notice 1 (GNR 327), the Competent Authority (CA) in respect of the activities listed in the Listing Notices is the CA in the province in which the activity is to be undertaken, unless—

(a) it is an application for an activity contemplated in section 24C(2) of the Act, in which case the competent authority is the Minister or an organ of state with delegated powers in terms of section 42(1) of the Act; or

(b) the listed or specified activity is or is directly related to—

i. prospecting or exploration of a mineral or petroleum resource; or

ii. extraction and primary processing of a mineral or petroleum resource; in which case the CA is the Minister responsible for mineral resources.

Since TNPA is a State-Owned entity, (a) above is applicable therefore the CA for the Berth 605 project is the National DFFE.

1.3.3 ENVIRONMENTAL ASSESSMENT PRACTITIONER

WSP was appointed in the role of EAP to undertake the S&EIR process for the proposed Berth 605 project. The Curriculum Vitae (CV) of the EAP is available in **Appendix A**. The EAP declaration of interest and undertaking is included in **Appendix B. Table 1-2** provides details the relevant contact details of the EAP.

Table 1-2 – Details of the EAP

EAP	WSP Group Africa (Pty) Ltd
Contact Person:	Patricia Nathaniel
Physical Address:	WSP in Africa 1st Floor, Pharos House, 70 Buckingham Terrace, Westville 3629 South Africa
Telephone:	011 361 1398
Email:	Patricia.Nathaniel@wsp.com
EAP Qualifications and Registrations:	▪ BSc (Geography) ▪ BSc (Hons) (Geography and Environmental Management)
EAPASA Registration No.:	▪ EAPASA 2020/1120

1.3.3.1 Statement of Independence

Neither WSP nor any of the authors of this DSR have any material present or contingent interest in the outcome of this report, nor do they have any business, financial, personal or other interest that could be reasonably regarded as being capable of affecting their independence. WSP has no beneficial interest in the outcome of the assessment.

1.4 SCOPING PHASE TERMS OF REFERENCE

The regulations outlining the procedures required for authorisation are published in GNR 326 known as the EIA Regulations.

The EIA Regulations identifies the proposed Berth 605 project as one which triggers a S&EIR process due to the applicable activities contained within the EIA Listing Notices 1, 2 and 3 published under the EIA Regulations. In order for the project to proceed, it will require an Environmental Authorisation (EA) issued by the DFFE.

As defined in Appendix 2 of the EIA Regulations, the objective of the scoping process is to, through a consultative process:

- Identify the relevant policies and legislation relevant to the activity;
- Motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
- Identify and confirm the preferred activity and technology alternative through an impact and risk assessment and ranking process;

- Identify and confirm the preferred site, through a detailed site selection process, which includes an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;
- Identify the key issues to be addressed in the assessment phase;
- Agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site; and
- Identify suitable measures to avoid, manage or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

The PPP is a requirement of scoping; it consists of a series of inclusive and culturally appropriate interactions aimed at providing stakeholders with opportunities to express their views, so that these can be considered and incorporated into the S&EIR decision-making process. An effective PPP requires the prior disclosure of relevant and adequate project information to enable stakeholders to understand the risks, impacts, and opportunities of the project. The objectives of the PPP can be summarised as follows:

- Identify relevant individuals, organisations and communities who may be interested in or affected by the Berth 605 project;
- Clearly outline the scope of the project, including the scale and nature of the existing and proposed activities;
- Identify viable project alternatives that will assist the relevant authorities in making an informed decision;
- Identify shortcomings and gaps in existing information;
- Identify key concerns, raised by stakeholders that should be addressed in the subsequent specialist studies;
- Highlight the potential for environmental impacts, whether positive or negative; and
- To inform and provide the public with information and an understanding of the proposed Berth 605 project, issues and solutions.

1.5 ASSUMPTIONS AND LIMITATIONS

This section provides a brief overview of specific assumptions and limitations having an impact on this environmental application process:

- It is assumed that the information on which this report is based (existing specialist studies and project information, as well as existing information) is correct, factual and truthful.
- The proposed development is in line with the statutory planning vision for the site namely the PoRB Masterplan, and thus it is assumed that issues such as the cumulative impact of development in terms of character of the area and its resources, have been taken into account during the strategic planning for the area.

- This report is based on a 275 000 Twenty-foot Equivalent Units (TEU) vessel and any deviations from the design will be presented in the Final Scoping Report (FSR).
- Land disposal of the dredged material has not been considered as TNPA has confirmed that the dredged material will be disposed of at an existing offshore disposal site.
- Temporary lay down and stockpile areas have been identified and will be further investigated in this S&EIR process.
- Only the disturbance footprint of the CHF has been included in this S&EIR process however the associated permits required for the operation of the facility will be applied for by the operator.
- It is assumed that stakeholders notified of the availability of this report will submit all relevant comments within the designated 30-days review and comment period, so that these can be included in the FSR to be timeously submitted to the competent authority, the DFFE.

1.6 DRAFT SCOPING REPORT STRUCTURE

As per the Appendix 3 of the EIA Regulations, the legislated requirements must be contained within a SR for the CA to consider and come to a decision on the application.

Table 1-3 below details where the required information is located within this report.

Table 1-3 – Legislated Report Requirements as detailed in GNR 326

Section	Legislated requirements as per the NEMA GNR 326	Relevant Report Section
(a)	Details of	**-**
	the EAP who compiled the report; and	Section 1.3.3
	the expertise of the EAP, including a Curriculum Vitae	Appendix A
(b)	The location of the activity, including-	
	The 21digit Surveyor code for each cadastral land parcel;	Section 2.1
	Where available, the physical address and farm name	Section 2.1
	Where the required information in terms of (i) and (ii) is not available, the coordinates of the boundary of the property.	Section 2.1
(c)	A plan which locates the proposed activities applied for at an appropriate scale, or, if it is-	

Section	Legislated requirements as per the NEMA GNR 326	Relevant Report Section
	A linear activity, a description of the corridor in which the proposed activity or activities is to be undertaken; or	Section 2.1
	On land where the property has not been defined, the coordinates within which the activity is to be undertaken.	Section 2.1
(d)	A description of the proposed activity, including-	
	All listed and specified activities triggered;	Section 4.1
	A description of the activities to be undertaken, including associated structures and infrastructure;	Section 2
(e)	A description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process;	Section 4.1
(f)	A motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location;	Section 3
(h)	A full description of the process followed to reach the proposed preferred activity, site and location within the site, including-	
	Details of all the alternatives considered;	Section 2
	Details of the public participation undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;	Section 5
	a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;	Section 5
	the environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	Section 6
	the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and	Section 7

Section	Legislated requirements as per the NEMA GNR 326	Relevant Report Section
	probability of the impacts, including the degree to which these impacts- (aa) can be reversed; (bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed or mitigated;	
	the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;	Section 5
	positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	Section 7
	the possible mitigation measures that could be applied and level of residual risk;	Section 7
	the outcome of the site selection matrix;	N/A
	if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such and	Section 2
	a concluding statement indicating the preferred alternatives, including preferred location of the activity;	Section 2
(i)	A plan of study for undertaking the environmental impact assessment process to be undertaken, including-	
	a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity;	Section 8
	a description of the aspects to be assessed as part of the environmental impact assessment process;	Section 8
	aspects to be assessed by specialists;	Section 8
	a description of the proposed method of assessing the environmental aspects, including a description of the proposed	Section 8

Section	Legislated requirements as per the NEMA GNR 326	Relevant Report Section
	method of assessing the environmental aspects including aspects to be assessed by specialists;	
	a description of the proposed method of assessing duration and significance;	Section 8
	an indication of the stages at which the competent authority will be consulted;	Section 8
	particulars of the public participation process that be conducted during the environmental impact assessment process; and	Section 8
	a description of the tasks that will be undertaken as part of the environmental impact assessment process;	Section 8
	identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.	Section 8
(j)	An undertaking under oath or affirmation by the EAP in relation to-	
	the correctness of the information provided in the report;	Appendix B
	the inclusion of comments and inputs from stakeholders and interested and affected parties; and	Section 5
	any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties;	Section 5
(k)	An undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and interested and affected parties on the plan of study for undertaking the environmental impact assessment;	Appendix B
(l)	Where applicable, any specific information required by the competent authority; and	N/A
(m)	Any other matter required in terms of section 24(4)(a) and (b) of the Act.	N/A

2 PROJECT DESCRIPTION

This section provides a description of the location of the project area and the details associated with each phase of the project. The description encompasses the activities to be undertaken during the construction and operational phases as well as the consideration for access, bulk services and infrastructure in support of the overall operational efficiency of the project.

This section fulfils the requirement stipulated in Appendix 3- 2(d) (ii) of the EIA Regulations:

A description of the activities to be undertaken, including associated structures and infrastructure.

2.1 LOCATION OF THE PROPOSED PROJECT SITE

Berth 605 is located within the PoRB, King Cetshwayo District Municipality and uMhlatuze Local Municipality within the KZN Province. The project structures and infrastructure are located on the following land parcels:

- Portion 45 of Parcel 5333 of Richards Bay;
- Portion 0 of Parcel 397 of Richards Bay;
- Portion 0 of Parcel 16230 Umhlatuzi; and
- Portion 21 of Parcel 5333 of Richards Bay.

The site is bounded by the rail line to the North, the current development for Berth 606 and 607 to the East, The Seafarers Club to the West (boundary shown as dashed red line) and the basin for the 600 Series berths to the South.

The approximate centre point co-ordinates for the Berth 605 project area are:

28°47'23.82"S; 32° 1'34.43"E.

The locality of the site is depicted in **Figure 2-1** and the project layout plan is depicted in **Figure 2-2. Figure 2-3** illustrates the Berth 605 project (Project 1) within the PoRB Masterplan.

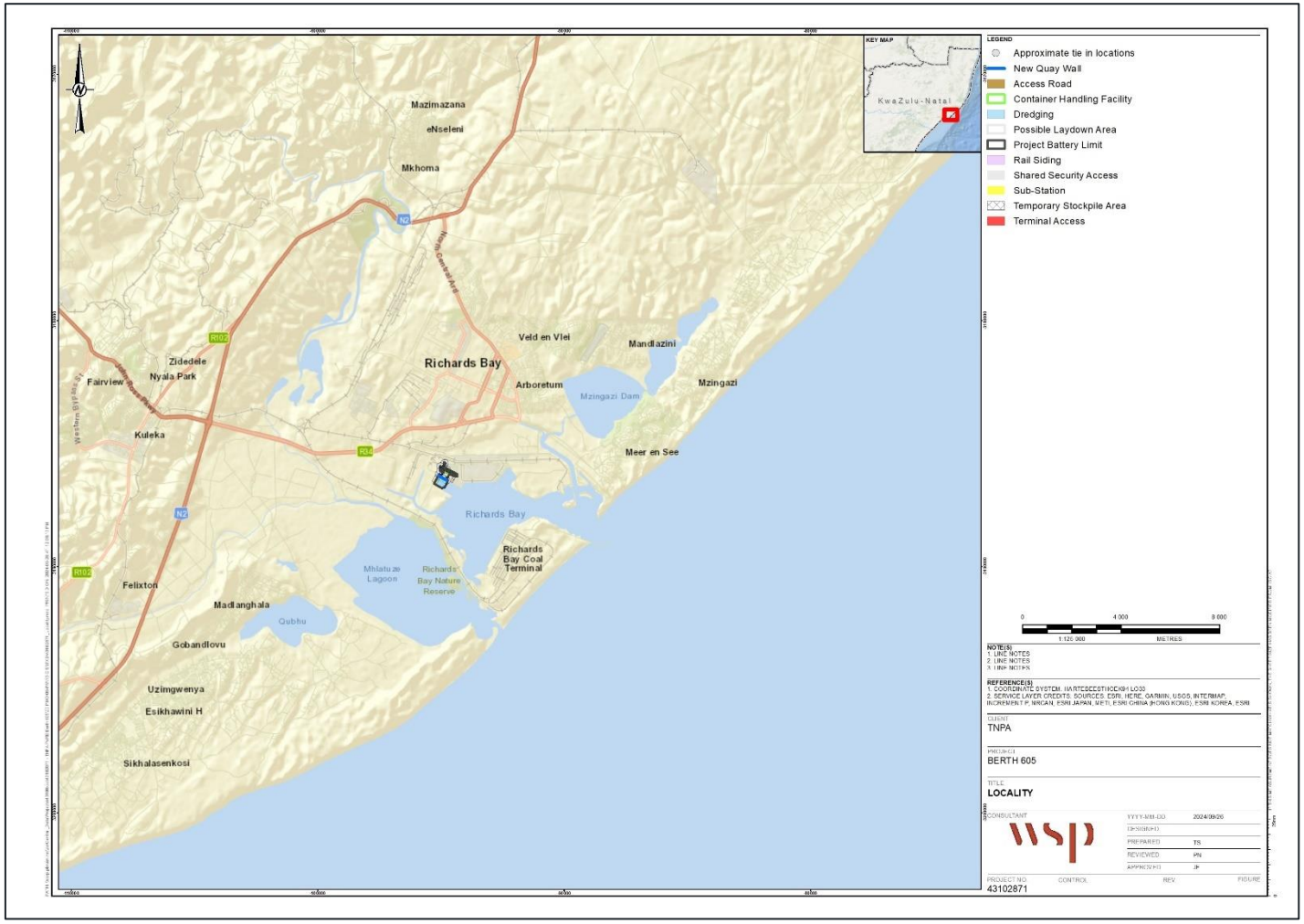


Figure 2-1 - Locality map of the Proposed Berth 605 and associated infrastructure

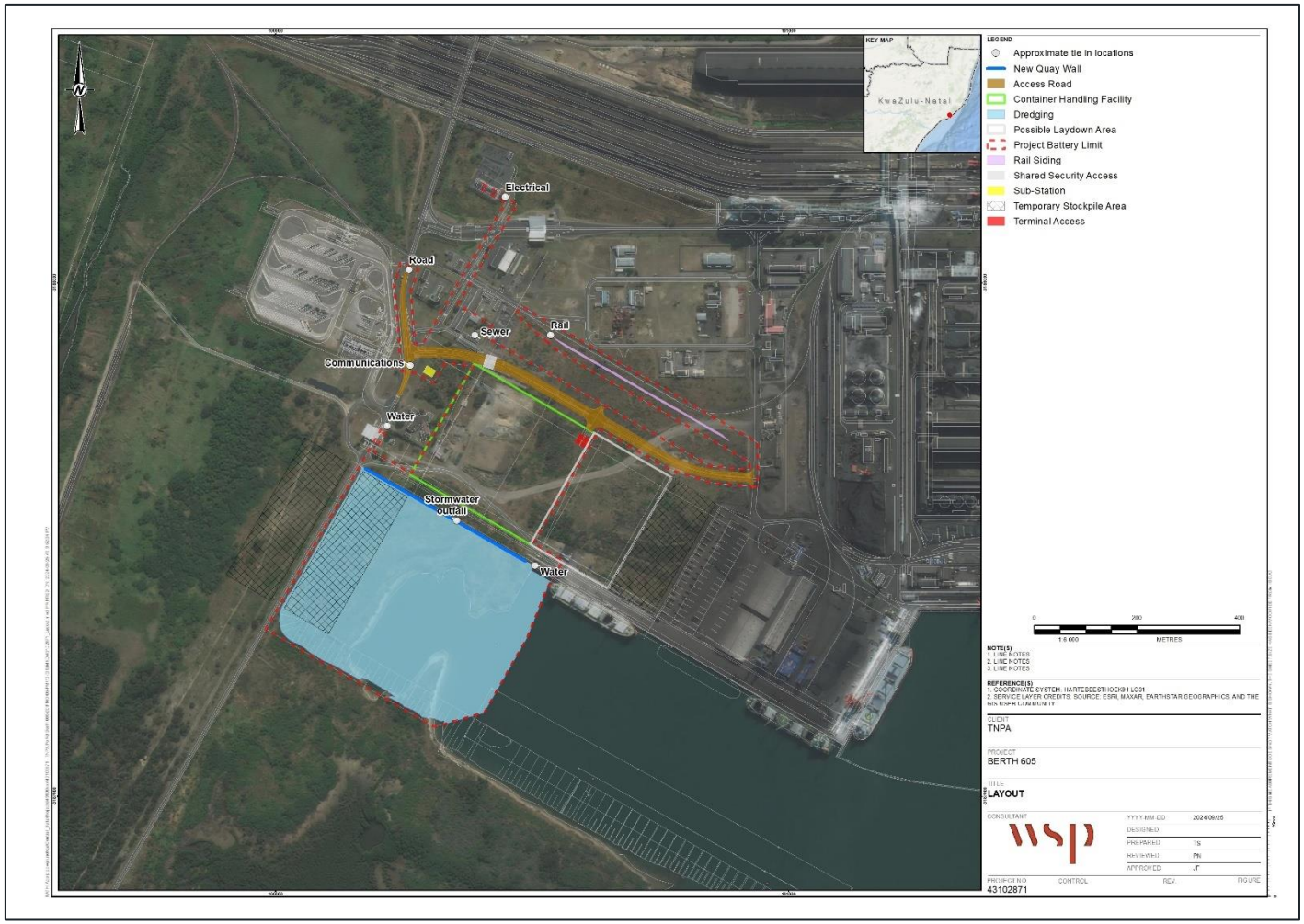


Figure 2-2 - Layout map of the proposed Berth 605 and associated infrastructure

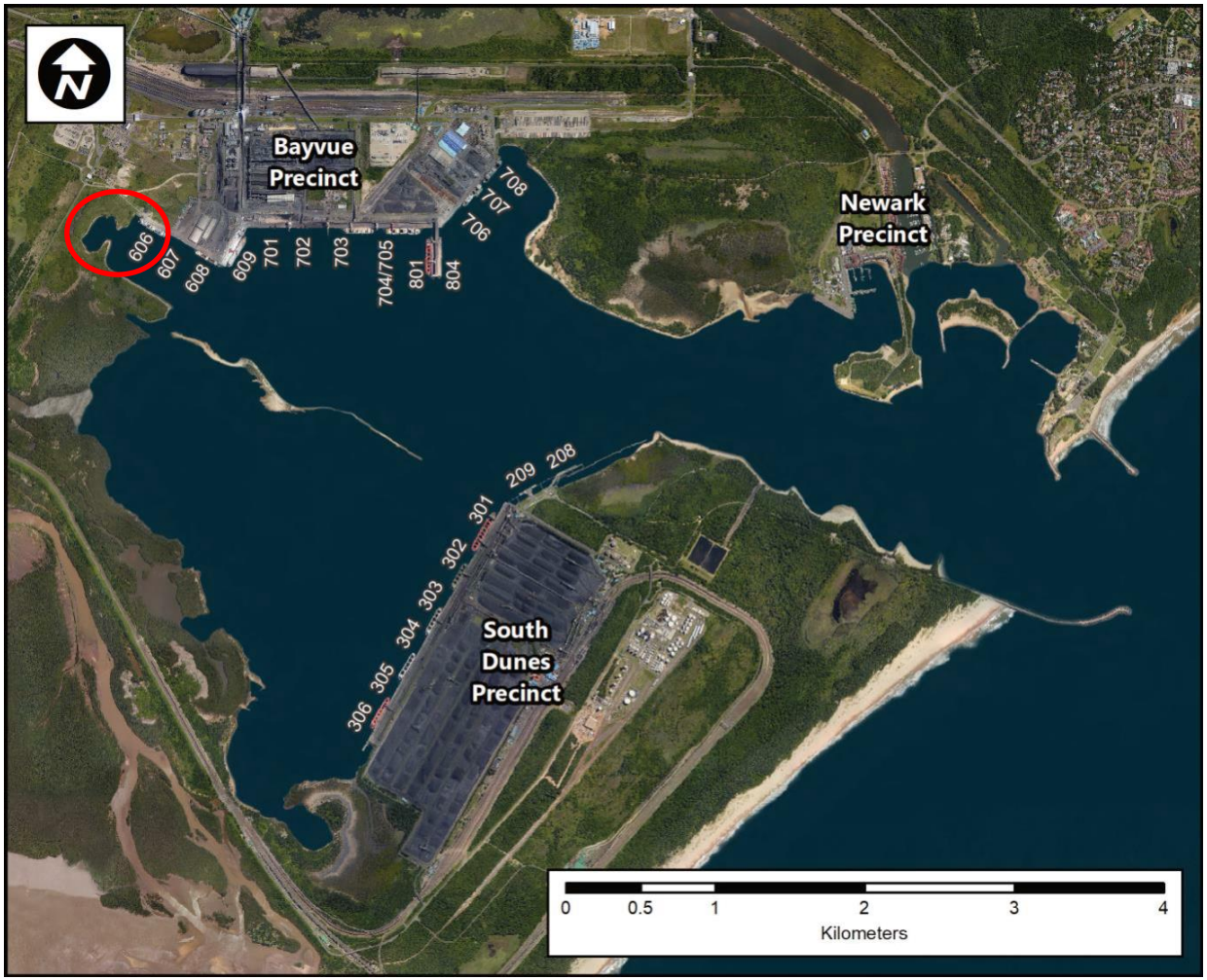


Figure 2-3 - Layout map of the 600 series berths in relation to the PoRB (PDFP, 2022)

Table 2-1 below indicates the cadastral information of the site and **Table 2-2** includes the co-ordinates of the project infrastructure.

Table 2-1 –Cadastral Information of the Site

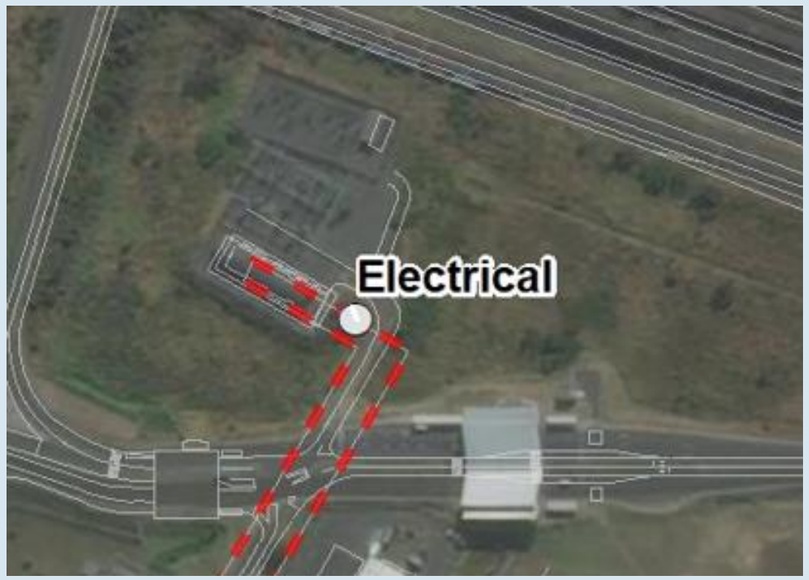
Details required as per GNR 326	Details
21 Digit Surveyor General Code of each Cadastral Land Parcel	▪ N0GV00000001623000000 ▪ N0GV04210000533300045 ▪ N0GV04210000039700000 ▪ N0GV04210000533300021
Physical Address and Farm Name	▪ Portion 45 of Parcel 5333 of Richards Bay; ▪ Portion 0 of Parcel 397 of Richards Bay; ▪ Portion 0 of Parcel 16230 Umhlatuzi; and ▪ Portion 21 of Parcel 5333 of Richards Bay.
Land use Zoning	Port and Harbour
Municipality	King Cetshwayo District Municipality and uMhlatuze Local Municipality

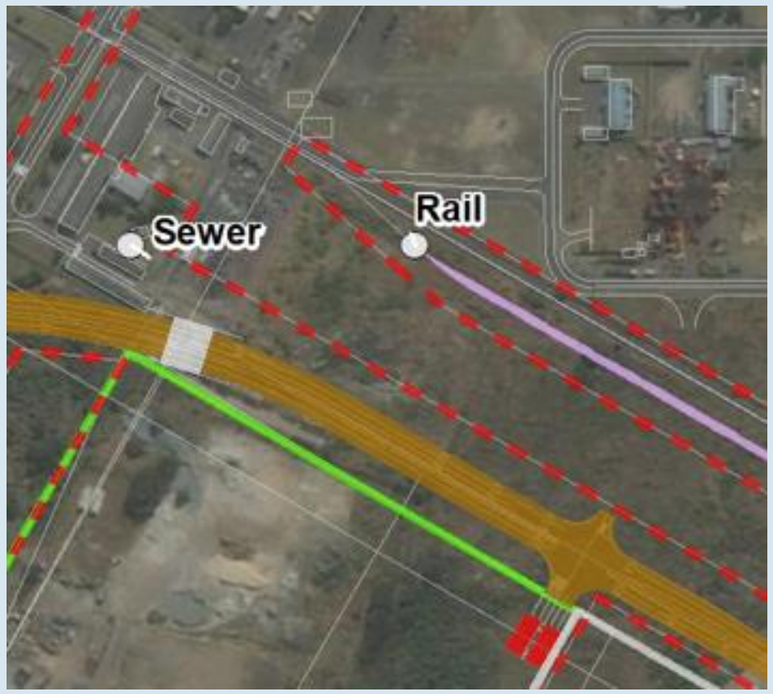
Table 2-2 – Locality of the Project Infrastructure

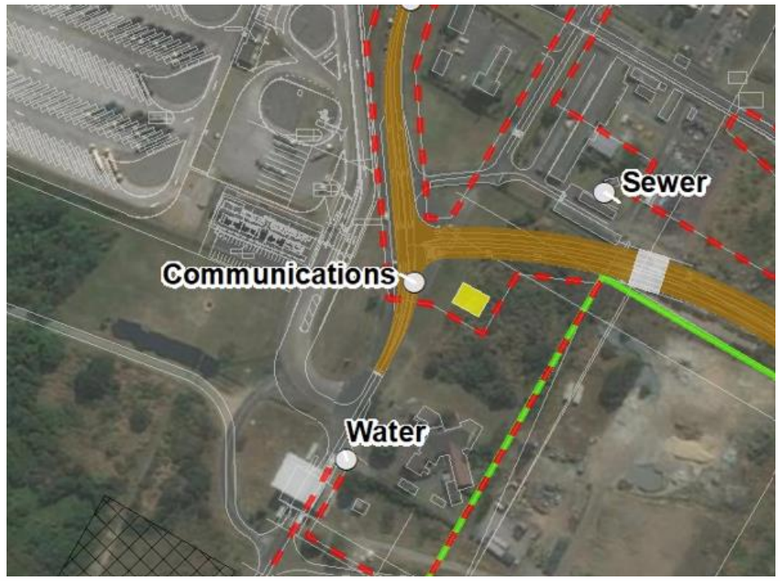
Point	Co-ordinates	Imagery	Detailed Description of the preferred alternatives
Berth 605 and Quay Wall			
Q1 (blue line)	32° 1' 33.506" E 28° 47' 21.929" S		A new berth pocket will be constructed. It will be approximately 338 m in length, 33 m wide. A new Gravity Mass Quay wall is to be constructed for the new Berth 605. The new quay wall is to be either a gravity type structure from mass concrete and backfilled with sand and rock or a secant pile wall. The in-situ capping beam will include two service tunnels to coordinate the required services to the quay side. The new quay wall will interface with the western end of the existing Berth 606 quay wall. The cope level is to match the existing cope level of 5.2m CD. The quay wall will be founded to facilitate a future design dredge level of -19m CD.
Q2 (blue line)	32° 1' 45.056" E 28° 47' 27.687" S		
Container Handling Facility			
C1	32° 1' 41.266" E28° 47' 15.217" S		The CHF will be built and operated by the container handling facility operator, 270 m along the berth by 250 m landward. The total area considered is 6.75 Ha for the container handling facility. The apron area is approximately 33 m wide and 400 m in length and is the operational area located between the container handling facility and the quay wall.
C2	32° 1' 36.733" E28° 47' 22.287" S		
C3	32° 1' 45.401" E28° 47' 26.606" S		
C4	32° 1' 49.930" E28° 47' 19.535" S		

Point	Co-ordinates	Imagery	Detailed Description of the preferred alternatives
Dredging and dredge disposal			
D1	32° 1' 33.252" E28° 47' 21.782" S		The new Berth 605 is to be maintained at depth -14.5 m CD to accommodate the design vessel. Accordingly, the estimate of required material to be dredged is 2.44 million m^3 with all of this being in the area directly opposite the new Berth 605. An estimated 73% of this material is rock with the remainder being sediments (muds and sands). The existing offshore site will be used for the disposal of dredged material.
D2	32° 1' 27.467" E28° 47' 31.902" S		
D3	32° 1' 39.282" E28° 47' 38.046" S		
D4	32° 1' 42.180" E28° 47' 37.302" S		
D5	32° 1' 46.901" E28° 47' 28.963" S		
New access road			
A1	32° 1' 36.906" E28° 47' 14.559" S		A new shared access road to PoRB and container handling facility, from Urania Road to Ventura Road. The road will replace the function of the existing unsurfaced road between Urania Road and Ventura Road which traverses the facility footprint. The new road will be an estimated 735 m length with a width of 30 m. It will consist of two (2) lanes each direction and three (3) intersections; at Urania Road, at Ventura Road and one to the container handling facility.
A2	32° 1' 50.012" E28° 47' 18.553" S		

Point	Co-ordinates	Imagery	Detailed Description of the preferred alternatives
A3	32° 2' 1.390" E 28° 47' 22.342" S		
New railway line and siding			
R1	32° 1' 46.751" E28° 47' 13.364" S		The proposed rail siding design is based on the container handling facility design capacity of 1 million Twenty Foot Equivalent Units (TEUs) per annum, which differs from that of the other design components which caters for 275 000 TEU design throughput per annum. Based on the design throughput and the current requirement of a 50-wagon container train, it is proposed that the rail siding will consist of two rail lines that are 370m each in length, each servicing 2 rakes of 25-wagons each. The existing Mhlatuze Yard will be used for shunting and staging purposes to service the new proposed rail siding.
R2	32° 1' 59.668" E28° 47' 19.994" S		
Stormwater Tie in Point			
Tie in point	32° 1' 40.124" E28° 47' 25.139" S		The existing stormwater network will be evaluated to identify areas that require upgrades to accommodate the extension of the stormwater network for the new proposed container handling facility. Stormwater pipes will be installed to collect stormwater runoff from the container handling facility to the new quay wall. The pipeline will be approximately 360 m along the quay line and 400 m on the other side with a 900mm pipe diameter. It will have a velocity of 0.6 m/s for self-cleaning, to prevent sand settling inside the pipe and blocking. There will also be cross drainage at the new rail siding which will be 400 m in length and 600 mm diameter. The existing network discharges into the bay through the existing quay wall.

Point	Co-ordinates	Imagery	Detailed Description of the preferred alternatives
Electricity			
Tie in point	32° 1' 43.401" E28° 47' 4.662" S		The preferred alternative is applicable where the required electrical demand is within the available capacity of the current existing 11 kV network. In the instance a new feed will be taken from the existing 11 kV network to provide electrical power to the new container handling facility and quay wall. However, while there is existing capacity on the current 11 kV network, this is limited and may not be able to provide for the full electrical demands in the future. To protect against restricting future electrical supply constraints, a new 11 kV Switching Station fed from the existing Primary Substation is proposed.
SS1	32° 1' 37.869" E28° 47' 15.363" S		
SS2	32° 1' 37.596" E28° 47' 15.793" S		
SS3	32° 1' 38.244" E28° 47' 16.104" S		
SS4	32° 1' 38.514" E28° 47' 15.683" S		

Point	Co-ordinates	Imagery	Detailed Description of the preferred alternatives
Sewerage			
Tie in point	32° 1' 41.290" E28° 47' 13.415" S		The existing sewer network has been evaluated to identify areas that require upgrades to accommodate the extension of the sewer network for the new proposed container handling facility. The sewerage system will allow for wastewater from new toilets, basins, baths and showers. The proposed sewer will be designed to tie into the closest existing pipe network or an existing pump station closest to the proposed container handling facility. Sewerage inside the container handling facility will be designed to accommodate for approximately 160 people. The new sewerage pipeline will have a connection point at the northwestern boundary of the container handling facility. It will be approximately 100 m in length and 160 mm pipe diameter. The preferred alternative involves designing a sump to accommodate the facility's sewer through gravity flow, with pumping from the sump to the existing pumpstation PS20, located north of the facility. The final sewer pipe route will be determined during the design phase.
Water			
Tie in points	32° 1' 35.055" E28° 47' 19.204" S 32° 1' 45.765" E28° 47' 27.950" S		The existing 225mm diameter water main will be extended along with the new quay wall to supply ship water along the new quay. At the end of the new quay wall extension the water main will follow Urania Road to tie into the existing 150mm diameter pipe in the vicinity of the existing gate house. Connections to new buildings will be off takes from either the existing network directly, or via extensions to the existing network brought to the boundary of the proposed CHF. A tie in point will be provided. Connections to new buildings will be off takes from either the existing network directly, or via extensions to the existing network brought to the boundary of the proposed container handling facility. A tie in point will be provided which will consist of approximately 500 m of pipework with a diameter of 150 mm. Inside the quay wall, water will be provided to landing valves for ships and firefighting.

Point	Co-ordinates	Imagery	Detailed Description of the preferred alternatives
Communications	32° 1' 36.679" E28° 47' 15.364" S		A tie in point for the fibre option cable will be included as part of the project.
Potential laydown area			
L1	32° 1' 49.930" E28° 47' 19.535" S		An approximate area of 4.2 Ha, 220 m in length and 170 m wide to be used as a potential lay down area for the project.
L2	32° 1' 45.401" E28° 47' 26.606" S		
L3	32° 1' 50.981" E28° 47' 29.377" S		

Point	Co-ordinates	Imagery	Detailed Description of the preferred alternatives
L4	32° 1' 55.514" E28° 47' 22.318" S		
Temporary Stockpile Area			
TS1	32° 1' 55.514" E28° 47' 22.318" S		Two temporary stockpile areas are proposed. The first image is an area of approximately 2.4 Ha, 250 m in length and 100 m wide. The area is located SE of the container handling facility. The second area is split into two areas across the Harbour Arterial Road. These areas cover an area of approximately 6 Ha. The infilling of approximately 6 Ha of the basin as indicated in purple in the figure below, is also being considered for stockpiling.
TS2	32° 1' 58.723" E28° 47' 23.917" S		
TS3	32° 1' 54.190" E28° 47' 30.976" S		
TS4	32° 1' 50.981" E28° 47' 29.377" S		
TS5	32° 1' 29.166" E28° 47' 20.007" S		
TS6	32° 1' 23.575" E28° 47' 28.710" S		
TS7	32° 1' 26.780" E28° 47' 30.317" S		
TS8	32° 1' 32.374" E28° 47' 21.607" S		
TS9	32° 1' 33.337" E28° 47' 22.086" S		
TS10	32° 1' 27.747" E28° 47' 30.790" S		
TS11	32° 1' 30.951" E28° 47' 32.396" S		

Point	Co-ordinates	Imagery	Detailed Description of the preferred alternatives
TS12	32° 1' 36.546" E28° 47' 23.686" S	 	

Point	Co-ordinates	Imagery	Detailed Description of the preferred alternatives
			

2.2 SITE STATUS

This section is supplemented with information from the *Port of Richards Bay: Corporate brochure (TNPA), Historic Imagery (Google Earth) and Vegetation and Wetland delineation: TNPA Capacity Expansion Option 3A Ecological (Cruz, 2014)*

The PoRB and the adjacent Sanctuary was originally a large, shallow, estuarine embayment estimated to be approximately 3000 ha in size. Extensive reed and papyrus swamps as well as freshwater swamp forests surrounded the original estuary played an important role in filtering water that eventually reached the estuary.

At present, there are limited habitats within the PoRB which have remained unaffected by development activities since development of the port in the 1970s. Many of the free ecosystem services and ecological functioning provided by the natural ecosystems in and around the harbour's swamps and estuary have been lost.

Historical images of the project site for the Berth 605 project components aligns with the above description as cited in Cruz (2014). Historical aerial imagery of the Berth 605 project are provided in **Table 2-3** and current site photographs provided in **Table 2-4.**

Table 2-3 - Historical Aerial Imagery of the Proposed Project site

PoRB in 1985 (proposed Berth 605 project area enclosed in red)

Excavation and Dredging of Berth 600 in 1997

PoRB in 1997

PoRB in 1997 (zoomed in to the project site)

PoRB in 2004 – the project area was significantly disturbed and is likely due to the extension of the coal terminal project.

PoRB in 2006 – infilling of a waterbody, caissons within the estuary and material storage/dumping areas

Table 2-4 – Site Photographs

Landside vegetation of the Berth 605 Container Handling Facility Site

Image of the site taken from the existing 600 berth series

Bay area adjacent to the existing 600 series quay wall

2.3 ALTERNATIVES

2.3.1 PREFERRED DESIGN THROUGHPUT AND LOCATION OF THE CHF

The design capacity of the terminal area for which external service supply is required is based on the 275 000 TEU capacity per year as requested by TNPA.

Figure 2-4 indicates the location of the container handling facility within the project area and **Table 2-5** summarises the import, export and transshipment split assumed for the future design capacity of 275 000 TEUs along with the assumed dwell time for each type of container.

This preferred location is based on:

- An agreement with TNPA and the operator regarding the preferred container handling facility of 270 m along the berth by 250 m landward. The total area considered is 6.75 Ha for the container handling facility but excludes the apron area.
- The area is located 33 m from the cope line to allow for an apron area considering mobile harbour cranes, as are envisaged for the 275 000 TEU operations.
- The area is located directly adjacent to the seafarer's property fence line.

Based on the above, the location as presented in **Figure 2-4** is the preferred location and therefore no alternatives have been considered.

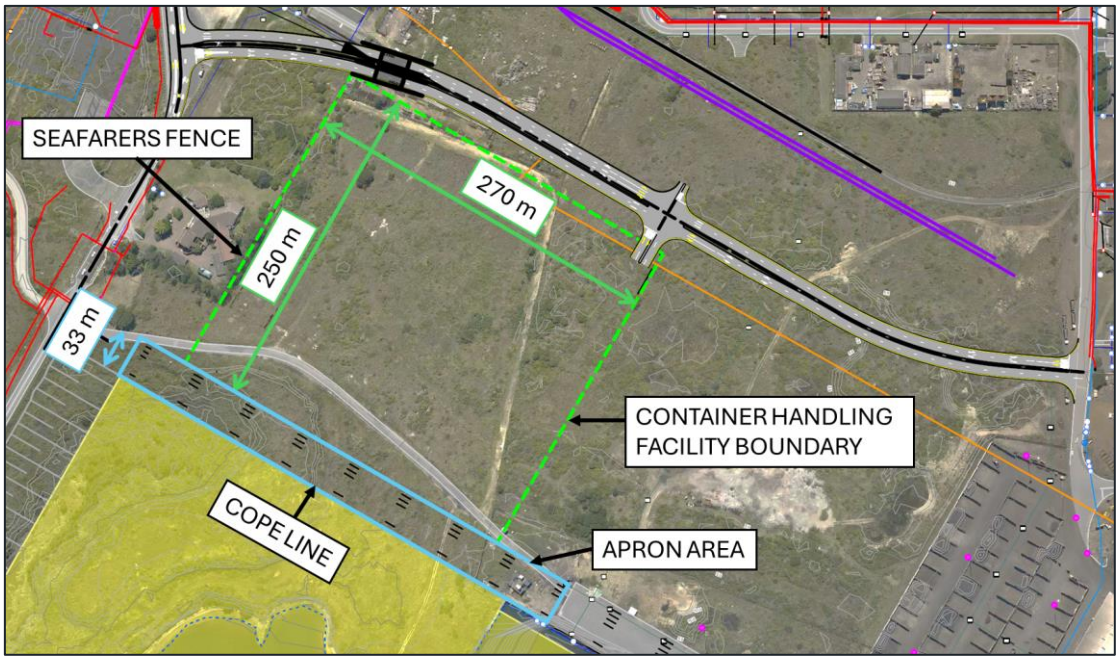


Figure 2-4 – Preferred location of the Container Handling Facility within the project area

Table 2-5 – Container Terminal Throughput Assumptions

Container Type	% of Total Throughput	Dwell Time (days)
Imports – Full	17.79%	3
Imports – Empty	18.44%	3
Exports – Full	35.03%	5
Exports – Empty	11.46%	5
Transshipment – Full	8.04%	10
Transshipment - Empty	9.24%	10
TOTAL	100%	

2.3.2 QUAY WALL DESIGN

The existing berth 600 series quay walls are all formed from gravity structures. The geotechnical conditions and borehole information for the expansion of the 600 series berths 608, 607 and 606 (see **Figure 2-3**) indicate that there is cretaceous rock at the quay wall foundation level. This is deemed to have sufficient bearing capacity for the foundations of the gravity quay wall structure.

The new quay wall will be required to interface with the existing quay wall (**Figure 2-5)**, however the new quay wall will be constructed with foundations which are 5 m deeper

than the existing quay walls to allow for future dredging to -19m CD. This provision in relation to quay wall foundation depth is to allow for the possibility of future expansion in container handling volumes, which would require larger vessels and associated deeper Berth 605 water depths should it be required.

Importantly, notwithstanding that this provision for expansion has been made in the proposed design brief, the current scope evaluates dredging to -14.5m CD.

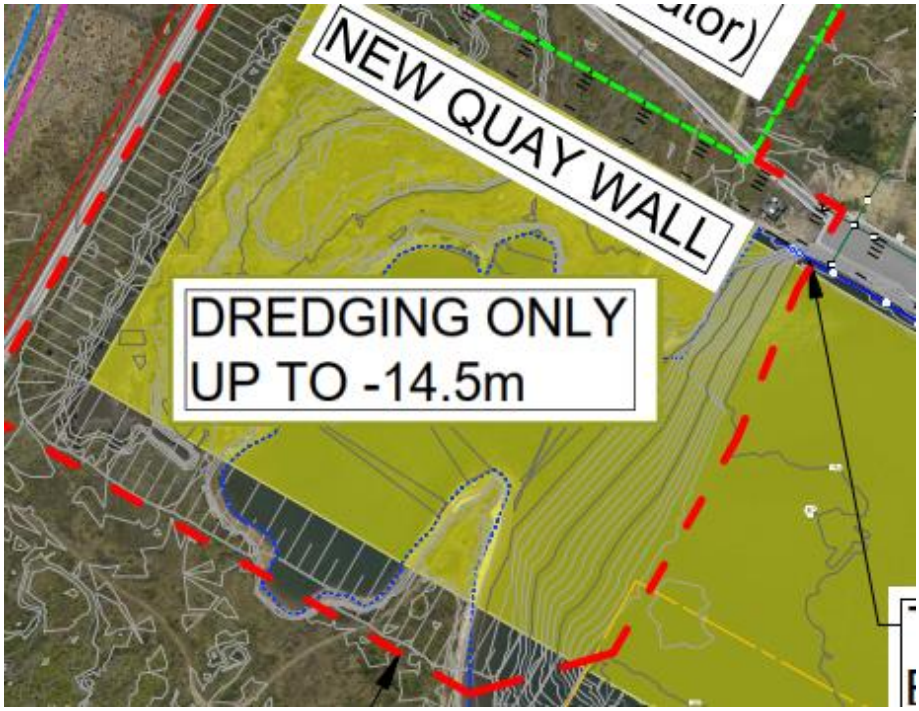


Figure 2-5 – Location of the new quay wall and dredging area

2.3.2.1 Design Alternatives for the new Quay Wall

The quay wall is the structure against which the vessel is moored for loading or unloading. The quay wall extends approximately 360 m from the end of the existing Berth 606 to within approximately 10m of the existing South Dunes Road.

The new quay wall is to be either a gravity type structure from mass concrete and backfilled with sand and rock or a secant (augered) pile wall. The in-situ capping beam will include two service tunnels to coordinate the required services to the quay side.

As indicated in **Figure 2-6** below, this quay wall consists of a solid in-situ mass concrete structure which is the preferred alternative. It has a smaller footprint than the other options due to it having a denser construction, but this increases the bearing pressure under the structure. It uses more concrete than all the other options.

The construction requires excavation to the foundation level and then the placement of formwork and the casting of the in-situ mass concrete in layers to form the final structural shape.

Volume of concrete for 360 m of wall: 81 810 m^3.

Volume of excavation for length of wall: between 350 000 m^3 including shoring or 550 000 m^3 with battered slopes of 1:1.

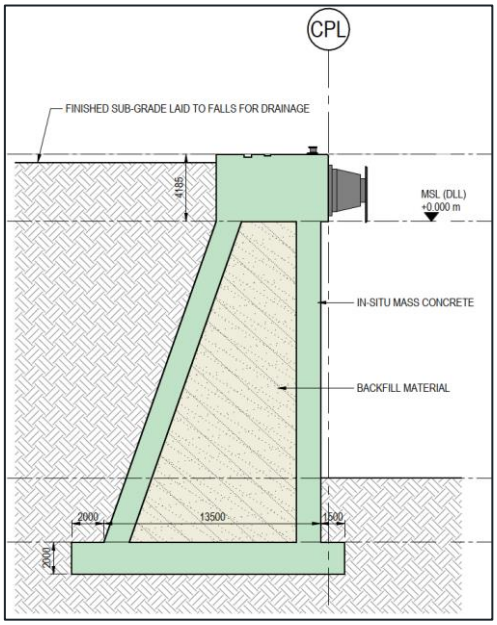


Figure 2-6 - Gravity Quay Wall of mass concrete and backfill

Figure 2-7 below indicates the secant piles quay wall which is an alternative to the preferred alternative as indicated in **Figure 2-6**. The secant pile wall consists of a series of hard and soft piles which interlink to form a solid concrete wall. The soft piles have no reinforcement and have a weaker concrete, they are installed first, before hard piles are drilled to join two neighbouring piles and remove a secant for each. The hard pile is larger and has reinforcement. A second line of piles supports the back of the cope beam and then a third row of piles supports a deadman anchor that can be used in the future to support a landside crane rail beam.

A deadman anchor is one type of retaining wall tieback that consists of a substantial concrete block and one or more tie rods. Typically, the concrete block sits far below the ground and at least 3 metres behind the retaining wall.

This form of construction is possible with South African contractors and locally available equipment. This form of construction will also limit the requirement for a large deep dewatered excavation which is required for alternative indicated in **Figure 2-6.**

Volume of concrete for 360 m of wall: 27 900 m^3. The volume for excavation including the cope beam is 50 000 m^3.

