MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE PROJECT, ZONE 10, COEGA SEZ, EASTERN CAPE PROVINCE, SOUTH AFRICA

MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE PROJECT – ENVIRONMENTAL SCOPING REPORT DEFF REFERENCE NUMBER: TBC

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LIST OF ABBREVIATIONS

ADZ	Aquaculture Development Zone
BID	Background Information Document
CBAs	Critical Biodiversity Areas
CDC	Coega Development Corporation
CES	Coastal and Environmental Services
CITES	Convention on International Trade in Endangered Species
COD	Chemical Oxygen Demand
CPP	Coastal Public Property
CWDP	Coastal Waters Discharge Permit
dB	Decibel
DAFF	Department of Agriculture, Forestry and Fisheries
DCP	Dynamic Cone Penetrometer
DEA	Department of Environmental Affairs
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism
DEFF	Department of Environment, Forestry and Fisheries
DFP	Development Framework Plan
DWA	Department of Water Affairs
DWS	Department of Water and Sanitation
DWAF	Department of Water Affairs and Forestry
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECA	Environment Conservation Act
ECBCP	Eastern Cape Biodiversity Conservation Plan
ECDOH	Eastern Cape Department of Health
EEIA	Environmental Economic Impact Assessment
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMP	Environmental Management Plan
EMPr	Environmental Management Programme
EMS	Environmental Management Systems
ELC	Environmental Liaison Committee
G2P	Gas to Power
GAENP	Greater Addo Elephant National Park
GDP	Gross Domestic Product
GN	Government Notice
GRP	Glass(fiber) Reinforced Plastic
GoSA	Government of South Africa
HIV	Human Immunodeficiency Virus
IBA	Important Bird Area
I&APs	Interested and Affected Parties
IDP	Integrated Development Plan
IUCN	International Union for Conservation of Nature
IRT	Issues and Response Trail
KPI	Key Performance Indicators
LED	Local Economic Development
MPA	Marine Protected Area
MOSS	Metropolitan Open Space System
MSDF	Metropolitan Spatial Development Framework
NEMA	National Environmental Management Act
NEM:BA	National Environmental Management: Biodiversity Act
NGO	Non-Governmental Organisations
NMBM	Nelson Mandela Bay Municipality
NEM:ICMA	National Environmental Management: Integrated Coastal Management Act
NFEPA	National Freshwater Ecosystems Priority Areas
NPAES	National Protection Expansion Strategy

NSBA	National Spatial Biodiversity Assessment
NSDP	Government's National Spatial Development Perspective
NWA	National Water Act
OC	Oceans and Coasts
OSMP	Open Space Management Plan
PGDP	Provincial Growth and Development Plan
PNCO	Provincial Nature Conservation Ordinance PNCO
PoS	Plan of Study
PPP	Public Participation Process
PSU	Practical Salinity Unit
QDS	Quarter Degree Square
SABAP	Southern African Bird Atlas Project
SABS	South African Bureau of Standards
SANBI	South African National Biodiversity Institute
SANParks	South African National Parks
SCC	Species of Conservation Concern
SANS	South African National Standards
SDF	Spatial Development Framework
SEA	Strategic Environmental Assessment
SEZ	Special Economic Zone
STEP	Subtropical Thicket Ecosystem Project
SKEP	Succulent Karoo Ecosystem Programme
TB	Tuberculosis
TBM	Tunnel Boring Machine
TLB	Tractor-Loader Backhoe
TOPS	Threatened or Protected Species
TOR	Terms of Reference
TPNA	Southern African Bird Atlas Project
UHIA	Underwater Heritage Impact Assessment
WWTW	Wastewater Treatment Works

1. INTRODUCTION

1.1 OVERVIEW

The Coega Special Economic Zone (SEZ) is situated on the northern side of Port Elizabeth within the Nelson Mandela Bay Metropolitan Municipality (NMBM), Eastern Cape Province. The integrated SEZ and Port of Ngqura is approximately 11,500 ha in extent and comprises of 14 zones designated for various light, medium and heavy industrial land uses. The purpose of the marine intake and outfall infrastructure and servitudes project is the provision of seawater for various industries (aquaculture, power provision and desalination) via a number of seawater intakes and the discharge of treated effluent into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast adjacent to the Coega SEZ. The Port of Ngqura and Zone 10 within the SEZ have been proposed as the locations for the establishment of the marine servitudes.

1.2 INTAKE INFRASTRUCTURE

The need for the marine seawater abstraction servitudes is driven by the water requirements for the following proposed Coega SEZ industries:

- Cooling water for two 1000 MW LNG power stations for which the EIA is currently in progress.
- Land-based aquaculture (including 42,370 tonnes / year of abalone and finfish). Environmental Authorization was received on the 7th of February 2018.
- The Coega Aquaculture Development Zone includes the development of a desalination plant with a maximum capacity of 60 Ml / day. Environmental Authorization was received as part of the authorisation for the aquaculture development zone on the 7th of February 2018.

The following maximum (worst-case) seawater intake requirements are projected:

Purpose	Worse case intake flow rates
Cooling Water: Once-Through Cooling	14.70 m^3/sec
Cooling Water: Wet Mechanical Draft Cooling	0.42 m^3/sec
Aquaculture flow through system for abalone	5.00 m^3/sec
Aquaculture recirculation system for finfish	0.94 m^3/sec
Desalination	2.03 m^3/sec
Total	**23.09 m^3/sec**

There will be two seawater abstraction servitudes with associated infrastructure:
1. Inside the Port of Ngqura for a Once-Through and Wet Mechanical power station cooling water requirements; and
2. East of the Port of Ngqura to meet the more specific water quality requirements of the aquaculture industries, and for desalination.

Within each servitude, a number of different seawater abstraction technologies will be utilised, depending on industry requirements. Therefore, ALL the following types of abstraction technologies will be implemented and assessed in the EIA:

- Abstraction basin with concrete intake channels (within the Port);
- Abstraction pipeline and jetty (within the Port);
- Seawater abstraction pipelines;
- Vertical beach wells;
- Onshore pump stations and screening facilities; and
- WEROP wave pumps.

Detailed descriptions of these technologies are provided in Chapter 2 of this report.

1.3 OUTFALL INFRASTRUCTURE

The need for the marine effluent discharge servitudes is mostly driven by a corresponding need by the respective Coega SEZ industries to return effluent seawater back into the offshore marine environment. Other discharges will include waste water treatment effluent and stormwater.

The following maximum (worst-case) effluent discharge requirements are projected:

Purpose	Type of effluent	Worse case discharge flow rates
Cooling water: once-through cooling	Seawater at 28°C and salinity of 35 ppt	14.70 m^3/sec
Cooling water: wet mechanical draft cooling	Seawater at 23°C and salinity of 53 ppt	0.30 m^3/sec
Aquaculture flow through system for abalone	Seawater with projected concentrations of ammonia, nitrate, nitrite, TSS, COD.	5.00 m^3/sec
Aquaculture recirculation system for finfish	Seawater with projected concentrations of ammonia, nitrate, nitrite, TSS, COD.	0.94 m^3/sec
Desalination brine	Brine at 60 ppt	1.22 m^3/sec
Wastewater	Treated domestic and industrial wastewater with projected concentrations of ammonia, nitrate, nitrite, TSS, COD, salinity heavy metals and E.coli	0.93 + 0.46 m^3/sec
Stormwater	Rainwater	Uncertain
TOTAL		**23.55 m^3/sec**

ALL the following technologies will be implemented to discharge the various effluent streams from the various proposed land-based uses into the sea.

- Tunnel discharge;
- Pipeline discharge;
- Surf zone discharge; and
- Beach discharge (for storm water).

Detailed descriptions of these technologies are provided in Chapter 2 of this report.

The time of construction of the various intake and discharge structures within the servitudes will be dictated by the demand and timing of the implementation of the various industries.

1.4 PURPOSE OF THIS REPORT

The CDC appointed Coastal and Environmental Services (CES) as the independent EAP to conduct the EIA process for the proposed marine intake and outfall infrastructure and servitudes project in terms of the EIA Regulations (2014 and subsequent 2017 amendments).

In addition, a Draft Coastal Waters Discharge Permit (CWDP) application (as required by Section 69 of the NEM: Integrated Coastal Management Act No. 24 of 2008 for discharge of effluent into the marine environment) will be submitted to the DEA: Oceans and Coasts.

The Scoping Report is the first of a number of reports produced in the EIA process. This Scoping Report was compiled in accordance with the requirements as stipulated in Section 21 and Appendix 2 of the EIA Regulations (GN R.982) (2014 and subsequent 2017 amendments), which clearly outlines the content of a Scoping Report.

The objective of the scoping process, as set out by the EIA Regulations (2014 and subsequent 2017 amendments), is to, "*through a consultative process-*

(a) Identify the relevant policies and legislation relevant to the activity;
(b) Motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
(c) Identify and confirm the preferred activity and technology alternative through an impact and risk assessment and ranking process;
(d) 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;
(e) Identify the key issues to be addressed in the assessment phase;
(f) 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
(g) 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."

1.5 PROJECT MOTIVATION

1.5.1. Need and Desirability

The following provides the motivation for the establishment of the marine seawater intake and effluent discharge servitudes within and adjacent to the Coega SEZ.

Further investment into the Coega SEZ
The primary need for the abstraction of seawater is to facilitate the co-ordinated development of infrastructure for a number of possible investors in the Coega SEZ that would require seawater in their processes. The Coega SEZ is currently the largest SEZ in the Southern Hemisphere and is adjoined by a deep water harbour (Port of Ngqura). According to the NMBM Spatial Development Framework (SDF, 2015) the Coega SEZ, under the stewardship of the CDC, has managed to attract billions of Rands of investments into the economy of the Eastern Cape and thus enabling thousands of jobs to be created. In addition, a number of large projects valued at over R75 billion, are currently being considered.

According to the Eastern Cape Provincial Spatial Development Plan (2017 Final Draft), the Coega SEZ is one (1) of two (2) SEZs in the Province and as such is seen as having significant economic growth potential for the Eastern Cape. Having the appropriate infrastructure available to investors will enhance the attractiveness of the Coega SEZ as an investment destination and, therefore, future investment trends. This will result in the provision of revenue, foreign exchange, taxes and royalties. An increase in investment into the area will also result in employment, local economic development, skills development and local procurement.

The EA for the aquaculture zone was approved in February 2018. However, if the SEZ is not able to meet the water requirements for this industry, no further development of this zone would be possible.

Lower Environmental Impact
Relevant Government departments involved with water resource and coastal management (e.g. DWS and DEA: Oceans and Coasts), have advised the CDC that it would be beneficial for the SEZ to have dedicated servitudes for the placement of infrastructure needed for the abstraction of seawater and discharge of treated effluent to the marine environment rather than each industry establishing their own set of infrastructure. This would make management of the volumes and quality of effluent easier, would streamline the maintenance of infrastructure, and would also result in less physical impacts to the coastal environment by reducing the number of points where hard structures are placed in the dynamic coastal zone. In addition, depending on the receiving environment and the position and depth of discharge, the release of effluent to the marine environment rather than rivers or estuaries has potentially less environmental impact because of increased assimilative and dispersive capacity.

Reduced Costs
The development of integrated servitudes would have economic benefits by confining the placement of infrastructure to a dedicated area with the potential for shared infrastructure, thereby reducing costs associated with a network of pipes and pump stations. Similarly, planning requirements would be reduced.

Cooling water
The largest volumes of seawater are required for the cooling of two (2) proposed 1,000 MW water-cooled power plants within Zone 10 of the SEZ, which will enable the CDC to provide tenants with a secure access to energy and contributes to the overall energy security of South Africa.

The NMBM (through Eskom) supplies electricity to over 297 000 customers in the Nelson Mandela Bay Metropolitan (NMBM) area, and has an annual turnover of approximately R1.8 billion. Eskom supplies an incoming voltage of 132 kV which is then distributed to industrial, commercial and residential consumers. Due to the growing population the need for basic services such as electricity continues to increase, and thus the backlog also increases. As such there is a need to improve, upgrade and provide additional electricity to the region. In order to achieve universal access to electricity, grid and non-grid technologies have to be implemented in line with the National Energy vision that “more than 90 percent of the population should enjoy access to grid-connected or off-grid electricity within 20 years”, as well as to implement any other possible technologies based on cost effective options in order to address current and future backlogs.