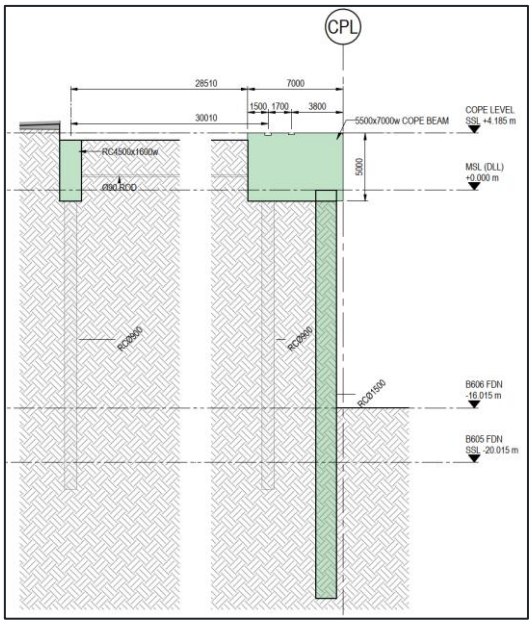


Figure 2-7 - Secant piles quay wall

Following a detailed engineering investigation between the above-mentioned alternatives for the quay wall design, the gravity quay wall of mass concrete and backfill is the preferred alternative due to the following:

- It is the least expensive option based on high level cost estimates.
- It requires manual labour therefore it can provide local employment opportunities during the construction phase.
- Less concrete will be required.

The environmental considerations for both alternatives are expected to be similar therefore only the preferred alternative will be investigated in the EIA phase.

2.3.3 DREDGING/EXCAVATION ALTERNATIVES

2.3.3.1 Preferred Dredging Depth

The new Berth 605 is to be maintained at depth -14.5 m CD to accommodate the design vessel. Accordingly, the estimate of required material to be dredged is 2.44 million m^3 with majority of this being in the area directly opposite the new Berth 605. An estimated 73% of this material is rock with the remainder being sediments (muds and sands).

Rock dredging is typically done with a cutter suction dredger, which uses a rotating cutter head to fracture the rock and pump it away from the seabed. Rock of 15 MPa (typical of siltstone which is reported to occur) is within the capabilities of this type of equipment. Alternatively, a backhoe dredger equipped with a hydraulic hammer can be used. This would require first breaking the rock with the hammer and then dredging it with the same backhoe dredger, employing a regular bucket. However, the production rate with the backhoe is likely extremely slow (for the quantity of rock to be removed) and mobilisation of this equipment is generally more expensive.

Dredging to -14.5 m CD and restricting the port basin to south of Urania Road serves to restrict the vessel size. This limits the dredging volumes considerably, favouring this alternative.

2.3.3.2 Dredging for future expansion

The new quay wall will be required to interface with the existing quay wall. The new quay wall will however be founded 5 m deeper to allow for future dredging of the basin to -19 m CD. This deeper key wall foundation depth will enable the quay wall to be used if the basin is deepened to -19 m CD in future to accommodate larger vessels.

Dredging to -19 m CD (and ensuring adequate basin and berth pocket area) provides a future-ready port, as it would accommodate the Triple E (18 000 TEU) Vessel. However, it will be costly, requiring dredging of an estimated 6 million m^3 of material, most of which is rock dredging (reported to be silt stone). Indications are that this dredging would take around 1 year to complete.

The deeper berth and channel would not be practical as the current berth length is too short for the longer and deeper vessels.

The current EIA thus assesses a quay wall development to a depth of -19 m CD; however, EA is only being sought to dredge to a depth of -14.5 m CD consistent with the current harbour depth.

In summary, dredging to -14.5 m CD is the preferred alternative due to the following:

- Least costly as there would be the least amount of material to be dredged.
- It provides for the current capacity for the design vessel.
- Least volumes of dredged material to be handled and disposed of.

Based on the above, dredging to a depth of -19 m CD will be eliminated as an alternative and will not be further investigated as part of the EIA process.

2.3.4 ALTERNATIVES FOR DREDGED AND EXCAVATED MATERIAL DISPOSAL

2.3.4.1 Preferred alternative for disposal of dredged and excavated material

The existing offshore site will be used for the disposal of dredged material.

Land disposal for dredged and excavated material will not be investigated further in the EIA phase due to the following:

- The onshore disposal of marine dredged material is typically problematic because of the high salinity of such materials.
- Volumes of dredged material will be excessive and logistics to transport the dredged material to a land-based facility would be challenging.
- Cost associated with land transportation of dredged material.
- TNPA has several planned projects for the PoRB which will also require disposal of dredged material, therefore a single site for all capital projects is a feasible option.

2.3.5 ALTERNATIVES FOR TEMPORARY STOCKPILE STORAGE AREAS

Figure 2-8 indicates the temporary storage areas for materials removed from land-based excavations, these areas will be further investigated in the EIA process (areas indicated in orange and grey in the figure below).

Due to the limited areas available for temporary storage and stockpiling, only the areas as indicated in the figure below will be investigated further. No other sites have been identified.

Figure 2-8 – Temporary stockpile storage areas

2.3.6 UTILITIES

2.3.6.1 Electricity

The preferred alternative is applicable where the required electrical demand is within the available capacity of the current existing 11 kV network. In the instance a new feed will be taken from the existing 11 kV network to provide electrical power to the new container handling facility and quay wall. However, while there is existing capacity on the current 11 kV network, this is limited and may not be able to provide for the full electrical demands in the future. To protect against restricting future electrical supply constraints, a new 11 kV Switching Station fed from the existing Primary Substation is proposed.

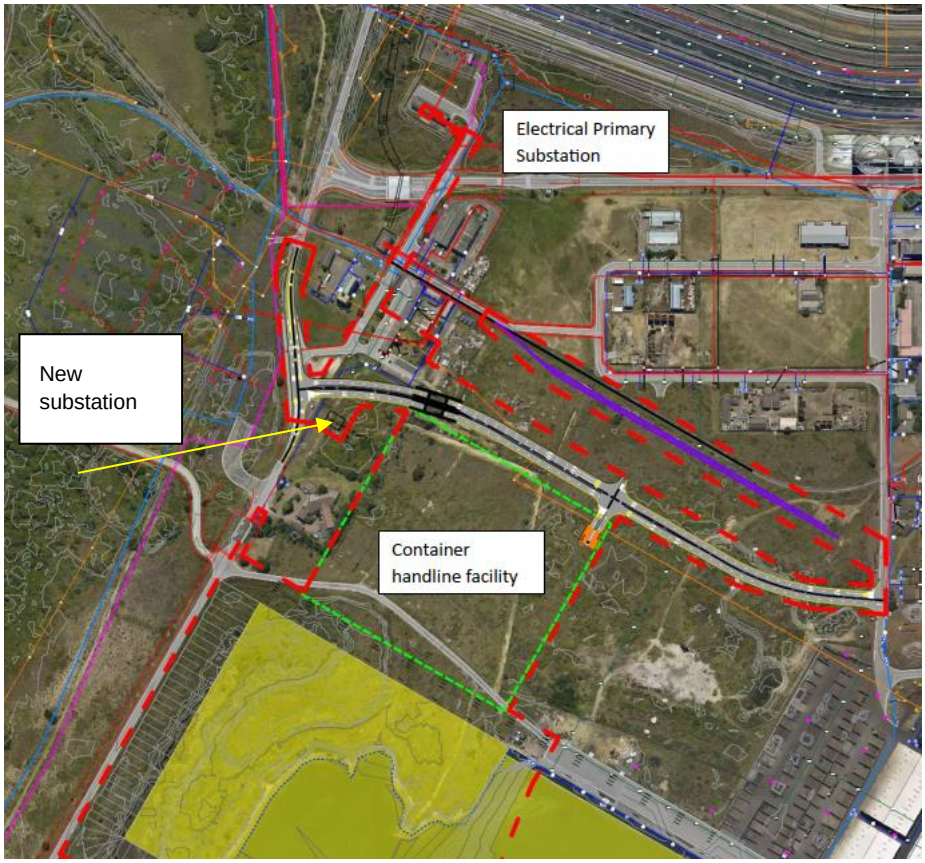


Figure 2-9: Existing and proposed substation

The preferred alternative is the only alternative considered as is tied into the existing network infrastructure. This alternative is also based on the assumption that no shore supply or ship to shore cranes are required.

2.3.6.2 Stormwater

Preferred alternative

The existing stormwater network will be evaluated to identify areas that require upgrades to accommodate the extension of the stormwater network for the new proposed container handling facility. The following was noted on the existing stormwater network (refer to **Figure 2-10**):

- The existing network discharges into the bay through the existing quay wall.
- The existing stormwater pipe dissects the identified area for the CHF.

Based on the above, the most feasible and preferred alternative for the project is to tie into the existing stormwater network.

The tie in pipeline will be approximately 360 m along the quay line and 400 m on the other side with a 900 mm pipe diameter. It will have a velocity of 0.6 m/s for self-cleaning, to prevent sand settling inside the pipe and blocking. There will also be cross drainage

at the new rail siding which will be 400 m in length and 600 mm diameter. The existing network discharges into the bay through the existing quay wall.

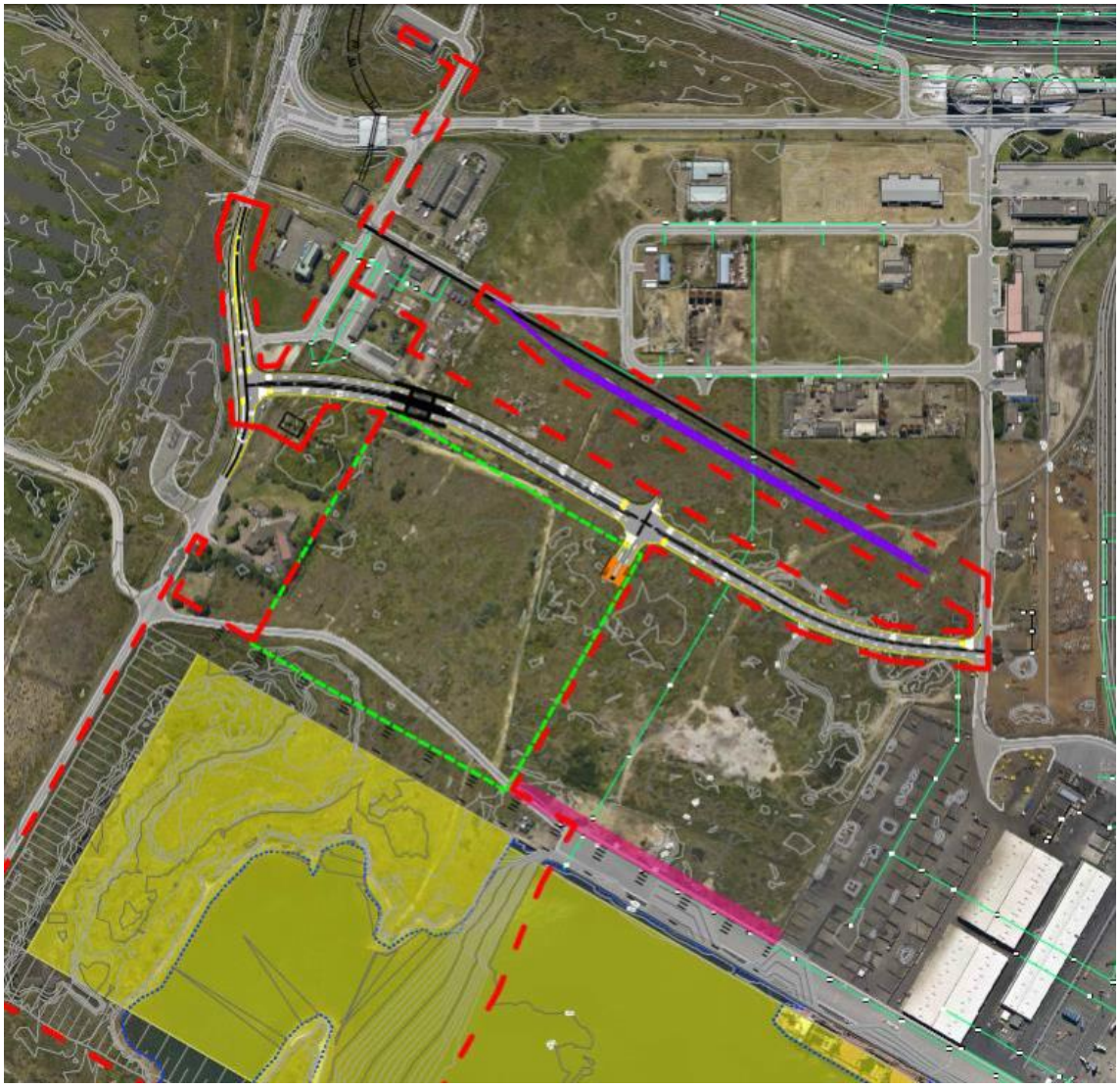


Figure 2-10: Existing Stormwater Layout (green lines)

Alternative retention pond

The preferred alternative is to discharge the stormwater pipe into the basin via the quay wall as this is the current method of stormwater discharge that exists in the vicinity of the project area. However, an alternative solution will be to direct the stormwater into a retention pond to manage the facility's stormwater.

The preferred alternative is favoured due to the following:

- Lower in cost for design and construction in comparison to the retention pond.
- There is no design associated with the retention pond at this stage therefore it could result in a time delay to the project.

- The preferred alternative is a simple solution as it ties into the existing stormwater network and adopts the same approach as the existing stormwater system around the site.

Based on the above, only the preferred alternative will be investigated in the EIA process.

2.3.6.3 Sewerage

Preferred alternative

The preferred alternative involves designing a sump to accommodate the facility's sewer through gravity flow, with pumping from the sump to the existing pumpstation PS20, located north of the facility (**Figure 2-11)**. The final sewer pipe route will be determined during the design phase.

The sewage system will allow for wastewater from new toilets, basins, baths, showers and water that cannot be discharged to the stormwater system.

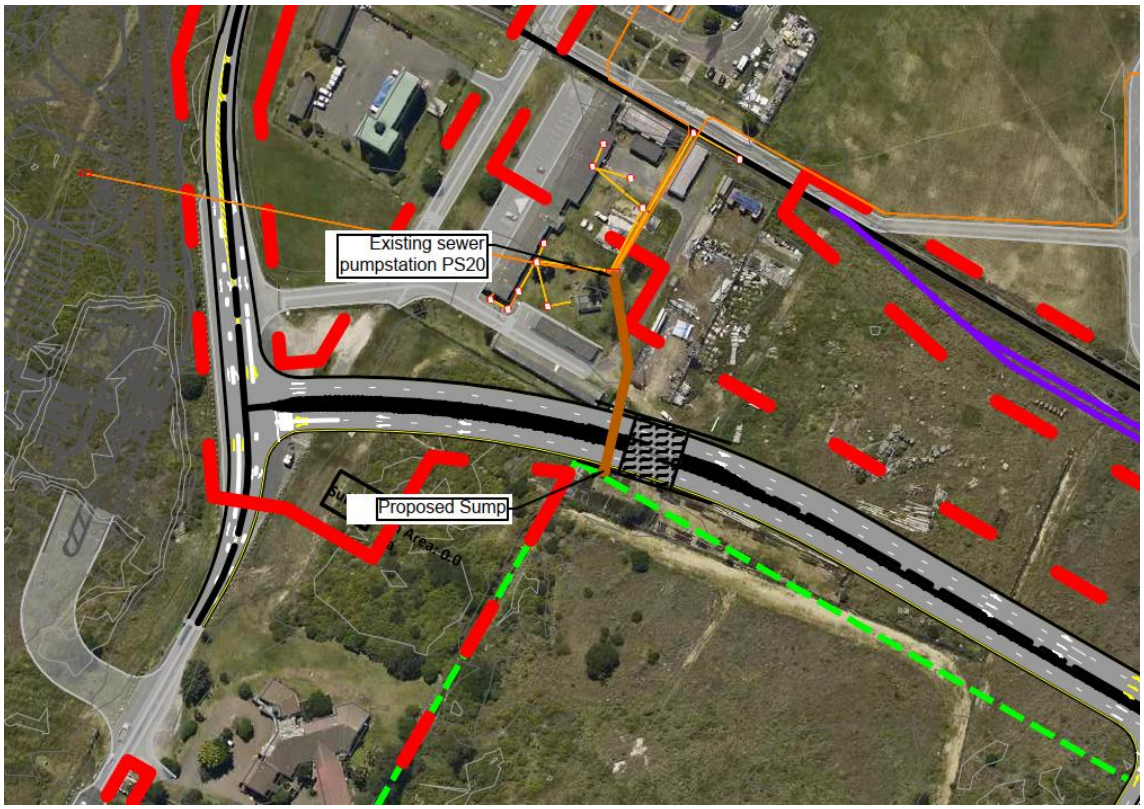


Figure 2-11: Existing sewer layout and location of the proposed sump (red lines)

Alternative

The alternative for the sewer supply is to accommodate the facility's sewer through gravity flow to the existing pumpstation PS20, located north of the facility. However, the invert levels will determine if the gravity flow system will work.

Both alternatives will tie into the existing sewer system and will be further investigated in the EIA phase.

2.3.6.4 Water

Preferred alternative

The existing 225mm diameter water main will be extended along with the new quay wall to supply ship water along the new quay. At the end of the new quay wall extension the water main will follow Urania Road to tie into the existing 150mm diameter pipe in the vicinity of the existing gate house.

A tie in point will be provided which will consist of approximately 500 m of pipework with a diameter of 150 mm. Inside the quay wall, water will be provided to landing valves for ships and firefighting.

Alternative

The first proposed supply point for the container handling facility is from the water ring main adjacent to Urania Road on the western side of the container handling facility and south of the Seafarers Club.

Figure 2-12: Proposed new water main layout (preferred on the left in blue) and proposed supply A (alternative on the right in blue)

Based on the outcome of the engineering investigations, both alternatives are equal in scoring and will be further assessed in the EIA phase.

2.3.7 RAIL

2.3.7.1 Preferred alternative

The approach to the design of the rail siding is based on the requirement that this is a freight railway line, and the Transnet design standards must be used. A simple layout was considered for the seamless interface from the mainline to the container storage area at Berth 605 and for the ease of loading and offloading of containers.

The scope of the proposed rail infrastructure involves the design and construction of the rail siding to accommodate the 275 000 TEUs and up to the maximum capacity. The rail siding will be designed to connect to the existing rail infrastructure at the location shown in the figure below.

Based on the design throughput and the current requirement of a 50-wagon container train, it is proposed that the rail siding will consist of two rail lines that are 370 m each in length, each servicing 25 rakes. The width of the rail reserve will be approximately 15 m, and 30 m at maximum including the hard standing for loading.

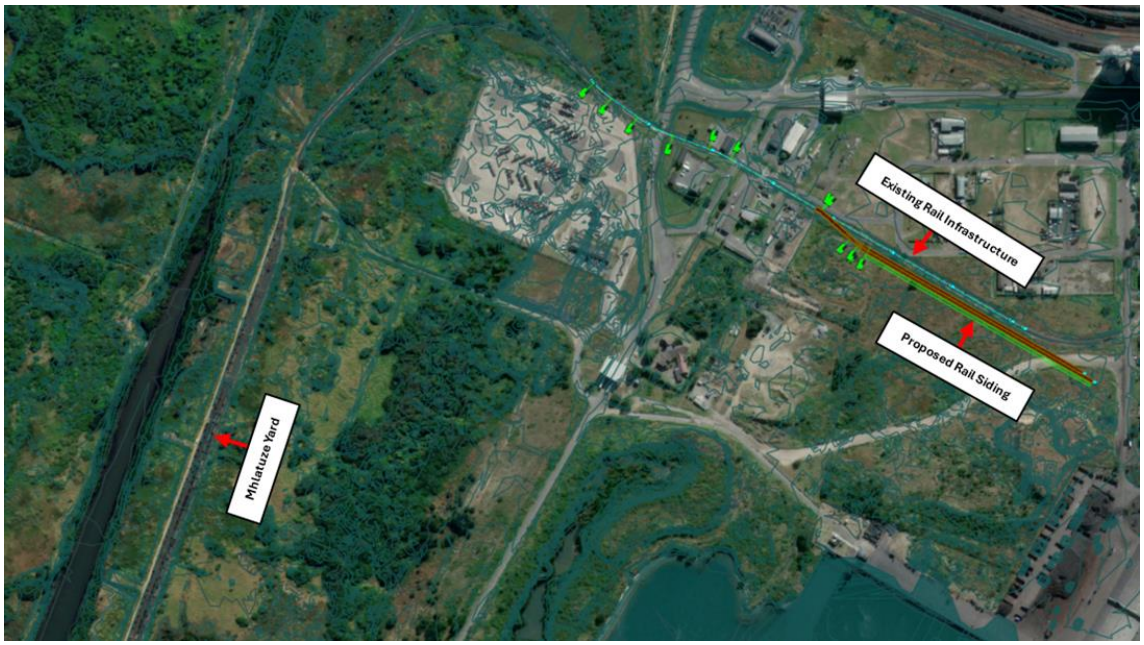


Figure 2-13: Location of rail siding connection to the existing rail.

It is understood that currently the Mhlatuze yard is being utilized to stage not-to-go wagons, however it consists of four rail lines that can each accommodate one 50-wagon train. Therefore, it is assumed that the Mhlatuze Yard will be used for shunting and staging purposes to service the new proposed rail siding. It must be noted that the existing infrastructure which the new proposed rail siding is designed to branch off from, has not been operational and therefore will need to be rehabilitated.

The preferred alternative will be the alternative considered for the following reasons:

- It can accommodate the current planned throughput and aims to accommodate the future capacity of the terminal.
- It is considered a simple option in terms of constructability as it links to the existing rail infrastructure.
- The area of disturbance is limited due to the existing disturbed areas surrounding the proposed new railway siding.

2.3.8 ROAD TRANSPORT AND ACCESS

2.3.8.1 Preferred new access road

The scope of the proposed road infrastructure is:

- A shared access road and security access control that will link Urania Road and Ventura Road, with a 4-way intersection to serve the terminal and adjacent land north of the terminal.

- The link and access will accommodate the maximum capacity of Berth 605, calculated to be 275 000 TEUs.
- The road will connect at a T-junction on Urania Road approximately 155 m north of the security access control located further south on Urania Road.

As indicated in the figure below, the new road will be an estimated 735 m length with a reserve width of 30 m.

Figure 2-14: Location of the new access road (yellow)

2.3.8.2 Alternatives considered for an access road

Option 2 as indicated in **Figure 2-15** below, provides a shared access road and vehicle access control point to the Port, the CHF and the adjacent vacant land surrounding the facility.

- It consists of a dual carriageway road with 2 lanes per direction.
- It takes access off Urania Road at a new T-junction that could be stop controlled or signalised, pending traffic demand.
- Provides access to the vacant properties west and north of the Container Handling Facility.
- Provides access to Ventura Road and the potential rail sidings.
- Replaces the function of the existing gravel road between Urania Road and Ventura Road that have to be removed.

This alignment was based on a previous footprint of the CHF which has been revised, therefore this option for a road has been eliminated and will not be further considered in the EIA process.

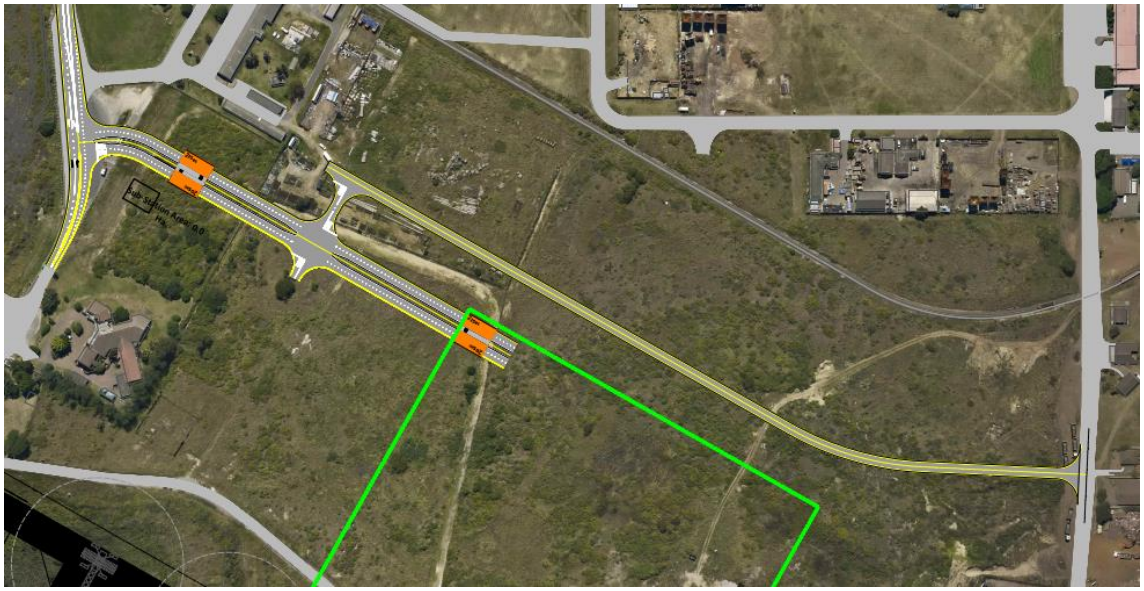


Figure 2-15 – Location of the previously considered access road options

3 NEED AND DESIRABILITY OF THE PROJECT

The DEA&DP Guideline (2013) states that the essential aim of need and desirability is to determine the suitability (i.e., is the activity proposed in the right location for the suggested land-use/activity) and timing (i.e., is it the right time to develop a given activity) of the development. Therefore, need and desirability addresses whether the development is being proposed at the right time and in the right place. Similarly, the 'Best Practicable Environmental Option' (BPEO) as defined in NEMA is *"the option that provides the most benefit and causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term."*

3.1 NEED AND DESIRABILITY OF THE PORB MASTERPLAN

An overview of the PoRB Masterplan must be provided to understand the need and desirability of the Berth 605 project.

The PoRB is one of the two main dry bulk ports in South Africa. While serving the hinterlands of Northern KwaZulu-Natal, Gauteng and Mpumalanga, the port is the largest exporter of coal in South Africa. By tonnage, the port has the largest Dry Bulk Terminal in South Africa and handles approximately 54% of South Africa's total dry bulk cargo demand. The Port is located adjacent to the Richards Bay Industrial Development Zone (TNPA PDFP, 2022).

The port has three precincts, namely the South Dunes, Bayvue and Newark. The South Dunes precinct accommodates the coal terminal and the liquid bulk terminals. Other dry bulk, liquid bulk and multipurpose operations are in the Bayvue precinct, while the small craft harbour and repair quay are in the Newark precinct. In general, the port currently focuses on three major activities namely, exporting dry, break and liquid bulk. Other services include bunkering, minor ship repairs and providing facilities for services and recreational craft. In addition to providing bulk facilities for the hinterland, the port plays an important role in the local economy of the City of uMhlathuze's growing industrial base (TNPA PDFP, 2022).

According to the Port Development Framework Plan, *the PoRB aspires to be a premier dry bulk and liquid bulk port with diversification in other segments. The Port desires to be a growing, effective, efficient, and integrated port by investing in infrastructure and improving terminal and supply chain efficiencies* (TNPA PDFP, 2022).

To achieve the goal of becoming a premier dry bulk and liquid bulk port, the PoRB must be able to accommodate for the capacity demand for the main commodities.

3.1.1 BERTH CAPACITY VERSE VOLUME

The capacity demand volume figures within this section for each of the main commodities of the port. These main cargo types are dry bulk (with a dedicated Coal terminal), break bulk (MPT), containers (MPT) and liquid bulk (TNPA PDFP, 2022).

3.1.1.1 Coal (Richards Bay Coal Terminal)

The terminal currently has a total of six berths but makes use of four berths for cargo loading. The current installed capacity is 91 million tons per annum and is lower than the theoretical capacity due to storage capacity and handling equipment constraints. The demand forecast indicates that the installed capacity will be exceeded by 2038. To improve the installed capacity to reach the theoretical capacity, additional ship loaders and stockpile areas are required (TNPA PDFP, 2022).

3.1.1.2 Dry Bulk

The Port of Richards Bay currently has 7 dry bulk berths. The current theoretical is 21 million tons per annum and installed capacity 18 million tons per annum. In the short-term scenario, there is insufficient capacity according to the TNPA forecast volume capacity. It is envisaged that the berth capacity will be increased from 21 million tons to 40 million tons due to the provision of two additional berths (Berth 802 and 803 which are currently in the design phase) and the conversion of berth 702 from an import berth to an export berth (TNPA PDFP, 2022).

3.1.1.3 Break Bulk/Multi-purpose Terminal (MPT)

At present there are 6 berths available for Break Bulk/MPT operations at the Bayvue Precinct, which include provision for handling phosphoric acid and pitch pencil. Container operations are also handled at the MPT berths. The current installed capacity is 8 million tons per annum. According to the volume projection, no new berths are required by 2052. However, beyond 2052, due to the prediction of the demand forecast, planning for an additional berth to provide additional break bulk (MPT) capacity is necessary (TNPA PDFP, 2022).

3.1.1.4 Containers

The berths available for container usage at the MPT have a theoretical and installed capacity of 50 000 TEUs per annum. TNPA 10-year forecast container volumes are relatively below the theoretical and installed berth capacity. According to the volume projection, no new berths are required by 2052 (TNPA PDFP, 2022).

3.1.1.5 Liquid Bulk

The current two liquid bulk berths at the PoRB have a combined capacity of 3 million kilolitres per annum. Based on the TNPA forecast for the next 10 years, there will be a shortfall between the installed capacity and the demand (TNPA PDFP, 2022).

3.2 BERTH 605 WITHIN THE PORB

Based on the above, the Berth 605 project falls within the short-term plan (2032) for the PoRB. According to TNPA, the overarching objective of the project is to have a dedicated berth for the Container Handling Facility at the PoRB. The New Berth 605 will ensure that the 606 to 609 berths are utilised for the MPT and not for handling of containers. This will result in an improvement in the operational efficiency of the MPT. The CHF with

the berth will ensure that this facility will have high operational efficiencies (TNPA PDFP, 2022).

4 GOVERNANCE FRAMEWORK

4.1 APPLICABLE LEGISLATION

The South African regulatory framework establishes well-defined requirements and standards for environmental and social management of industrial and civil infrastructure developments. Different authorities at both national and regional levels carry out environmental protection functions. The applicable national legislation is explained in **Table 4-1** below**.**

Table 4-1 – Applicable National Legislation[1]

Legislation	Description of Legislation and Applicability
The Constitution of South Africa (No. 108 of 1996)	The Constitution cannot manage environmental resources as a stand-alone piece of legislation hence additional legislation has been promulgated in order to manage the various spheres of both the social and natural environment. Each promulgated Act and associated Regulations are designed to focus on various industries or components of the environment to ensure that the objectives of the Constitution are effectively implemented and upheld in an on-going basis throughout the country. In terms of Section 7, a positive obligation is placed on the State to give effect to the environmental rights. **Applicability:** An environmental permitting process will be undertaken to identify and determine the potential impacts associated with the proposed Berth 605 project. The recommended mitigation measures will aim to adequately address the potential impacts and are managed to acceptable levels to support the rights as enshrined in the Constitution.
National Environmental Management Act (No. 107 of 1998) (NEMA)	In terms of Section 24(2) of the NEMA, the Minister may identify activities which may not commence without prior authorisation. The Minister thus published GNR 327 (Listing Notice 1), 325 (Listing Notice 2) and 324 (Listing Notice 3), as amended, listing activities that may not commence prior to authorisation. The regulations outlining the procedures required for authorisation are published in the EIA Regulations. Listing Notice 1 identifies activities that require a BA process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity. Listing Notice 2 identifies activities that require an S&EIR process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity.

[1] It should be noted that all dimensions outlined in relation to Listing Notice 1, 2 and 3 are provisional and are subject to final design.

Legislation	Description of Legislation and Applicability
	Listing Notice 3 identifies activities within specific areas that require a BA process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity. **Applicability:** WSP undertook a legal review of the listed activities according to the proposed project description to conclude that the activities listed in this section are considered applicable to the development: A S&EIR process must be followed.
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEM:BA)	The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEM:BA) was promulgated in June 2004 within the framework of the NEMA to provide for the management and conservation of national biodiversity. The NEM:BA's primary aims are for the protection of species and ecosystems that warrant national protection, the sustainable use of indigenous biological resources, the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources. In addition, the NEM:BA provides for the establishment and functions of a South African National Biodiversity Institute (SANBI). SANBI was established by the NEM:BA with the primary purpose of reporting on the status of the country's biodiversity and conservation status of all listed threatened or protected species and ecosystems. CBAs are areas of high biodiversity value which are usually at risk of being lost and usually identified as important in meeting biodiversity targets, except for Critically Endangered Ecosystems or Critical Linkages. CBAs in the Province can be divided into two sub-categories: ▪ Irreplaceable (parts of the site are within this sub-category), and ▪ Optimal (northern parts of the site are within this sub-category). The Threatened or Protected Species Regulations and lists (2007 & 2017 (marine)), Alien and Invasive Species Regulations and lists (2020) published under the NEM:BA will be applicable if there are any protected species to be removed as part of the project. **Applicability:** According to the DFFE Screening Report, the development falls within an irreplaceable CBA. This is defined as areas that are considered critical for meeting biodiversity targets and thresholds, and which requires to ensue persistence of viable populations of species and functional ecosystems. Based on the desktop assessment and initial site visit, the site has already been subjected to disturbance and is transformed. A terrestrial biodiversity impact assessment will be conducted to confirm the vegetation status of the site and if any protected species are within the project area. Permits for removal or destruction of nationally protected plant species can only be applied for once these

Legislation	Description of Legislation and Applicability
	species have been identified (permits to be applied for prior to construction phase).
The National Heritage Resources Act (No. 25 of 1999) (NHRA)	The National Heritage Resource Act (Act No. 25 of 1999) (NHRA) serves to protect national and provincial heritage resources across South Africa. The NHRA provides for the protection of all archaeological and palaeontological sites, the conservation and care of cemeteries and graves by the South African Heritage Resources Agency (SAHRA), and lists activities that require any person who intends to undertake to notify the responsible heritage resources agency and furnish details regarding the location, nature, and extent of the proposed development. Part 2 of the NHRA details specific activities that require a Heritage Impact Assessment (HIA) that will need to be approved by SAHRA. Parts of Section 35, 36 and 38 apply to the proposed project, principally: Section– 35 (4) - No person may, without a permit issued by the responsible heritage resources authority- ▪ destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite; ▪ destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite. ▪ Section 38 (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as- ▪ any development or other activity which will change the character of a site— (i) exceeding 5 000 m^2 in extent, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development. In terms of Section 38(8), approval from the heritage authority is not required if an evaluation of the impact of such development on heritage resources is required in terms of any other legislation (such as NEMA), provided that the consenting authority ensures that the evaluation of impacts fulfils the requirements of the relevant heritage resources authority in terms of Section 38(3) and any comments and recommendations of the relevant resources authority with regard to such development have been taken into account prior to the granting of the consent. However, should heritage resources of significance be affected by the proposed project, a permit is required to be obtained prior to disturbing or destroying such resources as per the requirements of Section 48 of the NHRA, and the SAHRA Permit Regulations (GN R668). **Applicability:** The proposed area for the Berth 605 and associated structures and infrastructure exceeds 5000m^2 therefore triggers the requirement for a HIA to be undertaken. In addition, considering the sensitivity of the site

Legislation	Description of Legislation and Applicability
	from a marine archaeological perspective, the project will also be subjected to a Marine Archaeological Impact Assessment. The outcome of the heritage assessments will determine if any permits are required for the disturbance or destruction of any heritage resources.
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA)	A list of 'Category A', and 'Category B' and subsequently 'Category C' waste management activities were first published, in GN 718 of 3 July 2009. These were amended, with the latest amendment being GN 1094 at the time of submission of this application. Category A and B activities require a Waste Management Licence in terms of section 20(b) of NEMWA, whereas Category C activities require that the person conducting these activities complies with the relevant requirements or standards as stated in GN. R.921, as amended. A number of regulations and standards regulating waste management have been published under NEMWA and updated to Government Gazette 46602 dated 24 June 2022 including: ▪ List of waste management activities that have, or are likely to have, a detrimental effect on the environment, 2013 (as amended) ▪ National Waste Management Strategy, 2020 ▪ Waste Classification & Management Regulations, 2013 ▪ National Norms & Standards for the Assessment of Waste for Landfill Disposal, 2013 ▪ National Norms & Standards for Disposal of Waste to Landfill, 2013 ▪ National Norms and Standards for the Remediation of Contaminated Land and Soil Quality, 2014 **Applicability:** Based on the details of the project provided by TNPA to date, there are no applicable waste related activities as the dredged material will be disposed of at a registered offshore disposal site. The temporary storage of excavated materials may require a registration under the Norms and Standards and will be applied for separately.
National Environmental Management: Air Quality Act 39 of 2004 (NEM:AQA)	NEM:AQA provides for the protection of the environment by regulating air quality in order to prevent air pollution. ▪ Sections 21, 22, 22A - Listing of activities in Atmospheric Emission Licensing. ▪ Sections 23-25 – Controlled emitters ▪ Section 32 – Control of Dust ▪ Section 34 – Control of Noise ▪ Section 35 – Control of offensive odours Several regulations and standards regulating air quality have been published under NEMAQA. including: ▪ National Ambient Air Quality Standards, 2009 ▪ National Ambient Air Quality Standard for Particulate Matter of Aerodynamic Diameter less than 2.5-micron metre (PM2.5), 2012

Legislation	Description of Legislation and Applicability
	▪ Declaration of a Small Boiler as a Controlled Emitter and Establishment of Emission Standards, 2013 ▪ National Dust Control Regulations, 2013 ▪ Listed Activities and Associated Minimum Emission Standards 2013 (amended) ▪ Regulations regarding Air Dispersion Modelling, 2014 National Atmospheric Emission Reporting Regulations, 2015 ▪ National Greenhouse Gas Emissions Reporting Regulations, 2016 (amended) ▪ Declaration of greenhouse gases as priority air pollutants, 2017 ▪ National Pollution Prevention Plans Regulations, 2017 (amended) (including the Regulations prescribing the format of the Atmospheric Impact Report (2013). **Applicability:** The Berth 605 project does not trigger the requirement for an Air Emissions License (AEL) however the above-mentioned sections of the NEM:AQA and the associated regulations will be considered during the EIA process. Short term impacts to the air quality during construction and the Greenhouse Gas emissions for the project will be further assessed in the EIA phase of the S&EIR process.
National Protected Area Expansion Strategy, 2010	The National Protected Area Expansion Strategy 2010 (NPAES) areas were identified through a systematic biodiversity planning process. They present the best opportunities for meeting the ecosystem-specific protected area targets set in the NPAES and were designed with strong emphasis on climate change resilience and requirements for protecting freshwater ecosystems. These areas should not be seen as future boundaries of protected areas, as in many cases only a portion of a particular focus area would be required to meet the protected area targets set in the NPAES. They are also not a replacement for fine scale planning which may identify a range of different priority sites based on local requirements, constraints and opportunities (NPAES, 2010). According to the NPAES (2016) dataset, the project area falls within a Priority Focus Area, which is of high importance for biodiversity because it is considered a high priority for protected area expansion.
The National Water Act (No. 36 of 1998) (NWA)	The purpose of the National Water Act (No. 36 of 1998) (NWA) is to provide a framework for the equitable allocation and sustainable management of water resources. Both surface and groundwater sources are national resources, which cannot be owned by any individual, and rights to which are not automatically coupled to land rights, but for which prospective users must apply for authorisation and register as users. The NWA also provides for measures to prevent, control and remedy the pollution of surface and groundwater sources. The Act aims to regulate the use of water and activities (as defined in Part 4, Section 21), which may impact on water resources through the categorisation of 'listed water uses.' Defined water-use activities require the approval of DWS in the form of a General Authorisation (GA) or Water Use Licence (WUL) authorisation.

Legislation	Description of Legislation and Applicability
	Applicability: Based on the location of the site in relation to the estuary and wetlands, a WULA is potentially applicable and will be confirmed by specialists during the site verification.
National Ports Act (Act No. 12 of 2005)	According to Regulation 11 of the National Ports Act, the main function of the Authority is to own, manage, control and administer ports to ensure their efficient and economic functioning, and in doing so the Authority must plan, provide, maintain and improve port infrastructure amongst other functions. **Applicability:** The TNPA provides port infrastructure and marine services at the eight commercial seaports in South Africa. It operates within a legislative and regulatory environment created by the National Ports Act 2005 (Act No. 12 of 2005). There are no permits under the National Ports Act that will be applied for as part of the environmental permitting process.
The National Environmental Management: Integrated Coastal Management Act (No. 24 of 2008)	The National Environmental Management: Integrated Coastal Management Act 24 of 2008 aims: ▪ to establish a system of integrated coastal and estuarine management in the Republic, including norms, standards and policies, in order to promote the conservation of the coastal environment, and maintain the natural attributes of coastal landscapes and seascapes, and to ensure that development and the use of natural resources within the coastal zone is socially and economically justifiable and ecologically sustainable; ▪ to define rights and duties in relation to coastal areas; ▪ to determine the responsibilities of organs of state in relation to coastal areas; ▪ to prohibit incineration at sea; ▪ to control dumping at sea, pollution in the coastal zone, inappropriate development of the coastal environment and other adverse effects on the coastal environment; ▪ to give effect to South Africa's international obligations in relation to coastal matters; and ▪ to provide for matters connected therewith. **Applicability:** This Act will be considered for the Estuarine and Marine Ecology Assessment. In addition, the project will use an existing site for the disposal of dredged materials.
The National Environmental Management: Integrated Coastal Management Act (No. 24 of 2008):	The Dumping at Sea Regulations were published in terms of sections 83(1)(g), (h), (k) and (r) of the National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) and details the application process for dumping at sea. **Applicability:**

Legislation	Description of Legislation and Applicability
Dumping at Sea Regulations	The project will use an existing site for the disposal of dredged materials.
Marine Living Resources Act 18 of 1998	Regulates the utilization, conservation and management of marine living resources and the need to protect whole ecosystems preserve marine biodiversity and minimize marine pollution. **Applicability:** The Berth 605 project is located within the PoRB, the entire site is located within the EFZ therefore the impact on the estuarine and marine ecology will be investigated in the EIA phase.
Civil Aviation Act (No. 13 of 2009)	Civil aviation in South Africa is governed by the Civil Aviation Act (Act 13 of 2009). This Act provides for the establishment of a stand-alone authority mandated with controlling, promoting, regulating, supporting, developing, enforcing and continuously improving levels of safety and security throughout the civil aviation industry. This mandate is fulfilled by the South African Civil Aviation Authority (SACAA) as an agency of the Department of Transport (DoT). SACAA achieves the objectives set out in the Act by complying with the Standards and Recommended Practices (SARPs) of the International Civil Aviation Organisation (ICAO), while considering the local context when issuing the South African Civil Aviation Regulations. All proposed developments or activities in South Africa that potentially could affect civil aviation must thus be assessed by SACAA in terms of the Civil Aviation Regulations and South African Civil Aviation Technical Standards (SA CATS) to ensure aviation safety. Potential impacts from the pigging station must be reviewed by these authorities. The Obstacle Evaluation Committee (OEC) which consists of members from both the SACAA and South African Air Force (SAAF) fulfils the role of streamlining and coordinating the assessment and approvals of proposed developments or activities that have the potential to affect civil aviation, military aviation, or military areas of interest. With both being national and international priorities, the OEC is responsible for facilitating the coexistence of aviation and renewable energy development, without compromising aviation safety. **Applicability:** The details of the proposed project will be provided to the SACAA who will be registered on the stakeholder list.
National Road Traffic Act 93 of 1996	Provides for controlling transport of dangerous goods, hazardous substances and general road safety. **Applicability:** The project constitutes the development of a new road. The design of the roads will be in accordance with this Act.

4.2 PROVINCIAL AND LOCAL LEGISLATION AND PLANNING

The table below summarises the key policies and plans as an outline of the governance framework for the project.

Table 4-2 – National, Provincial and Local Legislation and Plans

Applicable Plan	Description of Plan
National Estuarine Management Protocol, 2015	This document presents guidelines for the development and implementation of individual Estuarine Management Plans as required by the National Environmental Management: Integrated Coastal Management Act (Act No. 24 of 2008), as amended by the National Environmental Management: Integrated Coastal Management Amendment Act (Act No. 36 of 2014) (hereafter referred to as the ICMA)and in accordance with the National Estuarine Management Protocol. The uMhlathuze & Richards Bay Estuarine Management Plan (EstMP) (2018) was compiled in accordance with the National Estuarine Management Protocol will be considered during the undertaking of the specialist studies which informs the overall S&EIR process.
KwaZulu-Natal Planning and Development Act 6 of 2008	Strategic spatial development intentions for the municipality based on the IDP and SDF, influenced by and in alignment with adjacent municipalities.
KwaZulu-Natal Provincial Spatial Economic Development Strategy (2022)	The prioritisation of spatial economic development initiatives in the province, including strategy to ensure that investment occurs in the sectors that provide the greatest socio-economic return to investment.
Port Development Framework Plan, 2022	The National Ports Act (2005) prescribes that the National Ports Authority is to prepare and periodically update a Port Development Framework Plan for each port. This process ensures that the development plans remain current, aligned with national policies and inclusive of changes in the ports' environment.
KZN Biodiversity Sector Plan 2016	CBAs are areas required to meet biodiversity targets for ecosystems, species and ecological processes, as identified in a systematic biodiversity plan – and may be terrestrial or aquatic. The primary purpose of a map of CBAs is to guide decision-making about where best to locate development. It should inform land-use planning, environmental assessment and authorisations, and natural resource management, by a range of sectors whose policies and decisions impact on biodiversity. It is the biodiversity sector's input into multi-sectoral planning and decision-making processes.

Applicable Plan	Description of Plan
	The site, although developed to a certain extent, is located in a CBA: Irreplaceable as defined by the KZN Biodiversity Sector Plan (2016).
Ezemvelo KZN Wildlife Strategic Plan, 2015	To ensure effective conservation, sustainable use of biodiversity, and promote ecotourism within KwaZulu-Natal in collaboration with stakeholders for the benefit of present and future generations.
KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs - Provincial Norms and Standards for Climate Change and Energy Efficiency in Land Use Management (January 2020)	Providing set of norms and standards that focus on climate change and energy efficiency, which are interrelated, which must be used in the assessment of land development applications in order to proactively respond to climate change.
KwaZulu-Natal Coastal Management Programme (2019)	Developed to bring provincial coastal management in KwaZulu-Natal in line with the Integrated Coastal Management Act. The Provincial Coastal Management Programme (PCMP) sets out the objectives and requirements to fully realise integrated coastal management in KwaZulu-Natal.
KwaZulu-Natal Amafa and Research Institute Act, 2018	The KwaZulu-Natal Amafa and Research Institute Act, 2018 (Act No. 05 of 2018) was established to recognise the KwaZulu-Natal Amafa and Research Institute as the provincial heritage resources authority for the KwaZulu-Natal in terms of Section 23 of the National Heritage Resources Act, 1999, and to amalgamate *Amafa aKwzaZulu-Natali* in terms of the KwaZulu-Natal Heritage Act, 2008. The aim of the of the Institute and Act is to identify, conserve, protect, manage and administer heritage resources, whilst researching and generating relevant knowledge to provide solutions within the field of heritage in the province. **Applicability:** The proposed area for the Berth 605 and associated structures and infrastructure exceeds 5000m^2 therefore triggers the requirement for a HIA to be undertaken. In addition, considering the sensitivity of the site from a marine archaeological perspective, the project will also be subjected to a Marine Archaeological Impact Assessment. AMAFA will provide a response once the HIA is uploaded for comment.
King Cetshwayo District Municipality Integrated Development Plan (IDP) 2024-2025	The objective is to promote economic growth in the District and improve the socio-economic conditions of residents, including infrastructure development and service delivery.