Desalination
The NMBM is considered to be a water stressed area. In September 2020 the NMBM declared Day Zero and a number of areas within the NMBM were left without water and needed to be provided with this basic service via a number of water tankers. This situation is exacerbated by poor maintenance of water infrastructure within the NMBM. Based on this, alternative means of water provision, such as the desalination of seawater have been considered, especially amidst the COVID-19 crisis that the Country is currently facing, with proper sanitation and hygiene being paramount at preventing the spread of this pandemic infection. It is important to note that no investments will be attracted into any location that has a shortage of water and/or electricity. Desalination can assist the CDC to provide tenants with a secure access to fresh water thereby improving its value proposition as a world-class investment location.The utilisation of desalinated water within the SEZ would relieve some of the stress on the NMBM to provide the required amount of fresh water for CDC tenants and industry within the SEZ.

Land-based marine aquaculture
The establishment of an Aquaculture Development Zone (ADZ) within Zone 10 of the Coega SEZ has been in planning for a number of years. The economic motivation for the establishment of 440 Ha and long term production target of over 40,000 tons of production per annum (finfish, abalone and shellfish) in the ADZ is provided in the CES feasibility study conducted in 2015. The ADZ will provide significant employment opportunities estimated at over 5000 people in the long term. As a consequence, the CDC progressed the ADZ concept and obtained environmental authorization for the development of the ADZ in 2018. Accessing seawater for land-based marine aquaculture will contribute to the promotion of local food security and export products.

Wastewater
The NMBM has the highest percentage of households with access to flush/chemical toilets compared to other district municipalities in the Eastern Cape. Over 90% of households have access to proper sanitation services. However, the Metro does not have the capacity to provide these sanitation services to its residents, which is evident by the need of the recent upgrade of the Fishwater Flats WWTW as well as the additional capacity and infrastructure currently being constructed at the Driftsands WWTW. This situation is exacerbated by poor maintenance of infrastructure within the NMBM. This was evident in September 2020, when a blocked drain resulted in sewage spills encompassing 10 houses in Booysens Park, Port Elizabeth. Consequently, additional sewage capacity is required within the NMBM and this will require the discharge infrastructure for treated effluent.

Stormwater
The CDC has developed a stormwater master plan for Zone 10 where the stormwater will discharge to three locations on the shoreline.

1.6 THE PROPONENT

CES has been appointed by the Coega Development Corporation as the independent Environmental Assessment Practitioner to undertake the EIA for the proposed marine servitude project.

Coega Development Corporation

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1.7 THE EIA TEAM

Coastal and Environmental Services (CES), trading as CES Environmental and Social Advisory Services

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Project team:

EAP, Team	Dr Alan Carter is an Executive and the East London Branch Manager at CES. He

Leader and Internal review: Dr Alan Carter	has extensive training and experience in both financial accounting and environmental science disciplines with international accounting firms in South Africa and the USA. He is a member of the American Institute of Certified Public Accountants (licensed in Texas) and holds a PhD in Plant Sciences. He is also certified ISO14001 EMS Auditor with the American National Standards Institute. Alan has been responsible for leading and managing numerous and varied consulting projects over the past 25 years. He is a registered professional with the South African Council for Natural Scientific Professionals (SACNASP) and through Environmental Assessment Practitioners Association of South Africa (EAPASA).
Project Manager & Report Production: Dr Chantel Bezuidenhout	Chantel holds MSc and PhD degrees in Botany (estuarine ecology) and a BSc degree in Botany and Geography from Nelson Mandela Metropolitan University (South Africa). Chantel's has been an Environmental Consultant for approximately 10 years and as such has been focused on environmental management and impact assessment. Chantel is well versed in environmental legislation and has managed a number of environmental, social and health impact assessments and management plans for heavy mineral mining in South Africa and Madagascar. These projects have been completed to international standards (IFC and World Bank). In addition, Chantel has also completed ESHIA's for a number of open cast mines in Zambia and Mozambique. These projects were also completed to IFC Standards and have been granted environmental authorizations from their host countries. All ESIAs that have been managed by Chantel included community consultations and as such Chantel has been used for various forms of community engagement in rural African settings. Chantel has also been extensively involved in the data collection and report wring for land and natural resource use assessments in both Madagascar and Mozambique. The data gathering component involves extensive community meetings as well as focus group meetings in order to establish land use (including agriculture) and natural resources use within the communities and wider regions. Chantel has recently completed an extensive land survey as part of a RAP process for a heavy minerals mine in Mozambique and an in-kind land survey for a large infrastructure project in Tanzania, and as such is well versed in the relevant process. She is principal consultant and branch manager of the Port Elizabeth office of CES.
Public Participation and GIS Mapping: Ms Nicole Wienand	Ms Nicole Wienand is an Environmental Consultant with less than 1 years' experience and she is based in the Port Elizabeth branch. Nicole obtained her BSc Honours in Botany (Environmental Management) from Nelson Mandela University (NMU) in December 2018. She also holds a BSc Degree in Environmental Management from NMU. Nicole's honours project focused on the composition of subtidal marine benthic communities on warm temperate reefs off the coast of Port Elizabeth (a baseline survey) and for her undergraduate project she investigated dune movement in Sardinia Bay. Although she is new to the environmental consulting field, her key interests include the GIS Mapping, the general EIA process, Public Participation Process (PPP) and Ecological Impact Assessments.

CES Specialist Team:

Ecological Specialist: Dr Greer Hawley	Dr Greer Hawley-McMaster has a BSc degree in Botany and Zoology, a BSc (Honours) in Botany from the University of Cape Town and a PhD (Microbiology) from Rhodes University. Greer has a diverse skill set including biodiversity surveys and assessments (plants, fungi and terrestrial ecosystems), developing environmental management policy (EMP's and EMF's), analysis and interpretation of environmental and biodiversity spatial datasets, training, feasibility assessments, environmental impact assessments for a wide range of land use activity proposals, aquaculture feasibility assessments, alien invasive management planning and conservation management planning. Greer has undertaken work in a number of African countries and has specifically surveyed many parts of the Eastern Cape. As a Principal Consultant, Greer manages large projects and has experience with co-ordinating big specialist teams. Greer has recently completed the review of the Eastern Cape Biodiversity Conservation Plan (2019) and continues to develop the Eastern Cape Biodiversity strategy and Action Plan.

Economic Specialist: Dr Alan Carter	Dr Alan Carter is an Executive and the East London Branch Manager at CES. He has extensive training and experience in both financial accounting and environmental science disciplines with international accounting firms in South Africa and the USA. He is a member of the American Institute of Certified Public Accountants (licensed in Texas) and holds a PhD in Plant Sciences. He is also certified ISO14001 EMS Auditor with the American National Standards Institute. Alan has been responsible for leading and managing numerous and varied consulting projects over the past 25 years. He is a registered professional with the South African Council for Natural Scientific Professionals (SACNASP) and through Environmental Assessment Practitioners Association of South Africa (EAPASA).

External Specialist Team:

Marine Archaeology Specialist: Ms Vanessa Maitland	Vanessa received her BA majoring in Archaeology and her Honours degree in Archaeology from Wits in 1994 and 1997. She has worked on numerous sites covering all aspects of South African Archaeology. Since 200, Vanessa has specialised in Maritime Archaeology, working on a number of wreck removals and Underwater Heritage Impact Assessments. She has many years of experience in magnetometer surveys and diver searches. Vanessa is currently completing her Master's Degree in Maritime Archaeology through UNISA. She is registered as a CRM practitioner with ASAPA.
Geotechnical Assessment: Mr Brent Cock	Brent Cock has been involved in the field of exploration geology and engineering geology for the past 15 years. His expertise includes lithostructural mapping; geological, geotechnical core and rock chips logging and sampling including supervision; geochemical and stream sediment sampling; ground investigations for subsidy housing (in accordance with NHBRC guidelines), road upgrades, pipelines, earth dams, warehouses, buildings of masonry construction, cemeteries, waste water treatment works, renewable energy projects (solar and windfarms) and nuclear sites.
Marine Ecological Assessment: Mr Barry Clark	Dr Barry Clark has twenty eight years' experience in marine biological research and consulting on coastal zone and marine issues. He has worked as a scientific researcher, lecturer and consultant and has experience in tropical, subtropical and temperate ecosystems. He is presently Director of an Environmental Consultancy firm (Anchor Environmental Consultants) and Research Associate at the University of Cape Town. As a consultant has been concerned primarily with conservation planning, monitoring and assessment of human impacts on estuarine, rocky shore, sandy beach, mangrove, and coral reef ecosystems as well as coastal and littoral zone processes, aquaculture and fisheries. Dr Clark is the author of 27 scientific publications in class A scientific journals as well as numerous scientific reports and popular articles in the free press. Geographically, his main area of expertise is southern Africa (South Africa, Lesotho, Namibia, Mozambique, Tanzania, Seychelles, Mauritius and Angola), but he also has working experience from elsewhere in Africa (Republic of Congo, Sierra Leone, Liberia, Cote d'Ivoire, Ghana, Nigeria), the Middle East (UAE) and Europe (Azerbaijan).
Marine Dispersion Modelling Mr Stephen Luger	Stephen Luger received an MSc in Civil Engineering from the University of Cape Town in 1991. He was then employed by the Council for Scientific and Industrial Research (CSIR) for sixteen years as a coastal modelling specialist. For the past nine years he has been employed by Prestedge Retief Dresner Wijnberg (PRDW) consulting engineers as a coastal modelling specialist and currently holds the post of Technical Director. He has twenty-four years of experience in the application of numerical models in the fields of coastal hydrodynamics, waves, tsunamis, sediment transport, outfalls, water quality, dredging, oil spills and flooding. These modelling studies have been conducted for feasibility studies, environmental impacts studies, nuclear safety studies and detailed engineering design. The countries where the studies have been conducted include South Africa, Namibia, Gabon, Nigeria, Kenya, Mauritius, Seychelles, Guinea, Mozambique, Madagascar, Cameroon, Angola, Egypt, Bahrain, Qatar, United Arab Emirates, Jordan, Israel, Ireland, Chile, Peru, Brazil and Australia. He is the author or co-author of over 20 articles in scientific journals, chapters in books and conference

	proceedings, over 100 technical reports for external contract clients, and has presented over 20 papers at local and international conferences.
Robin Carter	Robin carried out post graduate studies in marine science at the University of Natal (Dbn) (MSc) and University of Cape Town (PhD). Subsequent to that he was employed by CSIR, Stellenbosch, leading the Marine Biology Division and Marine Biotechnology Programme as well as coordinating their overall marine science research programme. During this period (1983 – 1997) he led and participated in contract work on oil and gas developments on continental shelves, harbour development studies, primarily in Saldanha Bay and mariculture development focussing on abalone. After leaving CSIR in 1997 he practised as an independent specialist consultant in applied marine science. Main areas of work were in harbour development (Saldanha, Cape Town and Ngqura), specialist studies within marine oil and gas development EIAs, and investigations on marine discharges and technical reviews of marine monitoring practice and applications. In 2005 he joined Lwandle Technologies (Pty) Ltd, a Level 2 BEE company focused on providing specialist scientific advice and measurement capabilities to commercial and state entities involved in marine and coastal development and enterprises. Their clients include oil and gas companies, Maersk Oil, Sonangol, Petrobras, ENI, PetroSA, Anadarko, Forest Oil and BP, with Shell and Sasol being indirectly served through other consulting groups. A significant component of their business is assessing and measuring the environmental effects of harbour development and expansions of services. Recent contract work covers studies for Transnet in the Ports of Cape Town and Durban, Namibian Marine Phosphates in Walvis Bay, Riversdale Mining Mozambique on coal export though the Zambezi River mouth, Vale (Brazil) on the development of coal export facilities in Nacala, Mozambique and for Anadarko Petroleum Corporation on the establishment of an LNG plant in Mozambique. Marine discharges form another important element of Lwandle's business portfolio with their work ranging from effluent tracking through site specific evaluations to participating in provincial and national policy development.

1.8 SCOPING REQUIREMENTS AS PER EIA REGULATIONS 2014

This report is the first of a number of reports that will be produced during the EIA process. Table 1.2 outlines the requirements of the Scoping Report as set out in the NEMA EIA Regulations (2014 and subsequent 2017 amendments). According to Appendix 2 (1) "*A scoping report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process, and must include…"* the information outlined in Table 1.2 below. In addition, a Public Participation Process (PPP) will be undertaken in accordance with sections 39-44, which outline the requirements for a successful PPP.