Applicable Plan	Description of Plan
Umhlatuze Spatial Development Framework 2017-2022	The SDF provides strategic guidance on locations of development and land use, which feeds into strategic decisions of the local municipality. The SDF also includes the Environmental Management Framework for the municipality with specific reference to the PoRB expansion.
Umhlatuze Environmental Services Management Plan, 2024	The Municipality compiled an Environmental Services Management Plan (ESMP) as broader planning tool to guide spatial development. The ESMP outlines a number of goals for Environmental Services Management. Two critical goals are: To define cohesive and functional spatial management units within the municipal area that needs to be managed in order to optimize the delivery of environment services. To develop management plans for each management unit that identify the management activities required to secure environmental services supply. The areas that provide environmental services to the City are spatially defined, and the following "Levels" of protection were determined: Nature Reserves (Level 1) Conservation Zones (Level 2) Open Space Linkage Zone (Level 3) Development Zone (Level 4) The Berth 605 project area falls within Level 4 as it is an alread transformed area earmarked for development.
Umhlathuze Municipality Spatial Planning and Land Use Management By-Law, 2017	The Umhlathuze Municipality Spatial Planning and Land Use Management By-Law, 2017 provides for: ▪ the establishment of the Municipal Planning Approval Authority and the Municipal Planning Appeal Authority; ▪ the adoption, repeal, review, extension and amendment of the Municipality's land use scheme, ▪ the regulation and management of spatial and land use planning and development, ▪ the categorisation of land development applications, processes and procedures for land development applications, appeals against decisions of the Municipal Planning Approval Authority; and ▪ offences, penalties and enforcement matters; and matters incidental thereto.
The City of uMhlathuze Roads and Traffic Safety By-laws, 2019	The City of uMhlathuze Roads and Traffic Safety By-laws, 2019 provide for measure for preventing minimising or managing public nuisances. In addition, it prohibits certain activities public places.

4.3 ADDITIONAL PERMITS AND AUTHORISATIONS

Table 4-3 – Additional Permits and Authorisations required for the Proposed Project

Permits / Authorisation	Legislation	Relevant Authority	Status
Section 38 (8) for the review of environmental documents	Section 38 (1) & (8) of the NHRA	SAHRA	Pending
WUL	NWA	DWS	Pending confirmation by specialist investigations
Permits for removal or destruction of nationally protected plant species	NEM:BA	DFFE	If required, permits will be obtained prior to the commencement of construction.
Dumping at sea permit	The National Environmental Management: Integrated Coastal Management Act (No. 24 of 2008): Dumping at Sea Regulations	DFFE	At the time of this report, TNPA confirmed that there is an existing valid dump at sea permit. TNPA must ensure availability of licensed disposal site prior to construction.

4.4 INTERNATIONAL STANDARDS AND GUIDELINES

4.4.1 IFC PERFORMANCE STANDARDS

The International Finance Corporation (IFC) is an international financial institution that offers investment, advisory, and asset management services to encourage private sector development in developing countries. The IFC is a member of the World Bank Group (WBG) and is headquartered in Washington, D.C., United States. It was established in 1956 as the private sector arm of the WBG to advance economic development by investing in strictly for-profit and commercial projects that purport to reduce poverty and promote development.

The IFC's Sustainability Framework articulates the Corporation's strategic commitment to sustainable development and is an integral part of IFC's approach to risk management. The Sustainability Framework comprises IFC's Policy and Performance Standards on Environmental and Social Sustainability, and IFC's Access to Information Policy. The Policy on Environmental and Social Sustainability describes IFC's commitments, roles, and responsibilities related to environmental and social sustainability. IFC's Access to Information Policy reflects IFC's commitment to transparency and good governance on its operations and outlines the Corporation's institutional disclosure obligations regarding its investment and advisory services. The

Performance Standards (PSs) are directed towards clients, providing guidance on how to identify risks and impacts, and are designed to help avoid, mitigate, and manage risks and impacts as a way of doing business in a sustainable way, including stakeholder engagement and disclosure obligations of the client in relation to project-level activities. In the case of its direct investments (including project and corporate finance provided through financial intermediaries), IFC requires its clients to apply the PSs to manage environmental and social risks and impacts so that development opportunities are enhanced. IFC uses the Sustainability Framework along with other strategies, policies, and initiatives to direct the business activities of the Corporation to achieve its overall development objectives. The PSs may also be applied by other financial institutions (FIs).

The Proposed Development is considered a Category B project in terms of the IFC Policy on E&S Sustainability (2012), having the potential to cause limited adverse environmental or social risks and/or impacts that are few in number, generally site specific, largely reversible, and readily addressed through mitigation measures.

A brief overview of the PS is outlined below.

Table 4-4 – Objectives and Applicability of the IFC Performance Standards

Reference	Requirements	Project Specific Applicability
Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts		
Overview	Performance Standard 1 underscores the importance of managing environmental and social performance throughout the life of a project. An effective Environmental and Social Management System (ESMS) is a dynamic and continuous process initiated and supported by management, and involves engagement between the client, its workers, local communities directly affected by the project (the affected communities) and, where appropriate, other stakeholders. The IFC Standards state under PS 1 (Guidance Note 23) that "*the breadth, depth and type of analysis included in an ESIA must be proportionate to the nature and scale of the proposed project's potential impacts as identified during the course of the assessment process*." This document is the DSR undertaken for the proposed project. The impact assessment phase will comprehensively assess the key environmental and social impacts and complies with the requirements of the South African EIA Regulations.	
Performance Standard 2: Labour and Working Conditions;		
Overview	Performance Standard 2 recognises that the pursuit of economic growth through employment creation and income generation should be accompanied by protection of the fundamental rights of workers. PS2 is considered applicable as a contractor will be appointed to undertake the required scope of work.	

Reference	Requirements	Project Specific Applicability
	Formal human resource and labour policies will be compiled in the event that the project is developed in the future as part of the project specific ESMS/corporate ESMS.	
Performance Standard 3: Resource Efficiency and Pollution Prevention		
Overview	Performance Standard 3 recognises that increased economic activity and urbanisation often generate increased levels of pollution to air, water, and land, and consume finite resources in a manner that may threaten people and the environment at the local, regional, and global levels. There is also a growing global consensus that the current and projected atmospheric concentration of greenhouse gases (GHG) threatens the public health and welfare of current and future generations. At the same time, more efficient and effective resource use and pollution prevention and GHG emission avoidance and mitigation technologies and practices have become more accessible and achievable in virtually all parts of the world. PS3-related impacts, such as the management of construction waste, hazardous substances, stormwater, use of water, etc will be further assessed during the EIA phase. The project is not GHG emissions intensive and will seeks to facilitate resource efficiency and pollution prevention. Pollution in the construction phase be further assessed during the EIA phase. In addition, a Climate Change Impact Assessment will be undertaken to determine the GHG emissions and the related impact of the project.	
Performance Standard 4: Community Health, Safety, and Security		
Overview	Performance Standard 4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. The requirements included in PS 4 will be addressed in the EIA process. The following generic plans will be included in the EMPr: ▪ Emergency Response Plan; ▪ Transport Management Plan; ▪ HIV/AIDS Management Plan; and ▪ Security Policy. All plans will be made site specific where necessary.	
Performance Standard 5: Land Acquisition and Involuntary Resettlement		
Overview	Performance Standard 5 recognises that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons that use this land. Involuntary resettlement refers both to physical displacement (relocation or loss of shelter) and to economic displacement (loss of assets or access to assets that leads to loss of income sources or other means of livelihood) as a result of project-related land acquisition and/or restrictions on land use. PS5 is not applicable to the proposed project as the project is located within an existing port which is controlled by TNPA.	

Reference	Requirements	Project Specific Applicability
Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources		
Overview	Performance Standard 6 recognizes that protecting and conserving biodiversity, maintaining ecosystem services, and sustainably managing living natural resources are fundamental to sustainable development. The proposed development is located within a CBA and EFZ therefore a terrestrial biodiversity assessment and a marine ecology assessment will be undertaken. The methodologies for the specialist assessments will include a combination of literature review, in-field surveys and sensitivity mapping. This substantively complies with the PS 6 general requirements for scoping and baseline assessment for determination of biodiversity and ecosystem services issues. The determination of habitat sensitivity was undertaken within the legal and best practice reference framework for South Africa. The prevalence of invasive alien species will be determined, and mitigation and management measures are included in the EMPr.	
Performance Standard 7: Indigenous People		
Overview	Performance Standard 7 recognizes that Indigenous Peoples, as social groups with identities that are distinct from mainstream groups in national societies, are often among the most marginalized and vulnerable segments of the population. In many cases, their economic, social, and legal status limits their capacity to defend their rights to, and interests in, lands and natural and cultural resources, and may restrict their ability to participate in and benefit from development. Indigenous Peoples are particularly vulnerable if their lands and resources are transformed, encroached upon, or significantly degraded. As per the international instruments under the United Nations (UN) Human Rights Conventions, no indigenous peoples are present within the study area.	
Performance Standard 8: Cultural Heritage		
Overview	Performance Standard 8 recognizes the importance of cultural heritage for current and future generations. A Heritage Assessment will be conducted as part of the EIA process by a suitably qualified specialist.	

4.4.2 WORLD BANK GROUP ENVIRONMENTAL HEALTH AND SAFETY GUIDELINES

In support of the Performance Standards, the World Bank Group (WBG) has published a number of Environmental Health and Safety (EHS) Guidelines. The EHS Guidelines are technical reference documents that address IFC's expectations regarding the industrial pollution management performance of its projects. They are designed to assist managers and decision makers with relevant industry background and technical information. This information supports actions aimed at avoiding, minimising, and controlling EHS impacts during the construction, operation, and decommissioning phase of a project or facility. The EHS Guidelines serve as a technical reference source to

support the implementation of the IFC Performance Standards, particularly in those aspects related to PS3: Pollution Prevention and Abatement, as well as certain aspects of occupational and community health and safety.

Where host country regulations differ from the levels and measures presented in the EHS Guidelines, projects seeking international funding may be expected to achieve whichever is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, a full and detailed justification for any proposed alternatives is required.

The following IFC / WBG EHS Guidelines have been generally consulted during the preparation of the BA in order to aid the identification of EHS aspects applicable to the project:

- General EHS Guidelines – this includes a section on a range of environmental, occupational health and safety, community health and safety, and construction activities that would apply to the project. The guideline also contains recommended guidelines adopted form the World Health Organisation (WHO) for ambient air and water quality, which are referred to in the relevant impact assessment sections in the ESIA report.

4.4.3 EQUATOR PRINCIPALS

The Equator Principles (EPs) is a risk management framework, adopted by financial institutions, for determining, assessing, and managing environmental and social risk in projects and is primarily intended to provide a minimum standard for due diligence to support responsible risk decision-making.

The EPs apply globally to all industry sectors and to five financial products 1) Project Finance Advisory Services, 2) Project Finance, 3) Project-Related Corporate Loans, 4) Bridge Loans and 5) Project-Related Refinance and Project-Related Acquisition Finance. The relevant thresholds and criteria for application is described in detail in the Scope section of the EP. Currently 125 Equator Principles Financial Institutions (EPFIs) in 37 countries have officially adopted the EPs, covering the majority of international project finance debt within developed and emerging markets. EPFIs commit to implementing the EPs in their internal environmental and social policies, procedures and standards for financing projects and will not provide Project Finance or Project-Related Corporate Loans to projects where the client will not, or is unable to, comply with the EPs.

While the EPs are not intended to be applied retroactively, EPFIs apply them to the expansion or upgrade of an existing project where changes in scale or scope may create significant environmental and social risks and impacts, or significantly change the nature or degree of an existing impact. The EPs have greatly increased the attention and focus on social/community standards and responsibility, including robust standards for indigenous peoples, labour standards, and consultation with locally affected communities within the Project Finance market.

The EPs have also helped spur the development of other responsible environmental and social management practices in the financial sector and banking industry and have supported member banks in developing their own Environmental and Social Risk Management Systems.

The requirements and applicability of the EPs are outlined in **Table 4-5.**

It should be noted that Principles 8 and 10 relate to a borrower's code of conduct and are therefore not considered relevant to this process and have not been included in this discussion.

Table 4-5 - Requirements and Applicability of the Equator Principles

Requirement		Project Specific Applicability
Principle 1: Review and Categorisation		
Overview	When a project is proposed for financing, the EPFI will, as part of its internal social and environmental review and due diligence, categorise such project based on the magnitude of its potential impacts and risks in accordance with the environmental and social screening criteria of the IFC. Using categorisation, the EPFI's environmental and social due diligence is commensurate with the nature, scale, and stage of the Project, and with the level of environmental and social risks and impacts. The categories are: ▪ Category A: Projects with potential significant adverse environmental and social risks and/or impacts that are diverse, irreversible or unprecedented; ▪ Category B: Projects with potential limited adverse environmental and social risks and/or impacts that are few in number, generally site-specific, largely reversible and readily addressed through mitigation measures; and ▪ Category C: Projects with minimal or no adverse environmental and social risks and/or impacts.	The proposed project can be regarded as a Category B project i.e. a project with potential limited adverse environmental or social risks and/or impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures.
Principle 2: Environmental and Social Assessment		
Overview	For all Category A and Category B Projects, the EPFI will require the client to conduct an appropriate Assessment	The impact assessment supported by specialist input will comprehensively assess the key

Requirement		Project Specific Applicability
	process to address, to the EPFI's satisfaction, the relevant environmental and social risks and scale of impacts of the proposed project.	environmental and social impacts in accordance with the requirements of the South African EIA Regulations (2014, as amended). In addition, a site-specific EMPr will be compiled.
Principle 3: Applicable Environmental and Social Standards		
Overview	The Assessment process should, in the first instance, address compliance with relevant host country laws, regulations and permits that pertain to environmental and social issues.	As South Africa has been identified as a non-designated country, the reference framework for environmental and social assessment is based on the IFC PS. In addition, this S&EIR process will be undertaken in accordance with NEMA (the host country's relevant legislation).
Principle 4: Environmental and Social Management System and Equator Principles Action Plan		
Overview	For all Category A and Category B Projects, the EPFI will require the client to develop or maintain an Environmental and Social Management System (ESMS). Further, an Environmental and Social Management Plan (ESMP) will be prepared by the client to address issues raised in the assessment process and incorporate actions required to comply with the applicable standards.	The EMPr will serve to management and monitor activities associated with all phases of the proposed project.
Principle 5: Stakeholder Engagement		
Overview	EPFI will require the client to demonstrate effective Stakeholder Engagement as an ongoing process in a structured and culturally appropriate manner with Affected Communities Workers and, where relevant, Other Stakeholders. For Projects with potentially significant adverse impacts on Affected Communities, the client will conduct an Informed Consultation and Participation process.	The S&EIR process will include a stakeholder engagement process which complies with the South African EIA Regulations. The process includes consultations with local communities, nearby businesses, and a range of government sector stakeholders (state owned enterprises, national, provincial and local departments). The stakeholder engagement process solicits interest from potentially interested parties through the placement of site notices and newspaper advertisements as well as written and telephonic communication.

Requirement		Project Specific Applicability
		.
Principle 6: Grievance Mechanism		
Overview	For all Category A and, as appropriate, Category B Projects, the EPFI will require the client, as part of the ESMS, to establish effective grievance mechanisms which are designed for use by Affected Communities and Workers, as appropriate, to receive and facilitate resolution of concerns and grievances about the Project's environmental and social performance.	The EMPr will include a Grievance Mechanism Process for Public Complaints and Issues. This procedure effectively allows for external communications with members of the public to be undertaken in a transparent and structured manner.
Principle 7: Independent Review		
Overview	For all Category A and, as appropriate, Category B Projects, an Independent Environmental and Social Consultant, not directly associated with the client, will carry out an Independent Review of the Assessment Documentation including the ESMPs, the ESMS, and the Stakeholder Engagement process documentation in order to assist the EPFI's due diligence, and assess Equator Principles compliance.	This principle is not applicable
Principle 9: Independent Monitoring and Reporting		
Overview	To assess Project compliance with the Equator Principles after Financial Close and over the life of the loan, the EPFI will require independent monitoring and reporting for all Category A, and as appropriate, Category B projects. Monitoring and reporting should be provided by an Independent Environmental and Social Consultant; alternatively, the EPFI will require that the client retain qualified and experienced external experts to verify its monitoring information, which will be shared with the EPFI in accordance with the frequency required.	This principle is not applicable

4.5 LISTED ACTIVITIES UNDER THE NEMA EIA REGULATIONS

The listed activities that have been identified in terms of the NEMA EIA Regulations are presented in **Table 4-6** below.

Table 4-6: Listed Activities under the NEMA EIA Regulations

Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 1 of the EIA Regulations, 2014 as amended	Describe the portion of the proposed project to which the applicable listed activity relates.
9	The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water- (i)with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more etc; excluding where- such infrastructure is for bulk transportation of water or storm water or storm water drainage inside a road reserve; or where such development will occur within an urban area.	Pipelines to be laid from the existing water services to the project area for water supply will be 500 m in length and 160 mm in diameter and a throughput of less than 120 litres per second **Activity not applicable due to urban area exclusion**
10	The development and related operation of infrastructure exceeding 1 000 metres in length for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes – (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more; excluding where— (a) such infrastructure is for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge or slimes inside a road reserve or railway line reserve; or (b) where such development will occur within an urban area.	Pipelines for the tie-in to the existing sewerage system will be approximately 100 m in length and 160 mm in diameter. **Activity not applicable due to urban area exclusion**

11	The development of facilities or infrastructure for the transmission and distribution of electricity— (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; or (ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more; excluding the development of bypass infrastructure for the transmission and distribution of electricity where such bypass infrastructure is — (a) temporarily required to allow for maintenance of existing infrastructure; (b) 2 kilometres or shorter in length; (c) within an existing transmission line servitude; and (d) will be removed within 18 months of the commencement of development.	There is an existing 132 kV sub-station is the 132 kV which has already been stepped down to 11 kV. The project will require the installation of a medium volt underground cable (11 kV) to serve the site therefore this activity is **not applicable.** The proposed new substation remains within the threshold of this activity and therefore is **not applicable.**
12	The development of infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; — excluding— (aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (dd)where such development occurs within an urban area.	There will be dredging within the EFZ of the PoRB, in addition there are wetlands potentially located within the project area and will be confirmed during the specialist investigation. The basin will be dredged to around -14.5 CD and there will be an estimated 6 million cubic metres of dredged material to be disposed of. **This activity is not applicable due to the urban area exclusion.**

15	The development of structures in the coastal public property where the development footprint is bigger than 50 square metres, excluding— (i) the development of structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (ii) the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (iii) the development of temporary structures within the beach zone where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared; or (iv) activities listed in activity 14 in Listing Notice 2 of 2014, in which case that activity applies.	According to Section 7 of the Integrated Coastal Management states that coastal public property consists of any natural resources on or in any harbour in any coastal public property listed in subcategories a to h of the Act that is owned by an organ of state. Therefore, this activity is **applicable**.
17	Development— (i) in the sea; (ii)in an estuary; (iii)within the littoral active zone; (iv)in front of a development setback; or (v)if no development setback exists, within a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater; in respect of— (a) fixed or floating jetties and slipways; (b) tidal pools; (c) embankments; (d) rock revetments or stabilising structures including stabilising walls; or	The entire Berth 605 project is located within the EFZ however the area is considered urban therefore this activity is not **applicable.**

	(e) infrastructure or structures with a development footprint of 50 square metres or more —excluding (aa) the development of infrastructure and structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (bb) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (cc) the development of temporary infrastructure or structures where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared; or (dd) where such development occurs within an urban area.	
19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse; but excluding where such infilling, depositing, dredging, excavation, removal or moving — will occur behind a development setback; is for maintenance purposes undertaken in accordance with a maintenance management plan; falls within the ambit of activity 21 in this Notice, in which case that activity applies; occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.	Infilling of wetlands potentially identified in the project area and will be confirmed during the specialist investigation therefore this activity is **potentially applicable.**

19a	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from— (i) the seashore; (ii) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater; or (iii) the sea; — but excluding where such infilling, depositing , dredging, excavation, removal or moving— (f)will occur behind a development setback; (g)is for maintenance purposes undertaken in accordance with a maintenance management plan; (h)falls within the ambit of activity 21 in this Notice, in which case that activity applies; (i)occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.	The basin located within the estuary will be dredged to around -14.5 CD and there will be an estimated 2.4 million cubic metres of dredged material to be disposed of therefore this activity is **applicable.**
24	The development of a road— with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres but excluding a road— (a) which is identified and included in activity 27 in Listing Notice 2 of 2014; (b) where the entire road falls within an urban area; or (c) which is 1 kilometre or shorter.	Development of the new access road will be approximately 735 m in length with a width of 30 m where no reserve exists. The road is within an urban area therefore the **activity not applicable due to urban area exclusion.**

27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	Clearance of indigenous vegetation is expected to be more than 1 Ha, the total area to be cleared will be confirmed during the specialist investigations therefore this activity is **potentially applicable.**
30	Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).	Removal of vegetation that will require a process/ permit under the NEM:BA. It is possible that the project will require the removal of species that will trigger the need for permits under the NEM:BA. These will be confirmed during the specialist investigation therefore this activity is **potentially applicable.**
Activity No(s):	**Provide the relevant Scoping and EIA Activity(ies) as set out in Listing Notice 2 of the EIA Regulations, 2014 as amended**	**Describe the portion of the proposed project to which the applicable listed activity relates.**
6	The development of facilities or infrastructure for any process or activity which requires a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the Listing Notice 2 - GNR 325 generation or release of emissions, pollution or effluent.	A WULA may be applicable however it will not be applicable to Activity 6 (the project does not include discharge of effluent into a watercourse). In addition, the disposal of dredged material will be at an authorised dredge disposal site therefore it this activity is **not applicable.**
12	The development of railway lines, stations or shunting yards excluding — (i) railway lines, shunting yards and railway stations in industrial complexes or zones; (ii) underground railway lines in a mining area; or (iii) additional railway lines within the railway line reserve.	Development of the new railway siding will consist of two rail lines that are 370 m each in length, each servicing 25 rakes. The width of the rail reserve will be approximately 15 m, and 30 m at maximum including the hard standing for loading therefore this activity is **applicable.**

15	The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for – the undertaking of a linear activity; or maintenance purposes undertaken in accordance with a maintenance management plan.	Indigenous vegetation clearing is not expected to exceed 20 Ha therefore this activity is **not applicable.**
26	Development— (i) in the sea; (ii) in an estuary; (iii) within the littoral active zone; (iv) in front of a development setback; or (v) if no development setback exists, within a distance of 100 metres inland of the high- water mark of the sea or an estuary, whichever is the greater; in respect of — (a) facilities associated with the arrival and departure of vessels and the handling of cargo; (b) piers; (c) inter- and sub-tidal structures for entrapment of sand; (d) breakwater structures; (e) coastal marinas; (f) coastal harbours or ports; (g) tunnels; or (h) underwater channels;	The entire project area is located within the EFZ therefore this activity is **applicable.**
27	The development of a road:	Development of the new access road will be approximately 735 m in length with a width of 30 m where no reserve

	(iv) [a road] catering for more than one lane of traffic in both directions; excluding (c)where the entire road falls within an urban area.	exists however the road is located within the urban area **therefore this activity not applicable.**
Activity No(s):	**Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 3 of the EIA Regulations, 2014 as amended**	**Describe the portion of the proposed project to which the applicable listed activity relates. Ensure to include thresholds/area/footprint applicable.**
4	The development of a road wider than 4 metres with a reserve less than 13,5 metres. i.in an estuarine functional zone; viii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;	Development of the new access road will be approximately 735 m in length with a width of 30 m where no reserve exists within a CBA and EFZ therefore this activity is **applicable.**
12	The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. v. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans	It is likely that indigenous vegetation to be cleared will exceed 300 square metres in a CBA therefore this activity is **applicable.**
14	The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or (ii) infrastructure or structures with a physical footprint of 10 square metres or more where such development occurs— (a) within a watercourse; (b) in front of a development setback; or	Development the EFZ and a CBA therefore this activity is **applicable**

	(c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse; In KZN. i. in an estuarine functional zone; vii Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.	

5 SCOPING METHODOLOGY

5.1 S&EIR PROCESS AND PHASING

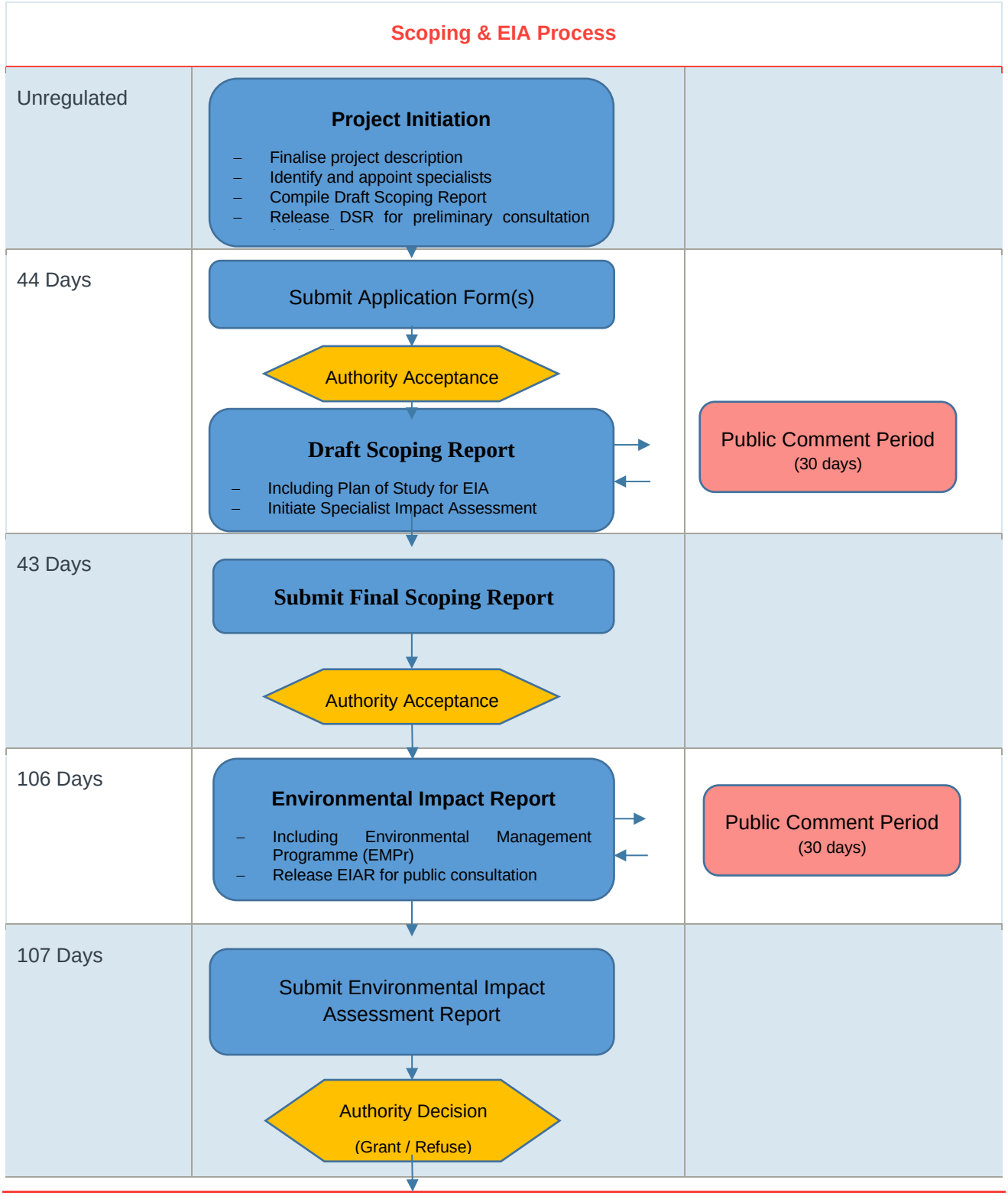
The S&EIR process consists of various phases with associated timelines as defined in the EIA Regulations. The process can generally be divided into four main phases, namely; (i) an unregulated pre-application phase, (ii) an Application and Scoping Phase (**current phase**), (iii) an Impact Assessment Phase and (iv) Authorisation and Appeal Phase.

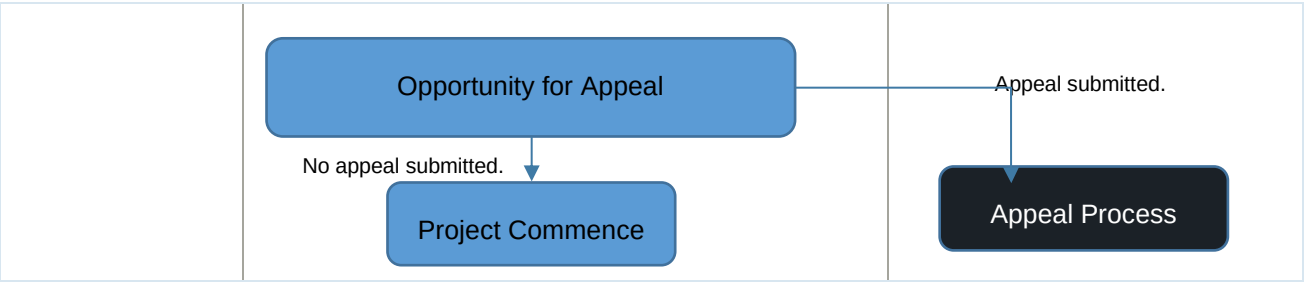
The main objectives of the phases can be described as follows:

- Pre-Application Phase:
  - Undertake consultation meetings with the relevant authorities to confirm the required process and general approach to be undertaken;
  - Identify stakeholders, including neighbouring landowners/residents and relevant authorities;
  - Compile a DSR describing the affected environment and present an analysis of the potential environmental issues and benefits arising from the proposed project that may require further investigation in the Impact Assessment Phase;
  - Develop draft terms of reference for the specialist studies to be undertaken in the Impact Assessment Phase; and
  - Inform stakeholders of the proposed project, feasible alternatives and the S&EIR process and afford them the opportunity to register and participate in the process and identify any issues and concerns associated with the proposed project.
- Application and Scoping Phase:
  - Compile and submit application forms to the CA and pay the relevant application fees;
  - Incorporate comments received from stakeholders during the pre-application phase into the DSR;
  - Release of the DSR for a 30-day comment period; and
  - Submit the finalised FSR including a comments and responses report, following the consultation period, to the relevant authority, in this case the DFFE, for acceptance/rejection.
- Impact Assessment Phase:
  - Continue to inform and obtain contributions from stakeholders, including relevant authorities, stakeholders, and the public and address their relevant issues and concerns;
  - Assess in detail the potential environmental and socio-economic impacts of the project as defined in the DSR;
  - Identify environmental and social mitigation measures to avoid and/or address the identified impacts;
  - Conduct the required specialist studies;
  - Develop and/or amend environmental and social management plans based on the mitigation measures developed in the EIR;
  - Submit the EIR and the associated EMPr to the competent authority to undertake the decision making process;
  - Authorisation and Appeal Phase;

- The DFFE to provide written notification of the decision to either grant or refuse EA for the proposed project; and
- Notify all registered I&APs of the decision and right to appeal.

Table 5-1 – Scoping and EIA Process





5.1.1 APPLICATION FOR ENVIRONMENTAL AUTHORISATION

An application for EA was submitted simultaneously with this DSR on 19 November 2024. A reference number will be included in the Final Scoping Report (FSR).

Refer to **Appendix E** for the proof of submission of the application.

5.1.2 STAKEHOLDER ENGAGEMENT PLAN

5.1.2.1 Purpose of Stakeholder Engagement

Stakeholder engagement comprises a series of inclusive and culturally appropriate interactions aimed at providing stakeholders with opportunities to express their views, so that these can be considered and incorporated into the S&EIR process. Effective stakeholder engagement requires the prior disclosure of relevant and adequate project information to enable stakeholders to understand the risks, impacts, and opportunities of the proposed project.

The objectives of the stakeholder engagement process can be summarised as follows:

- Identify relevant individuals, organisations and communities who may be interested in or affected by the project;
- Clearly outline the scope of the project, including the scale and nature of the existing and proposed activities;
- Identify viable proposed project alternatives that will assist the relevant authorities in making an informed decision;
- Identify shortcomings and gaps in existing information;
- Identify key concerns, raised by stakeholders that should be addressed in the subsequent specialist studies;
- Highlight the potential for environmental impacts, whether positive or negative; and
- To inform and provide the public with information and an understanding of the proposed project, issues and solutions.

The EIA Regulations, in Chapter 6 provide clear guidelines regarding the minimum requirements for public participation as part of the EIA process. Although these regulations do not prescribe in detail the methods of public participation, the 2017 Public Participation Guidelines in terms of the NEMA EIA Regulations, as amended give direction and emphasise the importance of meaningful consultation.

5.1.3 AUTHORITY CONSULTATION

Before the start of the S&EIR process, it is necessary for the EAP to convene a pre-application consultation meeting with the CA. The key objectives of the pre-application consultation meeting are to notify the CA of the applicant's intent to submit an EA application, provide information about the

technical scope of the proposed project and confirm the approach to the EIA and the PPP.

A pre-application meeting was undertaken with the DFFE on 19 September 2024. The outcome of the pre-application meeting confirmed the process to be undertaken, the requirements for the PPP and the specialist studies.

Refer to **Appendix E** for the pre-application meeting minutes.

5.1.3.1 Stakeholder Identification

Chapter 6 (40) (2) (a -d) and (41)(2)(b) of the EIA Regulations require consultation with-

- The CA.
- Every State department that administers a law relating to a matter affecting the environment relevant to an application for an EA.
- All organs of state which have jurisdiction in respect of the activity to which the application refers.
- All potential or, where relevant, registered I&APs.
- In addition to the above, the following I&APs must receive notification of the proposed application:
- The occupiers of the site and, if the applicant is not the owner or person in control of the site on which the activity is to be undertaken, the owner or person in control of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken.
- Owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken.
- The municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area.
- The municipalities which have jurisdiction in the related areas.
- Any other party required by the CA.

Section 41 of the EIA Regulations states that written notices must be given to identified stakeholders as outlined in **Table 5-2.**

Relevant commenting authorities have been automatically registered as Interested and Affected Parties (I&APs). In accordance with the EIA Regulations, all other persons must request in writing to be placed on the register, submit written comments or attend meetings in order to be registered as stakeholders and included in future communication regarding the project.

Table 5-2 – Interested and Affected Parties

NEMA Requirement	Discussion
The owner or person in control of that land if the applicant is not the owner or person in control of the land.	The applicant is the owner of the land.
The occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken.	The applicant is the owner of the land.
Owners and occupiers of land adjacent to the site where the activity is or is to be undertaken	The applicant is the owner of the surrounding land at the PoRB.

or to any alternative site where the activity is to be undertaken.	
The municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area.	The Ward Councillor for the site has been included in the stakeholder database.
The municipality which has jurisdiction in the area.	The uMhlatuze Local Municipality and the King Cetswayo District Municipality have been included on the stakeholder database.
Any organ of state having jurisdiction in respect of any aspect of the activity.	The DFFE has been consulted as the CA regarding the EA application.
Any other party as required by the competent authority.	All tiers of government, namely, national, provincial, local government and parastatals have been included on the stakeholder database. All other identified organisations, community members and individuals have also been included on the stakeholder database.

5.1.3.2 Stakeholder Notification

Direct Notification

The objectives of the notification process are as follows:

- Notify potential I&APs of TNPAs intent to apply for an EA for the Berth 605 project.
- Share information about the proposed Project, EA application, EIA and proposed PPP, and opportunities for comment.
- Invite stakeholders to register as I&APs and to participate in the EIA process by contributing comments as milestones are achieved.
- Invite I&APs to attend public meetings.
- In terms of the POPIA, to obtain I&APs' consent to use their contact details for the sole purpose of providing them with information about the proposed Project and inviting them to contribute comments, as well as reflecting their names in the CRR.

Notification of the project was issued to potential I&APs, via direct correspondence (i.e., site notices, SMSs and e-mail) on 12 November 2024. Proof of the notification letter, the Non-Technical Summary of the DSR that was circulated and the site notices that were erected will be included in Appendix E of the FSR.

Newspaper Advertisements

According to Regulation 41 (1) (c) of the EIA Regulations, an advertisement must be placed in one local newspaper or any official Gazette and in at least one provincial or national newspaper is the activity extends beyond the metropolitan or district municipality boundaries.

Given the location of the project, which is confined to one local municipality, newspaper advertisements were placed in one local newspaper. However, considering the nature of the project and the applicant being TNPA, a newspaper advert was also placed in a regional newspaper as best practice.

Notification of the proposed project was issued to the general public via an advertisement published in the Zululand Observer and Isolezwe newspapers, in English and isiZulu. As mentioned above, the purpose of the advertisement was to notify the general public of the proposed project and provide an opportunity to register on the project database and provide input into the process through the availability of the DSR.

A copy of the advertisement will be included in Appendix E of the FSR.

5.1.4 SITE NOTICES, DSR AND NON-TECHNICAL SUMMARY

The site notices provided background information about the application, the nature and location of the activity, where further information on the application could be obtained, the manner in which, and the person to whom representations in respect of the application could be made. The site notice was published in A2 size. Site notices that were erected will be included in Appendix E the FSR.

Although the project is located within the PoRB, WSP placed site notices at locations that are visible to the larger public including road intersections in the vicinity of the port, public libraries and ski boat clubs. The site notices were placed at the public places, with permission, in English and Isizulu.

Printed copies and electronic copies of the DSR, Non-Technical Summary of the DSR and Registration and Comment Form were also made available during the public comment period.

The DSR is currently available for public review from **19 November 2024 to January 2025** on the WSP website (https://www.wsp.com/en-za/services/public-documents). The DSR was also made available for review in hard copies at the Richards Bay Public Library.

5.1.5 COMMENTS AND RESPONSES

All the issues, questions, comments, and recommendations contributed by registered I&APs during the S&EIR process will be incorporated into, and responded to, a Comment and Response Register (CRR). Contributions received by I&APs have been categorised according to relevant topics. An important consideration during the scoping phase is that the DSR is released into the public domain within the same timeframe as the PPP and I&APs are provided with the notification of the project and of the DSR comment period simultaneously, therefore the DSR will not contain all the details of the PPP that was undertaken, this will be included in the FSR.

The CRR will include the following:

- List of all issues raised;
- Record of who raised the issues;
- Record of where the issues were raised;
- Record of the date on which the issue was raised; and
- Response to the issues.

5.2 DEFINING THE BASELINE ENVIRONMENT

The site has been the subject of a number of specialist assessments in support of a parallel planning and statutory approvals process being undertaken for the proposed development. The specialist studies from this process and further research have been utilised to support the environmental application process. Therefore, the description of the baseline environment has been compiled through a combination of site investigations, desktop reviews and information obtained from the

specialist assessments. Desktop reviews made use of available information including existing reports, aerial imagery and mapping.

5.2.1 DFFE WEB BASED SCREENING TOOL

The DFFE has developed the National Web-based Environmental Screening Tool to flag areas of potential environmental sensitivity related to a site as well as a development footprint and produces the screening report required in terms of regulation 16 (1)(v) of the EIA Regulations. The Notice of the requirement to submit a report generated by the national web-based environmental screening tool in terms of section 24(5)(h) of the NEMA and regulation 16(1)(b)(v) of the EIA regulations states that the submission of a report generated from the national web-based environmental screening tool, as contemplated in Regulation 16(1)(b)(v) of the EIA Regulations, is compulsory when submitting an application for EA in terms of Regulation 19 and Regulation 21 of the EIA Regulations.

The Screening Report generated by the National Web-based Environmental Screening Tool contains a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development footprint as well as the most environmentally sensitive features on the footprint based on the footprint sensitivity screening results for the application classification that was selected.

A screening report for the proposed project was generated and is attached as **Appendix D.** The Screening Report for the project identified various sensitivities for the site. The report also generated a list of specialist assessments that should form part of the S&EIR process based on the development type and the environmental sensitivity of the site. Assessment Protocols in the report provide minimum information to be included in a specialist report to facilitate decision-making.

Table 5-3 below provides a summary of the sensitivities identified for the development footprint.

Table 5-3 - Sensitivities Identified in the DFFE Screening Report

Theme	Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sensitivity	Protocol for Specialist Study
Agriculture Theme	X				The DFFE Screening Tool does not prescribe a protocol of the agricultural theme therefore a specialist assessment will not be undertaken. The site is considered very high sensitivity due to the very high land capability rating. However, based on the location of the site within the port, the very high sensitivity is refuted.
Animal Species Theme		X			The DFFE Screening Tool prescribed an animal species assessment be conducted based on the likely presence of sensitive avifaunal species. Therefore, a terrestrial animal species assessment will be incorporated into the Terrestrial Biodiversity

Theme	Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sensitivity	Protocol for Specialist Study
					Assessment. In addition, an avifaunal assessment will also be conducted.
Aquatic Biodiversity Theme	X				The DFFE Screening Tool prescribed that an Aquatic Biodiversity Assessment be undertaken based on the presence of the estuary. A specialist will be commissioned to undertake the Aquatic and Freshwater Assessment. In addition, a Baseline Estuarine and Marine Ecology Assessment will also be undertaken.
Archaeological and Cultural Heritage Theme				X	The DFFE Screening Tool prescribed that a site verification be undertaken for the archaeological and cultural heritage theme. However, the NHRA requires that a HIA be undertaken therefore a specialist will be commissioned to undertake a terrestrial and marine HIA.
Civil Aviation Theme		X			The DFFE Protocol requires that a site verification be undertaken by the EAP or a specialist as the site is located between 8 and 15km from a civil aviation aerodrome.
Defence Theme				X	The DFFE protocol requires that a site verification be undertaken by an EAP for the defence theme.
Palaeontology Theme			X		The DFFE Screening Tool prescribed that a site verification be undertaken for the palaeontology theme, however a Desktop Palaeontology Impact Assessment will be undertaken.
Plant Species Theme			X		The DFFE Protocol requires that a compliance statement be completed for the site. A plant species assessment will be incorporated into the Terrestrial Biodiversity Assessment.

Theme	Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sensitivity	Protocol for Specialist Study
Terrestrial Biodiversity Theme	X				The DFFE Screen Tool prescribed that a Terrestrial Biodiversity Assessment be undertaken based on the CBA that the project area falls within. A specialist will be commissioned to undertake the Terrestrial Biodiversity Assessment.
Additional Specialist Studies					
Visual Impact Assessment					The DFFE Protocol requires that a site verification be undertaken for the visual and landscape theme. Based on specialist opinion following the site assessment, a full Visual Impact Assessment will not be required. A baseline and compliance statement will be compiled to inform the EIA process.
Socio-economic impact assessment					The DFFE protocol requires that site verification be undertaken. However, based on the strategic nature and location of the project, a Socio-economic assessment will be undertaken. The baseline socio-economic assessment indicated an increase in population and between 2001 and 2011. Unemployment which is an indicator of the socio-economic environment was at 31% and remains high. The PoRB Masterplan can bring into effect several socio-economic changes and the nature of the change will be determined by the ability of the community to adapt.
Climate Change Impact Assessment					The DFFE Screening Report did not stipulate the Climate Change Assessment to be undertaken, however given the nature of the project, an assessment will be undertaken. The baseline assessment of the climate indicates that there is likely to be an increase in temperature and extreme weather events (2021-

Theme	Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sensitivity	Protocol for Specialist Study
					2050). The impact of the change in climate on the project will be further investigated in a Climate Change Impact Assessment.
Noise					Considering the site, which is located within a port, there is existing disturbance caused by port related activities. A noise impact assessment will not be undertaken however baseline surveys will be conducted and a compliance statement provided in the EIR.

5.3 IDENTIFICATION AND EVALUATION OF POTENTIALLY SIGNIFICANT IMPACTS DURING THE SCOPING PHASE

The potential impacts associated with the proposed development were determined at both a desktop level based on existing information, as well as the field assessment. The following methodology was used:

- Identify potential sensitive environments and receptors that may be impacted on by the proposed development (**Section 7**);
- Identify the type of impacts that are most likely to occur (including cumulative impacts) (**Section 7**);
- Determine the nature and extent of the potential impacts during the various developmental phases, including, construction, operation and decommissioning;
- Identify potential No-Go areas (if applicable); and
- Summarise the potential impacts that will be considered further in the EIA phase through detailed specialist studies.

Appendix 2 of the EIA Regulations requires the identification of the significance of potential impacts during scoping (**Section 7.10**)**.** To this end, an impact screening tool has been used in the scoping phase. The screening tool is based on two criteria, namely probability; and, consequence, where the latter is based on general consideration to the intensity, extent, and duration.

The scales and descriptors used for scoring probability and severity are detailed in

Table 5-4 and **Table 5-5** respectively.

Table 5-4 - Significance Screening Tool

	Consequence Scale				
Probability Scale		**1**	**2**	**3**	**4**
	1	**Very Low**	**Very Low**	**Low**	**Medium**

	Consequence Scale				
	2	Very Low	Low	Medium	Medium
	3	Low	Medium	Medium	High
	4	Medium	Medium	High	High

Table 5-5 - Probability Scores and Descriptors

Score	Descriptor
4	Definite: The impact will occur regardless of any prevention measures
3	Highly Probable: It is most likely that the impact will occur
2	Probable: There is a good possibility that the impact will occur
1	Improbable: The possibility of the impact occurring is very low

6 BASELINE ENVIRONMENT

The following chapter presents an overview of the biophysical and socio-economic environment in which the proposed project is located. It is important to gain an understanding of the project area and its surroundings, as it will provide for a better understanding of the receiving environment in which the project is being considered.