Table 1.2: Requirements for the Scoping Report and content (in accordance with Appendix 2 of the EIA Regulations).

Relevant section in GNR. 982	Requirement description	Relevant section in this report
(a) Details of-	(i) The EAP who prepared the report; and	Section 1.6 and Appendix 2.
	(ii) The expertise of the EAP, including a curriculum vitae;	
(b) The location of the activity, including-	(i) The 21 digit Surveyor General code of each cadastral land parcel;	Section 2.1 (Table 2.1).
	(ii) Where available, the physical address and farm name;	
	(iii) Where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;	
(c) A plan which locates the proposed activity	(i) A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or	Section 2.2.1 (Figure 2.2) and Section 2.3.1

Relevant section in GNR. 982	Requirement description	Relevant section in this report
or activities applied for at an appropriate scale		(Figure 2.6).
	(ii) On land where the property has not been defined, the coordinates within which the activity is to be undertaken;	Section 2.1 (Table 2.1).
(d) A description of the scope of the proposed activity, including	(i) All listed and specified activities triggered;	Section 3.2.1 (Table 3.2).
	(ii) A description of the activities to be undertaken, including associated structures and infrastructure;	Section 2.2 and 2.3.
(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	Chapter 3.
(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 1.4.1.
(g) A full description of the process followed to reach the proposed preferred activity, site and location of the development footprint within the site, including -	(i) Details of all the alternatives considered;	Section 2.4.
	(ii) Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;	Section 5.6 and Appendix A.
	(iii) 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 5.6.4.
	(iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	Chapter 4.
	(v) The impacts and risks which have informed the identification of each alternative, including the nature, significance, consequence, extent, duration and probability of such identified 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;	Section 6.3.
	(vi) The methodology used in identifying and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;	Section 6.2.
	(vii) 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 6.3.
	(viii) The possible mitigation measures that could be applied and level of residual risk;	Section 6.3.
	(ix) The outcome of the site selection matrix;	Section 2.4.1 (Table 2.4).
	(x) If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and	Section 2.4.4
	(xi) A concluding statement indicating the preferred alternatives, including preferred location of the activity;	Section 2.4.4.
(h) A plan of study for undertaking the environmental impact	(i) A description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity;	Section 7.1.
	(ii) A description of the aspects to be assessed as part of the	Section 7.2

Relevant section in GNR. 982	Requirement description	Relevant section in this report
assessment process to be undertaken, including	environmental impact assessment process;	(Table 7.1).
	(iii) Aspects to be assessed by specialists;	Section 7.3.
	(iv) A description of the proposed method of assessing the environmental aspects, including aspects to be assessed by specialists;	Section 7.4.
	(v) A description of the proposed method of assessing duration and significance;	
	(vi) An indication of the stages at which the competent authority will be consulted;	Section 7.5.1.
	(vii) Particulars of the public participation process that will be conducted during the environmental impact assessment process; and	Section 7.5.
	(viii) A description of the tasks that will be undertaken as part of the environmental impact assessment process;	Section 7.6.
	(ix) 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 6.3 and Section 7.2.
(i) An undertaking under oath or affirmation by the EAP in relation to -	(i) The correctness of the information provided in the report;	Appendix 3.
	(ii) The inclusion of comments and inputs from stakeholders and interested and affected parties; and	
	(iii) 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;	
(j)	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;	
(k)	Where applicable, any specific information required by the competent authority; and	Appendix 4
(l)	Any other matter required in terms of section 24(4)(a) and (b) of the Act.	The requirements of Section 24(a) and (b) will be met in the EIA Phase.
(2)	Where a government notice gazetted by the Minister provides for any protocol or minimum information requirement to be applied to a Scoping Report, the requirements as indicated in such notice will apply.	Appendix 4

1.9 REPORT STRUCTURE

The structure of the report is as follows –

Chapter 1 – Introduction:

Chapter 2 – Project Description: Provides a description of the proposed development, the properties on which the development is to be undertaken and the location of the development on the property. The technical details of the project are also provided in this Chapter.

Chapter 3 – Legal and Policy Framework: Identifies all the legislation and guidelines that have been considered in the preparation of this Scoping Report.

Chapter 4 – Environmental and Social Baseline: Provides a brief overview of the bio-physical and socio-economic characteristics of the site and its environs that may be affected by the

proposed development, compiled largely from published information, but supplemented by information from a site visit.

Chapter 5 – The EIA Process: Provides details of the process that will be followed when conducting the EIA as per Regulation 23, including the public participation process conducted in terms of Regulation 41. This chapter includes the objectives of the EIA process as outlined in Appendix 3 of the EIA Regulations.

Chapter 6 – Impacts and Risks identified during Scoping: Provides a description of the key issues that have been identified by the project team and through discussions with I&APs thus far in the Scoping Phase, and that will be assessed in the EIA phase.

Chapter 7 – Plan of Study: Sets out the proposed approach to the environmental impact assessment including:

- A description of the scope of work that will be undertaken as part of the EIA phase, including any specialist reports or specialised processes, and the manner in which the described scope of work will be undertaken;
- An indication of the stages at which the competent authority will be consulted;
- A description of the proposed methodology for assessing the environmental issues and alternatives, including the option of not proceeding with the proposed development;
- Particulars of the public participation process that will be conducted during the Environmental Impact Assessment (EIA) phase, and;
- Any specific information required by the authority.

References: Cites any texts referred to during preparation of this report.

Appendices: Containing all supporting information.

2. PROJECT DESCRIPTION

A detailed motivation for the need to abstract seawater for various land-based industries in the Coega SEZ has been provided in Section 1.5 of this report.

The rationale for developing an integrated seawater intake and effluent discharge marine servitudes is to have a common user servitude in which a number of possible industries can establish infrastructure required to abstract seawater and discharge effluent into the marine environment.

This section provides a description of the technical options that will be included in the proposed seawater intake and effluent discharge marine servitude from the Coega SEZ.

2.1 BACKGROUND TO THE DEVELOPMENT OF THE PROJECT CONCEPT

The development of the project concept has been an iterative process over a period of more than 5 years. The main informants of the design concept have included:

- CES 2015, Feasibility Study for the Development of an Aquaculture Development Zone in the Coega IDZ.
- PRDW 2016, Coega Aquaculture Development Seawater Intake & Outfall Study, Concept Design Report.
- Mott Mc Donald 2016, Coega IDZ, Probable Power Plant Configurations.
- PRDW, 2017, Marine Pipeline Servitude for the Coega IDZ: Specialist Marine Modelling Study and Effluent Dispersion.
- Ethical Exchange 2017, Coega Land-Based Aquaculture Development Zone (ADZ) Final Environmental Impact Report.
- Carnegie Energy 2019, MEMO: Technical Inputs to Coega Gas to Power EIA Scoping Report.
- PRDW 2020, Marine Pipeline Project for the Coega SEZ, Marine Effluent Dispersion Modelling.
- Lwandle 2020, Marine Pipeline Project for the Coega SEZ, Marine Ecological Assessment.
- WSP 2020, Techno-economic Assessment: Cooling Options for the Coega SEZ Gas-to-Power Project Report.
- SRK 2020, Proposed Coega 1000 MW Gas-to-Power Plant – Zone 10 South, Zone 10 North and Zone 13. Draft Scoping Reports.
- Coega IDZ Stormwater Management Plan.
- Various meetings and workshops.

Detail relating to these various inputs is provided where appropriate in the Project Description (Chapter 2), as well as in Chapter 3: Alternatives.

Figure 2.1 below shows the locations of the proposed marine servitudes which has been informed by the Marine Dispersion Modeling studies conducted by PRDW (2017 and 2020).

Figure 2.1: Locations of the proposed seawater intake (BLUE) and effluent discharge (RED) marine servitudes.

2.2 PROJECT LOCATION

The Coega Special Economic Zone (SEZ) is situated on the northern side of Port Elizabeth within the Nelson Mandela Bay Municipality (NMBM) seated within the Sarah Baartman District, Eastern Cape Province. The integrated SEZ and Port of Ngqura is approximately 11,500 ha in extent and comprises of 14 zones designated for various light, medium and heavy industrial land uses.

The purpose of the marine intake servitudes is the provision of seawater for various industries (aquaculture, cooling water for power generation plants and desalination) via a number of seawater intakes of varying design to suit the end user. The marine effluent discharge servitudes will be used for the disposal of treated effluent from the aquaculture development zone, brine from the desalination plant, and seawater with elevated temperatures from the power generation plants into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast, and hence in terms of the Integrated Coastal Management Act as infrastructure is defined as coastal dependant.

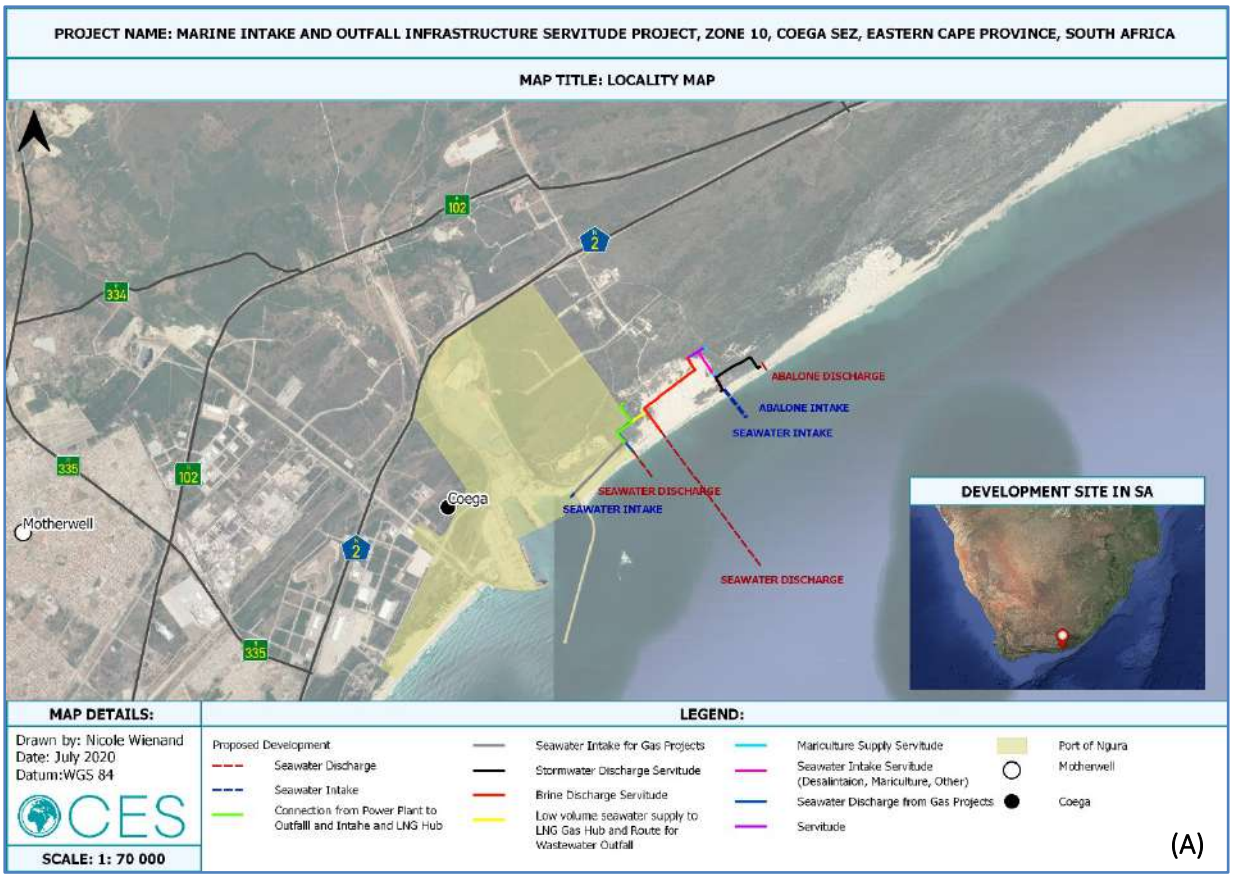
The Port of Ngqura and Zone 10 within the SEZ are the proposed preferred locations for the infrastructure (refer to Table 2.1 and Figure 2.2).

Table 2.1: Properties on which the proposed project is located.

PROPERTIES	21 DIGIT SG CODES	AREA (HA)	CENTRAL GPS-COORDINATE	
			Longitude	Latitude
Erf 220	C07600230000022000000	100 ha	25°42'35.11"E	33°47'1.69"S

PROPERTIES	21 DIGIT SG CODES	AREA (HA)	CENTRAL GPS-COORDINATE	
			Longitude	Latitude
Erf 255	C07600230000025500000	53 ha	25°41'56.87"E	33°47'31.34"S
Erf 251	C07600230000025100000	233 ha	25°40'51.84"E	33°47'13.72"S
Erf 221	C07600230000022100000	601 ha	25°43'24.09"E	33°46'7.29"S
Erf 302	C07600230000030200000	7.9 ha	25°43'6.79"E	33°46'51.76"S
Erf 252	C07600230000025200000	264 ha	25°42'1.61"E	33°46'21.27"S

Figure 2.3 below provides the CDC's baseline plan for the activities within Zone 10 of the Coega SEZ.



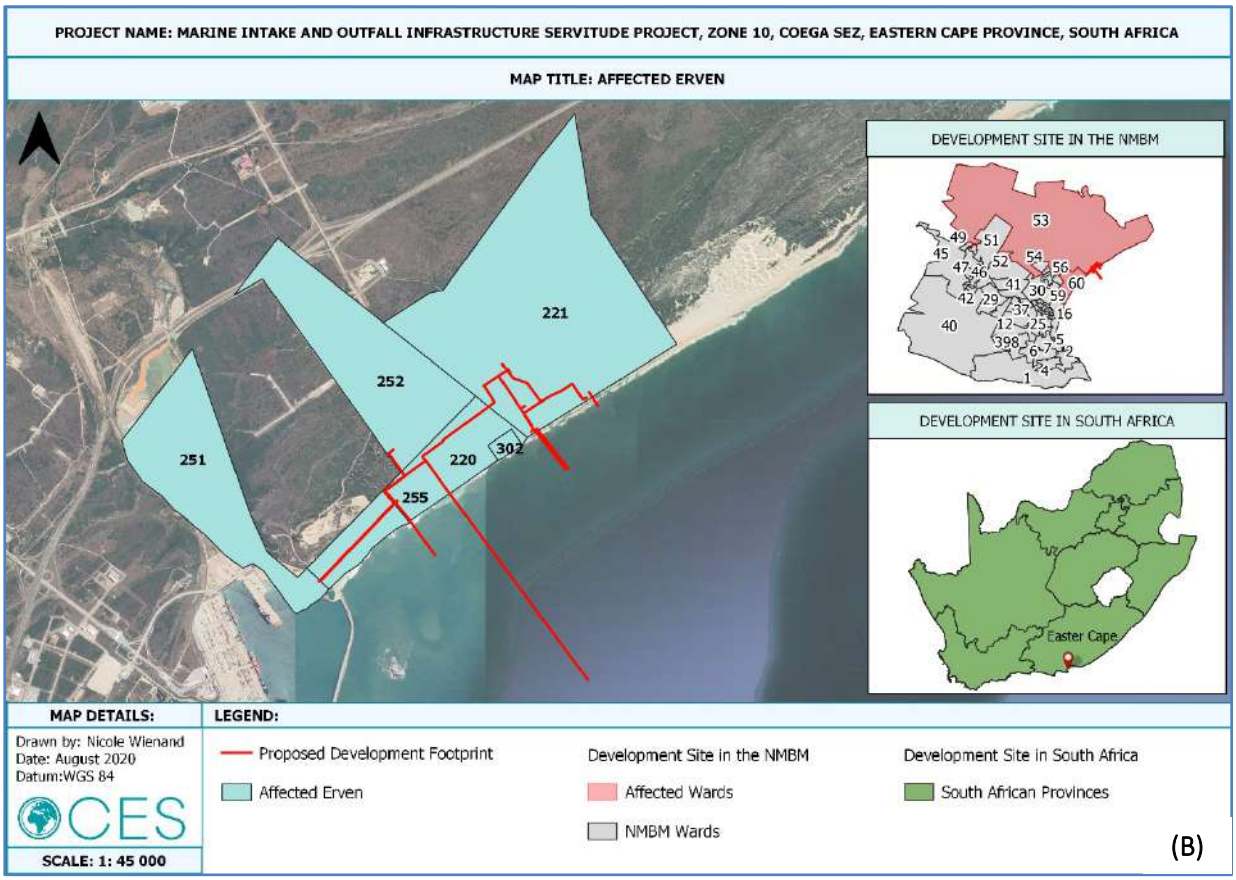


Figure 2.2: Locality map for the proposed project (A) Aerial Image (B) showing farm portions.

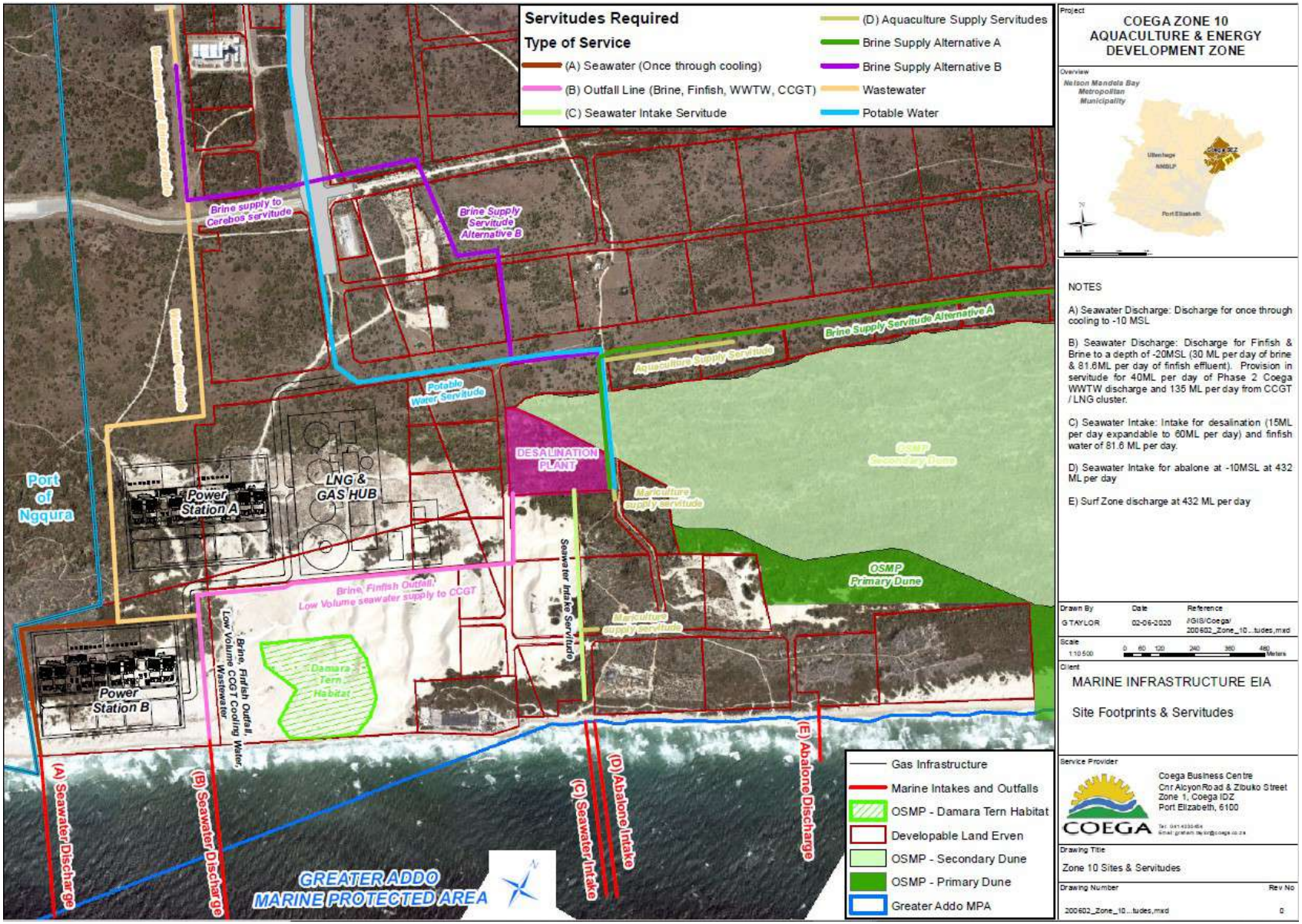


Figure 2.3: Detailed CDC baseline plan for the Coega SEZ Zone 10 Aquaculture and Energy Development Zone.

2.3 MARINE INTAKE SERVITUDES

2.3.1. Seawater intake locations and volumes

The need for the two different locations for the marine seawater intake servitudes is driven by the water requirements for the following proposed Coega SEZ industries:

1. Cooling water for two (2) 1000 MW LNG power stations for which the EIA is currently in progress. They require large volumes of water of any quality.
2. Land-based aquaculture (including abalone, finfish and algae farming in excess of 40,000 tonnes / year). Environmental Authorization was received on the 7th of February 2018. Moderate volumes of good quality seawater are required.
3. The Coega Aquaculture Development Zone (ADZ) includes the development of a desalination plant with a maximum capacity of 60 Ml / day. Environmental Authorization was received as part of the authorisation for the aquaculture development zone on the 7th of February 2018. Moderate volumes of good quality seawater is required.

Information relating to the seawater requirements is based on input from the following sources: CES (2015), Carnegie Energy (2019), WSP (2020), Ethical Exchange (2017) and SRK (2020). There have also been various *ad hoc* communications with various relevant industry specialists to confirm required seawater volume and quality requirements.

Since the water quality for the power station cooling water is not critical, the required large volumes can be abstracted from inside the Port area. However, the aquaculture operation requires seawater of good quality, and hence abstraction outside the Port is necessary.

The following **maximum (worst-case)** seawater intake volume requirements are projected:

Purpose	Worse case intake flow rates
Cooling Water: Once-Through Cooling	14.70 m^3/sec
Cooling Water: Wet Mechanical Draft Cooling	0.42 m^3/sec
Aquaculture flow through system for abalone	5.00 m^3/sec
Aquaculture recirculation system for finfish	0.94 m^3/sec
Desalination	2.03 m^3/sec
Total	**23.09 m^3/sec**

The following technologies will be implemented to abstract seawater for the various proposed land-based industrial uses. This information is based substantially on the PRDW Concept Design Report (2016) for aquaculture, the WSP Techno-Economic Assessment Report (2020) for cooling water, and technical information provided by the CDC for other seawater requirements.

2.3.2. Marine intake technologies for Once-Through Cooling system

A Once-Through Cooling system for the proposed LNG power stations requires large volumes of seawater (14.7 m^3/sec). According to the Techno-Economic Assessment Report by WSP (2020), the abstraction of the required seawater volumes can best be achieved by constructing a seawater intake basin located inside the Port of Ngqura. The intake basin would consist of four or more concrete channels and sump areas (see Plate 2.1), the dimensions of which would be as follows:

Dimension	Intake channels	Sump area	Unit
Length	25	4	m
Width	3.5	3.5	m

Depth	3	3	m

The intake channels would direct the seawater flow at a low velocity to three vertical turbine pumps (flowrate 4.9 m^3/s per pump). Upstream of the pumps, the channels would be fitted with screens to filter out any solids. The screens would be arranged from coarse to fine moving closer to the pumps. The channels could be isolated with a sluice gate from the stilling basin if maintenance is needed on the pumps or the incoming screens. Plates 2.1 and 2.2 below show what a cooling water intake basin could look like.

Plate 2.1: Image of cooling water intake channel configuration.

Plate 2.2: Examples of once-through cooling seawater intake infrastructure with vertical pumps on the right (Fluor, Saudi Arabia).

Three pumps would be operational at any one time, with the fourth pump acting as backup. The location of the intake is shown in Plate 2.3 below, inside the port either within or directly adjacent to the small craft harbour.

According to the port masterplan, this location is the most suitable since it will not conflict with the proposed significant future extensions within the Port of Ngqura to be located directly to the west of this location.

Plate 2.3: Intake for cooling water located within the Port of Ngqura (Source: WSP, 2020)

2.2.2 Marine intake technologies for Wet Mechanical Cooling system

According to the Techno-Economic Assessment Report by WSP (2020), since a Wet Mechanical Cooling system requires lower volumes of cooling water compared to Once-Through Cooling, an abstraction pipeline is a feasible technical solution.

This would involve the construction of an intake jetty within the Port, which would support the pipes and connect the intake chambers to the land. An intake chamber on the shoreline is required in order to install a filtration system that removes larger particles from the abstraction water. However, this would be much smaller than the Once-Through Cooling intake channels.