The description of the baseline environment is essential in that it represents the conditions of the environment before the construction of the project (i.e., the current, or status quo, environment) against which environmental impacts of the proposed project can be assessed and future changes monitored.

The area has previously been studied to some extent and is recorded in various sources of information. Consequently, some components of the baseline have been generated based on literature review. However, where appropriate, baseline information has been supplemented or generated by specialists appointed to undertake baseline and impact assessments for the proposed project.

The following characteristics of the receiving environment for the project area are described in the table below.

Table 6-1 – Characteristics of the receiving environment

Receiving Environment	Characteristics
Physical	▪ Climate ▪ Geology and Soils ▪ Surface Water
Biological	▪ Vegetation ▪ Habitats ▪ Biodiversity Conservation Plans ▪ Plant Species ▪ Animal Species ▪ Avifauna
Social and Economic	▪ Heritage ▪ Palaeontology ▪ Socio-Economic ▪ Visual ▪ Noise ▪ Traffic ▪ Land Use ▪ Existing Services and Infrastructure

6.1.1 CLIMATE

The Köppen Climate Classification suggest Richards Bay is situated in a humid subtropical climate (class = Cfa) which receives rainfall in the summer months. The Mean Annual Precipitation (MAP) is estimated 1 285 mm/annum and the Mean Annual Evapotranspiration (MAE) is estimated 1300 mm/a.

Based on the climate model 2021-2050 (CSIR, 2019), the following is noted:

- The projected increase in MAP by 2050 is – 53.24 mm/year (less);
- Projected changes are at least 9.2 more hot days compared to 2022;
- Projected increase in temperatures by as much as 1.77°C; and
- Projected increase in extreme rainfall days to increase by 1.38 days.

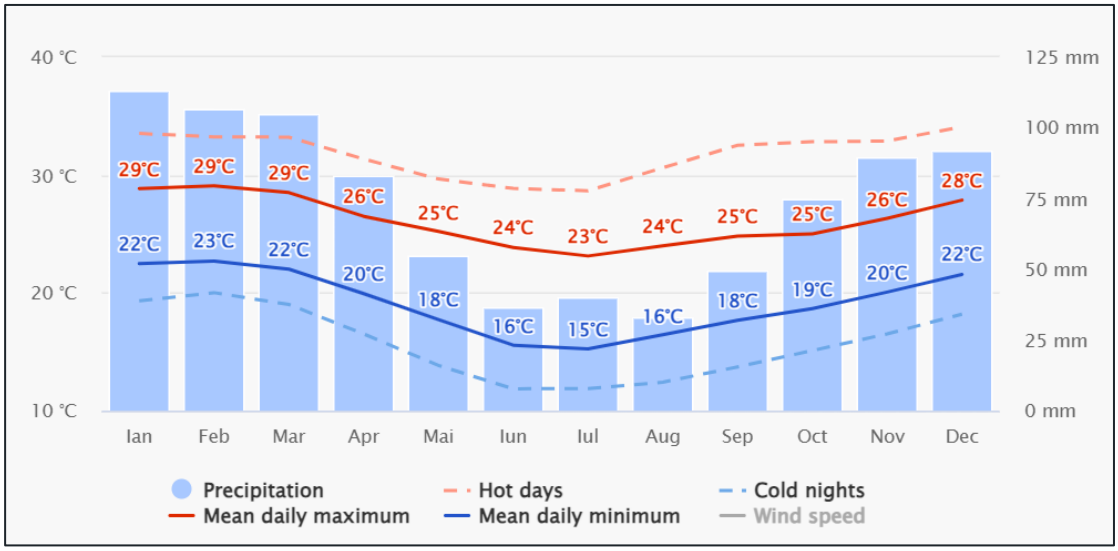


Figure 6-1 – Average temperature and rainfall for Richards Bay (Meteoblue, 2022)

6.1.1.1 Climate change at the PoRB

Recent climate studies (Promethium Carbon 2022a, Promethium Carbon 2022b) linked to projects in the PoRB have highlighted:

- The annual temperature and number of extreme events with higher rainfall during storms and fewer rain days per annum is expected to increase.
- The climate change projections for the larger project area indicate that the median annual ambient temperatures are likely to increase by 0.4-0.8˚C by 2030 and 0.8-1.4˚C by 2050. Very hot days are forecast to increase to up to 28 days per annum (from 7-10 currently).
- Mean annual precipitation is likely to decrease slightly (<5% change) in the short-term and then stabilises somewhat by 2050.

These reports further highlight the following as the main weather-related risks associated with marine and coastal weather:

- sea surface temperature;
- ocean pH (acidification);
- coastal storm activity and impacts;
- wind; and
- sea level.

6.1.1.2 Tropical Storms and Cyclones

Evidence suggests that Richards Bay could become more exposed to tropical storms and cyclones in the future with data indicating an increase in intensity and westward movement of the low-pressure

systems. A predicted rise in sea levels results in an increased risk of storm surges and intense wave action which poses a climate related risk to the project.

6.1.2 GEOLOGY

The Port of Richards Bay is underlain by Cretaceous Siltstone bedrock of the St. Lucia Formation beneath younger, largely unconsolidated aeolian and estuarine deposits. The geology across the port area is broadly classified in the table below (Sivest, 2018).

Table 6-2 – Geology of the PoRB

Stratum	Sub-Group	Period
Beach and dune sands	Recent Deposits	Quaternary (Holocene)
Sands, silts and clays	Harbour Beds	Quaternary (Upper Pleistocene to Holocene)
Limestone and calcarenite	Uloa Formation	Tertiary (Miocene to Pliocene)
Siltstone	St. Lucia Formation	Cretaceous (Coniacian) to Tertiary Palaeocene

The general geological classification of the proposed site for the quay extension is characterised by a subsurface profile that is sandy in nature and underlain by cretaceous bedrock (Hatch 2019). Silty clays and clayey silts are virtually absent for the subsurface profile in this region. The depth to the bedrock in the quay extension area varies from approximately -10 m CDP to -17 m CDP. The bedrock depth in the basin varies from -5m CD to -30m CD.

6.1.3 SURFACE WATER

6.1.3.1 Water Management Area (WMA)

The proposed development falls within the Usuthu to Mhlathuze WMA, and the sub-WMA: Mhlathuze sub-WMA within the quaternary catchment W12F (**Figure 6-2**).The WMA is drained by several parallel rivers which flow in a south-easterly direction and eventually discharge into the Indian Ocean. The rivers which contribute to the highest flow within this WMA are the Usuthu, Pongola, Mhlathuze, Mfolozi and Mkuze rivers with several smaller coastal rivers that feed the aforementioned larger rivers.

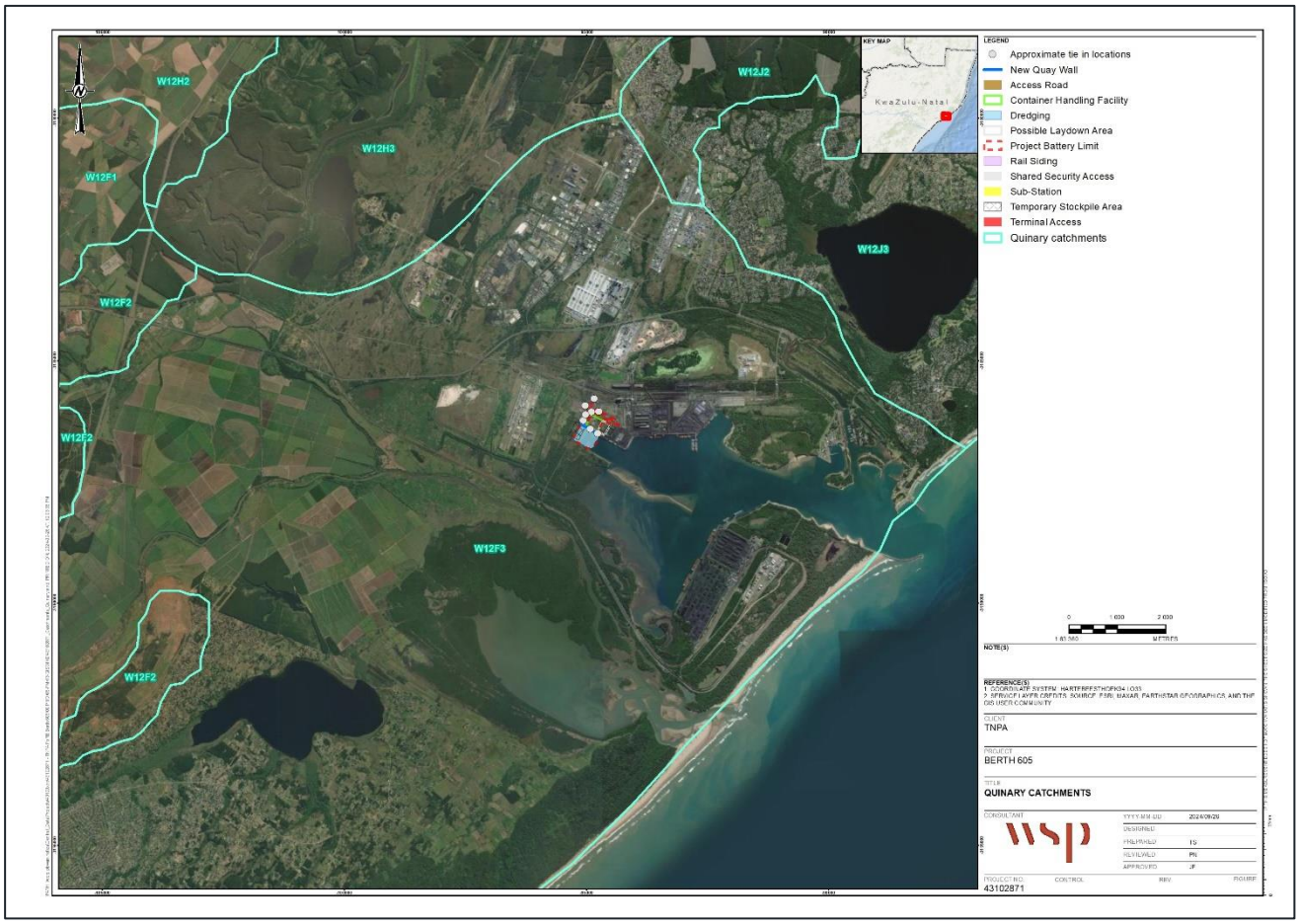


Figure 6-2 – Quaternary Catchment of the project area

6.1.3.2 EFZ

The National Freshwater Ecosystem Priority Areas (NFEPA) are a selection of rivers, wetlands and estuaries which have been identified as systems of strategic importance to the hydrological functioning of South Africa. These systems have been identified using scientific methodologies as well as consensus amongst researchers, government entities and the general public. According to the NFEPA dataset, a NFEPA Estuary will be impacted by the proposed development. This is confirmed by the DFFE Screening Tool in which the site is considered as Very High Sensitivity due to the presence of the estuary and estuary associated wetlands within proximity to the proposed project area (**Figure 6-3**).The desktop assessment and site verification confirmed that the site is located entirely within the EFZ (**Figure 6-4**).

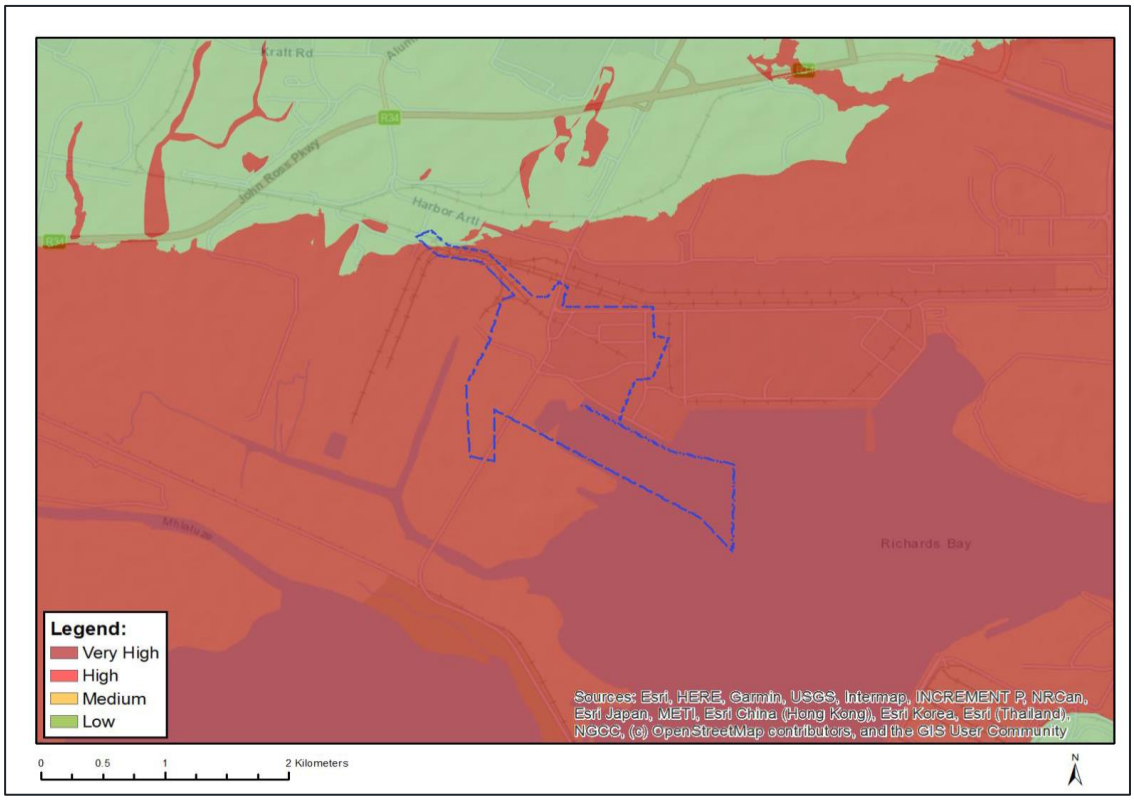


Figure 6-3 – Aquatic Biodiversity Theme Sensitivity (DFFE Screening Tool)

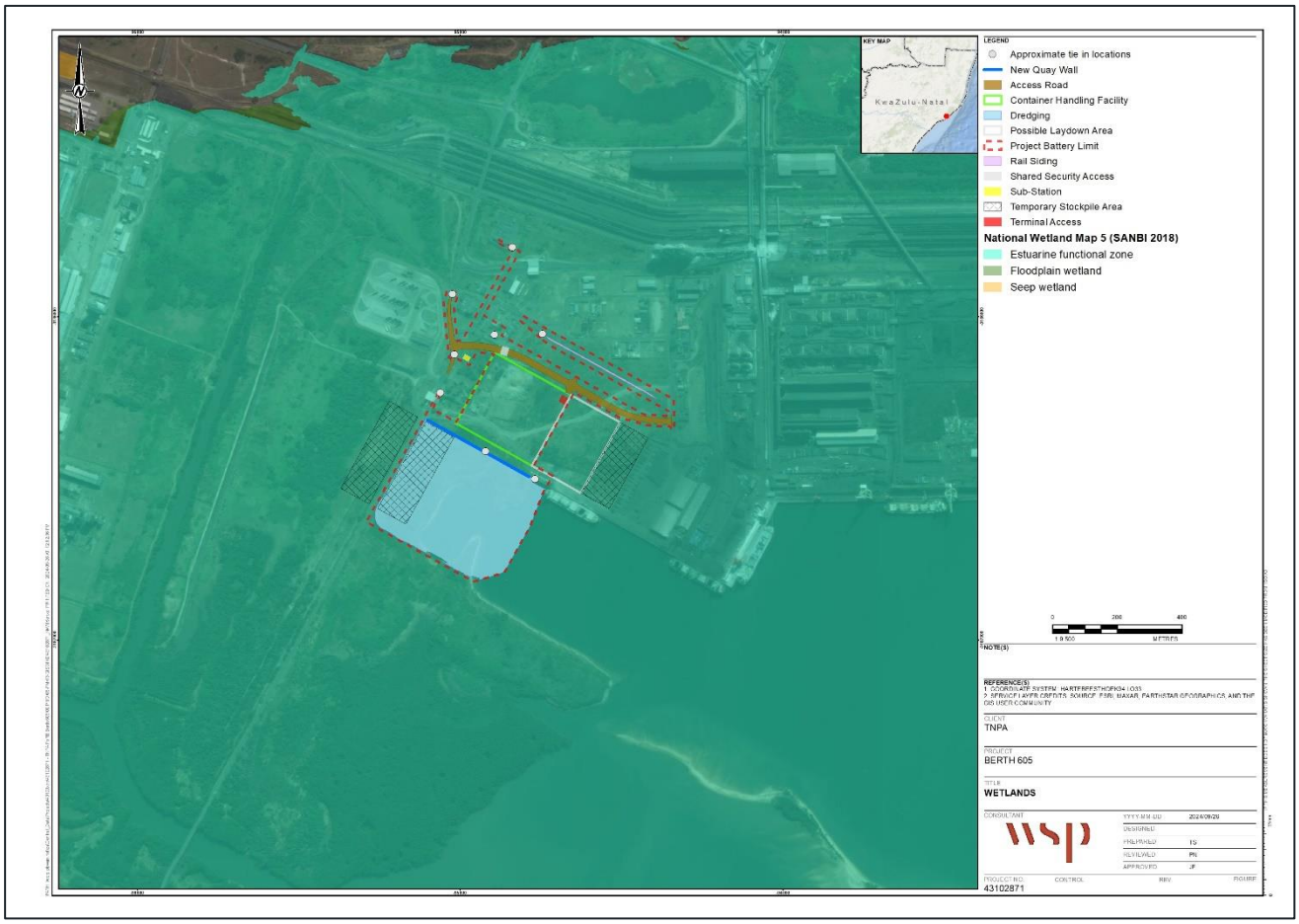


Figure 6-4 – National Wetland Map 5 (SANBI, 2018)

1. Water quality

Water quality in the Richards Bay estuary is generally good to excellent, but there are parts of the estuary where water quality is compromised. These include canals that drain though developed areas into the estuary. In the Berth 605 project footprint, the only known significant water quality impairment is related to slightly elevated orthophosphate concentrations, which periodically promote the formation of algal blooms, and the deposition of coal dust from coal export operations which have increased the suspended solids concentration. There is enough information on water quality in the Richards Bay estuary, including the Berth 605 footprint, to assess the significance of identified impacts.

The overall water quality for sites in close proximity to the project area (Berth 605 and the sand spit), has been rated as good and excellent respectively (CSIR 2020). The rating is based on water quality parameters including Salinity, pH, Temperature, Dissolved Oxygen, Turbidity and Suspended Solids, Nutrients, Chlorophyll-a and Trace Metals.

2. Sediment quality

Anthropogenic and natural disturbances in the marine environment can often lead to an increase in metal concentrations in seafloor sediments. The 2019 winter survey undertaken by the CSIR indicated that the metal concentrations in sites around the Berth 605 project area were within the expected

range. However, the survey also revealed that the Berth 605 project area including the tidal pool and the sandspit area possessed the most severely contaminated sediment within the PoRB.

3. Biological communities

The most extensive and abundant faunal communities in the estuarine (aquatic) part of the Berth 605 project footprint are invertebrates that live in the intertidal and subtidal, and fish. These include various worms, crabs, and amphipods that live in sediment and on existing quay walls, and prawns and shrimp in the water column. There is a small pool at the head of the 600 Berth Basin, and inland of this a small tidally influenced wetland. These areas are the result of past excavation and construction activities (see **Table 2-3**) and while they have not been extensively surveyed may provide habitat for a variety of fauna. One of these areas is fringed by small mangroves. Importantly, the eelgrass *Zostera capensis* has been reported in the small tidally influenced wetland.

6.1.3.3 Wetlands and Rivers

The National Water Act (No 36 of 1998) defines a wetland as, “land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.” This definition includes all naturally occurring wetlands and pans, but excludes rivers, lakes, and artificial wetlands. The transition zone from the river or lake and the terrestrial ecosystem may be included in some cases.

Due to the presence of the estuary and associated EFZ which covers the entire project area, the desktop assessment did not reveal any wetlands present within the project area (**Figure 6-4**). However, based on information presented in the Draft EIA Report for the Proposed Gas to Power Project at Port of Richards Bay, uMhlathuze Municipality, KZN (Triplo4 2022), several wetlands were identified during the specialist assessment of the site (**Figure 6-5**).

Based on the infield identification and delineation of wetlands for the Gas to Power Project at the PoRB it is likely that these wetlands will also be identified during the infield investigation for the Berth 605 project (green circle in the image below). In addition, A NFEPA river is situated approximately 1.6km to the Southwest of the Berth 605 project site and will be further investigated in the Freshwater and Aquatic Biodiversity Assessment.

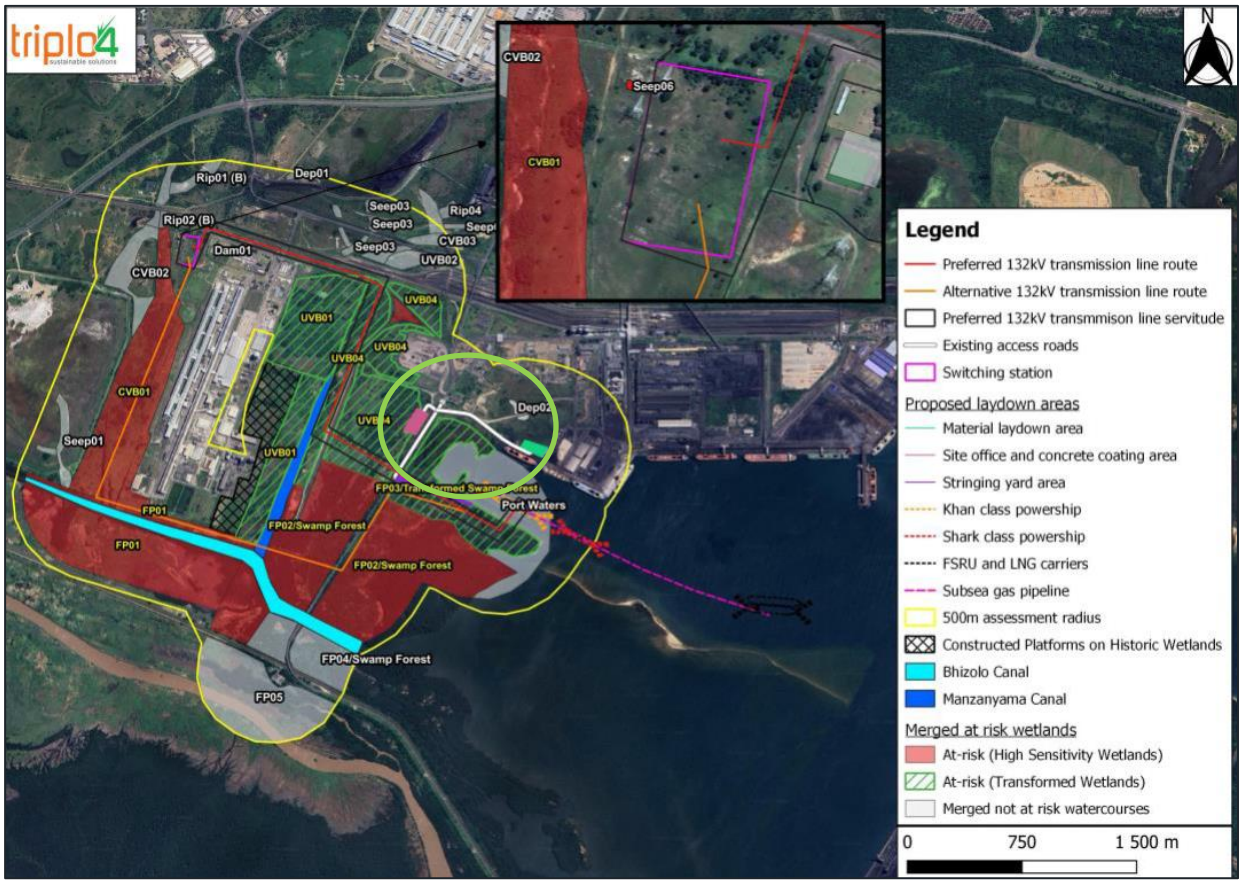


Figure 6-5 – Delineated wetlands for the Gas to Power Project at the PoRB (Triplo4, 2022)

6.1.4 FLORA

6.1.4.1 KZN Biodiversity Sector Plan

According to the KZN Biodiversity Sector Plan, 2016 the site is located within a Critical Biodiversity Area (CBA): Irreplaceable (**Figure 6-6**). CBAs are areas of high biodiversity value which are usually at risk of being lost and usually identified as important in meeting biodiversity targets, except for Critically Endangered Ecosystems or Critical Linkages. CBAs in the Province can be divided into two sub-categories:

- Irreplaceable (the entire project is located within this subcategory); and
- Optimal.

Despite the site being classified as a CBA, a large extent of the greater project area is transformed, and impacts have already been exerted onto the receiving environment as a result of port and infrastructure development projects. However, there are still areas natural areas within the project footprint that could be impacted by the project.

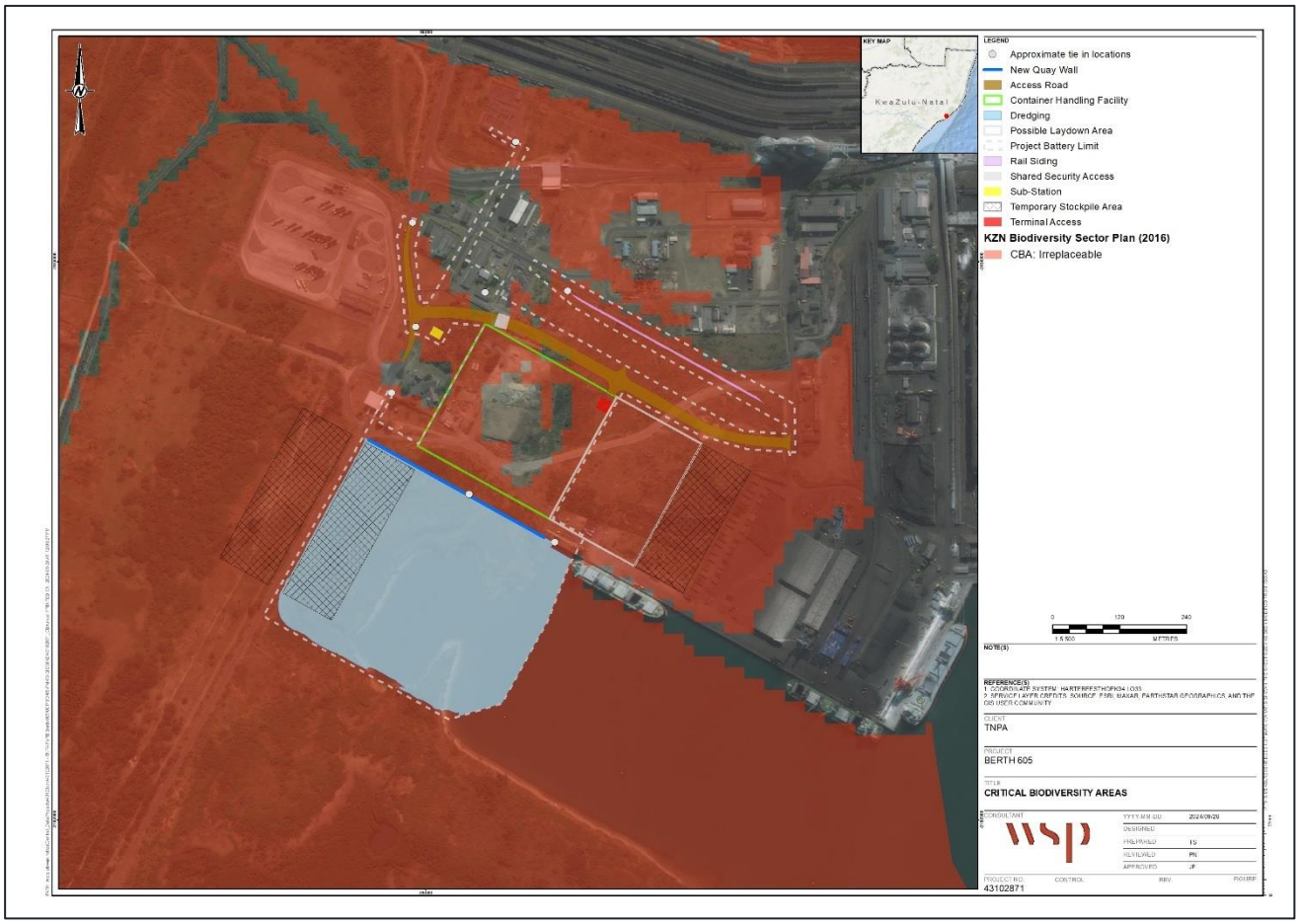


Figure 6-6 – CBA: Irreplaceable areas associated with the Berth 605 project

6.1.4.2 Vegetation Types

According to Mucina and Rutherford (2006), the site is almost entirely located within the Subtropical Alluvial Vegetation (Aza 7) type as is considered “least concern” in terms of conservation status. The National Vegetation Map of 2018 (Mucina & Rutherford, 2018) also indicates the Mangrove Forest near the project area. The North-western part of the project area (railway link to the existing rail network) is situated within the Maputaland Coastal Belt (CB1) which is considered as “endangered” in terms of conservation status (**Figure 6-7**).

The landside area for the Berth 605 project can be considered as secondary forest which is regenerated through natural processes after anthropogenic disturbances. The desktop study based on historical imagery confirmed that the vegetation type associated with the container handling facility is secondary woodland shrubland and wetland and have been substantially transformed following historical disturbance.

Species of Conservation Concern (SCC) and Protected Species are expected to occur in the project area and have been identified during field surveys conducted for the Gas to Power Project located within close proximity to the Berth 605 project area. Aliens Invasive Plants (AIPs) occur throughout the site, primarily due to disturbance occurring as part of the Industrial Development of the larger area.

Some recorded species include Brazilian pepper (*Schinus terebinthifolius*), Siam weed (*Chromolaena odorata*), Lantana (*Lantana camara*), and Guava (*Psidium guajava*).

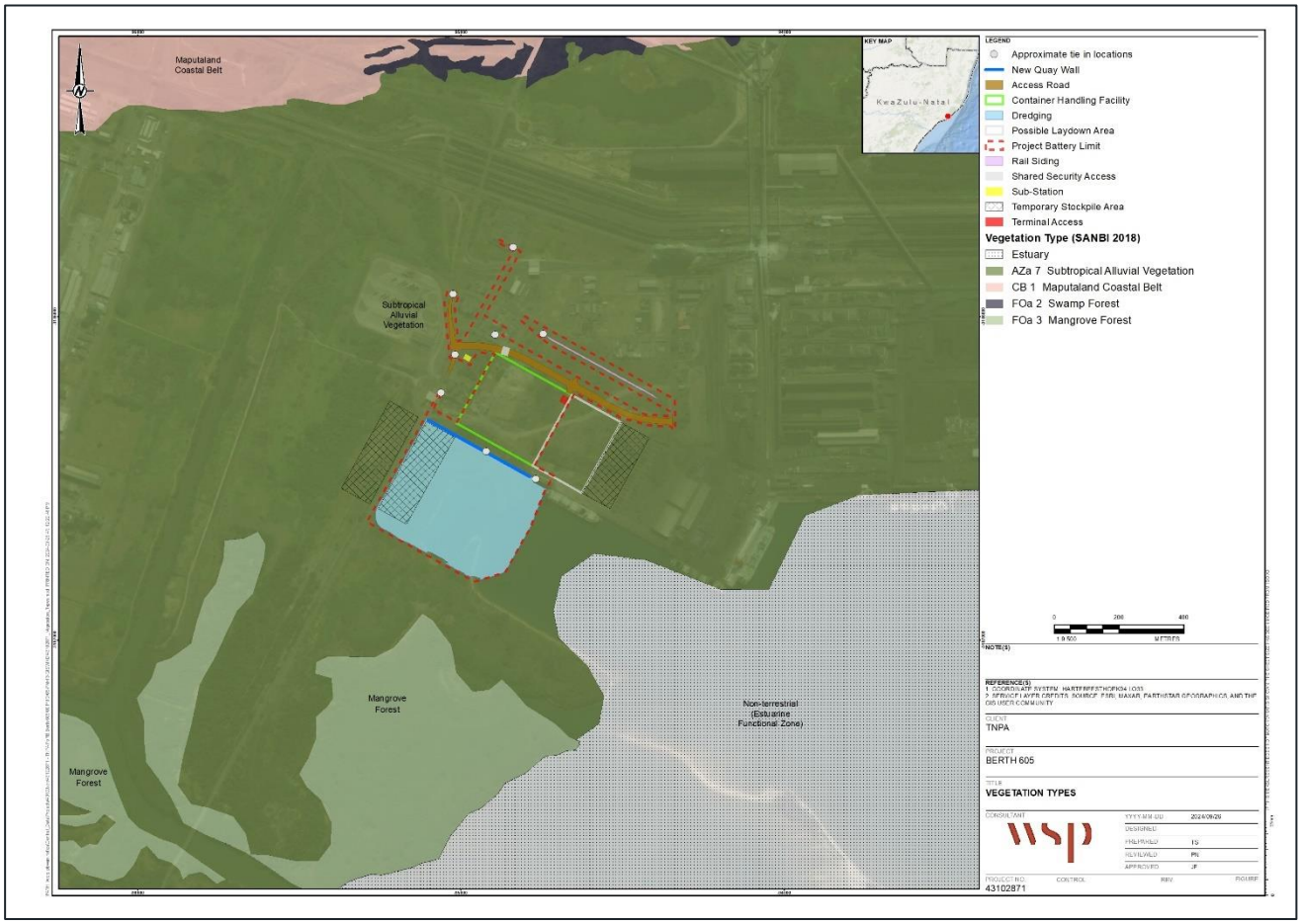


Figure 6-7 – Vegetation types associated with the Berth 605 project

6.1.4.3 Zostera capensis

The small pool-like area opposite the proposed Berth 605 is quite unique from an ecological perspective since it is one of only a few sites on the KwaZulu-Natal coast that contain a specific type of seagrass (*Zostera*). This is known amongst the scientific community, who regard it as ecologically important. There is, furthermore, a small fairly isolated tidal wetland inland of the small pool-like area for which no information exists. The implications of losing this habitat and associated fauna and flora will be investigated through a baseline study and it will be included in the baseline and impact assessment components of the Estuarine/Marine Ecology Specialist Study.

The study will thus involve a survey of estuarine and marine fauna and flora in the proposed dredging/project footprint. The survey will focus on the presence of *Zostera* seagrass, and fish and nektonic crustaceans in the tidal pool-like habitat area opposite the proposed Berth 605 (CSIR, 2024).

This seagrass species is classified by the IUCN as vulnerable to extinction and has not been recorded within the Richards Bay Harbour for three decades (Cruz, 2014). The marine ecology assessment will include the assessment on the seagrass species.

6.1.5 FAUNA

6.1.5.1 Macrofauna

Faunal species recorded for the Gas to Power Project in close proximity to the Berth 605 project area include mammal species such as vervet monkey, hippopotamus, slender mongoose and cape clawless otter. Several reptile species were also recorded for the project and includes stiped skink, southern tree agama and common tropical house gecko. Snake species have also been encountered by employees within the general port area (de Wet, L, 2022).

6.1.5.2 Avifauna

The sand spit which separates the intertidal flats from the proposed berthing area and is located within close proximity to the area to be dredged, is an important roosting area for waterbirds, particularly waders and terns.

According to the DFFE Screening Tool, the following avifaunal species are likely to occur within the project area and are considered as high sensitivity:

- *Aves-Podica senegalensis*
- *Aves-Circus ranivorus*
- *Aves-Nettapus auritus*
- *Aves-Stephanoaetus coronatus*
- *Aves-Hydroprogne caspia*
- *Aves-Neotis denhami*
- *Aves-Balearica regulorum*
- *Aves-Pelecanus onocrotalus*
- *Aves-Microparra capensis*
- *Aves-Halcyon senegaloides*
- *Aves-Pelecanus rufescens*
- *Aves-Ephippiorhynchus senegalensis*
- *Aves-Circaetus fasciolatus*
- *Aves-Geokichla guttata*
- *Aves-Aquila rapax*
- *Aves-Mycteria ibis*

6.1.5.3 Marine Fauna

1. Zooplankton

Zooplankton is commonly described as organisms floating in the water column and that have limited mobility. This group comprises predominantly small crustaceans, namely calanoid copepods, larvae of benthic fauna, single celled organisms as well as larger organisms, like mysid shrimps and jellyfish.

Since construction, there has been a reduction in estuarine zooplankton species density in the PoRB and adjacent Mhlatuze Estuary. Higher zooplankton abundances are present in the port compared to the adjacent estuary. This is mainly attributed to the high number of *Oithona* spp. present in the port and the less stable aquatic environment in the shallow estuary. Salinity and temperature were the main environmental factors that governed the distribution of zooplankton abundance. Abundance varied seasonally within the port and was highest during spring and summer (GroundTruth, Coastwise and Anchor Environmental, 2022).

2. Ichthyoplankton

Previous studies (Harris and Cyrus, 1997 and Jerling, 2008) have recorded the occurrence of larvae and eggs of both marine and estuarine fish species in the port. A total of 28 species that occurred are either partially or wholly dependent on estuaries to complete their life cycle. These species dominated in terms of density within the port (GroundTruth, Coastwise and Anchor Environmental, 2022).

3. Subtidal Macrobenthos

Macrobenthos, also known as benthic invertebrates, are relatively sedentary, long-lived organisms residing within the sediment or at the sediment-water interface and possess various physiological and/or behavioural adaptations to tolerate extreme fluctuations in the physical and chemical conditions of the estuarine environment. The long-term ecological monitoring programme of the Port of Richards Bay (CSIR, 2020) indicates that, the macrobenthic community within the Bay is typical of estuarine embayments on the South African east coast (GroundTruth, Coastwise and Anchor Environmental, 2022).

4. Fish and Elasmobranchs

The undeveloped, shallower sections of the PoRB function as an important nursery ground for many fish species. Fish surveys conducted in the port since 1996 have emphasised the overall significance of the estuary and particular habitats within the system in the functioning of fish communities in the area.

The Richards Bay Estuary is ranked as the third most important estuary out of 247 South African systems in terms of its importance for fish populations. Of the 100 fish species found in previous surveys of the Richards Bay Port, 53% of species use the estuary as a nursery area, and 14% are important in the commercial line fisheries (GroundTruth, Coastwise and Anchor Environmental, 2022).

6.1.6 ARCHAEOLOGY AND CULTURAL HERITAGE

Human settlements were evident on historical maps for the general project area, this implies that there would be a possibility of human graves present. This area has also been one of the many areas regarding forced removals of the Mandlazini people and there is a pending land claim for the general area (Triplo4, 2022).

Construction of the port commenced in the early 1970s and has since resulted in the surrounding area being severely impacted on. Dredging of the deep Thulazihleka Lake (or Mhlatuze Lagoon) and cleared areas to create a harbour entrance at the Mhlatuze River mouth are a few activities that resulted in a division into two parts with the southern part of the lake becoming a sanctuary with its own newly created river mouth south of the harbour entrance.

The secondary effects were an increase in wetlands in the area, and much of the original area was flooded. Furthermore, the harbour created a larger area than the original lake and thus removed much of the original land. Areas were dredged and other areas were ‘created’ by the sand from the dredging, or the sand was dumped onto existing land. For example, 103 hectares of coastal dune was cleared along the southern dunes, and the sand was used to reclaim some of the land for the coal terminal (Zululand Observer, 1 April 1976).

Reference is made to the Underwater Heritage Impact Assessment prepared by Vanessa Maitland conducted (report dated 17 August 2017). The area around Richards Bay has been utilised since the

Earlier Stone Age. The only sites that have been recorded in the area include several Earlier, Middle and Later Stone Age sites that are unfortunately now only scatters. There are also some Early and Late Iron Age settlements. The sites are seen as scatters due to previous development of the area.

6.1.7 PALAEONTOLOGY

According to the DFFE Screening Tool, the project site is located within an area of low to medium paleontological sensitivity. The project area consists of deposits that occur 3m – 5m below the surface. These deposits were noted during the harbour expansion project.

6.1.8 SOCIO-ECONOMIC

6.1.8.1 Demographics

The 2016 Community Survey indicates that the population of uMhlathuze Municipality has increased by just over 22% between 2011 and 2016. In context of population growth, a portion of the population increase is the result of an enlarged municipal area following the inclusion of three (3) wards from the former Ntambanana post the 2016 Local Government Elections. Population growth scenarios have been applied to the base figure from the 2016 Community Survey. Adequate data and research is not available at this time to apply a historic growth trend as the composition of the municipality, in terms of boundaries and wards, has changed post the Local Government Elections of 2016. The following base data has therefore been used (City of Umhaltuze, 2022):

- A baseline population in the uMhlathuze Municipality of 410 465 people in 2016 as per the Community Survey.
- A calculated household size of 3.95 as derived from 2011 census data.
- A total number of 103 915 households in the municipal area derived from the above Community Survey.

Based on the potential population growth scenarios, the IDP deduced the following:

- At a steady population increase of 1,5% per annum, the municipal population will surpass 500 000 people by 2030.
- At a 5% per annum population growth rate the number of households in the municipality will double by 2030.

6.1.8.2 Population Distribution

A total population of 58% resides within rural areas, followed by urban area where 39 % of the total population resides, thirdly is small percentage of the population of 3 % resides in farmlands. The municipality has an extensive area classified as tribal (City of Umhaltuze, 2022).

6.1.8.3 Population by age categories

The population age cohort <15 has been declining at the district and uMhlathuze Local Municipality level while the population cohort for the 15-64 age group has shown an increase at both the district and local municipality level between 2001 and 2011. The latter could be indicative of increased perceptions of employment opportunities in the uMhlathuze area resulting in an in-migration into the area. An increase in the older age cohort (65+) is also observed between 2001 and 2011. Such could be indicative of the elderly deciding to reside in the area upon retirement or of improved health care facilities and an improved standard of living (City of Umhaltuze, 2022).

6.1.8.4 Employment

According to the IDP, the highest percentage employment occurs in wards that correlate with developed areas of Richards Bay and Empangeni. Unemployment levels seem to be highest (as a percentage) in wards that largely correlate with areas that are developing (densifying) on the urban periphery (City of Umhaltuze, 2022).

6.1.8.5 Economic Considerations

The municipality has an important role in the national, provincial and district economies on account of the bulk-handling harbour facilities at Richards Bay that enable international trade links. The PoRB is the largest deep-water port in Africa and handles the bulk of South Africa's exports. Its development has provided the impetus for large-scale industrial growth. uMhlathuze has the most developed economy of all the municipalities in the district and is the major contributor to the District GDP (it is the third largest economy in KwaZulu-Natal). Its most important industries are BHP Billiton Aluminum, Mondi, SAPPI, RBCT, Tata Steel and Bell Equipment.

uMhlathuze remains a strong contributor to the district GDP, with 48% contribution (City of Umhaltuze, 2022).

6.1.9 VISUAL

The Berth 605 project is located within the PoRB. The site is surrounded by port related activities, road networks and rail networks as well as industrial development behind the Port. Most of the recreational uses of the PoRB are generally located on the Northern site and include the Tuzi Gazi Waterfront, Naval Island, the Boat Clubs, Pelican Island, the Inner Northern Breakwater located at the Harbour Mouth and the Harbour waterbody.

It is unlikely that the proposed Berth 605 project will have a significant visual impact on the recreational uses within the PoRB however this will be confirmed during a Visual Impact Assessment (VIA).

6.1.10 NOISE

The existing noise climate surrounding the Berth 605 site is predominantly influenced by anthropogenic sources including shipping and port activities, industries and vehicles. With limited natural surrounding land, influences from natural sources like birds and insects are assumed to be minor. The closest identified receptor to the proposed project area is the Richards Bay Seafarers Club. The noise sources could also impact persons working within the PoRB.

6.1.11 TRAFFIC AND SITE ACCESS

The road network providing access to the PoRB can be summarised as follows:

- The National Route 2 (N2): The N2 is a national route functioning as a north-south link in KwaZulu-Natal providing access to Richards Bay.
- John Ross Parkway (R34): John Ross Parkway is a provincial road that connects the port (and surrounding industries) to the N2. The road is a dual carriageway and functions as the main link between Richards Bay and Empangeni (a neighbouring town of Richards Bay). There are currently two road-over-rail bridge structures in John Ross Parkway. The design speed of the road is 100km/h and the speed limit is 80 km/h.
- West Central Arterial: The road provides access to the western entrance of the port, linking

with the port internal road, Urania Road. The West Central Arterial is the main access road to the discard coal and liquid bulk terminals. The arterial also provides access to the Richards Bay Central Business District (CBD).

- Harbour Arterial: The road provides access to the Alusaf Bayside smelters. To the eastern end of the road, it becomes Ferro Close and connects to the John Ross Parkway.
- Medway Road: Medway Road provides access to the eastern entrance of the port. It also provides a link to the Multi-Purpose Terminals (MPT) series 7 and the Ferro and Timber storage areas.
- Bayview Boulevard: Bayview Boulevard, together with Bridgetown Road, provides access to the eastern section of the port, i.e. The Village (referring to the Richards Bay Waterfront, small crafts harbour, Naval Island and the commercial developments) (AECOM, 2013).

The internal road network provides access to a number of berths and developments. The main internal routes to the site are:

- Newark Road: Forms the main east-west collector/distributor. The road provides access to the MPT, Dry Bulk Terminal (DBT) and the port's administration complex. The road is divided into two sections:
  - West of the eastern access: The main access road to the DBT.
  - East of the eastern access: A public road that provides access to The Village.
- Urania Road / Duine Road: Provides access to the South Dunes area, where the privately owned Richards Bay Coal Terminal and the Island View bulk liquid storage areas are situated. Urania Road is also the main public road in the port.
- Ventura Road: The road links with Newark Road and is the main road to the port's administration complex (AECOM, 2013).

Direct rail and road links have been developed between the major South African cities and the PoRB to enable the transportation of goods to and from the port. The port handled approximately 22 million tonnes of cargo in 2011. Over the years, the volume of trucks accessing the port has increased, resulting in higher levels of congestion. In January 2012, more than 3 900 trucks accessed the port terminal (AECOM, 2013).

Based on an assessment of the existing road networks, the CHF is constrained by land size, placement and throughput. The current road infrastructure of the PoRB cannot provide sufficient and safe access to the facility. A shared access road with security control is proposed to provide a supplementary road access to the Port , the facility, and adjacent undeveloped land parcels. The access road will also provide access to a future rail sidings to be located north of the CHF (WSP, 2024).

The number of additional trucks to the PoRB is considered to be low i.e. 13 additional trucks per hour.