The intake jetty will be approximately 50 m in length, and accommodate a pipe extending to a depth of about 6 m below MSL. It would be fitted with two vertical pumps located on the shoreline above the highwater mark (1 active and 1 on standby). An example of an intake jetty is presented in Plate 2.4 below.

A 710 mm diameter HDPE pipeline would be required to deliver the required flow of 0.42 m^3/s per power plant. HDPE is chosen because of its inherent inertness to seawater corrosion.

Plate 2.4: Example of intake jetty.

2.3.3. Marine intake technologies for aquaculture and desalination

Intake pipeline for high seawater volumes

Intake pipelines are suitable for industries that require smaller volumes of seawater than that required for the Once-Through Cooling system. Thus, intake pipelines can be used for the abalone aquaculture flow-through system (5.0 m^3/s), and seawater supply for desalination (2.0 m^3/s). However, unlike the cooling requirements for the power plants, water quality is a particularly critical issue for aquaculture operations, and hence this infrastructure cannot be located within the port.

The PRDW dispersion modelling report recommends that these larger flow intake pipelines be located at a distance of 500 m offshore, to a depth of -10 CD (see Figure 2.4).

Depending on geotechnical conditions, seawater abstraction pipelines are either anchored firmly to the seabed and shoreline, or embedded within excavated trenches. Typically, such a pipeline would be buried in trenches in the high impact beach and surf zone, and then anchored to the seabed beyond the high active surf zone. Suitable anchoring / weighting is required to ensure the pipeline is stable on the seabed during storm conditions. Further work is required to determine whether these pipelines need to be buried or anchored, and how they might be anchored to the seabed.

In the case of a buried pipeline, and depending on the results of the geotechnical assessment, a channel will be blasted into the rocky shore from above the spring high water mark to below the spring low water mark, or excavated on a sandy shoreline. After excavation a pipe will be laid into the channel, which would then be infilled with concrete and rock (Figure 2.4). Seawater will then flow by gravity from the sea into the sump, which is situated well below MSL (at approximately -10 CD). The depth and breadth of the sump is be dictated by the water volume requirements. Seawater flows by gravity into the beach sump, and then pumped out using submersible or land-based pumps at the intake pump station into holding tanks and distribution chambers located in the aquaculture zone (or directly to operating sites).

The intake wet well and intake pump station (Figure 2.4) are located above the spring high water mark, above expected tidal surge heights. This location will take into consideration climate change and the potential for sea level rise, and additional wave run-up and storm surges.

Figure 2.4 below provides a conceptual profile plan of an embedded seawater intake pipeline and beach sump or intake wet well.

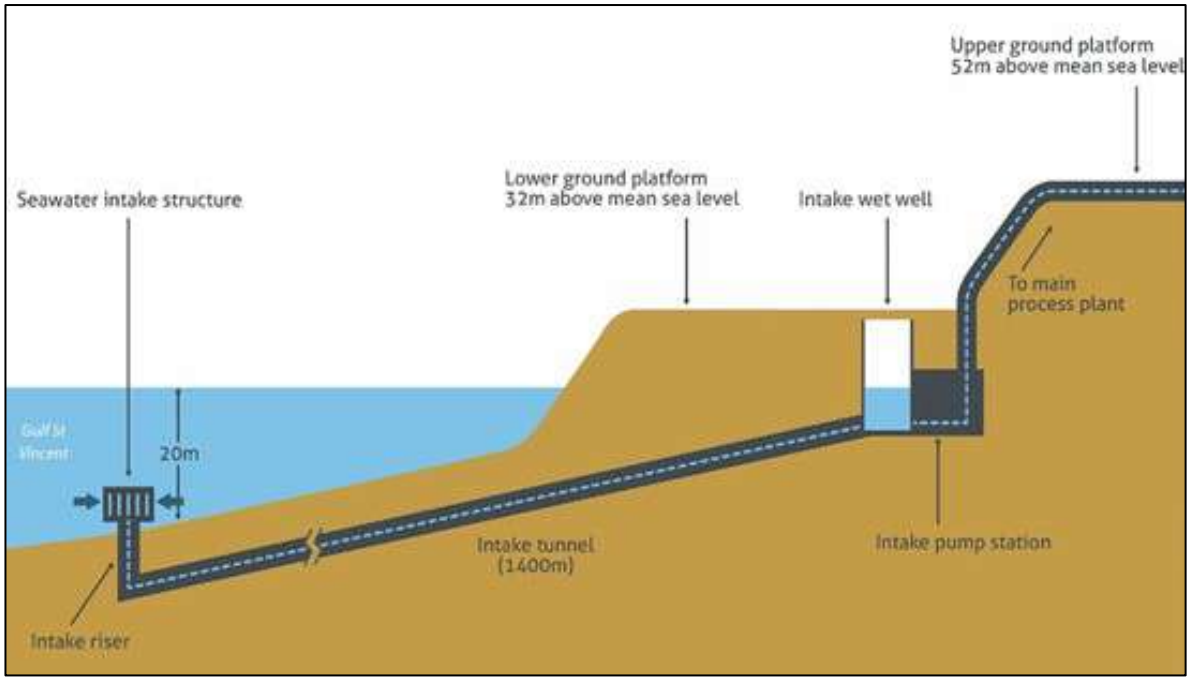


Figure 2.4: Profile of an embedded seawater intake pipeline and beach sump or intake wet well.

The seawater intake pipeline for abalone aquaculture (5.0 m^3/s) will be made of non-corroding Glass-fibre Reinforced Plastic (GRP) or HDPE. It will be up to 2,5 m in diameter, and appropriately anchored to the seabed at an appropriate distance (500 m) and depth (-10 CD) offshore, where good quality seawater will be obtained for aquaculture purposes.

A larger diameter dual pipeline system will be constructed for the supply of desalination water of 2.0 m^3/s. This will comprise of two 1,000 mm diameter HDPE pipelines laid alongside one another, and appropriately anchored to the seabed at the appropriate distance (500 m) and depth (-10 CD) offshore.

Once the pipes reach land (irrespective of whether it is a single or dual pipeline system), they will be buried in some areas and exposed in other areas, depending on the ground level topography. The pipes will exit the water to a submerged pump station on land, similar to that shown in Figure 2.4.

At the offshore end of the pipeline, the intake point will need to be appropriately elevated above the seabed, and equipped with screens to reduce the intake of sediment and marine life. Intake velocities would be limited to 0.15 m/s to reduce impingement and entrainment of marine life, which is the reason for the large diameter pipes.

The intake system will include a chemical dosing component to reduce marine growth within the pipeline and intake structure, as well as pigging infrastructure for maintenance. Excavation or dredging of sand will also be required at the intake position, as well as scour protection to ensure that the structure is stable on the seabed.

Directional drilled pipeline

According to PRDW (2016) the intake pipeline could also be constructed utilising pipe jacking or directional horizontal drilling (as opposed to a pipeline secured to the seabed). Both options require further technical and cost analyses to determine the preferred option.

To the east of the port, the beach is comprised of pebbles, with sand dunes behind the beach. The seabed surface is covered in a 200mm to 500mm layer of unconsolidated sediments with scattered rock outcrops. Below this layer lies an average 1.5m layer of quaternary calcarenites over a hard bedrock at a depth of -2.0m and deeper.

It is envisaged that a directional drilled pipeline will be constructed from a thrust shaft located behind the beach. The thrust shaft is then drilled out through the bedrock underneath the beach and into the sea. The vertical circular thrust shaft is approximately 10.5 m in diameter and constructed from precast concrete units which are sunk to a depth of -4 m CD. A launch seal is installed in the shaft wall and a jacking station is installed in the pit as shown in Figure 2.5 below. Up to three 1,600 mm diameter pipelines would be needed depending on the flow requirements.

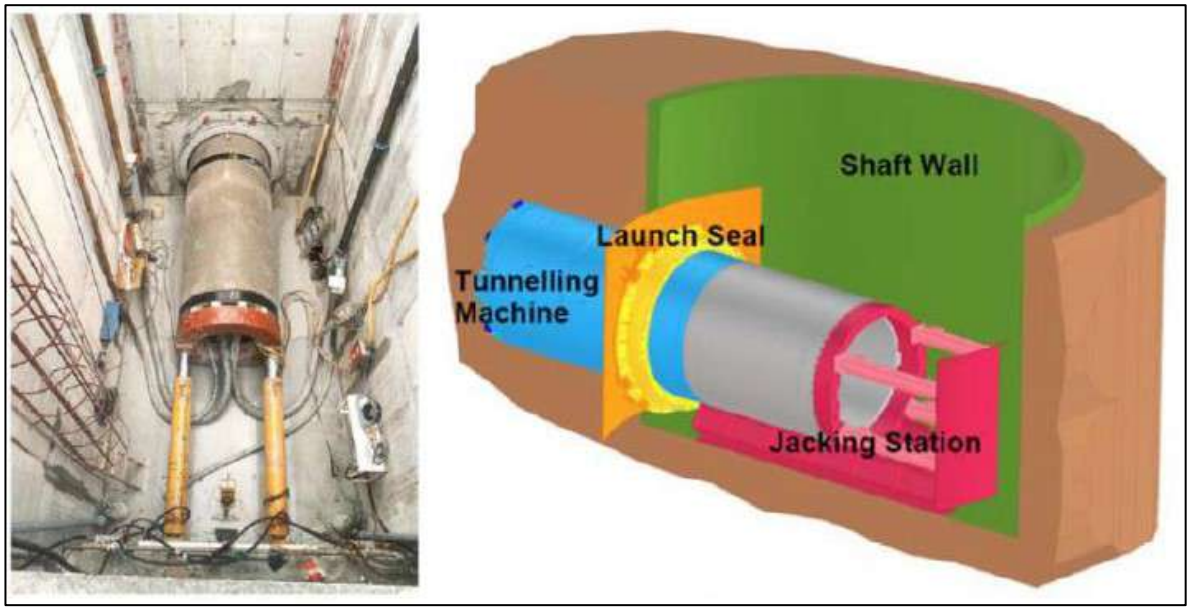


Figure 2.5: Example of thrust shaft and pipe jacking system for constructing pipeline tunnels (PRDW, 2016).

When the tunnel reaches 500 m in length, the tunnelling machine is disconnected, sealed off to prevent water ingress and placed into recovery mode. The material above the machine is then excavated or dredged such that it can be lifted onto a nearby barge. See Figure 2.6 below. The intake structure is then constructed at -10 m CD.

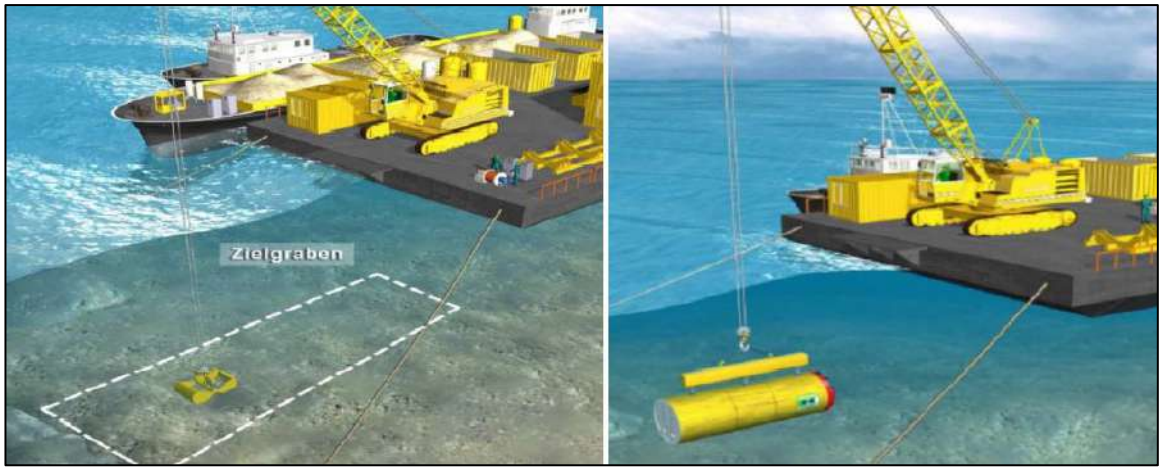


Figure 2.6: Recovery of micro-tunnelling machinery (PRDW, 2016).

Vertical beach wells for low seawater volumes

Vertical beach wells will be used to abstract the smaller volumes (< 1.0 m^3/s) of high-quality seawater required for the land-based finfish aquaculture recirculating systems. This method will require a sandy beach that is continuously connected to the sea. Perforated or slotted pipes will be placed well below chart datum in the sand medium, and these pipelines will then terminate in a sump. The seawater will flow by gravity into the sump and will then be pumped out using submersible or land-based pumps.

The beach wells typically consist of a non-metallic casing, well screen, and vertical turbine pump. It is preferable to locate beach wells as close to the shoreline as possible, which means locating a pump house immediately above the spring high tide mark (Figure 2.7).

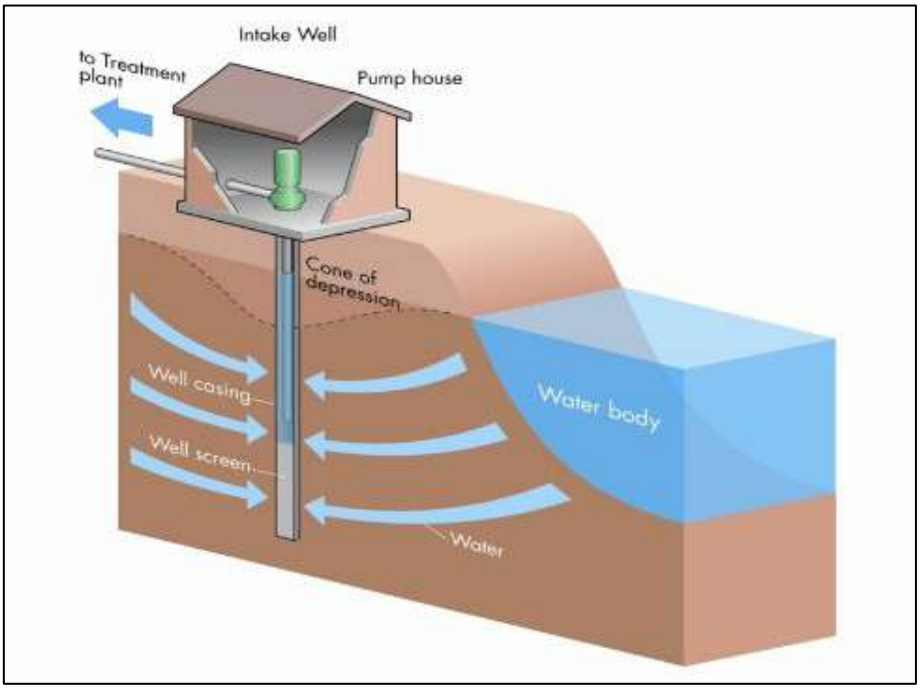


Figure 2.7: Vertical beach well (Voutchkov, 2011).

Onshore pump station

The onshore raw seawater abstraction system linking to the pump station and end-user (aquaculture or desalination plant), as well as the pump-over scheme's pipe works, will be buried where possible for safety reasons.

The facilities required for the pump station are as follows:

- Pump sets, with a separate inlet chamber for each pump;
- Mechanical equipment for seawater screening (mechanical rake screens) and screw conveyors for disposal of screenings to skip;
- Provision for easy access for lifting, transportation and removal of all plant;
- Safe and easy access to the pumping chambers;
- Penstock valves to enable the isolation of each chamber for maintenance purposes;
- Dewatering sumps installed below the lowest floor level in each chamber;
- A superstructure constructed over the pump area;
- All switchgear and control panels and other electrical equipment;
- A permanently installed electrical overhead travelling crane;
- LV MCC switch room; and
- Ventilation room.

2.3.4. WEROP Wave Pump

The WEROP wave pump is a pressure pump technology that makes use of wave energy for the abstraction of water without consuming any electricity in the process. This technology will be utilised for pumping smaller volumes of water to the shore either into a sump or directly to the user.

The wave pumps use wave energy directly to pre-filter and pump seawater at the requisite pressure to a shore-based end user. The wave pump has a footprint of about 50 m^2 and sits on the seabed at a depth of between 10 and 15 m. The distance offshore is dictated by the location of the seawater intake point and the topography of the seabed. In the case of the Coega SEZ, this is envisaged to be between 700 m and 1.5 km offshore (Figure 2.8).

The wave pump is secured to the seabed using a variety of methods, depending on the seabed characteristics. In the case of the Coega SEZ, three options are available but will be dependent on the exact location of the wave pumps:

- Sand anchors;
- Rock anchors; or
- Combination of both.

The wave pumps would be assembled in the Port, towed to the site and submerged onto the seabed at the required location.

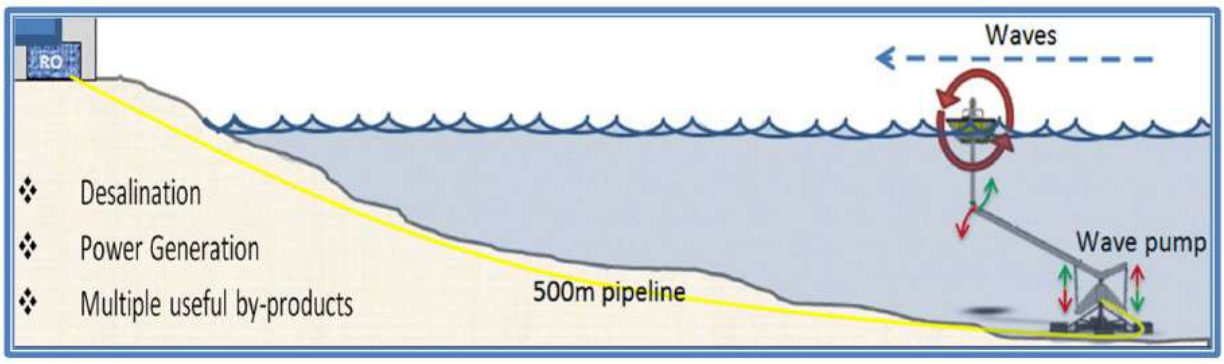


Figure 2.8: Diagram showing offshore wave pumps (Impact Free Water (Pty) Ltd, 2019).

2.3.5. Seawater distribution chamber or reservoir

A seawater distribution chamber or sump will be required close to the shore to supply seawater to the various aquaculture and desalination facilities within the Aquaculture Development Zone (ADZ). The PRDW Concept Design Report (2016) recommended locating the distribution chamber at the lower boundary of the ADZ in order to accommodate the large seawater supply requirements (5.0 m^3/sec) for the abalone flow-through facilities. The smaller flow demand (0.94 m^3/sec for finfish recirculation system and 2.03 m^3/sec for desalination) is required at elevated altitudes of the ADZ, and would be pumped from the distribution chamber or reservoir to the finfish farms and desalination facility located at the higher elevations.

The seawater distribution chamber or reservoir is located within the ADZ for which Environmental Auhthorisation (EA) has already been obtained.

2.4 MARINE DISCHARGE SERVITUDE

2.4.1. Discharge volumes

The need for the marine effluent discharge servitude is mostly driven by a corresponding need of the respective Coega SEZ industries to return mostly seawater effluent used for cooling water and aquaculture, back into the offshore marine environment. Other additional effluent streams include wastewater from the Coega WWTW, brine from the desalination plant and stormwater.

The following **maximum (worst-case)** effluent discharge requirements are projected:

Purpose	Type of effluent	Worse case discharge flow rates
Cooling water: once-through cooling	Seawater at 28°C and 35 ppt	14.70 m^3/sec
Cooling water: wet mechanical cooling	Seawater at 23°C and 53 ppt	0.30 m^3/sec
Aquaculture flow through system for abalone	Seawater with projected concentrations of ammonia, nitrate, nitrite, TSS, COD.	5.00 m^3/sec
Aquaculture recirculation system for finfish	Seawater with projected concentrations of ammonia, nitrate, nitrite, TSS, COD.	0.94 m^3/sec
Desalination brine	Brine at 60 ppt	1.22 m^3/sec
Wastewater	Treated domestic and industrial wastewater with projected concentrations of ammonia, nitrate, nitrite, TSS, COD, salinity heavy metals and E.coli	0.93 + 0.46 m^3/sec
Stormwater	Rainwater	Uncertain
TOTAL		**23.55 m^3/sec**

One or more of the following technologies will be implemented to discharge the various effluent streams from the various proposed land-based uses into the sea.

2.4.2. Cooling water for Once-Through power stations

The PRDW dispersion modelling report (2020) has determined that the cooling water for the Once-Through Cooling system (14.70 m^3/sec) must be discharged at a distance of 650 m offshore to a depth of -11 m CD in order to meet the applicable water quality guidelines.

The WSP (2020) technical report investigated two types of infrastructure for the discharge of the cooling water, namely:

- Eight (8) metre wide raceway; and
- Three (3) metre diameter tunnel.

Raceway discharge

The possibility of attaching a raceway to the eastern breakwater of the Port was determined to be unfeasible due to the potential risk of compromising the structural integrity of the breakwater. An alternative freestanding raceway was also investigated, such as the one shown in Plate 2.5 below, used at the Koeberg Power Station.

Plate 2.5: Typical outfall raceway seen at the Koeberg Nuclear Power Plant (WSP, 2020).

However, the freestanding raceway option would require significant infrastructure, including two lateral breakwaters that would have a large ecological footprint and would also affect sediment movement. Hence, this option was determined to be both financially and ecologically unacceptable.

Tunnel discharge

WSP have recommended that a tunnel is the most feasible option for discharging the large volumes of water from a once-through cooling system. Based on the expected discharge volumes, it is projected that a 3,000 mm outer diameter tunnel will be required for this purpose. The length from the high water mark to offshore would be about 600 m. Beyond this, seabed mounted pipelines may be used for the diffuser section.

The tunnel would consist of a concrete conduit (concrete pipe section installed by means of jacking and a tunnel boring machine from land) as shown in Plate 2.6 below. The concrete needs to be of suitable mix to ensure its design life is reached, especially considering the warm seawater flowing inside the tunnel.

The tunnel boring and pipe jacking is a large scale operation requiring a large beach laydown area during construction, as shown in Plate 2.6 below. Pipe jacking would be installed from the land side to the -11 m relief well (offshore retrieval pit) to extract the drilling equipment. It is likely that a marine jack-up barge may be required for this purpose.

Plate 2.6: Illustration of the on-land launch shaft and jacking process during the tunnelling process (WSP, 2020).

The seaward end of the pipeline or tunnel will have a diffuser section with ports to discharge effluent into the water column at appropriate velocities to promote rapid mixing (see example at Figure 2.9 below).

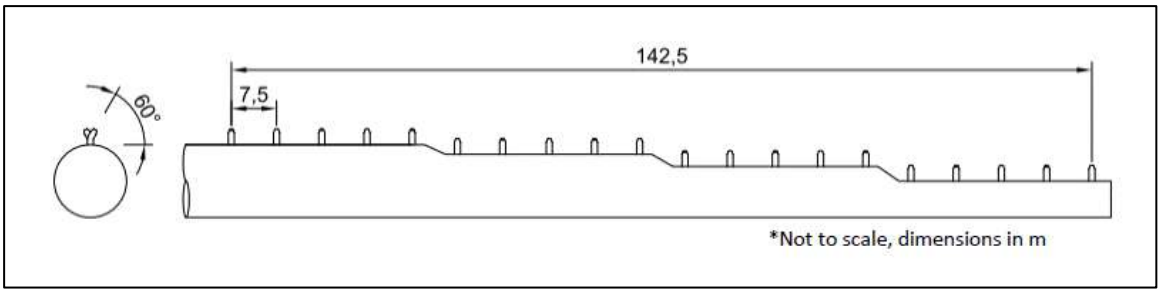


Figure 2.9: Conceptual diffuser section configuration with multiple discharge ports (PRDW, 2020).

2.4.3. Cooling water for Wet Mechanical power stations

The PRDW dispersion modelling report (2020) has determined that the cooling water for two Wet Mechanical Cooling systems (0.54 m^3/sec) (i.e. for two power stations using the Wet Mechanical Cooling technology) must be discharged at a distance of 650 m offshore to a depth of -11 m CD in order to meet the applicable water quality guidelines (the same location as the Once-Through Cooling).

The WSP technical report (2020) proposes a pipeline structure for the discharge of seawater from the Wet Mechanical Cooling power station. This outfall structure would be an HDPE pipeline of about 560 mm diameter for each plant. The pipeline would be designed to lie on the seabed and weighed down by concrete collars as shown in Plate 2.7 below.