6.1.12 LAND USE

According to the uMhlathuze Land Use Scheme Regulations, the study area is situated within an area zoned as harbour, with permitted uses include the following:

- Industry – General
- Industry – Light

- Industry – Service
- Utilities Facility

The above uses are in line with the intent of the harbour land use, including – land for administrative purposes, customs, industrial uses, and areas for bulk storage, terminals, custom posts, limited commercial activity, social, health and recreational activities.

There are also vegetated areas of the proposed project site will be used for the CHF footprint as well as the temporary stockpile storage areas.

6.1.13 EXISTING SERVICES AND INFRASTRUCTURE

In addition to normal port activities and operations, the port has a key role in the economy of the uMhlathuze Municipality(embracing the towns of Empangeni and Richards Bay) with its growing industrial base. The port enjoys a strategic relationship with the Richards Bay Industrial Development Zone SOC (RBIDZ), which is situatedin close proximity to the port, a prime industrial business and trade hub, attracting export-orientated investors as one of theleading Special Economic Zones.

The Bayview Precinct in which the proposed Berth 605 project area is located, was identified as a strategic location for the handling and consolidation of general cargo (dry bulk, liquid bulk (Phosphoric Acid and Liquid Pitch) and break bulk, including containers) in the Port of Richards Bay. The precinct is situated on the northern side of the port, between the old BHP Billiton Bayside Aluminium Smelter in the west, Thulazihleka pan in the north and Tuzi-Gazi in the east. Effectively the precinct accommodates dry bulk, break bulk and liquid bulk terminals which include significant road, rail, building and services infrastructure.

The proposed site for the Berth 605 is adjacent to the existing Berth 606. Utilities infrastructure is available at the port and includes water, sewerage, electricity and stormwater management.

7 IDENTIFICATION OF POTENTIAL IMPACTS

The scoping phase of an S&EIR process is aimed to identify those potential impacts that are most likely to be significant and which need to be assessed as part of the S&EIR process. The determination of anticipated impacts associated with the proposed development is a key component to the S&EIR process. This Chapter identifies the perceived environmental and social effects associated with the proposed project. The assessment methodology is indicated in **Section 8.5.**

The issues identified stem from those aspects presented in **Section 6** of this document as well as project description provided. Each significant issue identified is to be investigated further during the S&EIR process. Non-significant issues will be scoped out of the study with reasonable consideration given within this DSR.

7.1 CLIMATE

Since the Berth 605 project is located within the PoRB, it is crucial to understand the following:

- Emissions of the project – GHG emissions assessment to understand the change in future emissions (construction and operational phases).
- Climate risks to anticipate future climate conditions for the project region.
- Determining the projects' resilience to climate change.
- Impact of climate change related disruptions or impacts that may affect the project in future.
- Mitigation of GHG emissions and climate impacts on the project.

Construction Phase Impacts		Short term GHG emissions.
Operational Phase Impacts		Long term GHG emissions (if any). The impact of climate change trends on the project. The projects' resilience to climate change.
Decommissioning Phase Impacts		Similar to construction phase.
Mitigation Considerations		▪ Mitigation of GHG emissions of the project. ▪ Mitigation of climate change impacts on the project.
Recommended Phase Studies	**EIA**	Climate Change Impact Assessment and a separate high level Decarbonisation Plan will be developed in line with TNPA's Energy Policy, Just Transition Strategy and Disaster Management Plan for the PCT expansion and not the entire PoRB. The plan will only relate to Scope 1 and Scope 2 emissions (i.e., fuel consumption and grid energy) of the proposed Berth 605 project.

7.2 TOPOGRAPHY AND GEOLOGY

The potential land side impacts of clearing the site vegetation, construction of the project structures and associated infrastructure and operation of the project is expected to have minimal on the general landside topography and geology of the site. The land side topography is between 5 and 10 CD.

The geology of the quay extension is characterised by a subsurface profile that is sandy in nature and underlain by cretaceous rock. The depth of the bedrock in this area varies from 10m to 17 CD. The depth of the bedrock in the basin varies from 5 to 30m CD.

Sub-bottom profiling and boreholes will confirm the bedrock level to inform the quay wall and dredging design.

Construction Phase Impacts	Determining the short-term and construction related impacts of the project on the geology and topography (land and water sides). Areas of vulnerability and instability to be identified.
Operational Phase Impacts	Design of the project to incorporate bedrock considerations. Impacts to be identified and mitigated.
Decommissioning Phase Impacts	Similar to construction phase impacts.
Mitigation Considerations	Bedrock level to be determined prior to finalising the quay wall and dredging design.
Recommended EIA Phase Studies	Geotechnical Assessment to be undertaken.

7.3 SOILS

The following potential impacts on soil were identified:

Construction Phase Impacts	During construction, the soils at the site and surrounding may experience compaction as a result of construction activities and movement of vehicles. However, given that construction activities will take place within an already transformed area, the impact on soil will likely be negligible. The soil may also become contaminated as a result of spills of chemicals during construction.
Operational Phase Impacts	Potential contamination by chemical and fuel spillages.
Decommissioning Phase Impacts	Similar to construction phase impacts.
Mitigation Considerations	▪ Movement of vehicles and machinery in areas outside the project area. ▪ Spill management. ▪ Stock piling areas and methods. ▪ Erosion prevention and management. ▪ Migitation of sedimentation of watercourses.
Recommended EIA Phase Studies	No further studies are recommended.

7.4 AQUATIC AND FRESHWATER

The desktop assessment revealed the closest river to be approximately 1.6km from the site with wetlands potentially within the project footprint, this will be confirmed during the aquatic and freshwater assessment.

Construction Phase Impacts

Changes in the hydrological regime

Changes in surface flow dynamics to be investigated.

Changes in natural drainage lines which may lead to ponding or increased run off.

Changes in sediment volume

Changing the amount of sediment entering water resource and associated change in turbidity (increasing or decreasing the amount). Construction activities will result in earthworks and soil disturbance as well as the removal of natural vegetation. This could result in the loss of topsoil, sedimentation of the watercourse and increase the turbidity of the water. Possible sources of the impacts include:

Earthwork activities during construction:

- Clearing of surface vegetation will expose the soils, which in rainy events would wash through the watercourse, causing sedimentation;
- Disturbance of soil surface;
- Disturbance of slopes through creation of roads and tracks adjacent to the watercourse; and
- Erosion (e.g. gully formation, bank collapse).

Changes in sediment regimes of the aquatic ecosystem and its sub-catchment, for example sand movement, meandering river mouth /estuary, changing flooding or sedimentation patterns.

Introduction and spread of alien vegetation

The moving of soil and vegetation resulting in opportunistic invasions after disturbance. Invasions of alien plants can impact on hydrology, by changing the quantity of water entering a watercourse, and outcompete natural vegetation, decreasing the natural biodiversity. Once in a system, alien invasive plants can spread through the catchment. If allowed to seed before control measures are implemented alien plants can easily colonise and impact on downstream users.

Loss and disturbance of aquatic habitat and fringe vegetation

Loss and disturbance of aquatic habitat and fringe vegetation due to direct development in the watercourse because of the construction of the discharge structure.

Changes in water quality due to construction activities

During the construction waste will be produced including sewerage, domestic waste, wash-water, used oils and grease, diesel or lubricant spills, etc. Waste generally contains pollutants and present a potential risk to the water and surrounding environment if not managed effectively. Oil and diesel spillages may occur during the construction phase which can contaminate surface water. Other potential contaminants (i.e. from chemical toilets, domestic waste, storage facilities, workshop facilities, etc.) can reduce surface water quality or result in discharge that exceeds the maximum concentrations permitted by the National Water Act.

Changes to the water quality could result in changes to the ecosystem structure and function as well as a potential loss of biodiversity. Water quality deterioration often leads to modification of the species composition where sensitive species are lost and organisms tolerant to environmental changes dominate the community structure.

Loss of aquatic biota

Aquatic biota can be lost due to the disturbance of the habitat and direct impacts. This can be attributed to loss and disturbance of biota due to direct development in the watercourses as well as changes in habitat including water quality, the water column, increased sediment, increased alien vegetation and habitat fragmentation.

Operational Phase Impacts

The impacts included but not limited to:

- Loss of wetland habitat;
- Alteration in flow regime;
- Changes in the sediment regime;
- Alteration in water quality of the identified rivers and streams; and
- Permanent loss of aquatic biota.

Decommissioning Phase Impacts

Similar to construction phase impacts as similar activités will be undertaken.

Mitigation Considerations

- Duration of construction activities.
- Stormwater management.
- Footprint of construction activities.
- Spill management.
- Buffer zones.
- Alien plant management.
- No go areas.

Recommended EIA Phase Studies

A Freshwater and Aquatic Assessment will be undertaken.

7.5 ESTUARINE/MARINE ECOLOGY

The entire project area is situated within an EFZ therefore key impacts to water quality, sediment quality, fauna and flora must be assessed during the S&EIR process.

Construction Phase Impacts

- Impact of water based construction activities on the estuarine ecology
- Changes in water quality
- Disturbance to estuarine ecology due to noise
- Changes in the sediment regime as a result of dredging

Operational Phase Impacts

- Impact of dredged channel on marine ecology
- Changes in water quality
- Disturbance to estuarine ecology due to noise
- Combined operational impacts on estuarine functioning

Decommissioning Phase Impacts

Similar to construction phase impacts.

Mitigation Considerations	▪ Mitigation to reduce as far as practically possible the overall impacts on the EFZ. ▪ Mitigate negative impacts on water quality, sediment quality and impacts on marine flora and fauna. ▪ Mitigation of noise impacts on the marine ecology.
Recommended EIA Phase Studies	A Baseline Estuarine and Marine Ecology Assessment will be undertaken.

7.6 TERRESTRIAL BIODIVERSITY

Potential impacts associated with terrestrial biodiversity include direct loss and disturbance of habitats, establishment and spread of alien invasive species, loss and fragmentation of faunal habitats, injury and mortality of faunal species and loss of species of conservation concern.

To an extent, portions of the site have and been transformed by previous port related activities.

Construction Phase Impacts	▪ Direct loss and disturbance of habitat for terrestrial biodiversity and avifauna. ▪ Establishment and spread of alien and invasive species. ▪ Loss of SCC and protected species. ▪ Injury and mortality of faunal species.
Operational Phase Impacts	▪ Spread of Alien and Invasive Species. ▪ Permanent loss of faunal and avifaunal habitats.
Decommissioning Phase Impacts	Similar to construction phase impacts.
Mitigation Considerations	The project layout must avoid sensitive habitats as far as possible. Minimise development footprint within high sensitivity areas and ensure that final development layout takes account of areas identified as sensitive during the field survey. Alien and invasive vegetation control should take place throughout the duration of the construction and operation phases. An alien management plan will be incorporated into the EMPr.
Recommended EIA Phase Studies	Terrestrial Biodiversity Impact Assessment including plant and animals' species themes and a separate Avifaunal Assessment.

7.7 HERITAGE

HIAs conducted for other projects in the vicinity of the Berth 605 project area concluded that that the area is void of archaeological and cultural heritage resources however a specialist will be appointed to undertake the marine and terrestrial HIA to confirm the absence of heritage resources.

Construction Phase Impacts	**Disturbance to Known Cultural Resources** Construction activities may lead to disturbance or destruction of cultural resources (archaeological and historical remains and sacred sites e.g. graves) should the development footprint encroach on identified cultural/heritage sites. **Chance Find of Cultural Resources**

	Earthworks may accidentally expose unidentified subsurface fossil remains. This will result in a lost opportunity to preserve local cultural heritage and historical records should appropriate management measures not be in place (e.g. Chance Find Procedure).
Operational Phase Impacts	No impacts anticipated.
Mitigation Considerations	Construction activities should be conducted carefully, and all activities ceased if any archaeological, cultural and heritage resources are discovered. The SAHRA and AMAFA should be notified, and investigation conducted before any activities can commence. Chance Find Procedure must be included in the EMPr.
Recommended EIA Phase Studies	A Heritage Impact Assessment, as defined in section 38 of the NHRA, will be undertaken during the EIA phase of the assessment.

7.8 PALAEONTOLOGY

The project site is located within an area of low to medium paleontological sensitivity. Cretaceous deposits that occur 3m – 5m below the surface as identified during the harbour expansion project.

Construction Phase Impacts	The construction phase will entail surface clearance as well as excavation and dredging of the basin. Although unlikely, the development may adversely affect potential fossils within the study area by destroying, damaging, disturbing or permanently sealing-in fossils preserved at or beneath the surface of the ground that are then no longer available for scientific research or other public good.
Operational Phase Impacts	No impacts anticipated.
Mitigation Considerations	▪ Construction activities should be conducted carefully, and all activities ceased if any archaeological, cultural and heritage resources are discovered. ▪ The SAHRA should be notified, and investigation conducted before any activities can commence. ▪ Chance Find Procedure must be included in the EMPr.
Recommended EIA Phase Studies	A Desktop Palaeontological Impact Assessment will be undertaken.

7.9 SOCIO-ECONOMIC

The PoRB is an important economic centre for the region and the country as it serves as a shipping port for coal, aluminium and minerals. The growth and increase in activities at the port could have potential positive and negative impacts on the surrounding businesses and communities in relation to social change processes.

Construction Phase Impacts	**Creation of local employment, training, and business opportunities**

Members from the local communities in the area could potentially be in a position to qualify for most of the low skilled and semi-skilled employment opportunities.

Impact of construction workers on local communities

Potential influx of workers in the area.

Nuisance impacts associated with construction related activities

Construction related activities, including the movement of heavy construction vehicles of and on the site, has the potential to create dust, noise and safety impacts and damage roads. The impacts will be largely local and can be effectively mitigated.

Increased opportunity for local businesses and suppliers

There would be an increased demand for goods and services related to the construction phase, this will in turn stimulate growth within the local and regional construction and service sectors.

Operational Phase Impacts

Creation of employment and business opportunities

The proposed development will create full time employment opportunities during the operational phase that will be available to the local community. The operational phase may also create business and procurement opportunities which will benefit local companies in the area.

Mitigation Considerations

Mitigation to be directed toward minimizing influx related activities.

Identifying and managing areas of conflict between newcomers and incumbent population.

Managing social nuisances.

Recommended EIA Phase Studies

A Socio-economic Assessment will be undertaken during the EIA Phase.

7.9.1 VISUAL

The Berth 605 project area is located within the PoRB and in proximity to the Richards Bay Industrial Development Zone (RBIDZ), however there are untransformed vegetated areas that form part of the project footprint that could impact on the overall landscape and aesthetic value of the site.

Construction Phase Impacts

Loss of visual landscape and disturbance to the aesthetics of the site.

Impacts on the surrounding recreational landscape (waterfront, boat clubs, etc).

Potential impacts on the sensitive receptors (if any).

Operational Phase Impacts

Increased disturbance to the visual landscape.

Increased disturbance to receptors including recreational activities associated with the PoRB.

Mitigation Considerations	Mitigation to directed to minimizing visibility impacts, visual exposure impacts, visual intrusion impacts and alteration to landscape morphology.
Recommended EIA Phase Studies	A visual baseline and compliance statement will be undertaken during the EIA Phase.

7.9.2 NOISE

The existing noise climate surrounding the Berth 605 site is predominantly influenced by anthropogenic sources including shipping and port activities, industries and vehicles. With limited natural surrounding land, influences from natural sources like birds and insects are assumed to be minor.

Construction Phase Impacts	The following construction-related activities are likely to generate vibrations and additional noise into the environment: ▪ Presence of workforce; ▪ Land clearing; ▪ Piling; ▪ Cut and fill operations; ▪ Vehicle activities associated with transport of equipment; ▪ Dredging activities; ▪ Use of equipment and machinery; and ▪ Concrete mixers and cranes. Maximum noises generated can be audible over a large distance, however, these maximum noises are generally of very short duration. If maximum noise levels however exceed 65 dBA at a receptor, or if it is clearly audible with a significant number of instances where the noise level exceeds the prevailing ambient sound level with more than 15 dB, the noise can lead to the disturbance and nuisance to sensitive receptors. A receptor is defined by the WBG (April 2007) as “any point on the premises occupied by persons where extraneous noise and/or vibration are received”.
Operational Phase Impacts	Noise will be emitted from movement of vehicles, machinery and people.
Decommissioning Phase Impacts	Similar to construction phase impacts.
Mitigation Considerations	Mitigation relating to the identified noise sources based on the outcome of the acoustic modelling.
Recommended EIA Phase Studies	Baseline surveys will be undertaken, and a noise compliance statement will be included in the EIR.

7.9.3 TRAFFIC

Construction Phase Impacts	**Increased traffic generation around the study area by construction vehicles** The construction phase is expected to generate additional traffic volumes on the local road network due to the transport of raw materials, machinery and personnel to site.
Operational Phase Impacts	The operational phase of the Berth 605 will result in additional trucks on the external and internal road networks. The number of additional trucks to the PoRB is considered to be low i.e. 13 additional trucks per hour. A detailed traffic impact assessment has not been conducted as the operation of the CHF will attract the 13 additional trucks per hour. This DSR excludes the operational activities associated with the CHF.
Mitigation Considerations	The movement of vehicles into and out of the site must be managed such as ensuring that abnormal loads are moved outside of peak traffic hours. Stagger component delivery to the site. All drivers should comply with the relevant traffic laws and regulations. Abnormal vehicle routes and management plans may be required dependant on the type and route of the abnormal vehicle loads. Abnormal vehicles may require special permits and route plans from the relevant road authority. These permits are the responsibility of the developer and its logistics/freight companies. Undertake regular maintenance of onsite gravel roads during the construction phase. The construction of the new access road to the site will have sufficient capacity for all heavy vehicle road transport to the facility, for both 70:30 and 0:100 rail: road modal split scenarios.
Recommended EIA Phase Studies	No further studies are recommended.

7.10 SUMMARY OF POTENTIAL IMPACTS

Aspect	Impact	Nature	Probability	Consequence	Significance (Before Mitigation)	Further Assessment Required
Climate	GHG emissions	Negative	2	2	**Low**	**Yes (Climate Change Impact Assessment)**
	Climate change trends on the project	Negative	3	2	**Medium**	
Topography and Geology	Constructability	Negative	3	2	**Medium**	**Yes (Geotechnical Assessment)**
Aquatic and Freshwater Environment	Changes in water flow regime	Negative	2	2	**Low**	**Yes (Aquatic and Freshwater Impact Assessment)**
	Changes in sediment volume	Negative	2	2	**Low**	
	Introduction and spread of alien vegetation	Negative	2	2	**Low**	
	Loss and disturbance of watercourse habitat and fringe vegetation	Negative	2	2	**Low**	
	Changes in water quality	Negative	2	2	**Low**	
	Loss of aquatic biota	Negative	2	2	**Low**	

Aspect	Impact	Nature	Probability	Consequence	Significance (Before Mitigation)	Further Assessment Required
	Loss and direct disturbance of wetland habitat	Negative	3	2	**Medium**	
Estuarine and Marine Ecology	Impact on marine ecology as a result of water-based construction activities	Negative	4	2	**Medium**	**Yes (Baseline estuarine and Marine Ecology Assessment)**
	Loss of estuarine and marine fauna	Negative	4	2	**Medium**	
	Changes in water quality	Negative	4	2	**Medium**	
	Noise impacts on marine ecology	Negative	4	2	**Medium**	
	Marine habitat loss and fragmentation	Negative	4	2	**Medium**	
Terrestrial Biodiversity	Habitat loss and fragmentation (CBA)	Negative	2	2	**Low**	**Yes (Terrestrial Biodiversity Assessment)**
	Direct loss and disturbance of habitat and associated flora Species of	Negative	2	2	**Low**	

Aspect	Impact	Nature	Probability	Consequence	Significance (Before Mitigation)	Further Assessment Required
	Conservation Concern					
	Establishment and Spread of Alien Invasive Species	Negative	2	2	**Low**	
	Loss and Fragmentation of Faunal Habitats	Negative	2	2	**Low**	
	Injury and mortality of faunal Species of Conservation Concern	Negative	2	2	**Low**	
Avifauna	Disturbance of avifauna due to construction activities	Negative	3	2	**Medium**	**Yes (Avifaunal Assessment)**
	Loss of avifaunal habitat	Negative	3	2	**Medium**	
	Loss of avifaunal Species of Conservation Concern	Negative	3	2	**Medium**	
Heritage and Cultural Resources	Disturbance to known land and	Negative	2	2	**Low**	**Yes (Land and Marine**

Aspect	Impact	Nature	Probability	Consequence	Significance (Before Mitigation)	Further Assessment Required
	marine cultural resources					Archaeological and Heritage Impact Assessment)
	Chance Find of Cultural Resources	Negative	2	2	Low	
Palaeontology	Chance Find of Palaeontological resources	Negative	2	2	Low	Yes (Desktop Palaeontology Impact Assessment)
Socio-Economic	Creation of local employment, training, and business opportunities	Positive	3	1	Low	Yes (Socio-economic Impact Assessment)
	Increased opportunity for local businesses and suppliers	Positive	3	2	Medium	
	Impact of construction workers on local communities	Negative	2	1	Very low	
	Nuisance impacts associated with construction related activities	Negative	3	1	Low	

Aspect	Impact	Nature	Probability	Consequence	Significance (Before Mitigation)	Further Assessment Required
Visual	Visual impacts on the landscape and aesthetics	Negative	3	1	**Low**	**Visual baseline and compliance statement**
Noise	Noise impacts on sensitive receptors	Negative	3	2	**Medium**	**A terrestrial noise baseline survey will be conducted and a noise compliance statement. However, a marine noise assessment will not be conducted as the impacts to the marine environment are considered to be negligible**
	Noise impacts on marine ecology	Negative	3	2	**Medium**	
	Noise impacts on avifauna	Negative	3	2	**Medium**	
Traffic	Increased traffic generation around the study area by construction vehicles	Negative	3	1	**Low**	**No (however a high-level traffic assessment is being conducted as part of the engineer requirements for the project)**
	Deterioration of the surrounding road network due to an increase of traffic around the site	Negative	3	1	**Low**	

Aspect	Impact	Nature	Probability	Consequence	Significance (Before Mitigation)	Further Assessment Required
	Transportation of abnormal loads during the construction phase	Negative	3	1	**Low**	
	Increased traffic due to new roads to and from the project area	Negative	3	1	**Low**	

8 PLAN OF STUDY FOR THE EIA REPORTING PHASE

8.1 TERMS OF REFERENCE

Table 8-1 outlines the structure of the plan of study as required in terms of Appendix 2 of the EIA Regulations.

Table 8-1 - Plan of Study Structure

PLAN OF STUDY CHAPTER	INFORMATION REQUIREMENT AS PER THE EIA REGULATIONS
Description of EIA Tasks	A description of the tasks that will be undertaken as part of the environmental impact assessment process.
Description of Alternatives	A description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity.
Aspects to be Assessed in the EIA Process	A description of the aspects to be assessed as part of the environmental impact assessment report process.
Specialist Studies	Aspects to be assessed by specialists.
Impact Assessment Methodology	A description of the proposed method of assessing the environmental aspects, including a description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists. A description of the proposed method of assessing duration and significance.
Environmental Impact Report	Contents of the EIR as specified in the EIA Regulations
Stakeholder and Authority Engagement	An indication of the stages at which the competent authority will be consulted. Details of the public participation process that will be conducted during the EIA process.

8.2 OVERVIEW OF THE EIA TASKS

The EIA phase will consist of the following tasks; each of these tasks is detailed separately in the following sub-sections:

- Specialist studies;
- Continuation of authority and stakeholder engagement;
- Assessment of the significance of potential impacts; and
- Preparation of the EIR.

8.3 DESCRIPTION OF THE ALTERNATIVES

The EIA process identifies two types of project alternatives:

- Concept Level Alternatives which relates to the site, technology and process alternatives; and

- Detailed Level Alternatives which relates to working methods and mitigation measures.

Alternatives will be assessed as described in **Section 2** of this DSR.

8.4 TERMS OF REFERENCE FOR SPECIALISTS' STUDIES

Following the review of the DFFE Screening Tool Report and the Scoping Assessment, the specialist studies as indicated in the table below, will be commissioned in support of the EIA process.

Table 8-2 - Specialist Study Requirements

Protocol for Specialist Study	Scope of Specialist Assessment
Agricultural Theme The DFFE Screening Tool does not prescribe a protocol of the agricultural theme The site is considered very high sensitivity due to the very high land capability rating. However, based on the location of the site within the port, the very high sensitivity is refuted. As such a specialist study will not be undertaken.	N/A
Animal Species Theme The DFFE Screening Tool prescribed an animal species assessment be conducted based on the likely presence of sensitive avifaunal species. Therefore, a terrestrial animal species assessment will be incorporated into the Terrestrial Biodiversity Assessment. In addition, an avifaunal assessment will also be conducted.	Fieldwork on fauna will focus on herpetofauna, and invertebrates, since these have been flagged by the DFFE screening tool report for the study area. Bird surveys will be done by the coastal ecological specialist consultancy. The site sensitivity verification assessment for fauna (i.e. herpetofauna, and invertebrates) will focus on the assessment of on-site habitat suitability for the support of flagged fauna species of interest with a particular focus on habitat suitability for species of conservation concern with potential to occur. The findings will be described in the Terrestrial Biodiversity Assessment Report, in accordance with the gazetted protocol for the specialist assessment and minimum report content requirements for environmental impacts on terrestrial animal species.
Aquatic Biodiversity Theme The DFFE Screening Tool prescribed that an Aquatic Biodiversity Assessment be undertaken based on the presence of the estuary. A specialist will be commissioned to undertake the Aquatic and Freshwater Assessment. In addition, a Baseline Estuarine and Marine Ecology Assessment will be undertaken.	**Freshwater and Aquatic Ecological Assessment** A detailed desktop assessment will be undertaken in which all available background information will be reviewed. As part of the desktop studies all freshwater ecosystems will be mapped based on desk-based delineation methods. The findings of the desktop studies will then be used to refine and focus the field work assessment. A site visit will be undertaken at which time all freshwater ecosystems associated with the proposed development as provided by the client will be assessed, and the following will be undertaken:

Protocol for Specialist Study	Scope of Specialist Assessment
	Delineation of freshwater ecosystems within the study area and 500m of the study area will be verified and the delineation of applicable buffer zones and regulated zones. Based on the findings during the assessment and based on the project plan and proposed layout plan as provided by the proponent, a detailed impact assessment on all identified significant risks will take place including a discussion on cumulative impacts on wetland assemblages in the region.
Estuarine and Marine Ecology	**Baseline Estuarine and Marine Ecology Assessment** The Estuarine/Marine Ecology Specialist Study will include: A description of available information on currents and water circulation in the PoRB, with specific reference to the 600 and 700 berth basins. A description of water quality in the PoRB, with specific reference to the 600 and 700 berth basins. A description of sediment quality in the PoRB. A description of key floral and faunal components of the PoRB, with specific reference to the 600 and 700 berth basins. A description of key ecological links between different habitats in the Port of Richards Bay, with specific reference to the 600 and 700 berth basins. A description of key impacts (positive and negative) to water quality, sediment quality, and fauna and flora that may or will be associated with the proposed project, as can be concluded from available information. The identification of potential mitigation that can be implemented to minimise the significance of negative impacts and enhance the significance of positive impacts. Environmental Monitoring Programme recommendations that should be implemented to track and manage environmental impacts during dredging and project construction phases. **Baseline Estuarine Study** The survey will focus on the presence of Zostera seagrass, and fish and nektonic crustaceans in the tidal pool-like habitat area opposite the proposed Berth 605.
Archaeological and Cultural Heritage Theme The DFFE Screening Tool prescribed that a site verification be undertaken for the archaeological and cultural heritage theme. However, the NHRA requires that a HIA be undertaken therefore a specialist will be	**Terrestrial and Underwater Heritage Impact Assessment** A Desktop and Site Survey of potential terrestrial heritage sites and shipwrecks in the area through study of available databases and historical records needs to be undertaken. Databases include published as well as unpublished

Protocol for Specialist Study	Scope of Specialist Assessment
commissioned to undertake a terrestrial and marine HIA.	sources of information. The desktop survey will be confirmed during site verification. Magnetometer Survey – This geophysical tool, will indicate ferrous objects on or beneath the sand. The size of the anomaly is used to determine if it is a wreck or harbour debris. Knowing the locations of ferrous objects, assists the dredging operation as buried objects can cause damage and downtime. No diver searches will be undertaken.
Civil Aviation Theme The DFFE Protocol requires that a site verification be undertaken by the EAP or a specialist as the site is located between 8 and 15km from a civil aviation aerodrome.	N/A
Defence Theme The DFFE protocol requires that a site verification be undertaken by an EAP for the defence theme.	N/A
Palaeontology Theme The DFFE Screening Tool prescribed that a site verification be undertaken for the palaeontology theme. Based on the baseline assessment the site is deemed to be of low sensitivity and site verification will not be required.	**Desktop Palaeontology Assessment** To determine the likelihood of fossils occurring in the affected area geological maps, literature, palaeontological databases and published and unpublished records will be consulted. e.g. https://sahris.sahra.org.za/map/palaeo. A desk-based report will be compiled, and no site verification will be undertaken by the specialist
Plant Species Theme The DFFE Protocol requires that an assessment be completed for the site. A plant species assessment will be incorporated into the Terrestrial Biodiversity Assessment.	An assessment on plant species will be included in the Terrestrial Biodiversity Assessment.
Terrestrial Biodiversity Theme The DFFE Screen Tool prescribed that a Terrestrial Biodiversity Assessment be undertaken based on the CBA that the project area falls within. A specialist will be commissioned to undertake the Terrestrial Biodiversity Assessment.	**Terrestrial Biodiversity Assessment** To develop a baseline ecology description for the site-specific study area, a review and consolidation of existing baseline literature and datasets will be conducted. Reviewed information will include relevant specialist studies mentioned above, plus any more recent information sources, national and provincial conservation databases and guidelines, aerial imagery (as available) and relevant scientific literature. Data gathered during the literature review will include: • A desktop delineation of on-site vegetation units/communities;

Protocol for Specialist Study	Scope of Specialist Assessment
	• A list of potential flora and fauna species occurring through the various study area sites, with specific emphasis on Red list and protected species; and • Understanding of the local landscape matrix, including adjacent land uses, habitat characteristics and linkages, and existing negative impacts. The outcomes of the desktop ecological sensitivity screening will be used to confirm the scope of the required field programme. The proposed fieldwork scope, based on the species sensitivities indicated by the national screening tool, and the condition of habitats within the study area. The findings will be described in a Terrestrial Biodiversity Impact Assessment.
Visual/Landscape Theme The DFFE Protocol requires that a site verification be undertaken for the visual and landscape theme. However, a Visual Impact Assessment will be undertaken to determine the sensitive receptors and the associated impacts. The visual impact of the proposed project is likely to be low in significance and will be confirmed by a specialist.	**Visual Baseline and Compliance Statement** Based on specialist opinion following the site assessment, a full Visual Impact Assessment will not be required. A baseline and compliance statement will be compiled to inform the EIA process.
Socio-economic Theme The DFFE protocol requires that site verification be undertaken. Based on the strategic nature and location of the project, a Socio-Economic Assessment will be undertaken. The baseline socio-economic assessment indicated an increase in population and between 2001 and 2011. Unemployment which is an indicator of the socio-economic environment was at 31% and remains high. The PoRB Masterplan can bring into effect several socio-economic changes and the nature of the change will be determined by the ability of the community to adapt.	**Socio economic Impact Assessment** The assessment will include the: • identification of sensitive social receptors and the project areas zone of influence. • Secondary data collection. • Defining the social baseline. • Primary data collection. Compilation of the Socio-economic Assessment which considers potential impacts and mitigation.
Climate Change Theme The DFFE Screening Report did not stipulate that a Climate Change Assessment to be undertaken, however given the nature of the project, an assessment will be undertaken. The baseline assessment of the climate indicates that there is likely to be an increase in temperature and extreme weather events (2021-2050). The impact of the change in	**Climate Change Impact Assessment** The scope of the assessment includes: • A desktop review. • A description of the baseline and project climate for the project. • A climate change risk assessment. • An assessment of the potential impact of the current and proposed GHG emissions.

Protocol for Specialist Study	Scope of Specialist Assessment
climate on the project will be further investigated in a Climate Change Impact Assessment.	• Decarbonisation Plan.

8.5 IMPACT ASSESSMENT METHODOLOGY

The EIR uses a methodological framework developed by WSP to meet the combined requirements of international best practice and NEMA, Environmental Impact Assessment Regulations.

As required by the EIA Regulations, the determination and assessment of impacts will be based on the following criteria:

- Nature of the Impact;
- Significance of the Impact;
- Consequence of the Impact;
- Extent of the impact;
- Duration of the Impact;
- Probability if the impact;
- Degree to which the impact:
  - can be reversed;
  - may cause irreplaceable loss of resources; and
  - can be avoided, managed or mitigated.

Following international best practice, additional criteria have been included to determine the significant effects. These include the consideration of the following:

- Magnitude: to what extent environmental resources are going to be affected;
- Sensitivity of the resource or receptor (rated as high, medium and low) by considering the importance of the receiving environment (international, national, regional, district and local), rarity of the receiving environment, benefits or services provided by the environmental resources and perception of the resource or receptor); and
- Severity of the impact, measured by the importance of the consequences of change (high, medium, low, negligible) by considering inter alia magnitude, duration, intensity, likelihood, frequency and reversibility of the change.

It should be noted that the definitions given are for guidance only, and not all the definitions will apply to all of the environmental receptors and resources being assessed. Impact significance was assessed with and without mitigation measures in place.

8.5.1 METHODOLOGY

The assessment of impacts and mitigation evaluates the likely extent and significance of the potential impacts on identified receptors and resources against defined assessment criteria, to develop and describe measures that will be taken to avoid, minimise or compensate for any adverse environmental impacts, to enhance positive impacts, and to report the significance of residual impacts that occur following mitigation.

The key objectives of the risk assessment methodology are to identify any additional potential environmental issues and associated impacts likely to arise from the proposed project, and to propose a significance ranking. Issues / aspects will be reviewed and ranked against a series of significance criteria to identify and record interactions between activities and aspects, and resources and receptors to provide a detailed discussion of impacts. The assessment considers direct[2], indirect[3], secondary[4] as well as cumulative[5] impacts.

A standard risk assessment methodology is used for the ranking of the identified environmental impacts pre-and post-mitigation (i.e., residual impact). The significance of environmental aspects is determined and ranked by considering the criteria[6] presented in **Table 8-3.**

Table 8-3 – Impact Assessment Criterion and Scoring System

Criteria	Score 1	Score 2	Score 3	Score 4	Score 5
Impact Magnitude (M) The degree of alteration of the affected environmental receptor	Very low: No impact on processes	Low: Slight impact on processes	Medium: Processes continue but in a modified way	High: Processes temporarily cease	Very High: Permanent cessation of processes
Impact Extent (E) The geographical extent of the impact on a given environmental receptor	Site: Site only	Local: Inside activity area	Regional: Outside activity area	National: National scope or level	International: Across borders or boundaries
Impact Reversibility (R) The ability of the environmental receptor to rehabilitate or restore after the activity has caused environmental change	Reversible: Recovery without intervention		Recoverable: Recovery with intervention		Irreversible: Not possible despite action
Impact Duration (D) The length of permanence of the impact on the environmental receptor	Immediate: On impact	Short term: 0-5 years	Medium term: 5-15 years	Long term: Project life	Permanent: Indefinite
Probability of Occurrence (P)	Improbable	Low Probability	Probable	Highly Probability	Definite

[2] Impacts that arise directly from activities that form an integral part of the Project.
[3] Impacts that arise indirectly from activities not explicitly forming part of the Project.
[4] Secondary or induced impacts caused by a change in the Project environment.
[5] Impacts are those impacts arising from the combination of multiple impacts from existing projects, the Project and/or future projects.
[6] The definitions given are for guidance only, and not all the definitions will apply to all the environmental receptors and resources being assessed. Impact significance was assessed with and without mitigation measures in place.

Criteria	Score 1	Score 2	Score 3	Score 4	Score 5
The likelihood of an impact occurring in the absence of pertinent environmental management measures or mitigation					
Significance (S) is determined by combining the above criteria in the following formula:	$[S = (E + D + R + M) \times P]$ $Significance = (Extent + Duration + Reversibility + Magnitude) \times Probability$				
Impact Significance Rating					
Total Score	**4 to 15**	**16 to 30**	**31 to 60**	**61 to 80**	**81 to 100**
Environmental Significance Rating (Negative (-))	**Very low**	**Low**	**Moderate**	**High**	**Very High**
Environmental Significance Rating (Positive (+))	**Very low**	**Low**	**Moderate**	**High**	**Very High**

8.5.2 IMPACT MITIGATION

The impact significance without mitigation measures will be assessed with the design controls in place. Impacts without mitigation measures in place are not representative of the proposed development's actual extent of impact and are included to facilitate understanding of how and why mitigation measures were identified. The residual impact is what remains following the application of mitigation and management measures and is thus the final level of impact associated with the development. Residual impacts also serve as the focus of management and monitoring activities during project implementation to verify that actual impacts are the same as those predicted in this report.

The mitigation measures chosen are based on the mitigation sequence/hierarchy which allows for consideration of five (5) different levels of mitigation, which include avoid/prevent, minimise, rehabilitate/restore, offset and no-go, in that order. During the consideration of impacts, the first option should be to avoid or prevent the impacts from occurring initially if possible, however, this is not always feasible. If this is not attainable, the impacts can be allowed, however these must be minimised as far as possible by reducing the footprint of the development so that minimal impact is experienced. If impacts are unavoidable, the next goal is to rehabilitate or restore the areas impacted back to their original form after project completion. Offsets are then considered if all the other measures described above fail to remedy high/significant residual negative impacts. If no offsets can be achieved on a potential impact, which results in full destruction of any ecosystem for example, the no-go option is considered so that another activity or location is considered in place of the original plan.

The mitigation sequence/hierarchy is shown in **Figure 8-1** below.

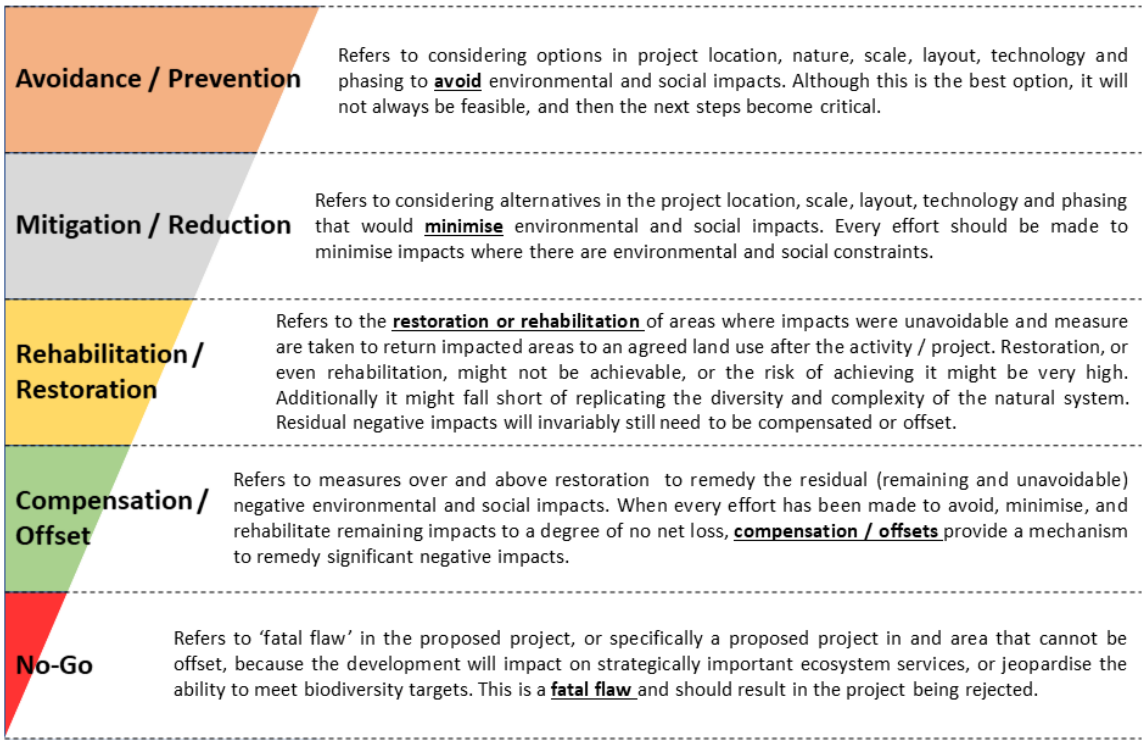


Figure 8-1 - Mitigation Sequence/Hierarchy

8.6 ENVIRONMENTAL IMPACT REPORT (EIR)

Once the FSR has been submitted the proposed project will proceed into detailed EIA phase, which involves the detailed specialist investigations. WSP will produce a Draft EIR after the completion of the required specialist studies. The Draft EIR will provide an assessment of all the identified key issues and associated impacts from the Scoping phase. All requirements as contemplated in the EIA Regulations will be included in the Draft EIR. The Draft EIR will contain, inter alia, the following:

- Details of the EAP who prepared the report and the expertise of the EAP to carry out the S&EIR process, including a curriculum vitae;
- The location of the activity, including the 21 digit Surveyor General code of each cadastral land parcel, where available, the physical address and farm name; and the coordinates of the boundary of the property or properties;
- A plan which locates the proposed activity or activities applied for as well as the associated structures and infrastructure at an appropriate scale;
- A description of the scope of the proposed activity, including all listed and specified activities triggered and being applied for; and a description of the associated structures and infrastructure related to the proposed project;
- A description of the policy and legislative context within which the development is located and an explanation of how the proposed development complies with and responds to the legislation and policy context;
- A motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred location;
- A motivation for the preferred development footprint within the approved site;

- A full description of the process followed to reach the proposed development footprint within the approved site;
- Details of the public participation process undertaken;
- A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;
- The environmental attributes associated with the development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;
- The impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts;
- The methodology used in determining and ranking of potential environmental impacts and risks;
- Positive and negative impacts;
- An assessment of each identified potentially significant impact and risk;
- The possible mitigation measures that could be applied;
- An environmental impact statement;
- A description of any assumptions, uncertainties and gaps in knowledge;
- A reasoned opinion as to whether the proposed activity should or should not be authorised;
- An undertaking under oath or affirmation by the EAP; and
- An EMPr.

8.7 STAKEHOLDER AND AUTHORITY ENGAGEMENT

8.7.1 PPP

The approach to the public participation process during the impact assessment phase will be similar to the process during the scoping phase. The PPP is being reviewed and refined to accommodate the learnings from the scoping phase, as well as consider recommendations received from registered I&APs.

The PPP during impact assessment will include the following steps:

- Announcement of the availability of the Draft EIA Report and EMPr, the opportunities for comment and invitation to public meetings.
- Distribution of a Non-Technical Summary of the Draft EIA Report and EMPr and project announcement documents via email, bulk SMS and via identified local community structures, which may include the use of social media.
- Posting all impact assessment documents to WSP's website and the data-free website.
- Enabling communication through the project dedicated email address.
- Ongoing registration of stakeholders as I&APs.
- Focus group meetings with key sectors of society.
- Issues-based focus group meetings with key stakeholders.
- Public meetings.
- Opportunities for stakeholders to submit comments in writing.

All issues raised during the impact assessment phase will be captured in the CRR. Issues related to the findings of the environmental specialist studies of the proposed project that were raised during the scoping phase, will be responded to during the impact assessment phase.

The PPP during the EIA phase will be focused on the findings of the EIA which will be presented in the Draft EIR. All stakeholders will be notified of the progress to date and availability of the Draft EIR,

via mail, email and/or SMS. A legislated period of 30 consecutive days will be allowed for public comment. Reports will be made available in the following way:

- Distribution for comment at central public places, which were used during the Scoping Phase;
- The document will be made available to download from the WSP website; and
- Soft copies of the report will be made available on request.

The EIA phase will provide the following information to I&APs:

- Initial Site Plan;
- Alternatives;
- A description of activities and operations to be undertaken;
- Baseline information;
- Specialist studies;
- Impact assessment;
- Management measures; and
- Monitoring and measuring plans.

The information outlined above will be presented in one or more of the following:

- Notifications;
- Meetings;
- Scoping Report;
- EIR; and
- EMPr.

All comments received during the EIA phase will be recorded in the CRR, which will be included in the draft and Final EIR. The Final EIR will incorporate public comment received on the Draft EIR and will be made available for public review with hard copies distributed mainly to the authorities and key stakeholders.

8.8 NOTIFICATION OF ENVIRONMENTAL AUTHORISATION

All stakeholders will receive a letter at the end of the process notifying them of the authority's decision, thanking them for their contributions, and explaining the appeals procedure.

8.9 CONSULTATION WITH THE CA

It is envisaged that consultation with the DFFE will coincide with the compilation of the following key documents:

- DSR;
- FSR;
- Draft EIR/EMPr; and
- Final EIR/EMPr (including specialist studies).

9 WAY FORWARD

This DSR contains:

- A description of the existing and proposed activities;
- A description of the alternatives considered to date;
- An outline of the proposed process to be followed;
- Information on the proponent, EAP and stakeholders who have chosen to participate in the project;
- An outline of the environment in which the project falls;
- Information on the potential environmental impacts to be studied in more detail during the EIAR phase of the project; and
- Information on the proposed specialist studies to be undertaken.

A number of environmental impacts have been identified as requiring some more in-depth investigation and the identification of detailed mitigation measures, namely the impacts on the aquatic and terrestrial environment. Therefore, a detailed EIA is required to be undertaken in order to provide an assessment of these potential impacts and recommend appropriate mitigation measures.

The DSR is available for review from **19 November 2024 to 13 January 2025**. All issues and comments have been submitted to WSP have been incorporated in the CRR of the FSR.

The FSR will be submitted to the DFFE responsible for authorising this project.

If you have any further enquiries, please feel free to contact:

WSP Group Africa (Pty) Ltd

Attention: Patricia Nathaniel

Tel: 011 361 1398

E-mail: Patricia.Nathaniel@wsp.com

10 REFERENCES

City of Umhlatuze Integrated Development Plan: Fifth Generation IDP 2022/2027 (Umhlatuze Local Municipality,2022)

Climate Change Impact Assessment: Karpower Gas to Power Project: Port of Richards Bay (Promethium Carbon, 2022)

Coastal, Estuarine and Marine Impact Assessment Report Port of Richards Bay (GroundTruth, Anchor Environmental and Coastwise, 2022).

Composition, abundance and seasonality of fish larvae in Richards Bay Harbour, KwaZulu-Natal, South Africa. South African Journal of Marine Science 23, 56–78 (Harris and Cyprus, 1997).

Desktop baseline estuarine and marine ecology information for the Berth 605 project (CSIR, 2024).

Draft Basic Assessment Report for the construction of marine infrastructure in the Port of Richards Bay (Sivest, 2018).

EIA Report for the Proposed Gas to Power Project at Port of Richards Bay, uMhlathuze Municipality, KZN (Triplo4, 2022).

Long-term Ecological Modelling Programme for the Port of Richards Bay. Surveys made in 2019/2020. CSIR Report: CSIR/SPLA/IR/ 2020/0044/C (CSIR, 2020)

Port Development Framework Plans 2022 Update (TNPA, 2022).

Specialist Climate Change Impact Assessment: Phakwe Richards Bay Gas to Power 3 CCP (Promethium Carbon, 2022).

Surface water monitoring sites for the summer 2020 survey (CSIR, 2020)

Terrestrial Ecological Assessment for the proposed Gas to Power Project, Richard's Bay, KZN (De Wet, L, 2022).

The zooplankton community of Richards Bay Harbour and adjacent Mhlathuze Estuary, South Africa. Afr J Mar Sci 30, 55–62 (Jerling, H.L., 2008).

Appendix A

EAP CV

Patricia Nathaniel

Principal Consultant

CAREER SUMMARY

Patricia is a dedicated, focused and experienced individual with a post-graduate degree in Environmental Management and thirteen years of work experience in the environmental field. She is a driven individual with a goal to succeed and is loyal to employers. She moved swiftly up the ranks from a junior consultant to a management position i.e., Technical Manager within three years at KSEMS Environmental Consulting. Her duties as included compiled of environmental reports, reviewing of reports, compiling tender documents, submission of tenders, business development, marketing, client liaison, training of the junior staff and overall project management of all active projects. Patricia is fully knowledgeable on business dynamics and the ability to fulfil a senior consultant to management position in the environmental field, particularly within a consultancy. The ability to provide solutions when project related, or general issues arise.

Patricia moved on to a position as a Senior Environmental Consultant at GIBB. She fulfilled the role of Environmental Scientist on the MCWAP-2A Project which is one of the largest projects of its kind in Africa involving the abstraction of water from the Crocodile (River) West and the transfer of this water to the end users i.e., predominantly the power stations in the Limpopo Province. She was also the Lead Consultant on the KZN Automotive Supply Park Project, DTPC is the Applicant. She also resumed the role of the EAP on the Lower Mkomazi Bulk Water Scheme Project, renewable energy projects and hospital conditional assessments as well as Environmental Project Manager for the Transnet Port of Durban Reconfiguration Project.

Patricia is currently employed by WSP in Africa and is working on a range of projects including mining, water infrastructure, renewable energy and other industrial projects. She is also the Team Co-Ordinator for the Durban Environmental Team and is responsible for ensuring the team meets the monthly projected targets and deadlines.

>1 year with WSP

13 years of experience

Area of expertise

Environmental auditing and reporting

Environmental Impact Assessments

Basic Assessment Reports

Water Use License Applications

Due Diligence Reports

Project Management

Language

English

EDUCATION

Bachelor of Science (Honours), Environmental Management, University of KwaZulu-Natal, South Africa 2013

Bachelor of Science, Geography, University of KwaZulu-Natal, South Africa 2009

Patricia Nathaniel

Principal Consultant

ADDITIONAL TRAINING

WULA Training Course: KSEMS	2016
Public Participation in EIA Course: IAIAsa	2015
2014 EIA Regulations in Context: Shepstone and Wiley	2015

PROFESSIONAL MEMBERSHIPS

Registered Environmental Assessment Practitioner: Number 2020/1120	EAPASA
SACNASP Registered Scientist: 123478	SACNASP

PROFESSIONAL HISTORY

WSP in Africa, Principal Consultant and Team Co-Ordinator	March 2023 - Present
Gibb Environmental, Consultant, Environmental	April 2020 - February 2023
KSEMS Environmental Consultant, Principal Consultant, Technical Manager Senior Environmental Consultant, Environmental Consultant	February 2014 – March 2020
ERM Southern Africa, Consultant/subconsultant, Researcher/Environmental	December 2020 – August 2013
Tiger Brands, Quality Analyst	September – December 2010
BSN Medical, Microbiologist Intern	January – December 2009

PROFESSIONAL EXPERIENCE

FFS TT Expansion of the existing tank facility, Maydon Wharf, Durban
2023
EAP
BA Process

BTE, Battery Energy Solar Systems in Aggeneys and Sendawo
2023-2024
EAP
BA Process for the BESS Systems

Seriti Roy Point Mine, Water Management Strategy
2023-2024
EAP and PM
Scoping and EIR Process for the Roy Point Colliery's Water Management Strategy

Nkomati Mine Water Treatment Plant, Mpumalanga Province
2023-2024
EAP
Scoping and EIR Process for the WTP at the Nkomati Nickel Mine

Richbay Vosloorus Chemical Filling Plant, Gauteng

Patricia Nathaniel

Principal Consultant

2023-2024
EAP
Scoping and EIR Process

Vopak Position Pieces on various projects at the existing Vopak Plant, Durban
2023-2024
EAP
Advisory Letters on the regulated processes to follow for each project

Sappi, Fufural Plant at the existing Sappi Plant, KZN
2023-2024
EAP
BA Process

Richbay Chemicals, Warehouse for the storage of Dangerous goods, Pietermaritzburg
2023
EAP
Scoping and EIR Process

Sappi Saiccor, Weir Maintenance Management Plan, KZN
2023
EAP
Maintenance Management Plan for the weir at the Sappi Plant in KZN

Sasol, Pigging Receiver Station, Durban
2023
EAP
BAR for the Sasol Pigging Station in Durban, KZN

DTPC, KZN Automotive Supply Park, South Africa
2022 - 2023
EAP
BAR and WULA. Compilation of the BAR and WULA for the entire project.

Transnet Durban, Transnet Durban Logistics Hub Expansion, South Africa
2022 - 2023
EAP / Project Manager
Fatal Flaw Analysis on various components of the POD expansion. Project manager, environmental assessments.

TCTA, MCWAP2 Bulk Water Scheme and Borrow Pits and WULA, Limpopo
2020 - 2023
EAP.
BAR and WULA. Compilation of the BAR for the Borrow Pits and WULA for the entire project.

SANRAL, N3 Material Sources (Quarries and Borrow Pits), South Africa
2019 -2020
Technical Manager
Compilation of the BAR and WULA.

HHO Consulting Engineers (Free State), R34 Upgrade and Borrow Pits, South Africa
2019 - 2020
Technical Manager

Compilation of the BAR and WULA.

Manaba Investments, Ugu District Municipality, Uvongo Car Park, South Africa
2019 - 2020
Technical Manager
Compilation of the BAR and WULA.

DDRA/Grindrod, Mkambathini Municipality, Grindrod Autoport, South Africa
2019 - 2020
Technical Manager
EA Amendment and ECO Audit Reports .Compilation of the EA Amendment and Review of the ECO Audit Reports.

WSP, Umgungundlovu District Municipality, N3 Upgrade from Murray Road to New England Interchange, South Africa
2019 - 2020
Technical Manager
Review of the BAR and WULA.

Aurecon Eastern Cape, New and Upgrade of Access Roads along the N2 including Borrow Pits, Eastern Cape, South Africa
2018 - 2020
Technical Manager
Compilation of the BAR and WULA.

Umgeni Water, Umgungundlovu District Municipality, Vulindlela Pipeline Bulk Water Supply Scheme Phase 1 and 2, South Africa
2017 - 2020
Technical Manager
Compilation of the BAR and WULA.

KSIA, eThekwini Metropolitan Municipality, King Shaka Amendment to the EA, South Africa
2017 - 2019
Technical Manager
Review of the EA Amendment.

THD and Dube TradePort, eThekwini Metropolitan Municipality, Ushukela Mixed Used Development, South Africa
2017 - 2019
Technical Manager
Compilation of the BAR and WULA.

Keystone Investments, eThekwini Metropolitan Municipality, Umbogintwini Petrol Filing Station, South Africa
2017 - 2018
Technical Manager
Compilation of the BAR and WULA.

RHDHV, Mangaung Metropolitan Municipality, SANRAL N8 Rehabilitation and Borrow Pits, South Africa
2017 - 2018
Technical Manager
Compilation of the BAR and WULA.

RHDHV, Port Edward, SANRAL Port Edward Borrow Pit, South Africa
2017 - 2018
Technical Manager

Review of BAR and WULA.

RHDHV, Port Edward, SANRAL R61 Borrow Pit, South Africa
2017 - 2018
Technical Manager
Review of BAR and WULA.

Renishaw, Scottburgh, Renishaw Property Development, South Africa
2017 - 2018
Technical Manager
Project Direction and Review of the WULA.

Nyeleti Consulting, Ubumbulu, Mbumbulu MR30 Town Upgrade, South Africa
2017 - 2018
Technical Manager
Compilation of the EIA Enquiry.

Umgeni Water, Umgungundlovu District Municipality, Umbumbulu Pump Station, South Africa
2017 - 2018
Technical Manager
Project Direction and Review of the BAR and WULA.

Transnet, uMhlatuze Municipality, Diesel Locomotive Facility in the Port of Richards Bay, South Africa
2017 - 2018
Technical Manager
Project Direction and Review of the EA amendment and WULA.

Cubical Investments, Ugu District Municipality, Scottsburgh Mall Fuel Station, South Africa
2017 - 2018
Technical Manager
Compilation of the BAR, WULA and Appeal.

TPA Consulting, iLembe District Municipality, Mona Bridge, South Africa
2017
Technical Manager
Review of BAR and WULA.

TPA Consulting, iLembe District Municipality, Mahadeni Bridge, South Africa
2017
Technical Manager
Review of BAR and WULA.

NME Consulting, eThekwini Municipality, N2 Upgrade (Lovu River to Umlaas Canal), South Africa
2017
Technical Manager
Compilation of the BAR and WULA.

Ibhongo Consulting, D1252 Triple Celled Culvert and Borrow Pit, South Africa
2016 - 2019
Technical Manager
Project Guidance and Technical Review of BAR and WULA.

Ecovate, eThekwini Metropolitan Municipality, South Africa
2016
Technical Manager
Project Guidance and Technical Review of BAR and WULA.

TPA Consulting, Ugu District Municipality, Harding Informal Traders Market, South Africa

Patricia Nathaniel

Principal Consultant

2016
Technical Manager
Project Guidance and Technical Review of ECO Audit Reports and WULA.

Arcus Gibb, Eden District Municipality, Gwaing Bridge, South Africa
2016
Technical Manager
Project Guidance and Technical Review of BAR and WULA.

FFS Visserhok Plant, Western Cape Scoping and EIR, South Africa
2016
Technical Manager
Project Guidance and Technical Review of EA amendment.

Tongaat Hulett Development, eThekwini Metropolitan Municipality, Shongweni Mixed Use Development Phase 2 & 3, South Africa
2016 - 2019
Technical Manager
Project Guidance and Technical Review of the Scoping and EIR.

Henwood and Nxumalo, Umgungundlovu District Municipality, Water Use License Application for Sinkwazi and Sikhumbuzo Roads, South Africa
2016 - 2017
Technical Manager
Project Guidance and Technical Review of the WULA.

Henwood and Nxumalo, Umgungundlovu District Municipality, Upgrading of Harewood Phase 1-6 Roads within Edenvale, South Africa
2016 - 2020
Technical Manager
Project Guidance and Technical Review of the BAR and WULA.

Naidu Consulting, Umgungundlovu District Municipality WULA, The Upgrade of New Barker's Bridge, South Africa
2016 - 2017
Technical Manager
Project Guidance and Technical Review of the BAR WULA.

Naidu Consulting, Umgungundlovu District Municipality BAR and WULA, The Upgrade of the Meshlyn Bridge, South Africa
2016 - 2017
Technical Manager
Project Guidance and Technical Review of the BAR and WULA.

uBuhlebezwe Municipality, Ogle Farm Mixed Use Development, South Africa
2016 - 2019
Technical Manager
Project Guidance and Technical Review of the BAR and WULA.

Samani Consulting, Ugu District Municipality, Basic Assessment Report and WULA, Upgrade of Provincial Road D985, South Africa
2016 - 2017
Environmental Consultant
Project Guidance and Technical Review of BAR and WULA.

Samani Consulting, Ugu District Municipality, Basic Assessment Report and WULA, Upgrade of Provincial Road P740, South Africa

Patricia Nathaniel

Principal Consultant

2016 – 2017
Environmental Consultant
Project Guidance and Technical Review of BAR and WULA.

TPA Consulting, Ugu District Muncipality, Madakana and Kwaluhlaza Pedestrian Bridge, South Africa
2016
Technical Manager
Project Guidance and Technical Review of BAR and compilation of the WULA.

Nyeleti Consulting, Mangaung Metropolitan Municipality, Bloemfontein Ring Road N8, South Africa
2015 - 2020
Environmental Consultant
Compilation of the Scoping and EIR and WULA.

SANRAL, Mangaung Municipality, Upgrading of the Sanral N6 National Route from Rouxville to Smithfield including Borrow Pits, South Africa
2015 - 2020
Environmental Consultant
Basic Assessment Report and WULA. BARs for Borrow Pits, WULA, Technical Review of the ECO Audit Reports.

David Rowles Development, eThekwini Metropolitan Municipality Basic, Chicken Farm Residential Development, South Africa
2015 - 2019
Environmental Consultant
Assessment Report, WULA, EIA Enquiries. Compilation of BAR, WULA and EIA Enquiries and Technical Review of Reports once project was handed over to another consultant.

True Blue Group, eThekwini Metropolitan Municipality, KFC Tongaat, South Africa
2015 - 2019
Environmental Consultant, Reviewer
Basic Assessment Report, EIA Enquiry and WULA. Compilation of the EIA Enquiry and Reviewer of the WULA

Samani Consulting, Ugu District Municipality, P73 Borrow Pit, South Africa
2015 - 2016
Technical Manager
Basic Assessment Report and WULA. Project Guidance and Technical Review of BAR and WULA.

Transnet, uMhlatuze Municipality, Transnet Locomotive Turntable, South Africa
2015 -2016
Environmental Consultant
Basic Assessment Report and WULA.

Samani Consulting, Ugu District Municipality, N2 Borrow Pit, South AFrica
2015 - 2016
Environmental Consultant
Basic Assessment Report and WULA. Compilation of EMPr and WULA/Project Manager.

Samani Consulting, eThekwini Metropolitan Municipality, P400 WULA, South Africa
2015 - 2016
Environmental Consultant
WULA and ECO Audit Reports. Compilation of WULA and ECO Audit Reports.

Aecom, Umgungundlovu District Municipality, DUT Pietermartizburg Upgrade – ECO, South Africa
2015 - 2016
Environmental Consultant

Patricia Nathaniel

Principal Consultant

EMPr and ECO Reports. Compilation of the EMPr and ECO Reports.

Springville Investments, eThekwini Metropolitan Municipality, 117 Wiltshire Road Upgrade, South Africa
2015 - 2016
Environmental Consultant
Compilation of WULA.

Enprocon, Gert Sibande District Municipality, Goedehoop Stene Brickmaking Facility, South Africa
2015 - 2016
Environmental Consultant
Compilation of the WULA.

Samani Consulting, Ugu District Municipality, P73 Borrow Pit, South Africa
2015 - 2016
Environmental Consultant
Compilation of the EMPr.

Henwood and Nxumalo, Umgungundlovu District Municipality, Harewoods Roads, South Africa
2015
Environmental Consultant
Basic Assessment Report and WULA. Project Guidance and Technical Review of BAR and WULA.

Madan Singh and Associates, Ugu Municipality, P77 Road Upgrade, South Africa
2014 - 2015
Environmental Consultant
Compilation of BAR and WULA.

Samani Consulting, Ugu Municipality, Upgrade of Provincial Road R75.3, South Africa
2014 - 2015
Environmental Consultant
Compilation of BAR and WULA.

Madan Singh and Associates, Umgungundlovu District Municipality, Dambuza Road Upgrade, South Africa
2014 - 2015
Environmental Consultant
Compilation of BAR and WULA.

Boston Ink Consulting, Zululand District Municipality, Upgrade of Phenyane to Obhazweni Road, South Africa
2014 - 2015
Environmental Consultant
Compilation of WULA.

Hatch Goba, Ndwedwe Municipality, Umdloti River Bridge and Realignment of P713, South Africa
2014 - 2015
Environmental Consultant
Compilation of BAR and WULA.

TPA Consulting Engineers, Okahlamba Municipality, Ohombe Vehicle Bridge, South Africa
2014 - 2015
Environmental Consulting
Compilation of BAR and WULA.

Mott Macdonald, eThekwini, Umlazi K & L Sanitation Project
2014
Environmental Consultant

Patricia Nathaniel

Principal Consultant

Screening, Basic Assessment Report and WULA. Compilation of BAR and WULA.

Client Mott Macdonald, eThekwini, Umlazi P & Q Sanitation Project, South Africa
2014
Environmental Consultant
Screening, Basic Assessment Report and WULA. Compilation of BAR and WULA.

Mott Macdonald, eThekwini, Umlazi G Sanitation Project, South Africa
2014
Environmental Consultant
Screening, Basic Assessment Report and WULA. Compilation of BAR and WULA.

Mott Macdonald, eThekwini, Umlazi A, B, C, E, S, and Malaba Hills Sanitation Project, South Africa
2014
Environmental Consultant
Screening, Basic Assessment Report and WULA. Compilation of BAR and WULA.

Mott Macdonald, eThekwini, Unity Avenue Sanitation Project, South Africa
2014
Environmental Consultant
Screening, Basic Assessment Report and WULA. Compilation of BAR and WULA.

Mott Macdonald, eThekwini, N4 Informal Settlement Sanitation Project, South Africa
2014
Environmental Consultant
Screening, Basic Assessment Report and WULA. Compilation of BAR and WULA.

Mott Macdonald, eThekwini, Happy City Informal Settlement Sanitation Project, South Africa
2014
Environmental Consultant
Screening, Basic Assessment Report and WULA. Compilation of BAR and WULA.

Samani Consulting, Umdoni Municipality, GJ Crookes Pedestrian Bridge, South Africa
2014
Environmental Consultant
Screening, Basic Assessment Report and WULA. Compilation of BAR and WULA.

NamPower, Namibia, Baynes Hydropower Project, South Africa
2010 - 2013
Junior Environmental Consultant
Environmental, Social and Health Impact Assessment.

Appendix B

EAP DECLARATION

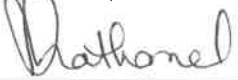
DECLARATION OF EAP AND UNDERTAKING UNDER OATH OR AFFIRMATION

I, **Patricia Nathaniel**, declare that –

a) I act as the independent, registered in terms of EAPASA, environmental assessment practitioner in this application;
b) I have expertise in conducting environmental impact assessments, including knowledge of the Act, EIA Regulations and any guidelines that have relevance to the proposed activity;
c) I will comply with the Act, EIA Regulations and all other applicable legislation;
d) I am aware that I must be registered with Environmental Assessment Practitioners Association of South Africa (EAPASA) in terms of Regulation 14 of Section 24H Registration Authority Regulations, 2016, as amended.
e) I am aware that a candidate EAP may only assist the registered EAP and work under the supervision of a registered EAP (regulation 14(6) in the S24H Registration Authority Regulations, 2016, as amended) such as myself. I take full responsibility for the work conducted.
f) I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
g) I will take into account, to the extent possible, the matters listed in Regulation 13 of the EIA Regulations and Regulation 14 of S24H of Section 24H Registration Authority Regulations, 2016, as amended, when preparing the application and any report relating to the application;
h) I undertake to disclose to the applicant and the Competent Authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the Competent Authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the Competent Authority, unless access to that information is protected by law, in which case it will be indicated that such information exists and will be provided to the Competent Authority;
i) I will perform all obligations as expected from an environmental assessment practitioner in terms of the EIA Regulations and S24H of NEMA ; and
j) I am aware of what constitutes an offence in terms of Regulation 48 and that a person convicted of an offence in terms of Regulation 48(1) is liable to the penalties as contemplated in Section 49B of the Act and EIA Regulations and Regulation 18 and 20 of S24H Registration Authority Regulations, 2016, as amended.

Disclosure of Vested Interest (delete whichever is not applicable)

k) I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the EIA Regulations;
l) I have a vested interest in the proposed activity proceeding, such vested interest being:
Click or tap here to enter text.



Signature of the registered environmental assessment practitioner

WSP

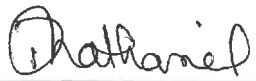
Name of company:

Thursday, 14 November 2024

Date

UNDERTAKING UNDER OATH/ AFFIRMATION

I, _____**Patricia Nathaniel**_____swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.



Signature of the registered Environmental Assessment Practitioner

WSP

Name of Company

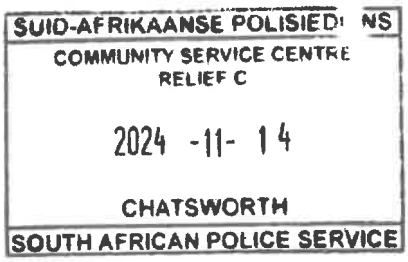
14 November 2024

Date

Signature of the Commissioner of Oaths

2024-11-14

Date

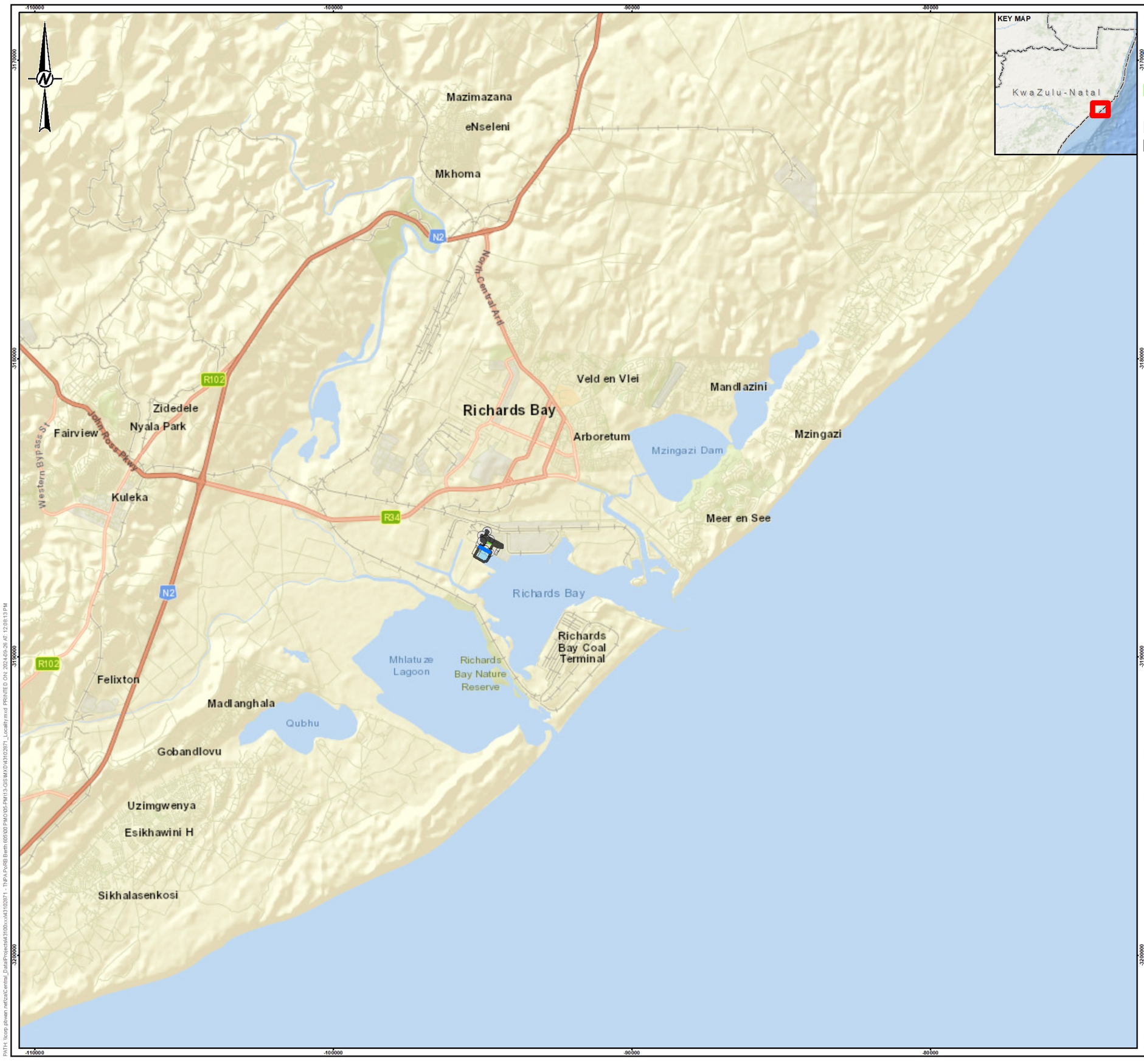


Appendix C

MAPS AND LAYOUT PLANS

Appendix C.1

LOCALITY MAP



LEGEND

- Approximate tie in locations
- New Quay Wall
- Access Road
- Container Handling Facility
- Dredging
- Possible Laydown Area
- Project Battery Limit
- Rail Siding
- Shared Security Access
- Sub-Station
- Temporary Stockpile Area
- Terminal Access

0 4 000 8 000

1:125 000 METRES

NOTE(S)
1. LINE NOTES
2. LINE NOTES
3. LINE NOTES

REFERENCE(S)
1. COORDINATE SYSTEM: HARTEBEESTHOEK94 LO33
2. SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, USGS, INTERMAP, INCREMENT P, NRCAN, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), ESRI KOREA, ESRI

CLIENT
TNPA

PROJECT
BERTH 605

TITLE
LOCALITY

CONSULTANT
wsp

YYYY-MM-DD	2024/09/26
DESIGNED	
PREPARED	TS
REVIEWED	PN
APPROVED	JF

PROJECT NO. 43102871 CONTROL REV. FIGURE

Appendix C.2

LAYOUT MAP

LEGEND

- Approximate tie in locations
- New Quay Wall
- Access Road
- Container Handling Facility
- Dredging
- Possible Laydown Area
- Project Battery Limit
- Rail Siding
- Shared Security Access
- Sub-Station
- Temporary Stockpile Area
- Terminal Access

0 200 400

1:6 000 METRES

NOTE(S)
1. LINE NOTES
2. LINE NOTES
3. LINE NOTES

REFERENCE(S)
1. COORDINATE SYSTEM: HARTEBEESTHOEK94 LO31
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
TNPA

PROJECT
BERTH 605

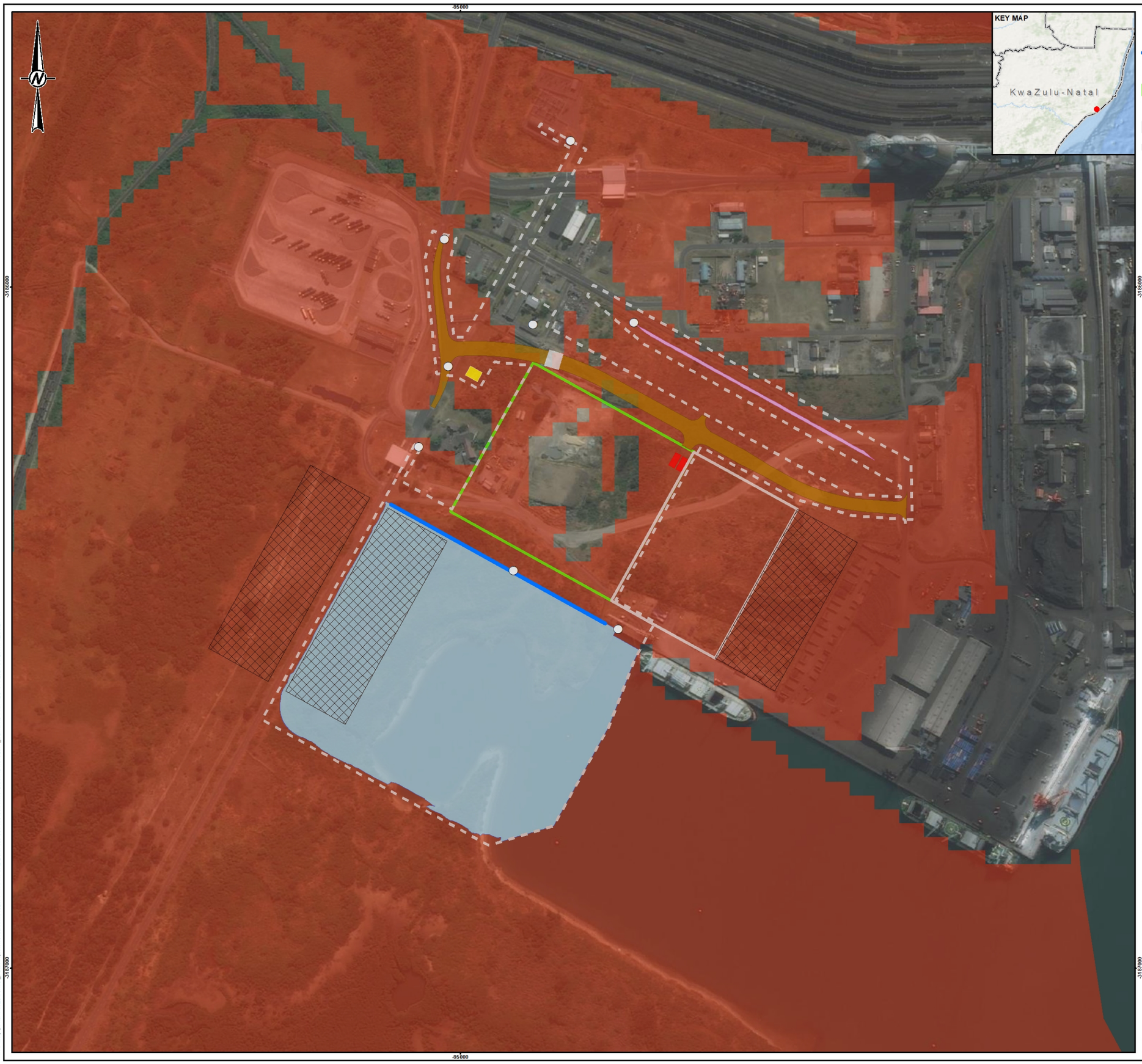
TITLE
LAYOUT

CONSULTANT		
WSP	YYYY-MM-DD	2024/09/25
	DESIGNED	
	PREPARED	TS
	REVIEWED	PN
	APPROVED	JF

PROJECT NO.	CONTROL	REV.	FIGURE
43102871			

Appendix C.3

CRITICAL BIODIVERSITY AREAS



LEGEND

- Approximate tie in locations
- New Quay Wall
- Access Road
- Container Handling Facility
- Dredging
- Possible Laydown Area
- Project Battery Limit
- Rail Siding
- Shared Security Access
- Sub-Station
- Temporary Stockpile Area
- Terminal Access

KZN Biodiversity Sector Plan (2016)

- CBA: Irreplaceable

0 120 240

1:5 500 METRES

NOTE(S)

REFERENCE(S)

1. COORDINATE SYSTEM: HARTEBEESTHOEK94 LO33
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
TNPA

PROJECT
BERTH 605

TITLE
CRITICAL BIODIVERSITY AREAS

CONSULTANT
wsp

YYYY-MM-DD	2024/09/26
DESIGNED	
PREPARED	TS
REVIEWED	PN
APPROVED	JF

PROJECT NO. 43102871 CONTROL REV. FIGURE

Appendix C.4

WATERCOURSES

LEGEND

- Approximate tie in locations
- New Quay Wall
- Access Road
- Container Handling Facility
- Dredging
- Possible Laydown Area
- Project Battery Limit
- Rail Siding
- Shared Security Access
- Sub-Station
- Temporary Stockpile Area
- Terminal Access

National Wetland Map 5 (SANBI 2018)

- Estuarine functional zone
- Floodplain wetland
- Seep wetland

0 200 400

1:9 500 METRES

NOTE(S)

REFERENCE(S)

1. COORDINATE SYSTEM: HARTEBEESTHOEK94 LO33
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
TNPA

PROJECT
BERTH 605

TITLE
WETLANDS

CONSULTANT

YYYY-MM-DD	2024/09/26
DESIGNED	
PREPARED	TS
REVIEWED	PN
APPROVED	JF

PROJECT NO. 43102871 | CONTROL | REV. | FIGURE

Appendix C.5

VEGETATION MAP

LEGEND

- Approximate tie in locations
- New Quay Wall
- Access Road
- Container Handling Facility
- Dredging
- Possible Laydown Area
- Project Battery Limit
- Rail Siding
- Shared Security Access
- Sub-Station
- Temporary Stockpile Area
- Terminal Access

Vegetation Type (SANBI 2018)

- Estuary
- AZa 7 Subtropical Alluvial Vegetation
- CB 1 Maputaland Coastal Belt
- FOa 2 Swamp Forest
- FOa 3 Mangrove Forest

0 200 400

1:9 500 METRES

NOTE(S)

REFERENCE(S)
1. COORDINATE SYSTEM: HARTEBEESTHOEK94 LO33
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
TNPA

PROJECT
BERTH 605

TITLE
VEGETATION TYPES

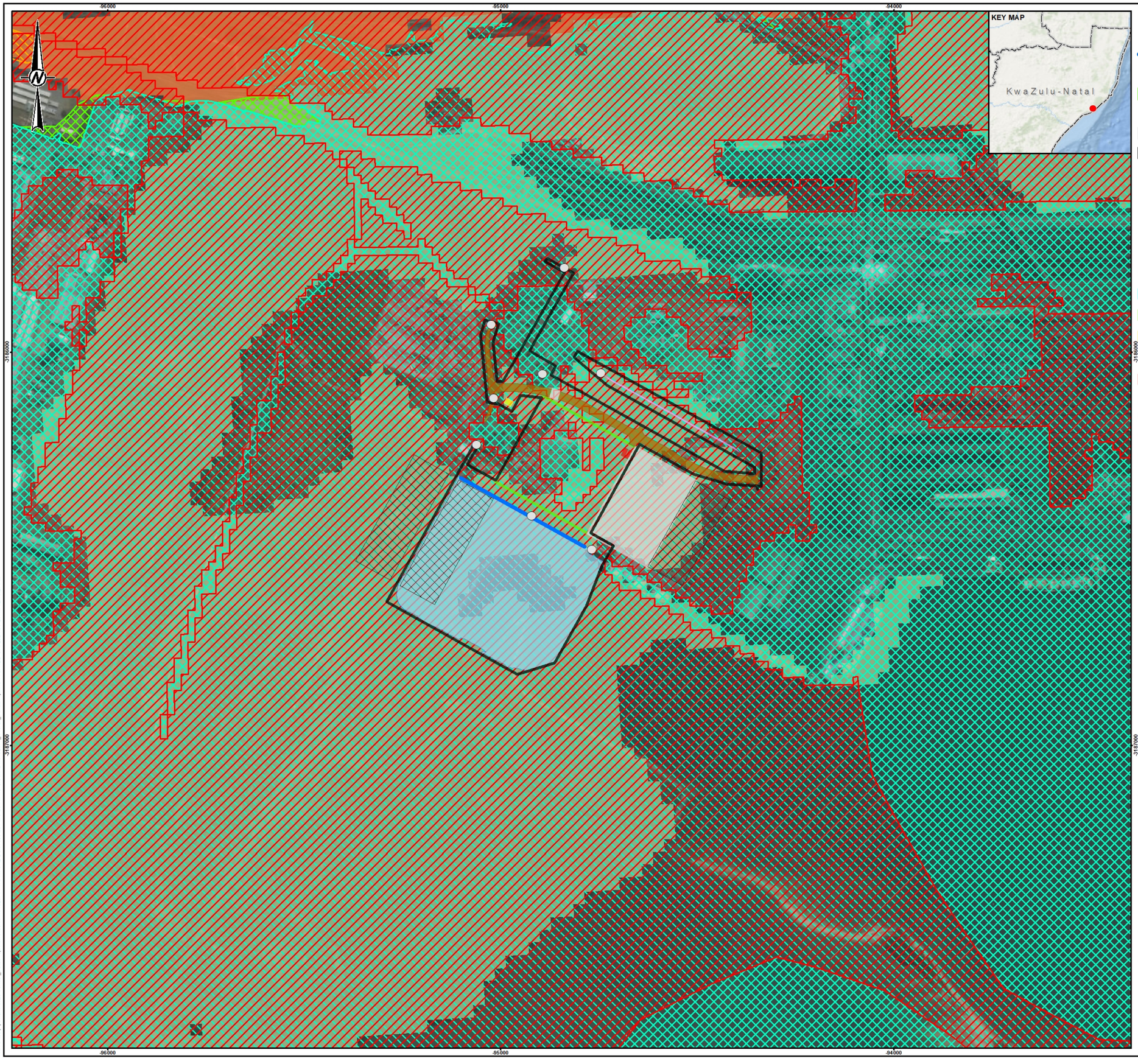
CONSULTANT

YYYY-MM-DD	2024/09/26
DESIGNED	
PREPARED	TS
REVIEWED	PN
APPROVED	JF

PROJECT NO. 43102871 CONTROL REV. FIGURE

Appendix C.6

OVERALL SENSITIVITY MAP



LEGEND

- Approximate tie in locations
- New Quay Wall
- Access Road
- Container Handling Facility
- Dredging
- Possible Laydown Area
- Project Battery Limit
- Rail Siding
- Shared Security Access
- Sub-Station
- Temporary Stockpile Area
- Terminal Access

National Wetland Map 5 (SANBI 2018)

- Estuarine functional zone
- Floodplain wetland
- Seep wetland

KZN Biodiversity Sector Plan (2016)

- CBA: Irreplaceable

Red List of Ecosystems (RLE), Terrestrial (SANBI, 2021)

- Endangered
- Least Concern

0 200 400

1:9 500 METRES

NOTE(S)

REFERENCE(S)

1. COORDINATE SYSTEM: HARTEBEESTHOEK94 LO33
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
TNPA

PROJECT
BERTH 605

TITLE
OVERALL SENSITIVITY

CONSULTANT

YYYY-MM-DD	2024/09/26
DESIGNED	
PREPARED	TS
REVIEWED	PN
APPROVED	JF

PROJECT NO. 43102871 | CONTROL | REV. | FIGURE

Appendix D

DFFE SCREENING TOOL

SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE ENVIRONMENTAL SENSITIVITY

EIA Reference number: TBC

Project name: BERTH 605

Project title: BERTH 605

Date screening report generated: 13/08/2024 17:57:22

Applicant: TNPA

Compiler: WSP

Compiler signature:

.....

Application Category: Any activity in an estuary_on the seashore_in the littoral active zone_or in the sea

Table of Contents

Proposed Project Location

Orientation map 1: General location

General Orientation: BERTH 605

Map of proposed site and relevant area(s)

Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1	RICHARDS BAY	6362	0	28°47'12.63S	32°0'55.54E	Erven
2	RICHARDS BAY	6363	0	28°47'19.44S	32°0'50.17E	Erven
3	RICHARDS BAY	5333	45	28°47'24.5S	32°1'18.98E	Erven
4	RICHARDS BAY	397	0	28°46'45.84S	32°3'53.35E	Erven
5	RICHARDS BAY	6363	0	28°47'20.5S	32°0'50.32E	Erven
6	RICHARDS BAY	5333	21	28°47'0.89S	32°2'43.9E	Erven
7	RICHARDS BAY	5333	150	28°46'42.39S	32°0'59.04E	Erven
8	RICHARDS BAY	5333	21	28°47'0.89S	32°2'43.9E	Erven
9	RICHARDS BAY	5333	8	28°46'35.8S	32°0'9.89E	Erven
10	RICHARDS BAY	5333	0	28°47'10.25S	32°0'3.32E	Erven
11	LOT 223 UMHLATUZI	16230	0	28°47'16.85S	32°2'34.45E	Farm
12	LOT 223 UMHLATUZI	16230	0	28°47'18.22S	32°2'58.17E	Farm Portion
13	LOT 223 UMHLATUZI	16230	0	28°47'17.27S	32°2'34.32E	Farm Portion
14	LOT 223 UMHLATUZI	16230	0	28°47'17.6S	32°2'34.33E	Farm Portion
15		14844	0	28°47'12.71S	32°0'55.52E	Farm Portion

Development footprint[1] vertices:

[1] "development footprint", means the area within the site on which the development will take place and incudes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

No development footprint(s) specified.

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No	EIA Reference No	Classification	Status of application	Distance from proposed area (km)
1	14/12/16/3/3/2/867	Solar PV	Approved	4.9
2	14/12/16/3/3/2/2041	Solar PV	Approved	3
3	12/12/20/2387/AM1	Wind	Approved	12.5

Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is:
Any activity in an estuary_on the seashore_in the littoral active zone_or in the sea.