Plate 2.7: Example of HDPE pipeline with collars to provide hydrodynamic stability when placed on the seabed (WSP).

Where a pipeline is embedded in the surf zone, a temporary jetty structure will be required during the construction period to provide a safe platform from which excavation can be done to bury the pipeline through the surf zone as shown in Figure 2.10 below.

Figure 2.10: Sheet pile jetty structure to provide access for cranes to excavate pipe burial trench (WSP, 2020).

The pipeline end will be fitted with a diffuser with a number of ports discharging the outflow within the marine environment, in order to improve mixing (similar to that shown in Figure 2.10 above).

2.4.4. Flow through abalone aquaculture effluent

Seawater effluent from the flow-through abalone farms (5.0 m^3/sec) will be discharged directly into the marine environment via a HDPE beach discharge pipeline, with a diameter of 2,500 mm, into the surf zone. The pipeline would need to be buried across the beach zone. The option of diverting some of the seawater to a desalination facility will also be explored.

2.4.5. Recirculated finfish aquaculture effluent

Recirculated finfish aquaculture effluent (0.94 m^3/sec) from various users will be treated on site by each investor before being discharged via a pipeline to the marine environment. The pipeline would be similar to the seawater abstraction pipeline described above (i.e. embedded in the surf zone and sitting on the seabed beyond the surf zone) and discharged at a distance of about 1,500 m offshore, at a depth of about -16 m below MSL.

Plate 2.8 below provides an example of a discharge pipeline that would be used for finfish effluent discharges.

Plate 2.8: Example of effluent discharge pipeline with concrete collars prior to sinking to the seabed.

2.3.5 Desalination (brine)

Brine from a 60 MLD desalination plant (1.22 m^3/sec) will be discharged directly to the marine

environment via a pipeline. The HDPE pipeline will have a diameter of 700 mm and buried underground on land, and laid on the seabed offshore. It will discharge at a distance of about 1,000 m offshore at a depth of about -14 m CD.

2.3.5 Wastewater

Treated industrial and domestic wastewater from the proposed Coega wastewater treatment works (WWTW) totalling 1.4 m^3/sec, will be discharged directly to the marine environment via a pipeline The pipeline would again be similar to the brine discharge pipeline described above discharging at a distance of 3,000 m offshore at a depth of -20 m CD.

The outfall structure for the wastewater would be a HDPE pipeline of about 700 mm diameter. The pipeline would be designed to lie on the seabed and weighed down by concrete collars as shown in Figure 2.10 below. The structure would be assembled in the port, floated out to the site and submerged. The section through the surf-zone would either be embedded in trenches or routed underneath the surf zone using directional drilling technologies.

The seaward end of the pipeline would have a diffuser section with ports to discharge effluent into the water column at appropriate velocities to promote rapid mixing (see example at Figure 2.11 below).

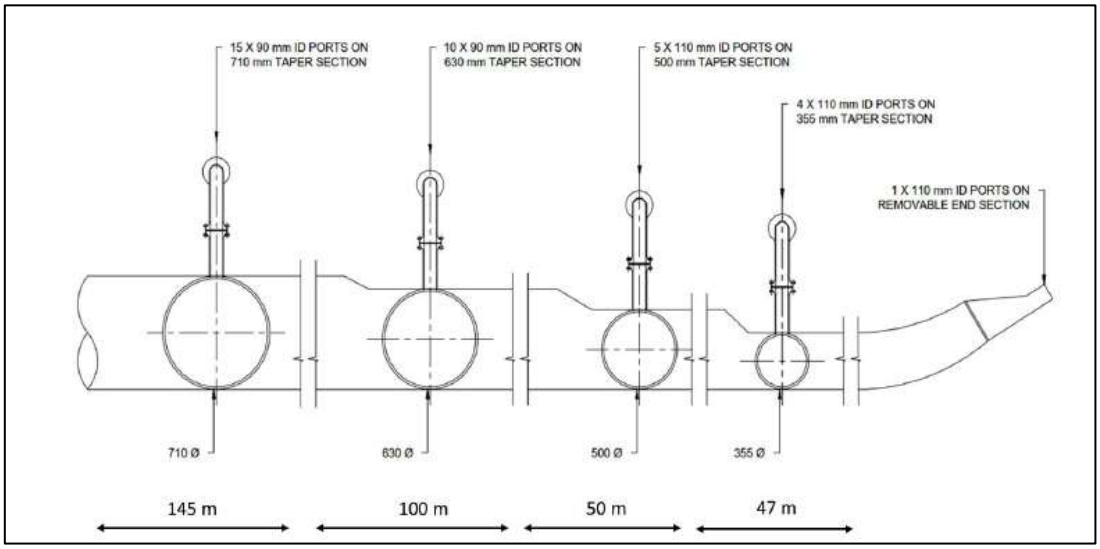


Figure 2.11: Example of diffuser section of a wastewater pipeline with multiple discharge ports.

2.4.6. Stormwater discharge infrastructure

Information on the stormwater management requirements was provided by the CDC. The main objective of the stormwater outlet structures is the dissipation of energy and prevention of erosion during rain events. The secondary objective is to collect waste that might wash down the stormwater pipes/channels.

Structure location

The three stormwater structures will be located along the shoreline of Zone 10, at a level of 7 m above mean sea level in order to prevent it being damaged during high tide and storm events (Figure 2.12). Discharges from the three stormwater outlets will correspond with the following servitudes:

- Discharge servitude 2: Brine, finfish and wastewater effluent;

- Intake servitude 2: Desalination and aquaculture (i.e. in the same servitude as the intake); and
- Discharge servitude 3: Abalone effluent.

The final positions will be established on site in order to consider specific site conditions / restrictions (i.e. micro-siting).

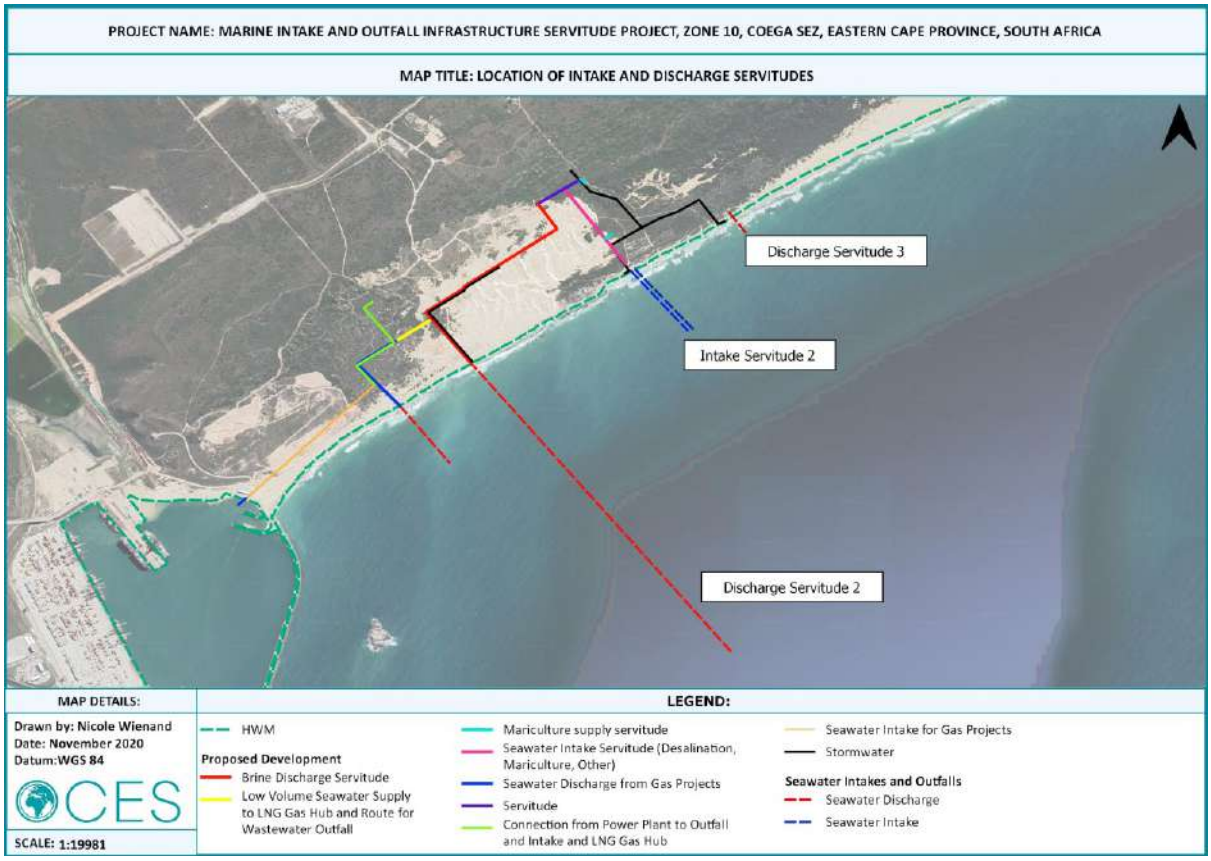


Figure 2.12: Location of Intake and Discharge Servitudes.

Design

Due to the sensitive location of the stormwater outlets, it has been decided to utilise gabions to form the structure instead of reinforced concrete, as it would be less visually intrusive in the natural coastal environment of Zone 10. The design will also involve planting of appropriate vegetation to improve the aesthetic appearance of the structures.

The outlet structure will be installed at a maximum slope of 1:100. The inlet channel profile will be increased in order to reduce flow velocity entering the structure (Figure 2.12). The flow pattern will further reduce velocity and dissipate energy, while allowing for debris/waste to settle/get trapped on the outsides of the channel through the structure. During extreme rainfall events the water will be able to overtop the baffle gabions if required, while flow velocity will be reduced and energy dissipated. The capacity of the structure is designed for a 1:5-year return period storm, without overtopping the baffle gabions. The outlet Reno mattress can be extended to the highwater mark in order to prevent beach erosion. Figure 2.13 and Figure 2.14 provides detailed designs for the stormwater discharge structures.

Figure 2.13: Location of three (3) stormwater discharges into the sea.

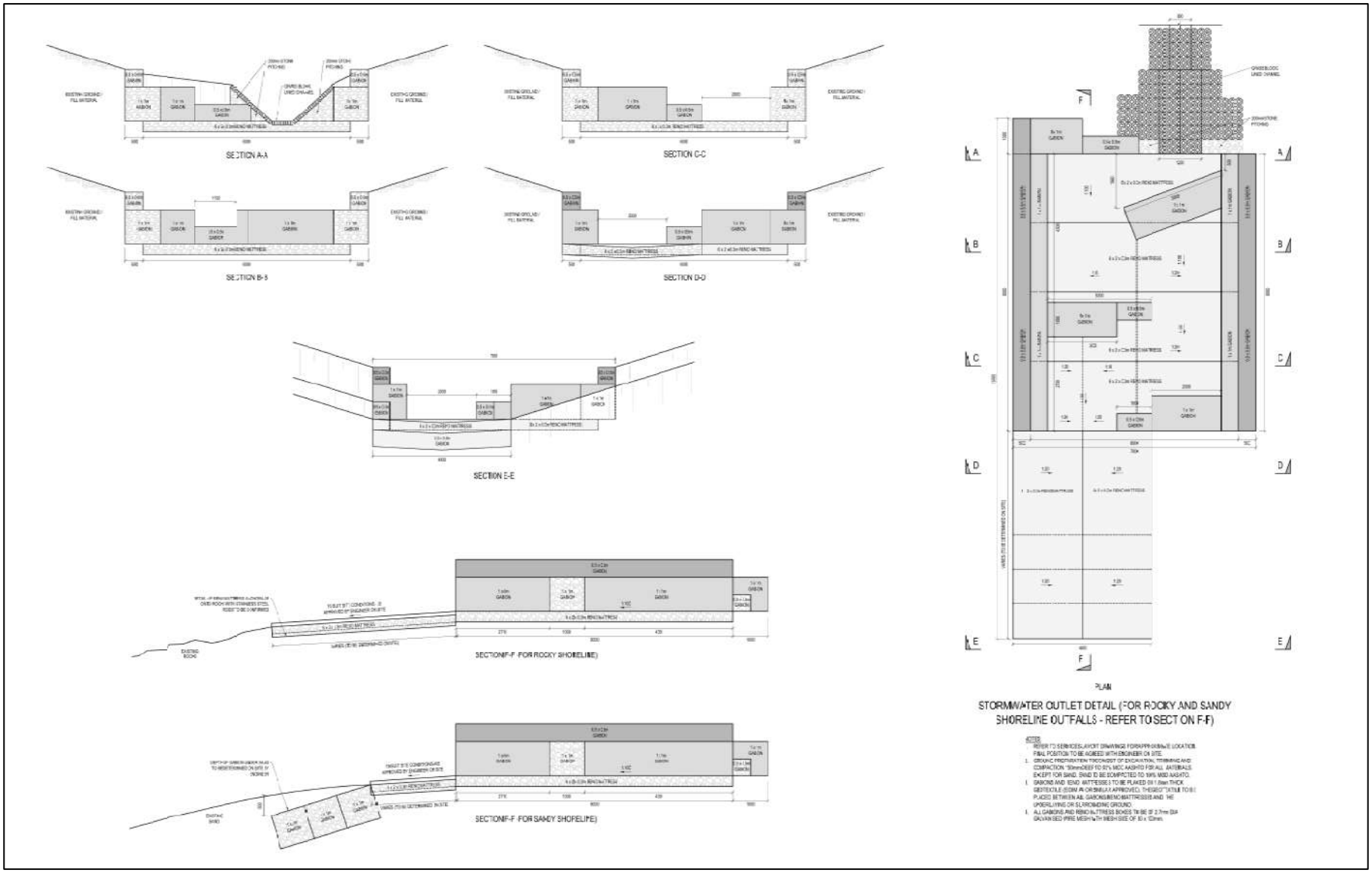


Figure 2.14: Detailed design of stormwater structures provided by the CDC.