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

Incentive, restriction or prohibition	Implication
Strategic Transmission Corridor-Expanded Eastern Corridor	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_EGI.pdf
Strategic Gas Pipeline Corridors-Phase 7: Coega to Richards Bay	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_GAS.pdf
Main Electricity Transmission Substation	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Distribution_Transmission.pdf
Main Electricity Distribution Substation	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Distribution_Transmission.pdf

Proposed Development Area Environmental Sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the

proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme	X			
Animal Species Theme		X		
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme		X		
Defence Theme				X
Paleontology Theme			X	
Plant Species Theme			X	
Terrestrial Biodiversity Theme	X			

Specialist assessments identified

Based on the selected classification, and the known impacts associated with the proposed development, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

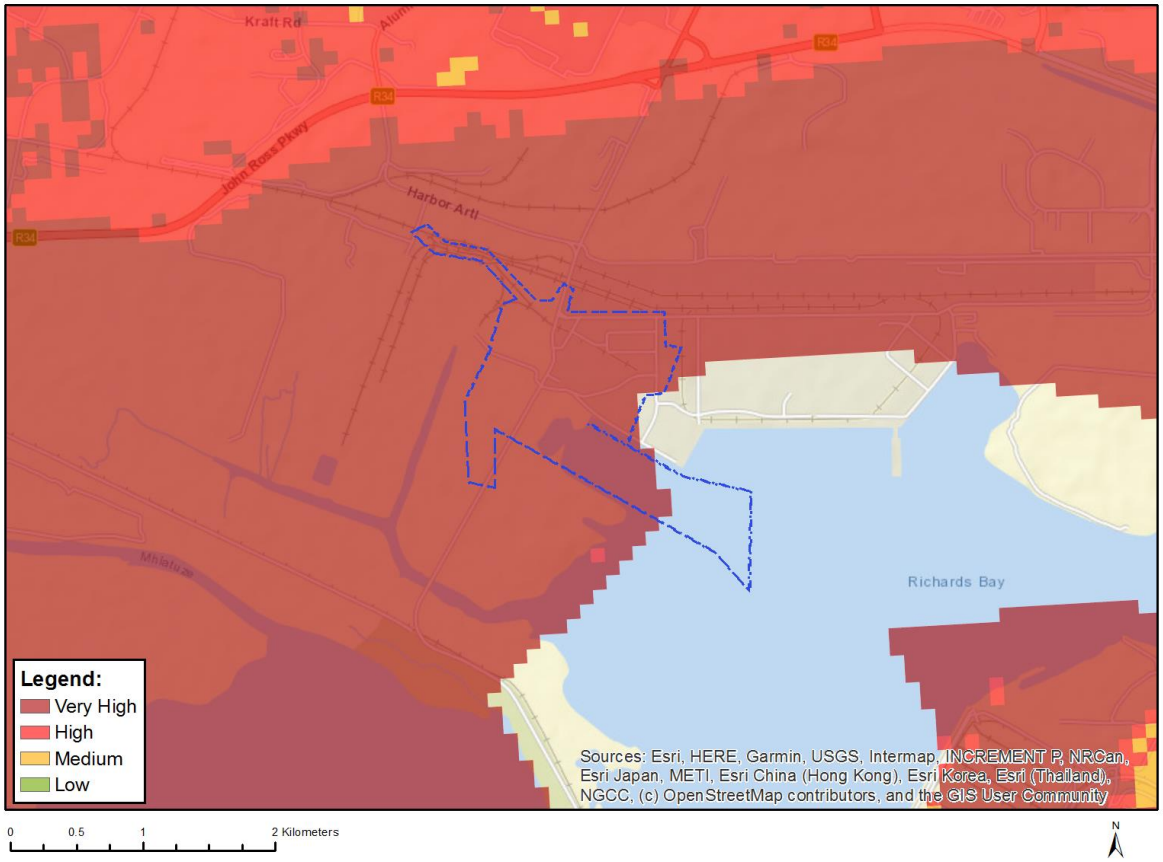
No	Specialist assessment	Assessment Protocol
1	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
2	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
3	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
4	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf
5	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf
6	Marine Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
7	Hydrology Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
8	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
9	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/Asse

		ssmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf
10	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf

Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

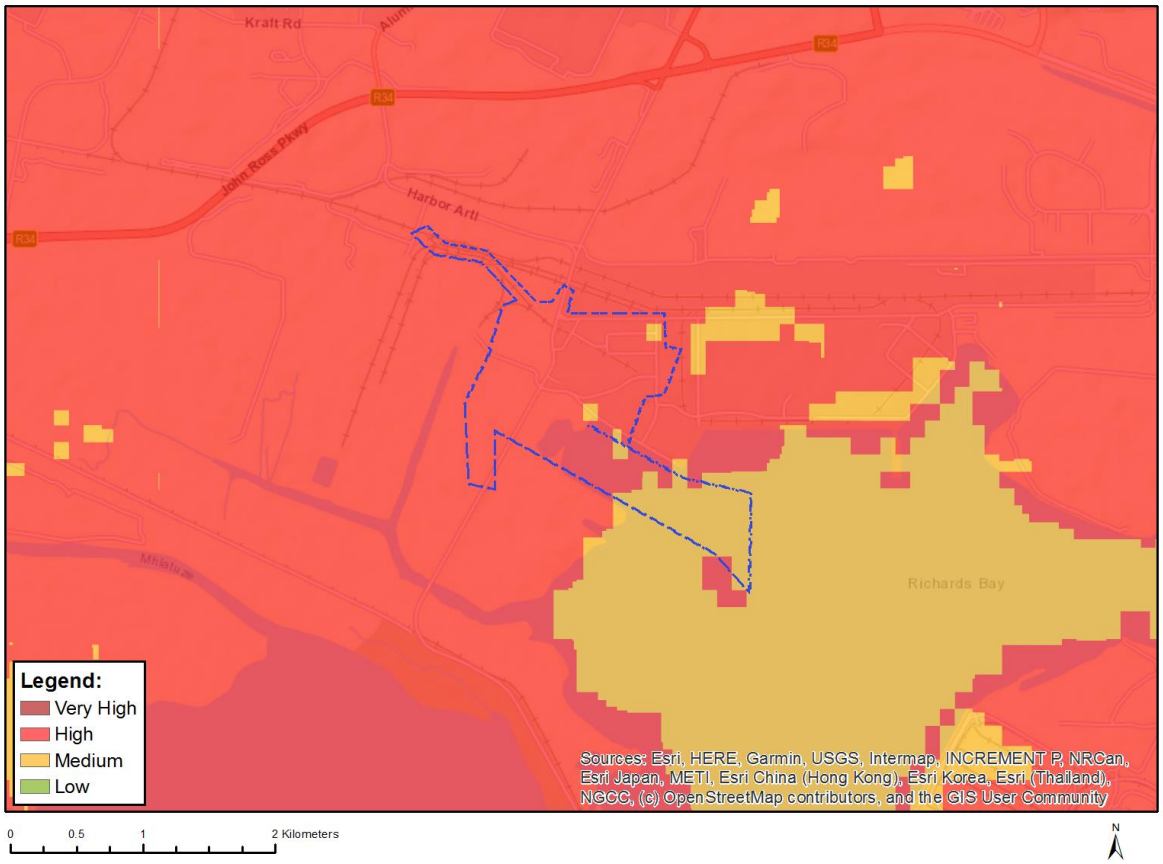


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Very High	Land capability;11. High/12. High-Very high/13. High-Very high/14. Very high/15. Very high

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

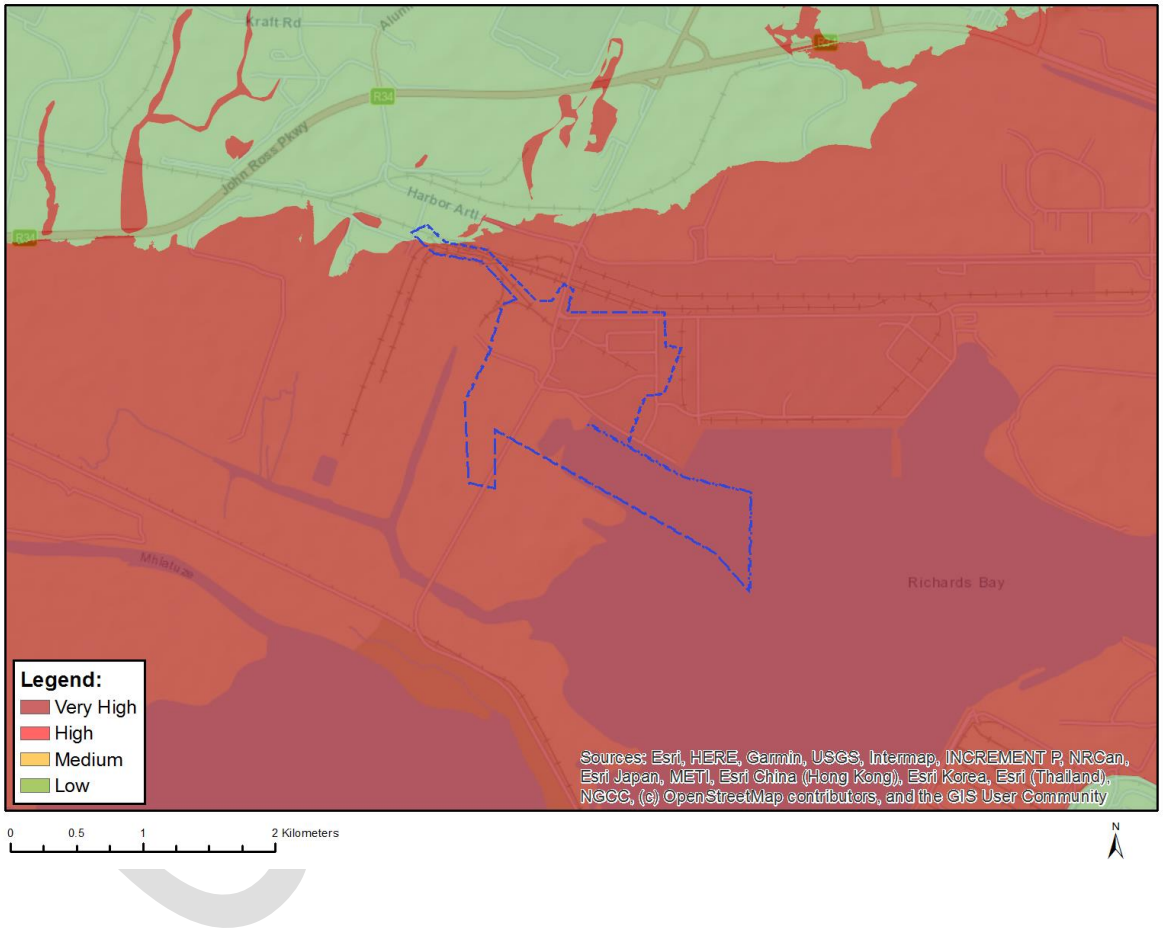
Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Aves-Podica senegalensis
High	Aves-Circus ranivorus
High	Aves-Nettapus auritus
High	Aves-Stephanoaetus coronatus
High	Aves-Hydroprogne caspia
High	Aves-Neotis denhami
High	Aves-Balearica regulorum
High	Aves-Pelecanus onocrotalus
High	Aves-Microparra capensis
High	Aves-Halcyon senegaloides
High	Aves-Pelecanus rufescens
High	Aves-Ephippiorhynchus senegalensis
High	Aves-Circaetus fasciolatus

High	Aves-Geokichla guttata
High	Aves-Aquila rapax
High	Aves-Mycteria ibis
Medium	Amphibia-Hyperolius pickersgilli
Medium	Aves-Terathopius ecaudatus
Medium	Insecta-Deloneura millari millari
Medium	Insecta-Teriomima zuluana
Medium	Sensitive species 8
Medium	Reptilia-Crocodylus niloticus
Medium	Reptilia-Pelusios rhodesianus
Medium	Invertebrate-Arytropteris basalis
Medium	Invertebrate-Pomatonota dregii

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

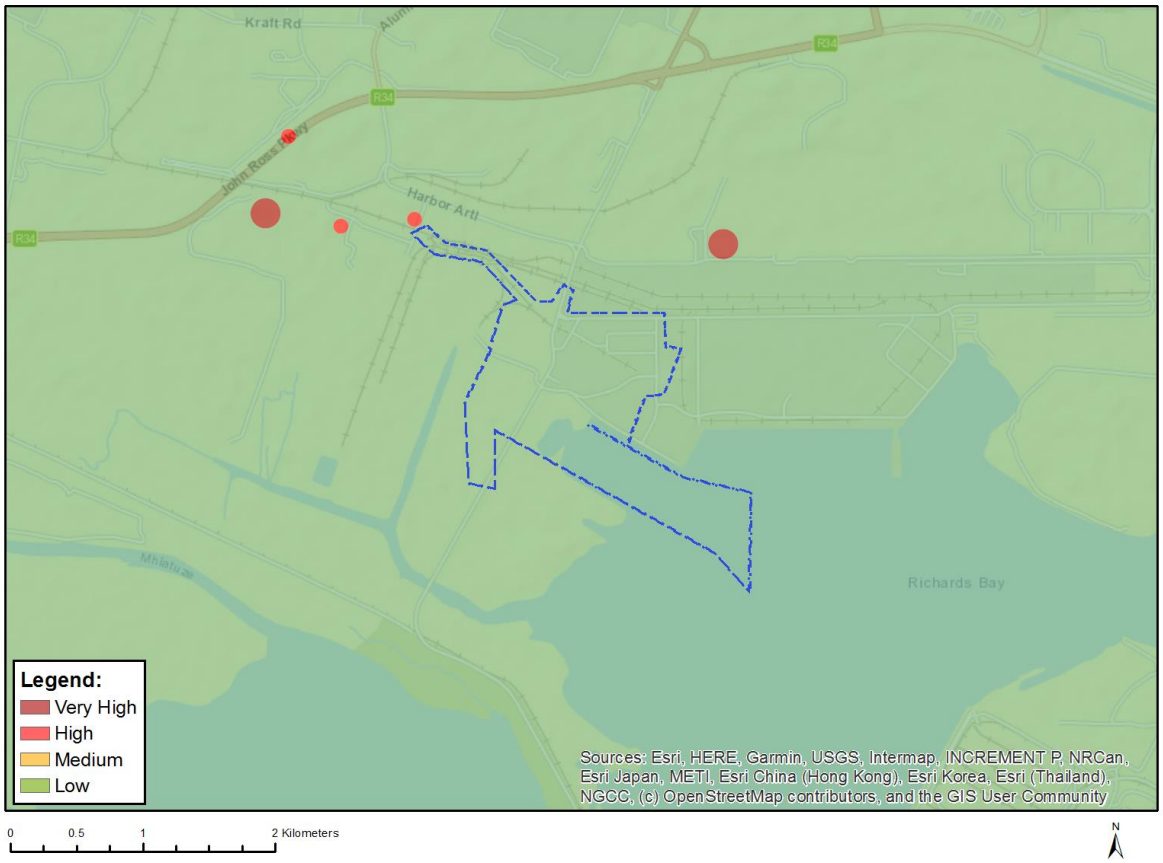


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity
Very High	Estuary_Richards Bay
Very High	Wetlands_(Estuary)
Very High	Wetlands_Indian Ocean Coastal Belt Bioregion (Floodplain)

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

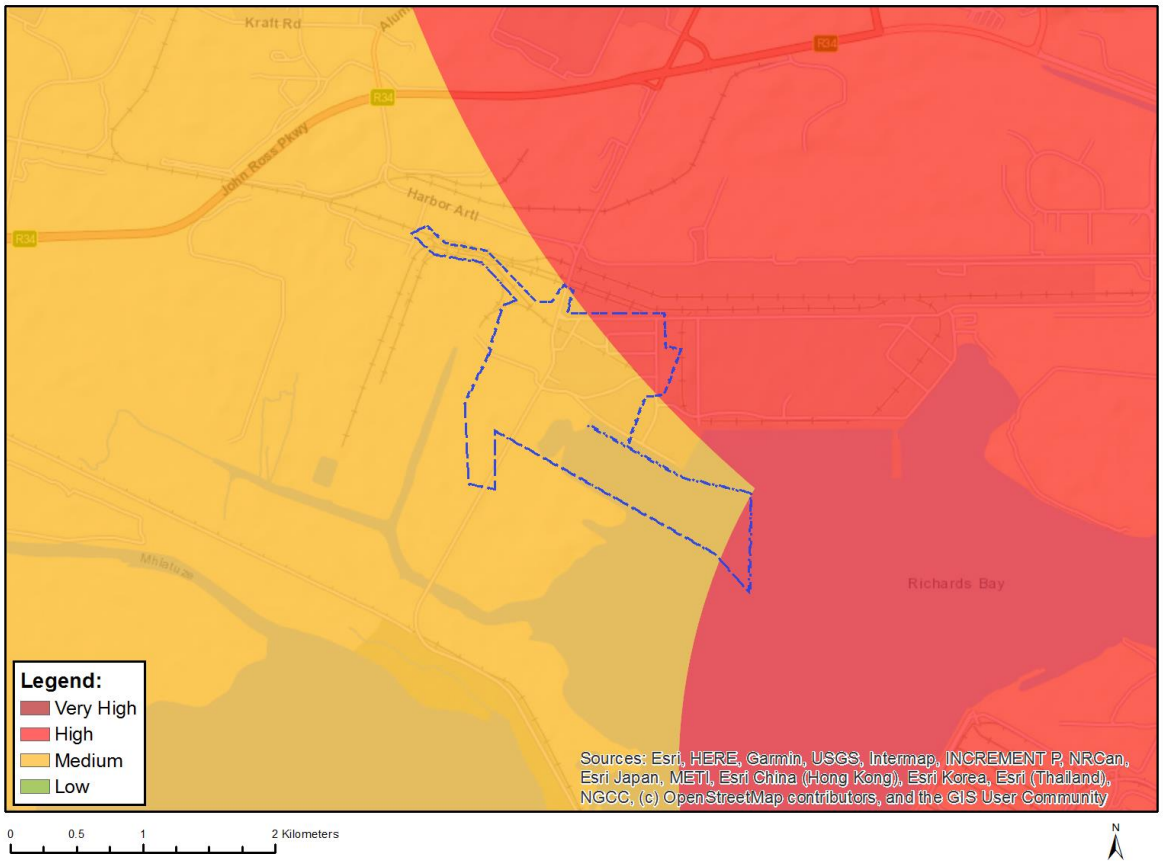


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Within 8 km of other civil aviation aerodrome
High	Dangerous and restricted airspace as demarcated
Medium	Between 8 and 15 km of other civil aviation aerodrome

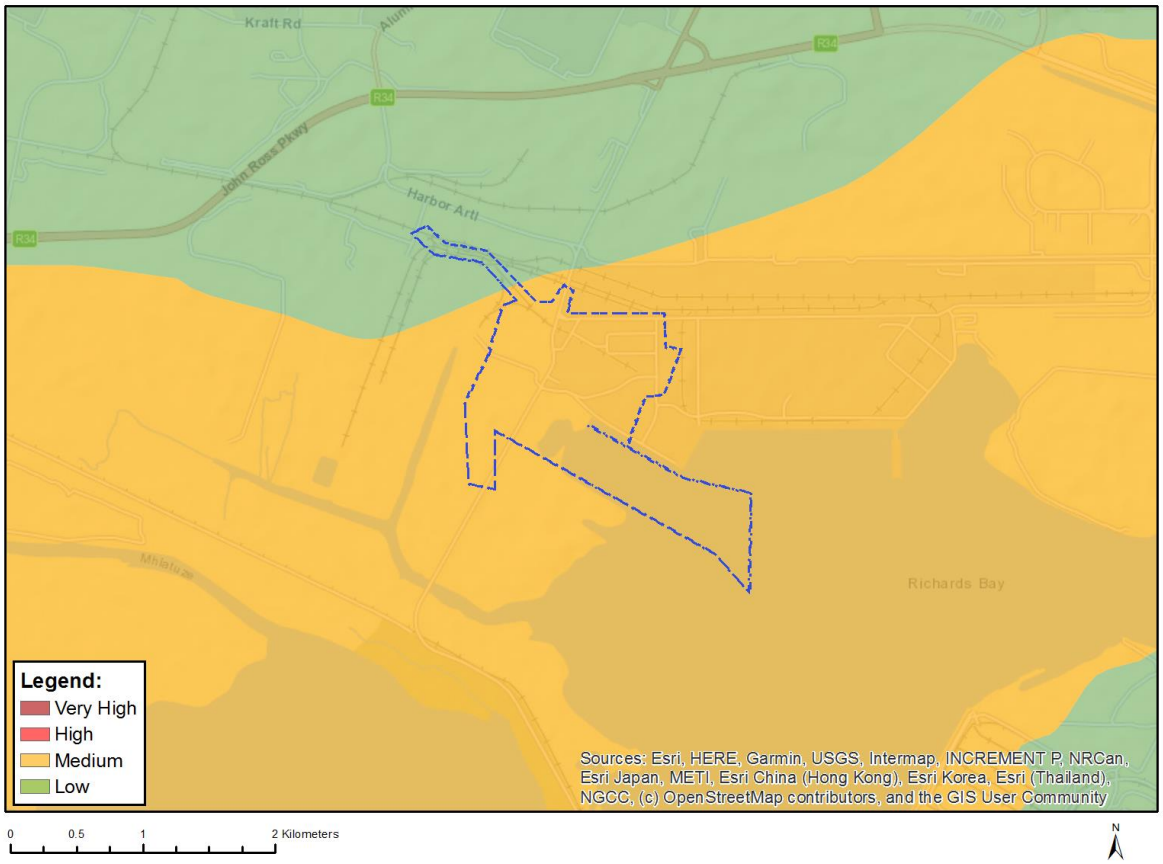
MAP OF RELATIVE DEFENCE THEME SENSITIVITY

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

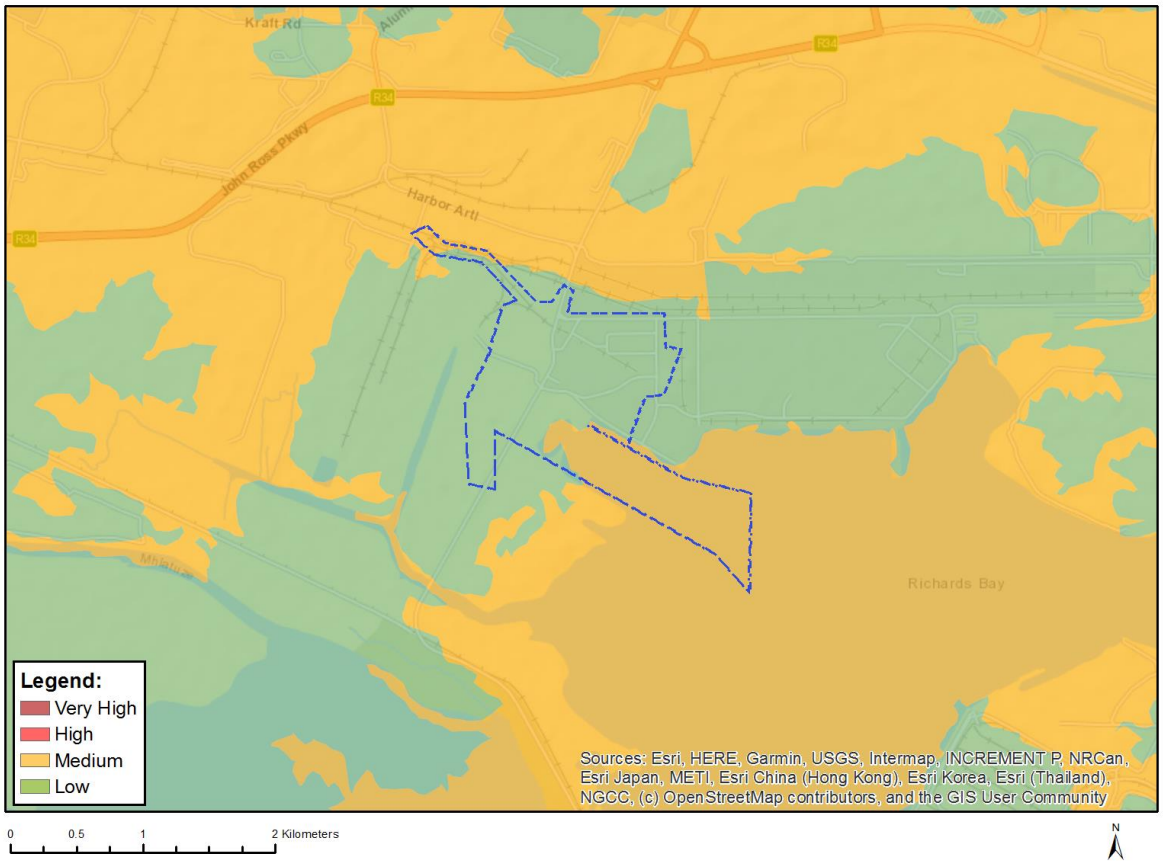


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Features with a Low paleontological sensitivity
Medium	Features with a Medium paleontological sensitivity

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

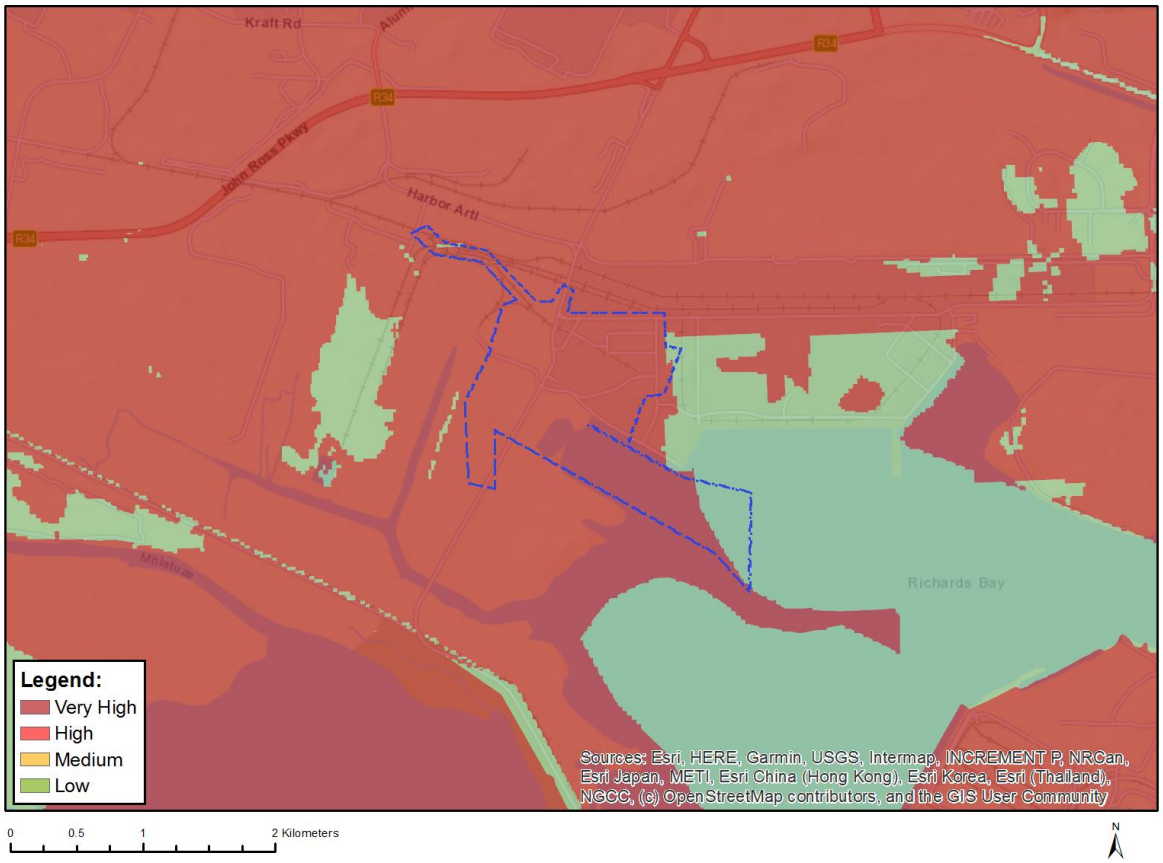
Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Medium	Sensitive species 1252
Medium	Aspalathus gerrardii
Medium	Thesium polygaloides
Medium	Sensitive species 89
Medium	Freesia laxa subsp. azurea
Medium	Fimbristylis aphylla
Medium	Pachycarpus concolor subsp. arenicola
Medium	Nidorella tongensis
Medium	Senecio ngoyanus
Medium	Wolffiella denticulata
Medium	Cassipourea gummiflua var. verticillata
Medium	Oxygonum dregeanum subsp. streyi

Medium	Pavonia dregei
Medium	Sensitive species 649
Medium	Sensitive species 1221
Medium	Sensitive species 191
Medium	Zostera capensis

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	CBA: Irreplaceable
Very High	National Protected Area Expansion Strategy (NPAES)
Very High	EN_Maputaland Coastal Belt

Appendix E

PPP DOCUMENTS

Appendix E.1

PRE APPLICATION MEETING MINUTES

MEETING NOTES

MEETING TITLE	TNPA – Berth 605 Pre-Application Meeting
PROJECT NUMBER	43102871
DATE	19 September 2024
TIME	10:00 – 11:00
VENUE	Online (Microsoft Teams)
SUBJECT	Berth 605 Pre-Application Meeting
CLIENT	Transnet National Ports Authority (TNPA)
PRESENT	Mbongeni Sangweni (TNPA) – MS Nokhuthala Hlongwana (TNPA) - NH Rajan Chetty (TNPA) – RC Brian Goulding (TNPA) – BG Nkhensani Khandlhela (TNPA) – NK Tsepo Ngema (TNPA) – TN Mazwi Mdletshe (TNPA)- MM Constance Musemburi (DFFE) – CM Lerato Mokoena (DFFE) - LM Roy Van Ballegoyen (WSP) - RvB Ruan Gilau (WSP) – RG Wayne Hector (DFFE) – WH Brent Baxter (WSP) - BB Yasmin Kistner (WSP) – YK James Melvill (WSP) – JM Jacqui Fincham (WSP) – JF Patricia Nathaniel (WSP) - PN
APOLOGIES	Wayne Peterson (WSP) - WP
DISTRIBUTION	**Appendix A**

MATTERS ARISING	**ACTION**
1.0 INTRODUCTIONS AND WELCOME	

1st Floor, Pharos House,
70 Buckingham Terrace,
Westville, 3629
South Africa

T: +27 31 240-8830
F: +27 31 240 8801
www.wsp.com

— PN welcomed everyone to the meeting, stated the purpose of the meeting, and shared the meeting agenda. This was followed by a round of introductions, including the role of all attendees in the project. — A presentation was made to all attendees to provide information on the proposed project. **PN recorded the meeting for the purpose of taking minutes.* *** A copy of the PowerPoint presentation is included in **Appendix B** for reference.*	
2.0 PRESENTATION	
2.1 **Project Background** — PN presented the project background. — The Berth 605 project area is located within the Port of Richards Bay (PoRB) and form part planned projects of the Masterplan for the Port. — She presented a locality and layout map associated with the project. — PN highlighted that the project layout is in its concept design stage and could be subject to minor changes therefore the information presented in the pre-application meeting could differ from the application form and Draft Scoping Report. 2.2 **Project Details** — PN presented the following key details of the project: a. New Berth Pocket and Quay Wall b. Dredging and Dredge Disposal c. Container Handling Facility d. Utilities including electrical supply, stormwater, water and sewerage e. Roads and access f. New rail siding 2.3 **Listed Activities** — PN presented the potential listed activities under the National Environmental Management Act (Act 107 of 1998) (NEMA) Environmental Impact Assessment Regulations, 2014 as amended (EIA Regulations) that are likely to be applicable to the project. — The project triggers a combination of Listing Notice 1, 2 and 3 activities therefore an application for Environmental Authorisation (EA) subject to a Scoping and Environmental Impact Reporting (S&EIR) process is applicable. 2.4 **DFFE screening results and specialist studies** — PN explained the DFFE Screening Tool Sensitivities and the associated protocols for each theme. — PN explained that the site varies in sensitivity. — To note, the site is Very High in sensitivity for the aquatic and terrestrial biodiversity themes due to the site being located entirely within a Critical Biodiversity Area (CBA) and an Estuarine Functional Zone (EFZ). — The following specialist studies will be undertaken as part of the Environmental Impact Assessment Phase of the project: a. Heritage Impact Assessment (underwater and terrestrial) b. Terrestrial Biodiversity (including plant and animal species) c. Aquatic Biodiversity Assessment d. Estuarine Baseline and Marine Ecology Assessment e. Visual Impact Assessment f. Socio-economic Assessment g. Climate Change Impact Assessment h. Avifaunal Assessment i. Noise and underwater noise Assessment (due to the existing noise of the PoRB, these studies may not be required). 2.5 **Key Considerations** — PN presented historical imagery of the site which indicated large scale transformation and disturbance of the site and surrounding areas. — The uMhlatuze Local Municipality Spatial Development Framework indicates that the PoRB is located within an urban area therefore listed activities with the urban area exclusion will not be applied for. 2.6 **Scope of the S&EIR Process**	

- PN presented a summary of the process flow and plan of study for the EIA which will be in accordance with the EIA Regulations.

2.7 **Way forward**

- PN stated that a S&EIR process is applicable and will be conducted for the project.
- She requested confirmation from the DFFE that the presented specialist studies will be adequate and additional studies will not be requested by the DFFE.
- PN further requested confirmation of the urban area exclusions.

3.0 DISCUSSION

3.1 **Questions and Comments**

- MS commented stating that there are two (2) projects included in this project i.e. this application is for the quay wall and associated infrastructure and the container handling facility. ~~A~~lthough the site forms part of this S&EIR process, it is a standalone project with an independent operator.
- WH enquired about the reason for the separation of the quay wall and container handling facility. He further added that the DFFE Oceans and Biodiversity Directorates must be consulted.
- He also requested that the listed activities that will not be applied for must be explained and a motivation for exclusion must be provided.
- He added that alternatives must also be presented in the documents presented to the DFFE.
- He confirmed that the specialist studies will not be confirmed in the pre-application meeting but will be confirmed once the DFFE receives further information on the project.
- He enquired about the berth and if it will make provision for larger vessels for the future.

MS responded to the enquiry of the separation of the quay wall and container handling facility stating that TNPA will provide for bulk services for the container handling facility however the Operator will be responsible for all other required permits associated with the operation of the container handling facility.

RG responded to the enquiry about the vessel size. The quay wall will be designed to accommodate the larger vessels. The dredging will be to the existing level.

PN responded to the other comments by WH stating that alternatives will be included in the Draft Scoping Report and a motivation will be provided for activities not applied for.

CM commented stating that the Public Participation Process (PPP) may highlight additional specialist studies. She also added that the DFFE Oceans and Biodiversity Directorates must be consulted as early as possible in the process.

PN responded stating that these departments will be consulted.

NH enquired about the exclusions associated with listed activities pertaining to increasing the footprint of the port and if this project constitutes expansion.

WH explained that when a channel is widened or deepened, this constitutes an increase in the footprint of the port. WH further added that the S&EIR process must consider cumulative impacts.

NK enquired about the listed activities relating to development within 32m from a watercourse. She enquired about the applicability if these wetlands are within an estuarine. She also enquired about the applicability of the noise and underwater noise assessment. She also enquired about the timing of DFFEs response relating to the confirmation of specialist studies.

WH responded to the applicability of noise assessments stating that it is determined based on the proximity of surrounding communities. He further added that the EAP must provide guidance on listed activities. He then added the Oceans Directorate, and the Department of Water and Sanitation can provide further guidance on water resource related enquiries.

PN agreed with WH stating that the EAP will provide guidance on the listed activities. WH added that even if listed activities are added after the scoping phase, the application form can be amended and submitted to the DFFE.

JF welcomed the flexibility of the DFFE regarding the listed activities. She further enquired about the newspaper adverts and if these must be published again if there are changes to the project. CM responded and stated that the changes can be communicated with the registered stakeholders in the form of a notification and that placing newspaper adverts again will not be necessary. PN expressed gratitude to the DFFE team for their availability.	
4.0 WAY FORWARD	
— WSP to draft minutes and forward to DFFE to endorsement.	WSP

WSP	DFFE
Patricia Nathaniel	Wayne Hector
EAP	DFFE Representative
Signature Nathaniel, Patricia (ZAPN05354) Digitally signed by Nathaniel, Patricia (ZAPN05354) DN: cn=Nathaniel, Patricia (ZAPN05354), ou=Active, email=Patricia.Nathaniel@wsp.com Date: 2024.11.14 12:36:06 +02'00'	Signature

APPENDIX A: MEETING ATTENDANCE

TNPA - Berth 605 Pre-Application Meeting

TNPA - Berth 605 Pre-Applicati... Join 8

Thursday, 19 September 2024 09:53 - 10:57 Download

16	09:53 - 10:57	1h 4m 50s	57m 54s
Attended	Start and end time	Meeting duration	Average attendance time

Participants

Name	First join	Last leave	In-meeting duration	Role
Nathaniel, Patricia Patricia.Nathaniel@wsp.com	09:53	10:57	1h 4m 42s	Organizer
Fincham, Jacqui Jacqui.Fincham@wsp.com	09:53	10:57	1h 16s	Presenter
CM Constance Musemburi CMusemburi@dffe.gov.za	09:54	10:57	1h 3m 41s	Presenter
RC Rajan Chetty [Transnet NPA HQ] Rajan.Chetty@transnet.net	09:54	10:57	1h 3m 25s	Presenter
van Ballegooyen, Roy Roy.VanBallegooyen@wsp.com	09:55	10:57	1h 2m 48s	Presenter
BG Brian Goulding Brian.Goulding@transnet.net	09:57	10:57	1h 8s	Presenter
MS Mbongeni Sangweni [Transnet ... Mbongeni.Sangweni@transnet.net	09:58	10:57	58m 59s	Presenter
Gilau, Ruan Ruan.Gilau@wsp.com	09:59	10:57	58m 12s	Presenter

MEETING NOTES

WH	Wayne Hector WHECTOR@dffe.gov.za	09:59	10:57	57m 57s	Presenter
NK	Nkhensani Khandlhela Nkhensani.Khandlhela@transnet.net	09:59	10:57	57m 59s	Presenter
	Melvill, James James.Melvill@wsp.com	10:00	10:57	57m 10s	Presenter
TN	Tsepo Ngema [Transnet NPA D... Tsepo.Ngema@transnet.net	10:01	10:57	56m 38s	Presenter
	Baxter, Brent brent.baxter@wsp.com	10:02	10:57	54m 55s	Presenter
	Kistner, Yasmin Yasmin.Skibbe@wsp.com	10:03	10:57	54m 30s	Presenter
LM	Lerato Mokoena LMOKOENA@dffe.gov.za	10:03	10:57	54m 17s	Presenter
MM	Mazwi Mdletshe [Transnet NPA... Mazwi.Mdletshe@transnet.net	10:17	10:57	40m 51s	Presenter

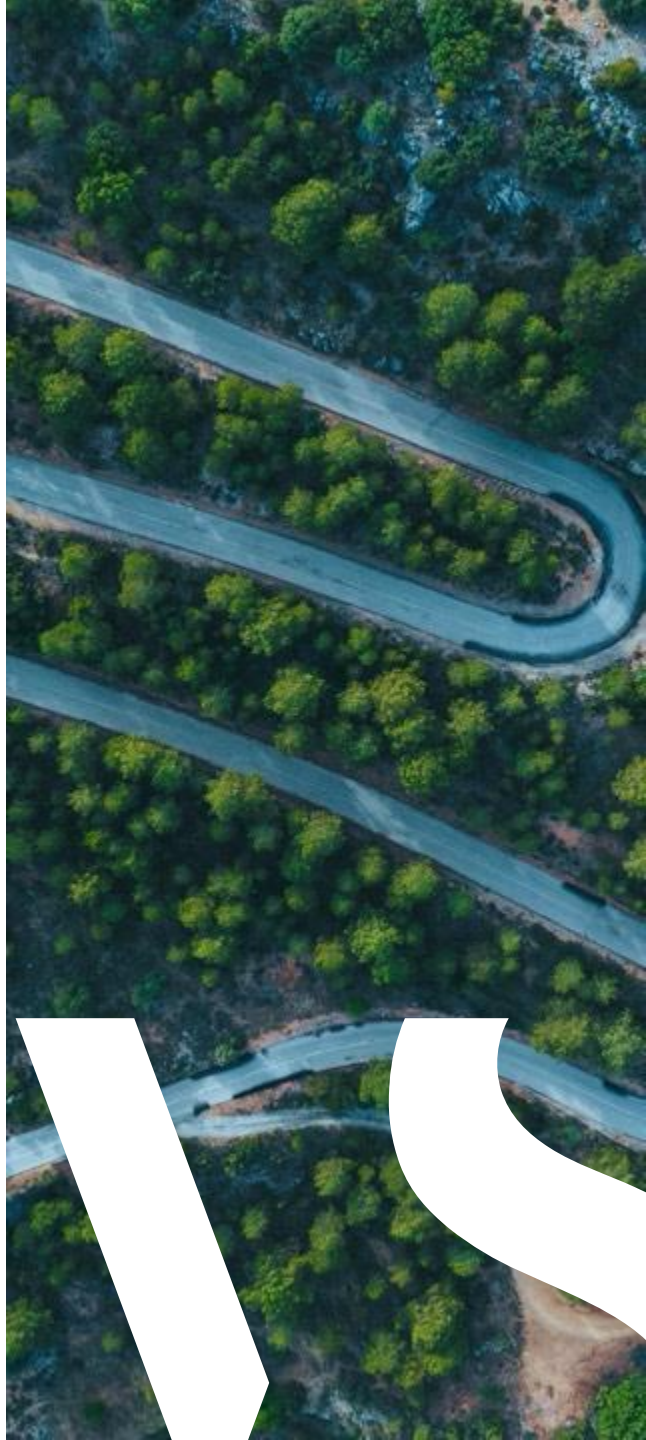
APPENDIX B: PRESENTATION

Proposed Berth 605 and associated infrastructure at the Port of Richards Bay

Transnet National Ports Authority

Pre Application Meeting– 19 September 2024

XRB.E.0030-T001-PRS-0003



Agenda

1. Introductions –TNPA, WSP and DFFE Environmental Teams
2. Background, Location and Layout
3. Project Components and associated infrastructure
4. Listed Activities under the NEMA EIA Regulations, 2014 as amended
5. DFFE Screening Tool and Specialist Requirements
6. Site Sensitivity
7. Proposed Plan of Study for the EIA
8. Way Forward
9. Q & A Session

Introductions

TNPA:

- Nokhuthala Hlongwana
- Nkhensani Khandlhela
- Mbongeni Sangweni
- Mazwi Mdletshe

WSP (EAP Team):

- Brent Baxter (Project Director)
- Patricia Nathaniel (Project Manager and EAP)

WSP (Engineering and Project Management Team):

- James Melville
- Wayne Petersen
- Ruan Gilau
- Yasmin Kistner

Department of Forestry, Fisheries and the Environment (DFFE)

- Wayne Hector
- Lerato Mokoena
- Constance Musemburi

Berth 605 Container Handling Facility

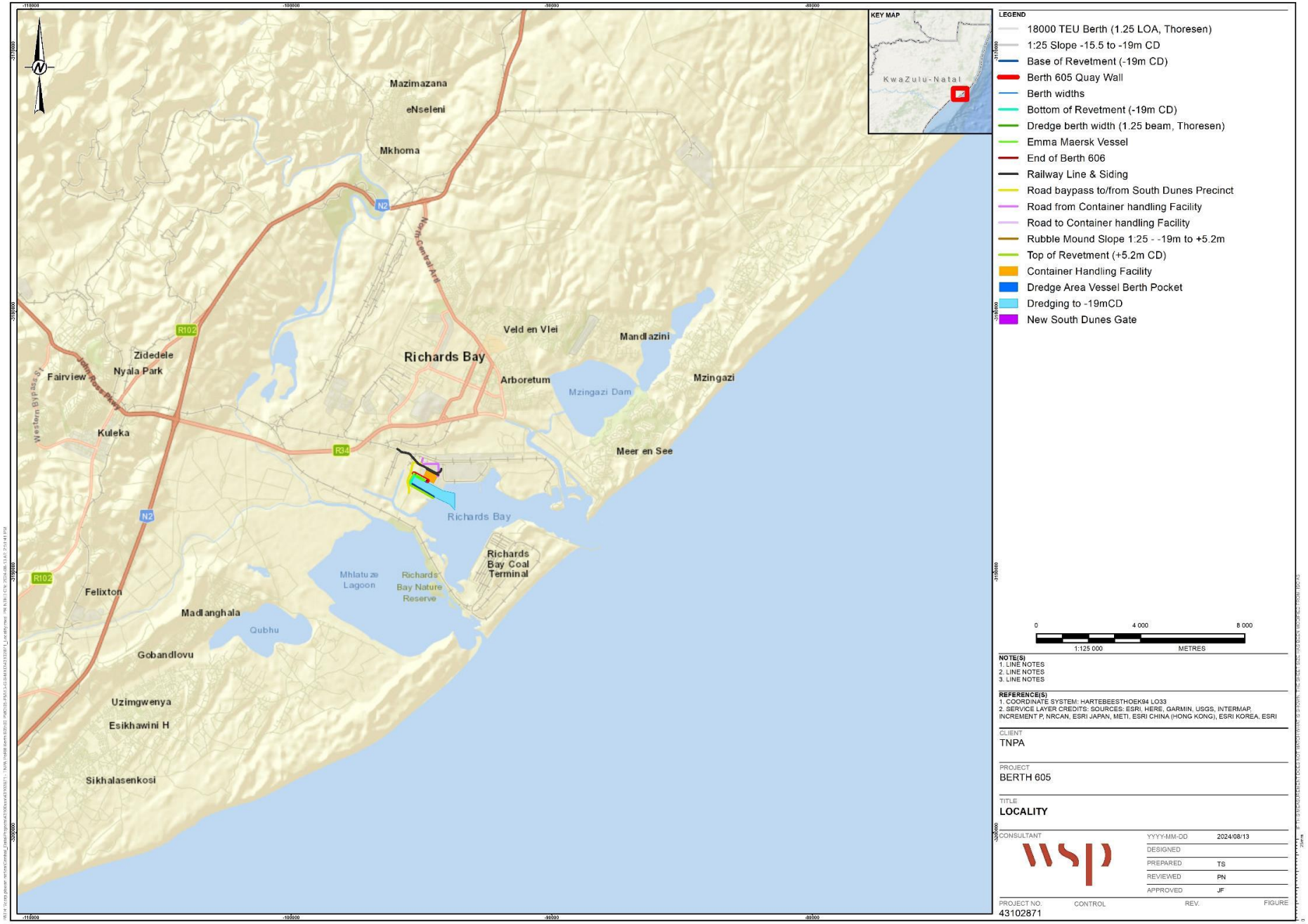
Project Background

- Berth 605 project falls within the PoRB Masterplan within the Bayvue Precinct.
- Other precincts that form part of the PoRB Masterplan are South Dunes and Newark Precincts.
- WSP has been commissioned to undertake the engineering and environmental tasks associated with the Berth 605 Container Handling Facility and associated infrastructure.

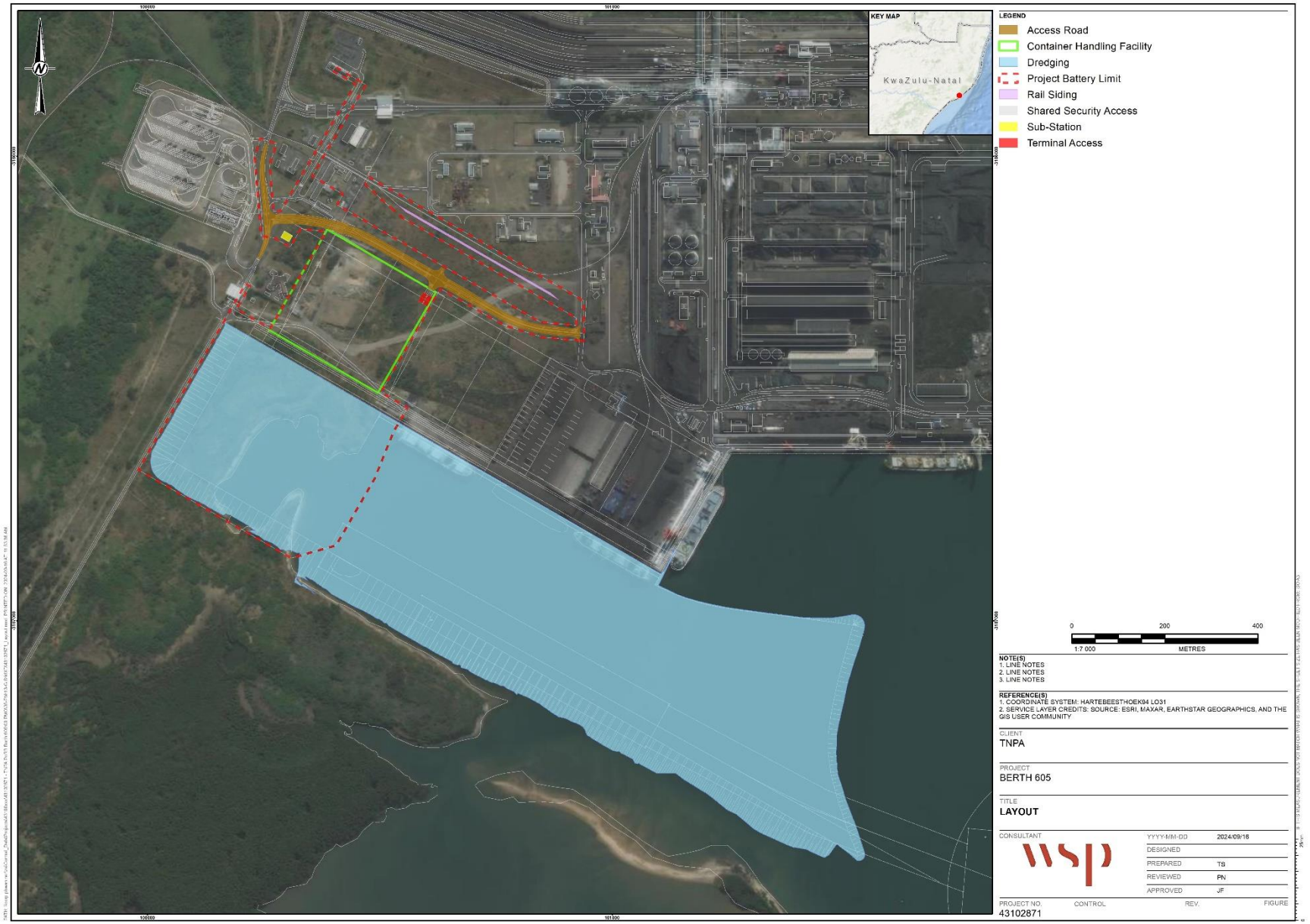
Location:

The PoRB is situated on the north-eastern coast of KwaZulu Natal (KZN) and falls within the uMhlathuze Local Municipality (ULM) and King Cetshwayo District Municipality (KCDM).

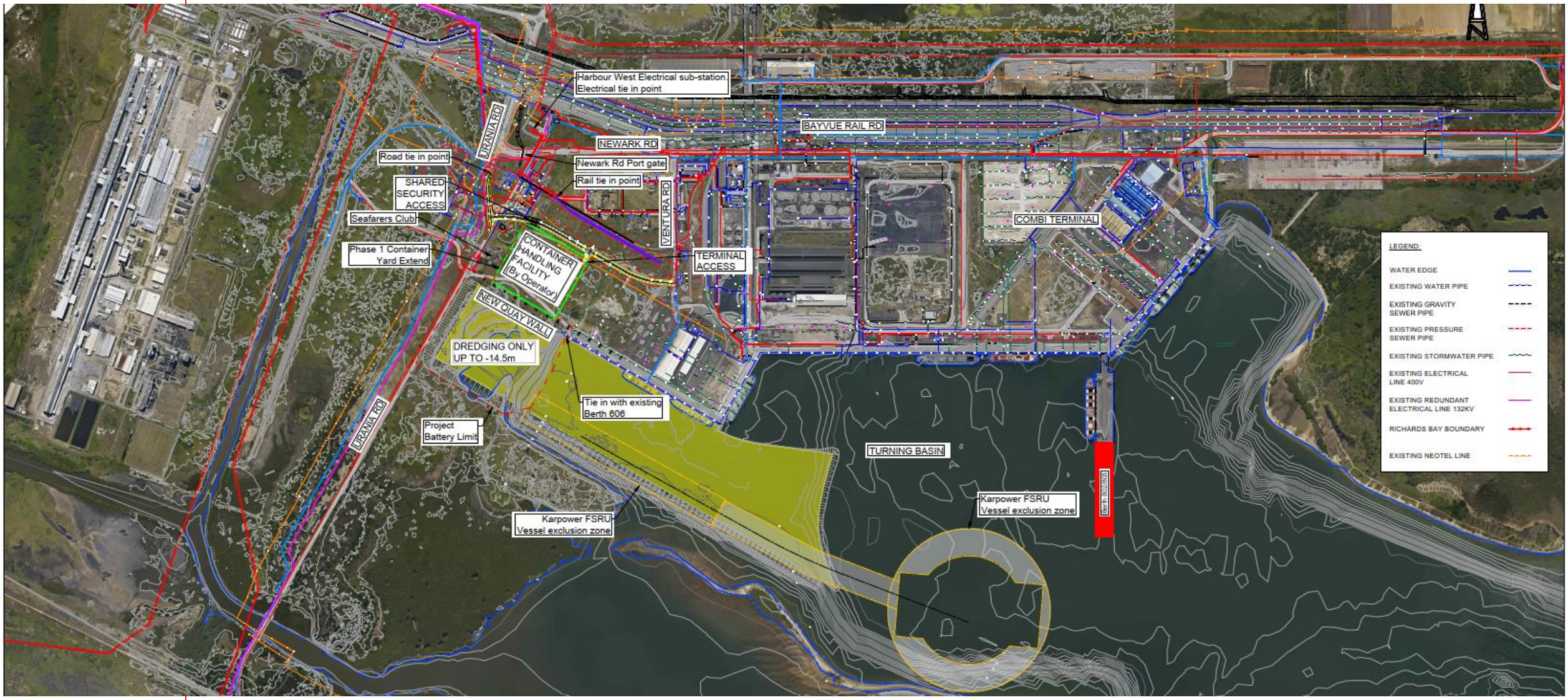
The GPS location of Berth 605 are: 28°47'25.71"S; 32° 1'37.70"E



Simplified Layout Plan



Preliminary Layout

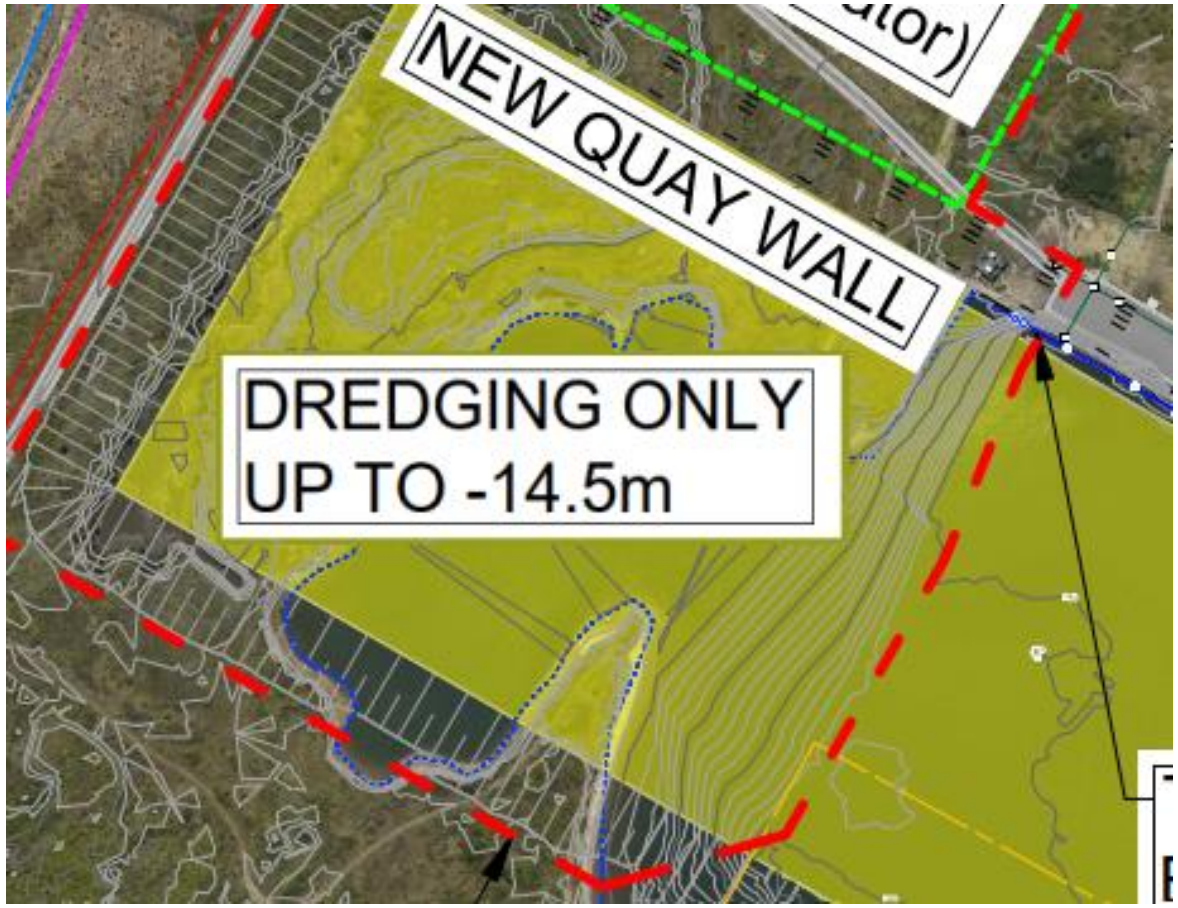


Summary of Project Components

New Berth Pocket and Quay Wall –

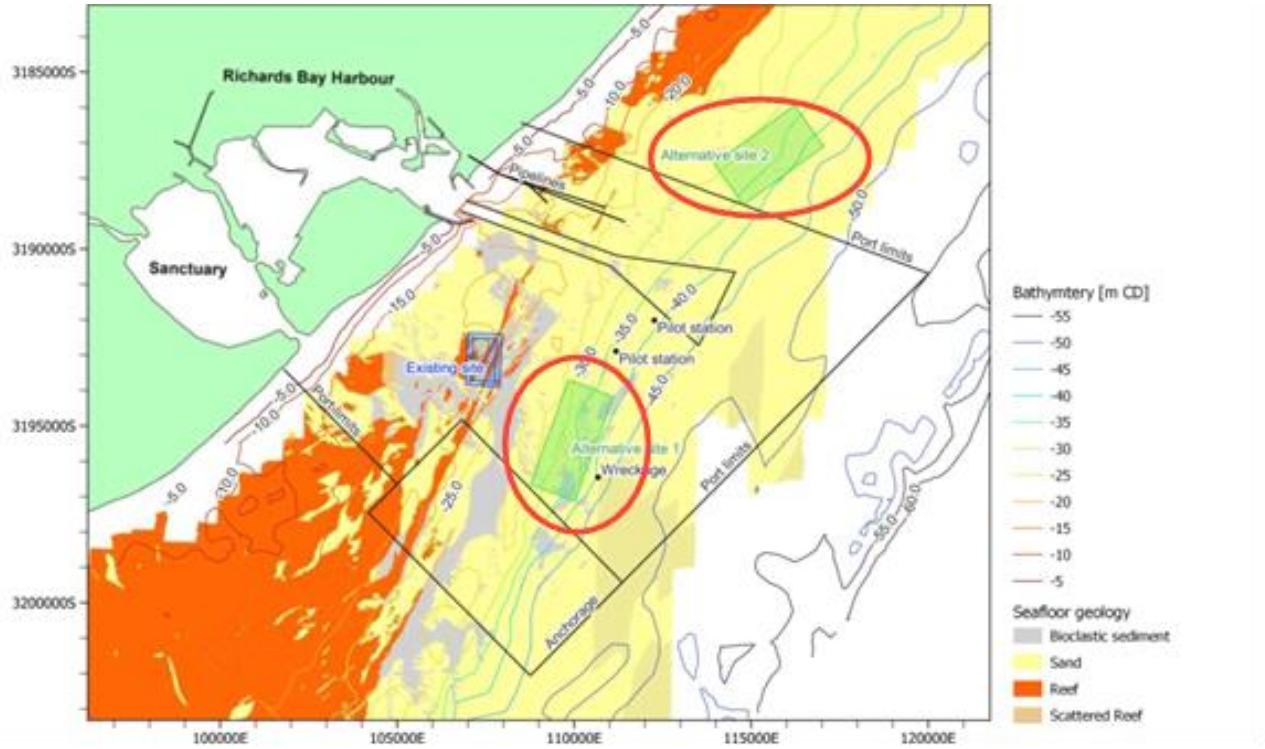
A new berth pocket will be constructed. It will be approximately 360m in length, 33m wide.

The new quay wall will interface with the western end of the existing Berth 606 quay wall. The cope level is to match the existing cope level of 5.2m CD. The quay wall will be founded to facilitate a future design dredge level of -19m CD.



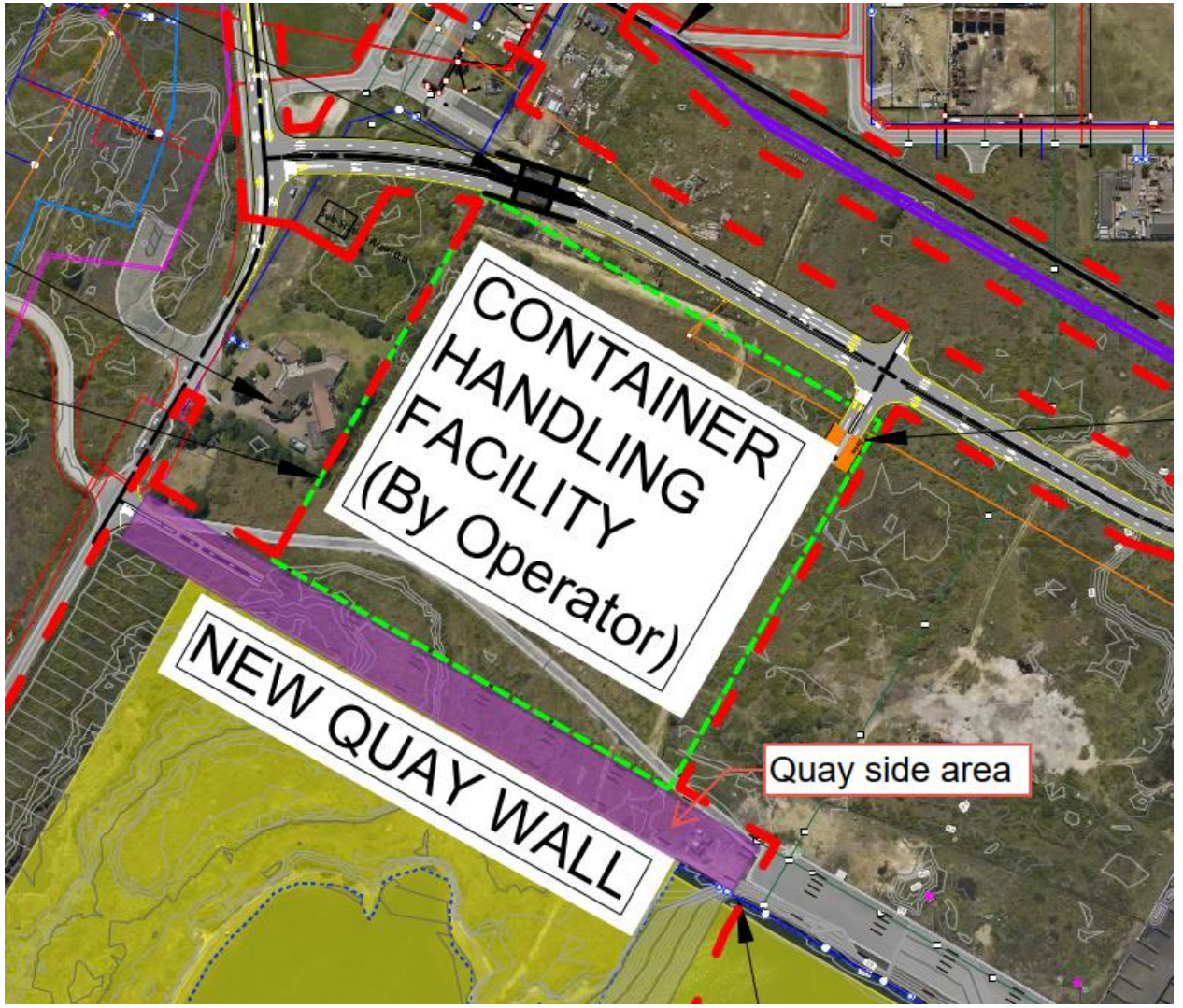
Dredging and dredge disposal

- Limit of dredging to enable a water depth of –14.5m CD at Berth 605 and in the extension to the existing series 600 basin opposite Berth 605. This is aligned to the current dredging depth of the existing series 600 basin. This is the full extent of the dredging.
- An estimated 2.5 million cubic metres of dredged material to be disposed of at an offshore disposal site. There is no sufficient capacity at existing offshore dredge disposal sites to meet the offshore dredge disposal requirements associated with implementing the projects which form part of the PoRB masterplan. Thus, additional offshore disposal site/s will need to be permitted to give effect to the Master Plan's implementation and become available before the Berth 605 project implementation commences.



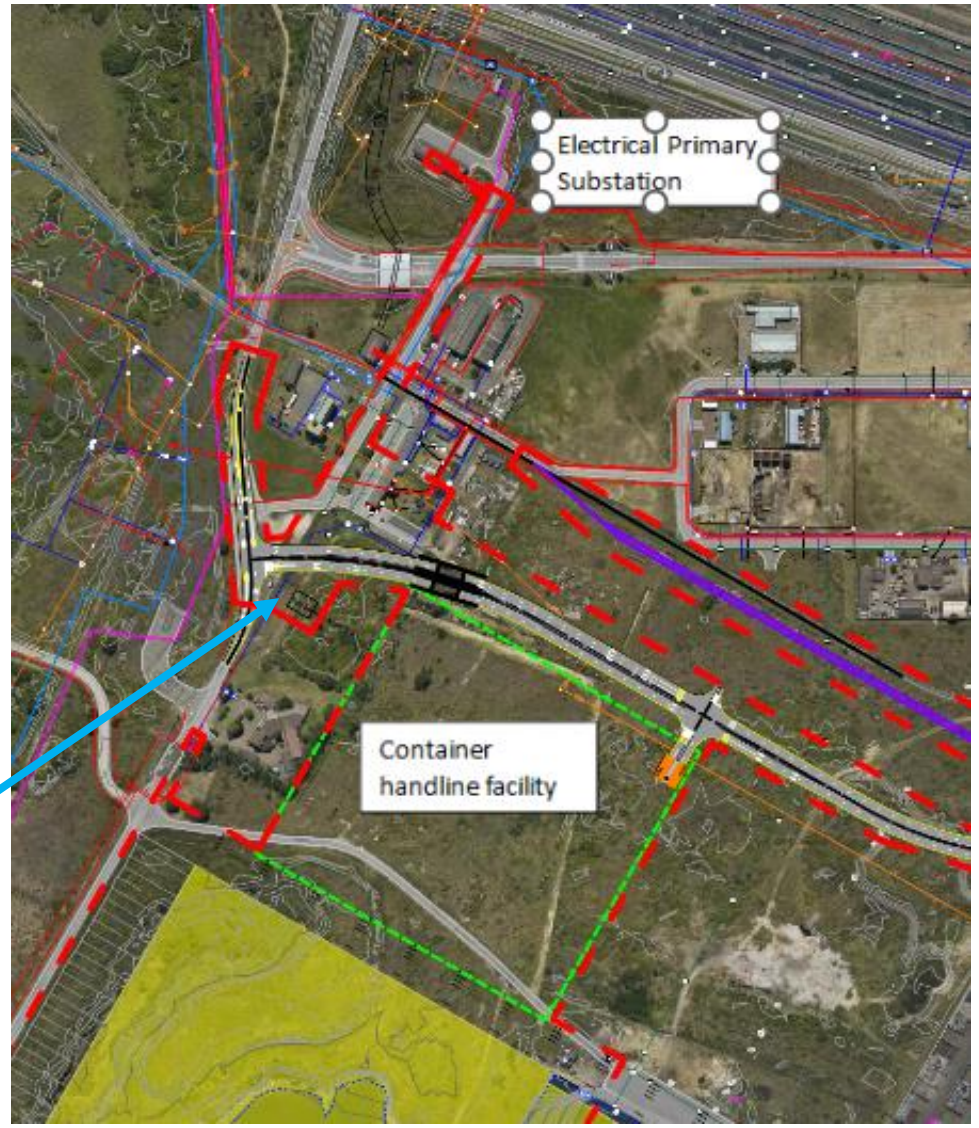
Container handling facility -

The container handling facility will be built and operated by the container handling facility operator, 270 m along the berth by 250 m landward. The total area considered is 6.75 Ha for the container handling facility but excludes the apron area.



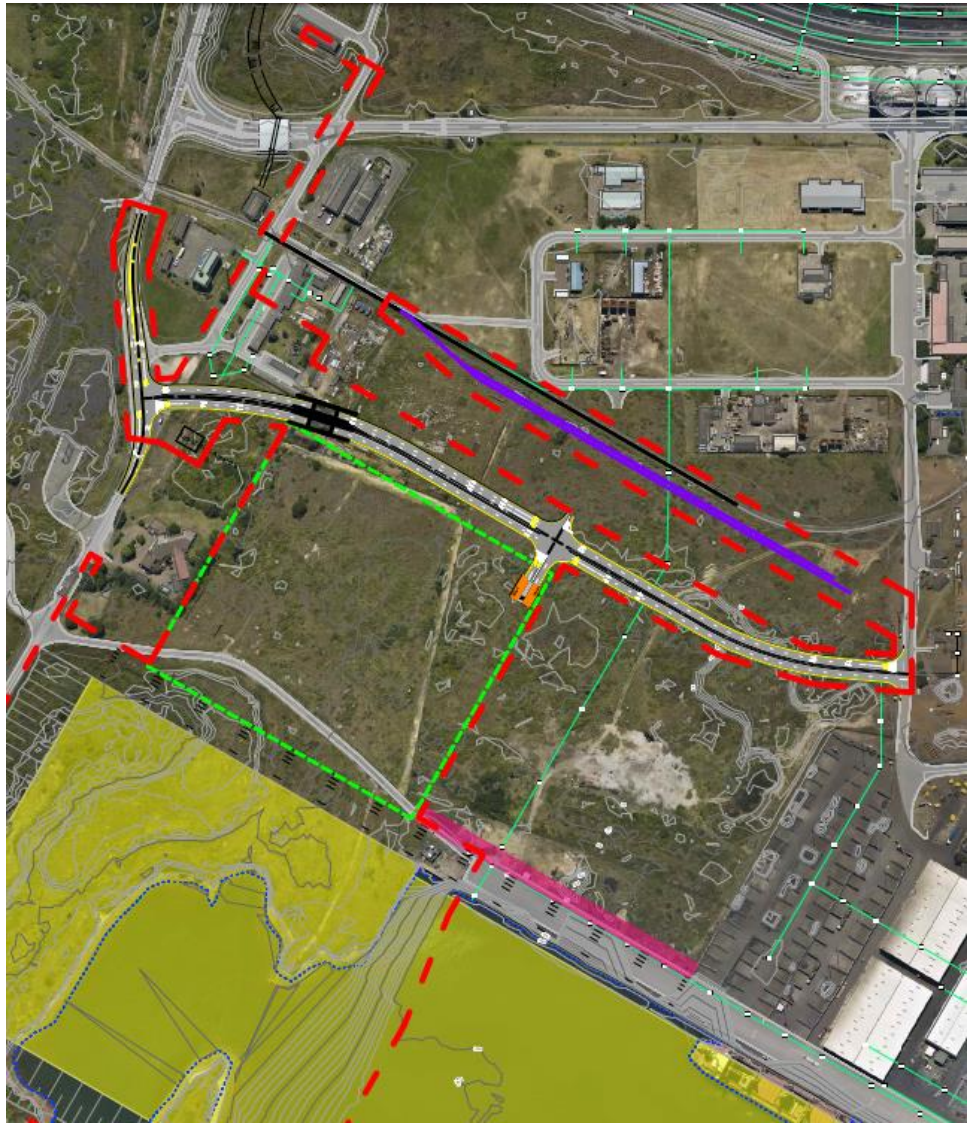
Electrical supply

The project will make use of the existing Harbour West Substation to serve as the source of electrical supply. Currently, the Harbour West Substation has a 132kV incomer which steps down to 11kV for internal distribution. The berth will utilise the spare 11kV switches to serve the site. A new 11kV MV network will be installed to serve the berth with local substations to serve the site.



Stormwater

- Existing network in green on the diagram
- Stormwater pipes will be installed to collect stormwater runoff from the container handling facility to the new quay wall.
- The pipeline will be about 360m along the quay line and 400m on the other side with a 900mm pipe diameter.it will have a velocity of 0.6 m/s for self-cleaning, to prevent sand settling inside the pipe and blocking.
- There will also be cross drainage at the new rail siding which will be 400m in length and 600mm diameter.
- The network discharges into the bay through the existing quay wall.
- Image indicates existing stormwater design

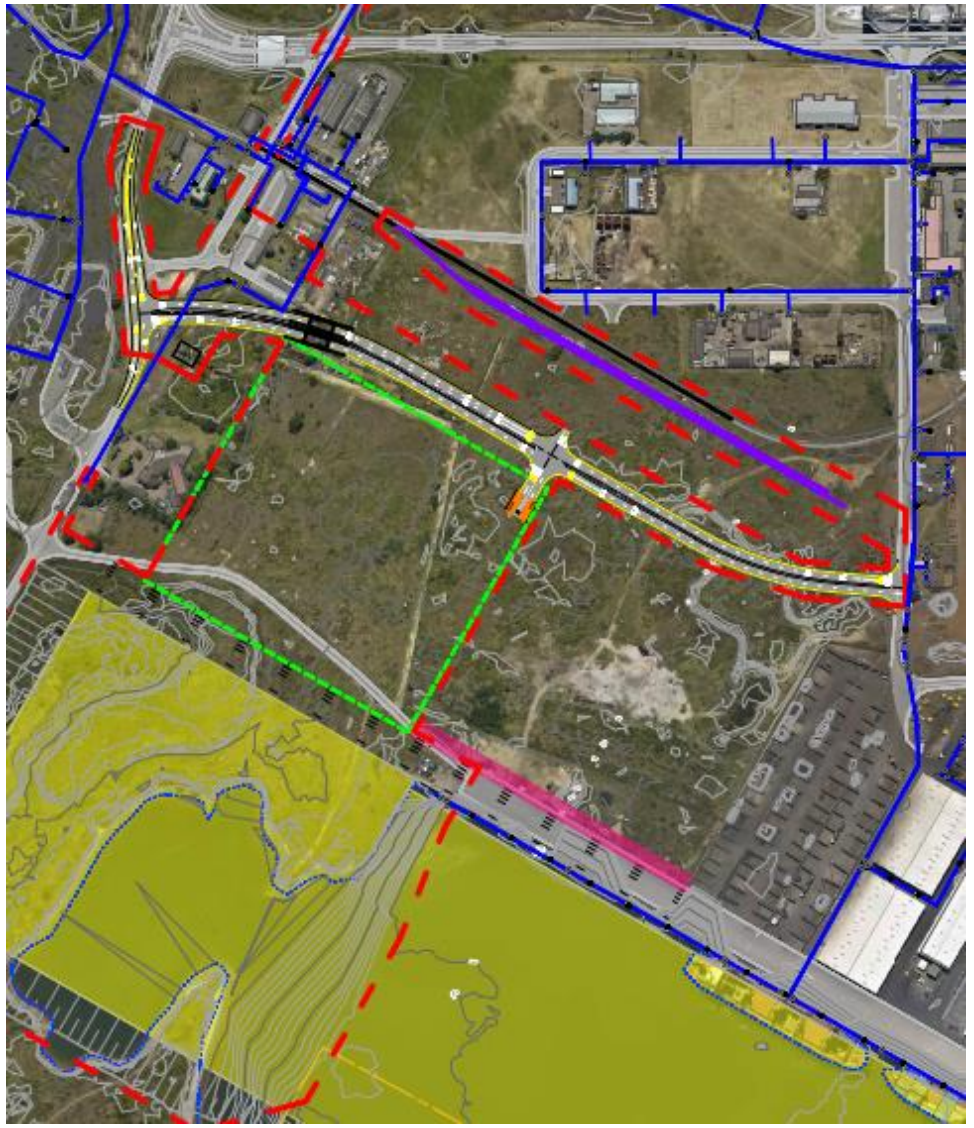


Sewerage

- Existing network in orange.
- The proposed sewer will be designed to tie into the closest existing pipe network or an existing pump station closest to the proposed container handling facility.
- Sewerage inside the green block to accommodate for approximately 160 people.
- The new sewerage pipeline will have a connection point at the NW boundary of the container handling facility. It will be 100m in length and 160mm pipe diameter.

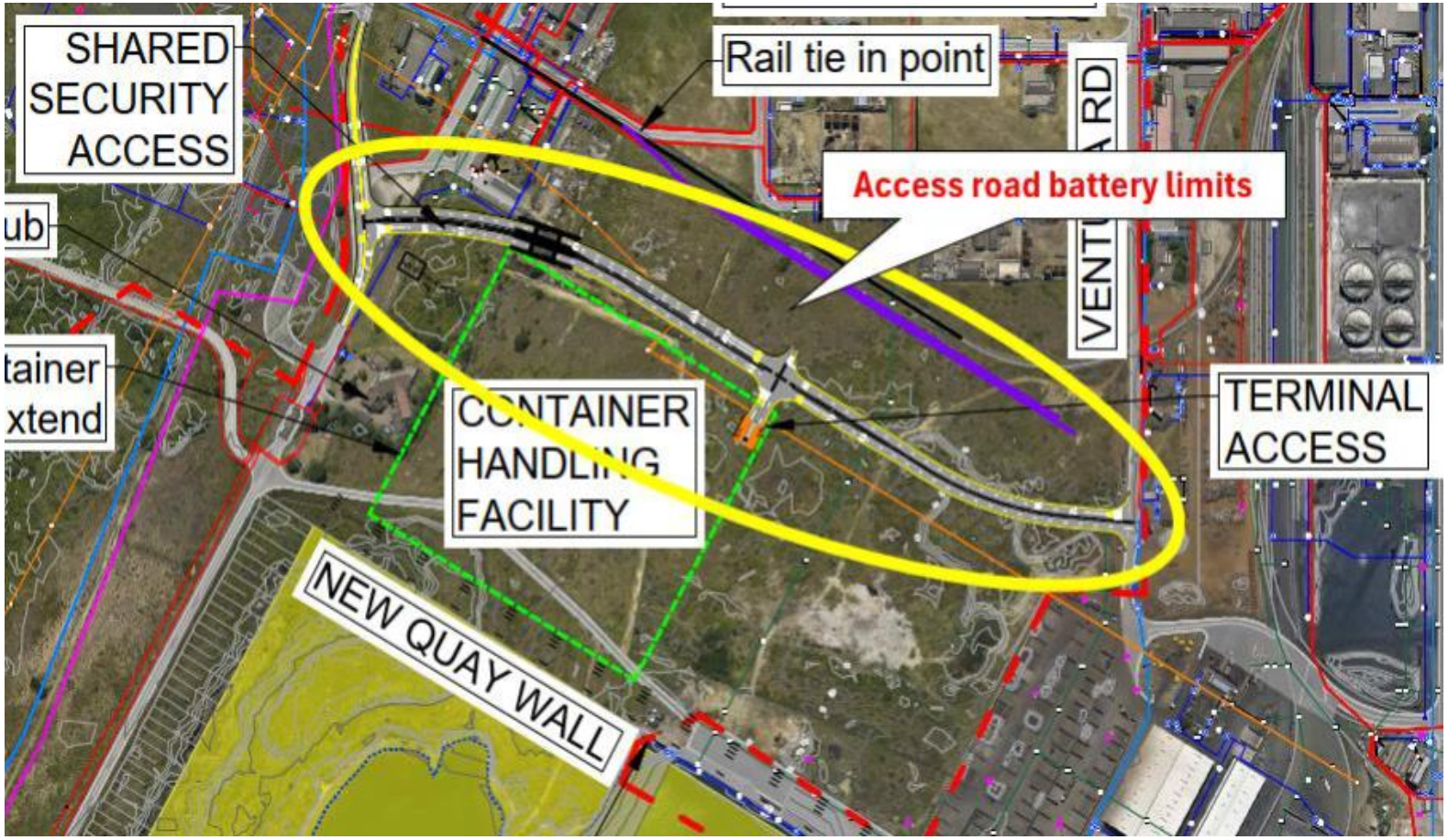
Water Supply

- Existing network in blue.
- Connections to new buildings will be off-takes from either the existing network directly, or via extensions to the existing network brought to the boundary of the proposed container handling facility.
- A tie in point will be provided. Max length of 500m of pipework. Inside the quay wall, water will be provided to landing valves for ships and firefighting.
- Water provided to a point for which the operator will tie in.
- 160mm diameter pipeline



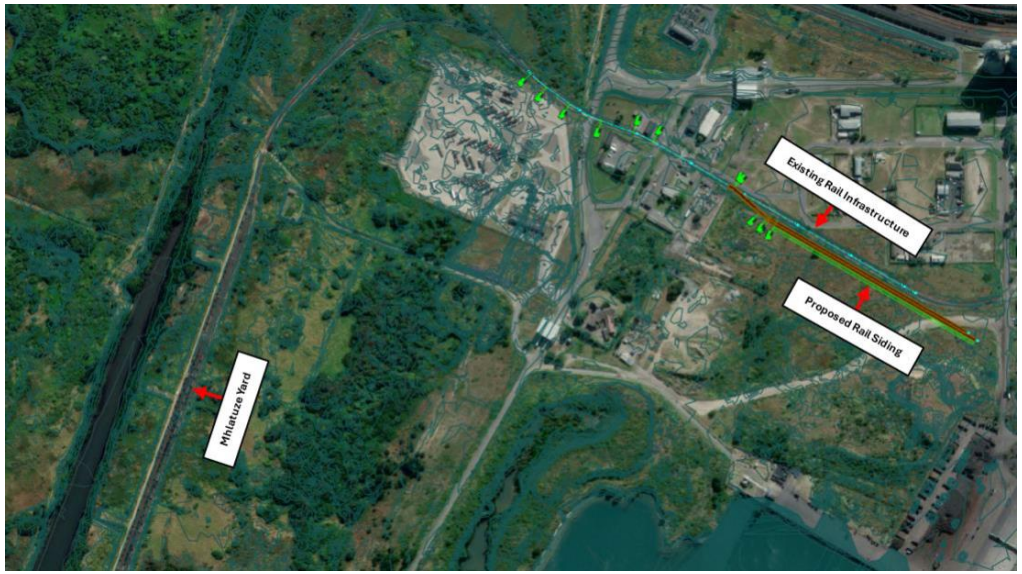
Roads

- new road – 735m length, width 30m.
- 2 lanes each direction.
- 3 intersections: at Urania, at Newark and one to the container handling facility.



Rail

- New rail siding to be estimated 280 m long and will tie into the existing railway. Width of the rail reserve – approximately 15m at maximum and 30m including the hard standing for loading.
- The existing shunting yard will be used.



NEMA EIA Regulations, 2014 as amended: Listed Activities

Listed Notice 1:

Activity 12 – Development within 32m of a watercourse. Wetland studies conducted for the Karpower project indicated wetlands within the Berth 605 project area.

Activity 17 - development in respect of fixed/floating jetties and slipways, embankments, rock revetments or stabilising structures, infrastructure or structures with a development footprint of 50 square metres or more that is within 100m from the high-water mark of the sea or estuary.

Activity 19a – Dredging within 100m from the high-water mark of the sea or estuary.

Activity 24 - development of road/s with a reserve wider than 13.5m or where no reserve exists where the road is wider than 8m.

Activity 27 - clearance of 1 - 20 hectares of indigenous vegetation.

Activity 30 - NEMBA activities.

NEMA EIA Regulations, 2014 as amended: Listed Activities

Listed Notice 2:

Activity 14 - development of an anchored platform or any structure or infrastructure on, below or along the seabed.

Activity 15 - clearance of an area of 20 hectares or more of indigenous vegetation.

Activity 26 - development in the sea, estuary in respect of facilities associated with the arrival and departure of vessels and handling of cargo, piers, breakwater structures.

Activity 27 - development of a road catering for more than one lane of traffic in both directions.

NEMA EIA Regulations, 2014 as amended: Listed Activities

Listed Notice 3:

Activity 4 – development of a road in sensitive areas, CBA and within an EFZ.

Activity 12 – Clearance of vegetation in CBAs and within an EFZ.

Activity 14- Development of structures within a CBA and EFZ.

Scoping and EIR Process to be undertaken

DFFE Screening Results

Identified Sensitivities

Theme	Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sensitivity	Specialist Studies Requirements
Agriculture Theme		X			**No requirements**
Animal Species Theme		X			**Animal Species Assessment**
Aquatic Biodiversity Theme	X				**Aquatic Biodiversity Assessment**
Archaeological and Cultural Heritage Theme				X	**Site Verification required but HIA will be conducted due to NHA Requirements**
Civil Aviation Theme			X		**No**
Defence Theme				X	**No**
Palaeontology Theme			X		**Site Verification required and desktop assessment will be conducted**
Plant Species Theme			X		**Plant Species Assessment**
Terrestrial Biodiversity Theme	X				**Terrestrial Biodiversity Assessment as site is within a CBA**

DFFE Screening Results

Other Identified Sensitivities

Theme	Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sensitivity	Specialist Studies Requirements
Visual					**Site verification required**
Marine Assessment					**Marine Ecology Assessment to be undertaken**
Socio economic					**Socio economic assessment to be undertaken**

Additional Specialist Studies to be undertaken:

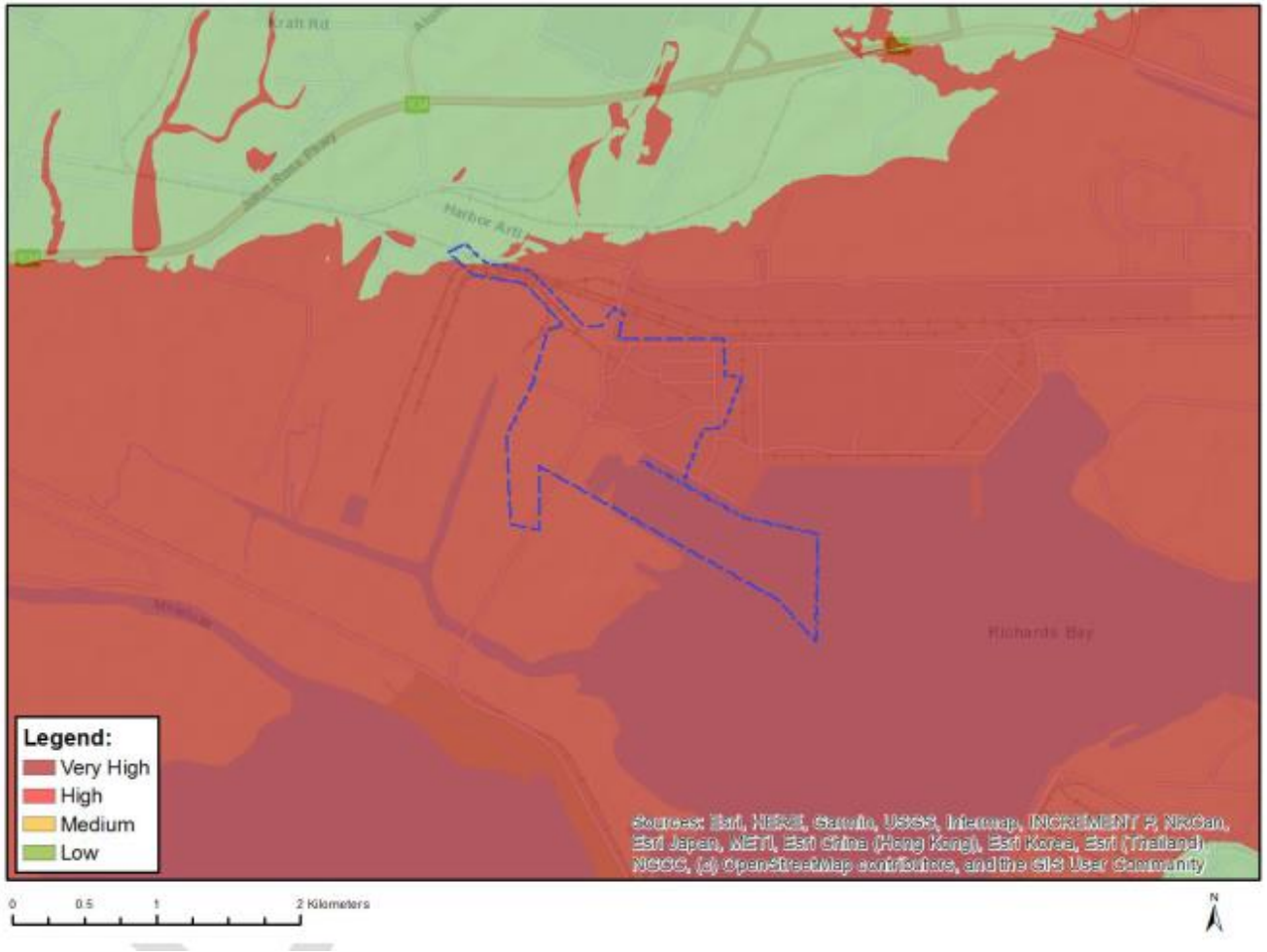
- Noise assessment
- Climate Change Assessment
- Underwater Noise Modelling
- Avifaunal Assessment

Historic imagery indicating the transformed nature of the site - 2006

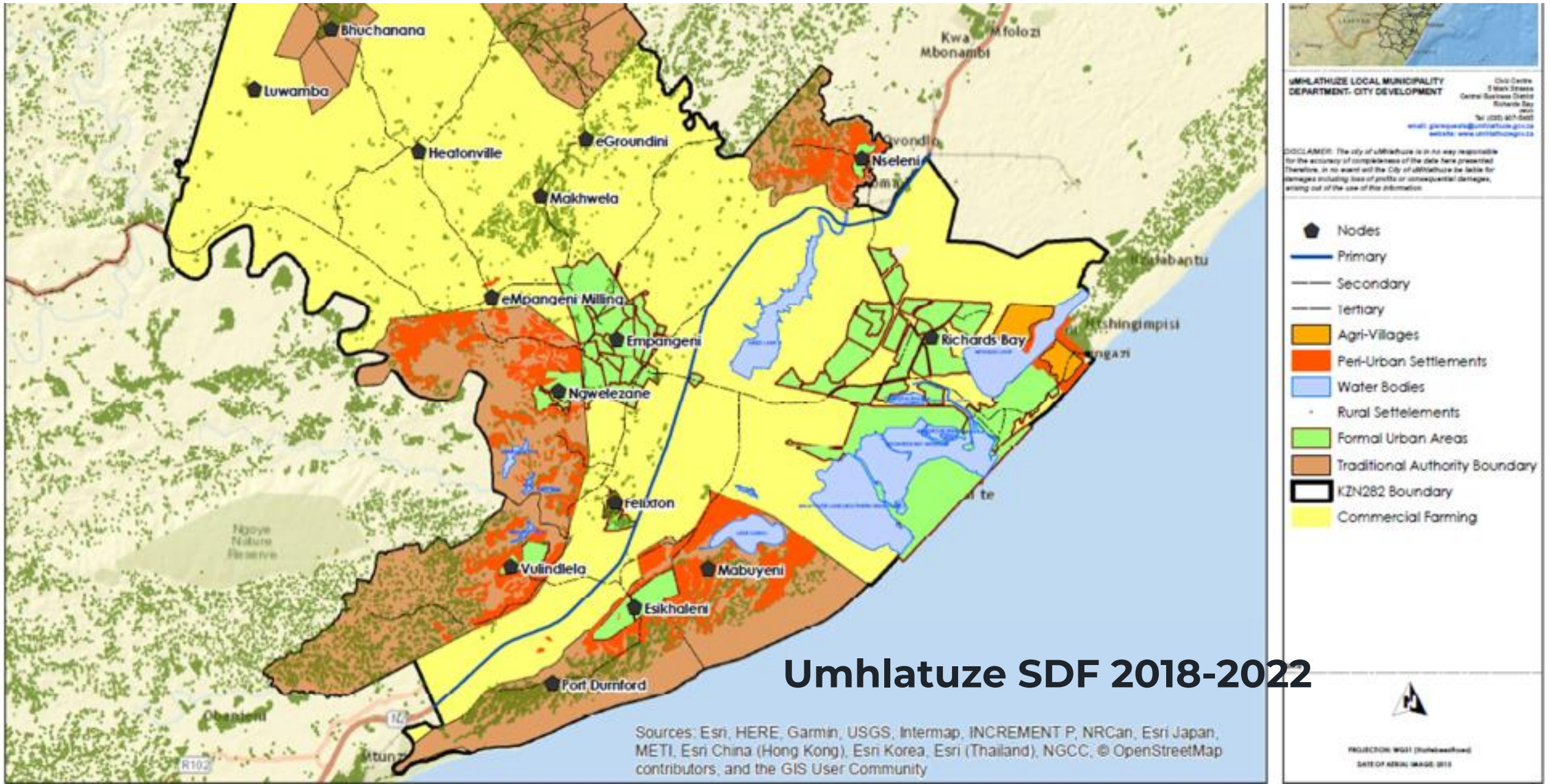
CBA Map

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	CBA: Irreplaceable
Very High	National Protected Area Expansion Strategy (NPAES)
Very High	EN_Maputaland Coastal Belt

EFZ Map



Sensitivity	Feature(s)
Low	Low sensitivity
Very High	Estuary_Richards Bay
Very High	Wetlands_(Estuary)
Very High	Wetlands_Indian Ocean Coastal Belt Bioregion (Floodplain)



Umhlatuze SDF 2018-2022

Scope of Environmental Services

Pre-Application Phase – We are here

- Project initiation
- Information gathering
- High level screening assessment
- Appointment of Specialists

Application and Scoping Phase

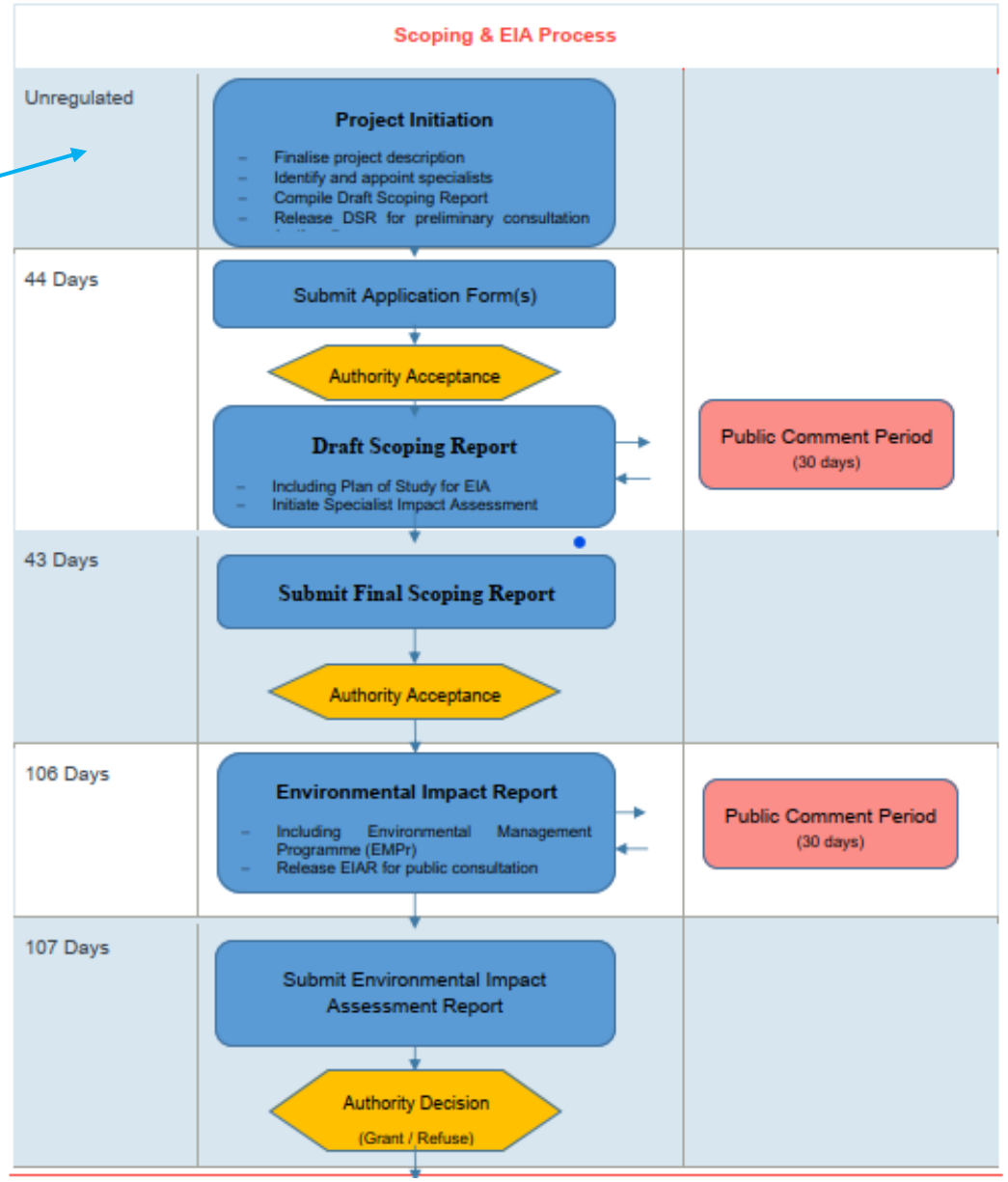
- Application for Environmental Authorisation
- Scoping Report and Plan of Study for the EIA
- Scoping Approval from the DFFE

EIA Phase

- Completion of specialist studies
- EIA Report
- Decision

Process Flow and Plan of Study for the EIA

Berth 605 is currently in the unregulated phase



Way Forward

- Outcome of the screening process concluded that a S&EIR process is required.
- Confirmation of specialist studies to be undertaken.
- Confirmation of urban area exclusions as per the uMhlatuze SDF.

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