2.4 ALTERNATIVES

2.5.1 Background

This section provides an assessment of the various alternatives associated with the proposed establishment of marine servitudes for seawater abstraction and effluent discharge (including return cooling / heating and aquaculture seawater, brine, treated wastewater and stormwater) adjacent to the Coega SEZ, and outlines the process informing the identification of the **preferred alternative.**

With respect to the consideration of alternatives, Regulation 2 (1) of Appendix 2 in the EIA Regulations states the following:

> "A scoping report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process, and must include:
>
> (g) A full description of the process followed to reach the proposed **preferred activity, site and location** of the development footprint within the site, including:
>
> (i) Details of all the alternatives considered;
>
> (iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;
>
> (v) The impacts and risks which have informed the identification of each alternative, including the nature, significance, consequence, extent, duration and probability of such identified 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;
>
> (vi) The methodology used in identifying and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;
>
> (vii) 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;
>
> (viii) The possible mitigation measures that could be applied and level of residual risk;
>
> (ix) The outcome of the site selection matrix;
>
> (x) If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and
>
> (xi) A concluding statement indicating the preferred alternatives, including preferred location of the activity."

2.5.2 Reasonable and Feasible Alternatives

The identification of alternatives is a key aspect of the EIA process. In relation to a proposed activity, "alternatives" mean different ways of meeting the general purposes and requirements of the proposed activity. Most guidelines use terms such as "reasonable", "practicable", "feasible" or "viable" to define the range of alternatives that should be considered.

There are three broad types of alternatives that need to be considered:

Fundamental alternatives

Fundamental alternatives are developments or activities that are substantially different from the proposed project description and usually include the following:

- Alternative type of activity to be undertaken; and

- Alternative location where the proposed activity will be undertaken.

Incremental alternatives
Incremental alternatives relate to modifications or variations to the design of a project that provide different options to reduce or minimise environmental impacts. There are several incremental alternatives that can be considered with respect to the current project, including:

- Alternative design or layout of the activity;
- Alternative technology to be used in the activity; and
- Alternative operational aspects associated with the activity.

No-go alternative
It is mandatory to consider the "no-go" alternative in the EIA process. The "no-go" alternative refers to the continuation of the existing land or sea use, i.e. maintain the current status quo and the risks and impacts associated with it. Some existing activities may carry risks that may be undesirable (e.g. an existing contaminated site earmarked for a development).

For the purpose of clarity and to avoid confusion, the current assessment of alternatives is divided into two broad categories, namely:

- Marine intake servitudes for seawater abstraction; and
- Marine oufall servitudes for effluent discharges.

2.5.3 Analysis of Marine Intake Servitude Alternatives

VOLUME REQUIREMENTS

A detailed motivation for the need to source seawater for various land-based industries in the Coega SEZ is provided in Section 1.5 of this report.

The need for the marine seawater abstraction servitudes is driven by the following water requirements for the industries that will potentially be established within the Coega SEZ:

- Cooling water for two 1000 MW LNG power stations for which the EIA is currently in progress.
- Land based aquaculture (including >40,000 tonnes / year of abalone and finfish). Environmental Authorization was received on the 7th of February 2018.
- The Coega Aquaculture Development Zone (ADZ) includes the development of a desalination plant with a maximum capacity of 60 Ml / day. Environmental Authorization was received as part of the authorisation for the aquaculture development zone on the 7th of February 2018.

Information relating to the seawater requirements is based on input from the following sources: CES (2015), Carnegie Energy (2019), WSP (2020), Ethical Exchange (2017) and SRK (2020). There have also been various *ad hoc* communications with various relevant industry specialists and CDC personnel to confirm seawater volume requirements.

Based on the various inputs, the following **maximum (worst-case)** seawater intake requirements are projected:

Purpose	Worse case intake flow rates
Cooling Water: Once-Through Cooling	14.70 m^3/sec
Cooling Water: Wet Mechanical Draft Cooling	0.42 m^3/sec
Aquaculture flow through system for abalone	5.00 m^3/sec
Aquaculture recirculation system for finfish	0.94 m^3/sec
Desalination	2.03 m^3/sec
Total	**23.09 m^3/sec**

ALTERNATIVE TYPE OF ACTIVITY

Section 1.5 provides a motivation for the need for abstracting seawater for various proposed Coega SEZ industries, including:

- Cooling water for the power station hub to provide tenants with secure access to energy and contribute to broader energy security in South Africa;
- Desalination to supplement freshwater supply from the NMBM and to provide tenants with secure access to freshwater in a water stressed region; and
- Seawater for marine aquaculture to promote local food security and export products.

The following provides an explanation and rationale as to why the abstraction of seawater is the **only reasonable and feasible alternative for securing water** for the various water requirements at the Coega SEZ.

Cooling water for power stations

An initial PRDW (2017) dispersion modelling report was based on a projected flow rate of 45 m^3/sec to cool three 1,000 MW power stations using the Once-Through Cooling system. However, the more recent WSP (2020) technical report has recommended a mixture of various alternative power station cooling technologies in addition to the Once-Through Cooling system, that require less or no water at all. These include:

- Wet mechanical system - 0.42 m^3/sec per 1,000 MW unit; and
- Air cooled system - no water required.

The WSP report (2020) provides a comparative modelling analysis of the various power station cooling technical options based on pumping requirements to the various elevations and distances of the three proposed power station locations, and net technical efficiencies. The report determined the following to be the most feasible options:

- Once-through seawater cooling option for Zone 10 South;
- Wet mechanical cooling for Zone 10 North; and
- Air cooling for Zone 13 (no water required).

Based on the above, the total maximum seawater requirements for power station cooling will be 14.7 m^3/sec, reduced from an initial 45 m^3/sec. This is significantly lower than operating all three power stations using the Once-Through Cooling system, and hence these alternatives have reduced the potential environmental impacts of sea water abstraction. However, it is not feasible or possible to source the required volumes of cooling water from freshwater sources such as boreholes and municipal water, and it would be environmentally unacceptable to do so in a water stressed area.

Recycling of cooling water is a further option that required consideration. This is with the technology behind the Wet Mechanical Cooling option, but the trade-off for this option is that it requires significant land to construct the water recycling infrastructure. The recycling of water used for Wet Mechanical Cooling would require significant land for constructing holding dams at a much greater additional capital cost. Thus, the use of both these options has been recommended for two of the power stations, with the trade-offs being reduced seawater abstraction balanced againts reduced land requirements and costs.

Conclusion: The only feasible alternative for sourcing cooling water, is to abstract the required water from the ocean.

Desalination

The Coega SEZ currently sources its potable water supply from the NMBM water supply network. The NMBM purchases water from the Department of Water and Sanitation (DWS), which is supplied from the Orange River Water Scheme. The CDC has been investigating the feasibility of developing a desalination facility to supplement the current NMBM supply, in order to provide tenants with a secure supply of freshwater for various industrial purposes. Environmental authorization for the development of a desalination plant to supplement water supply from the NMBM, was approved in 2018. The desalination project will follow a phased approach and will start with an initial volume of 15 Ml/day of potable water, ramping up incrementally to 60 Ml/day.

Conclusion: Based on the above, there are no other feasible options for supplementing the existing fresh water supply from the NMBM in a water stressed region, other than sourcing seawater from the ocean for desalination.

Land-based marine aquaculture

The establishment of an Aquaculture Development Zone (ADZ) within Zone 10 of the Coega SEZ has been in planning for a number of years. The economic motivation for the establishment of a 440 Ha and 42,370 tonnes per annum ADZ is provided in the CES feasibility study conducted in 2015. As a consequence, the CDC progressed the ADZ concept and obtained environmental authorization for the development of the ADZ in 2018.

With respect to the potential for recycling aquaculture seawater, the proposed Coega ADZ finfish aquaculture concept is based on the well advanced recirculation technology, where up to 90% of the abstracted seawater is recycled using various filtration and treatment processes such as biofilters, etc. In contrast, abalone aquaculture is proven only to be feasible using a flow-through system.

The manufacture of seawater for culturing marine species has been attempted but with little success. In this instance, access to large volumes of freshwater would be needed, which would be problematic within the water constrained Coega area.

Conclusion: Based on the above information there are no other reasonable or feasible types of activities for sourcing large volumes of water for the aquaculture industry within the SEZ, other than sourcing the required water from the sea.

Overall conclusion

The **preferred alternative activity** is to establish marine intake servitudes alongside the Coega SEZ for the worst-case seawater abstraction requirements listed above. Alternative activities other than the establishment of a marine intake servitude for abstracting seawater from the ocean, are not considered to be reasonable or feasible.

ALTERNATIVE LOCATIONS FOR THE PROPOSED ACTIVITY

This assessment addresses the alternative locations for the proposed abstraction of seawater adjacent to the Coega SEZ.

The identification and assessment of reasonable or feasible marine intake servitude alternatives for abstracting seawater has been an iterative process over a number of years. Pre-feasibility engineering studies (PRDW 2016, for aquaculture) and site selection risk assessment studies (PRDW, 2017) assessed a number of alternative locations for the proposed marine intake servitudes.

PRDW 2016 Concept Design Report

The 2016 PRDW Concept Design Report assessed three (3) broad "*locations*" for the abstraction of seawater for aquaculture (i.e. it did not consider the power station cooling water requirements, as this project had not been conceptualised at that time). These included:

1. East of the Port;
2. In the vicinity of the Port, and;
3. West of the Port of.

The conclusion was that locating an intake servitude east of the Port is the most feasible alternative mostly due to economic benefits associated with abstracting seawater closer to the aquaculture zone.

PRDW 2017 Dispersion Modelling Report

The 2017 PRDW Dispersion Modelling Report assessed six (6) locations for the proposed seawater abstraction or intake points, with a view to identifying common seawater intake servitudes. Compared with the 2016 PRDW Concept Design Report, this analysis also included cooling water. The six locations included (refer to Figure 2.15 below):

- W1 - Western intake at -10 m Chart Datum (CD)
- W2 - Western intake at -16 m CD
- CW - Cooling water intake inside the Port of Ngqura
- CB1 - Cerebos intake within the Port of Ngqura
- CB 2 - Cerebos intake at Sundays River Mouth
- E1 - Eastern intake at -10 m CD

The following conclusions were arrived at with respect to the preferred marine intake servitude locations:

- W1, W2 and CB2 were identified as **'not viable'** for seawater intake due to the large volumes of water required for cooling water and aquaculture development and the long distance of these sites from the power station sites and aquaculture zone, resulting in significantly higher economic costs due to the much longer reticulation distance.
- CW and CB1 were considered **'potentially viable'** if separate aquaculture and cooling water intakes are constructed, as the quality of the seawater within the Port is not of a high enough quality for aquaculture.
- E1 was considered to be **'potentially viable'** since the required effluent dilutions can be achived, but still subject to the outcome of the marine ecological impact assessment in the EIA phase.

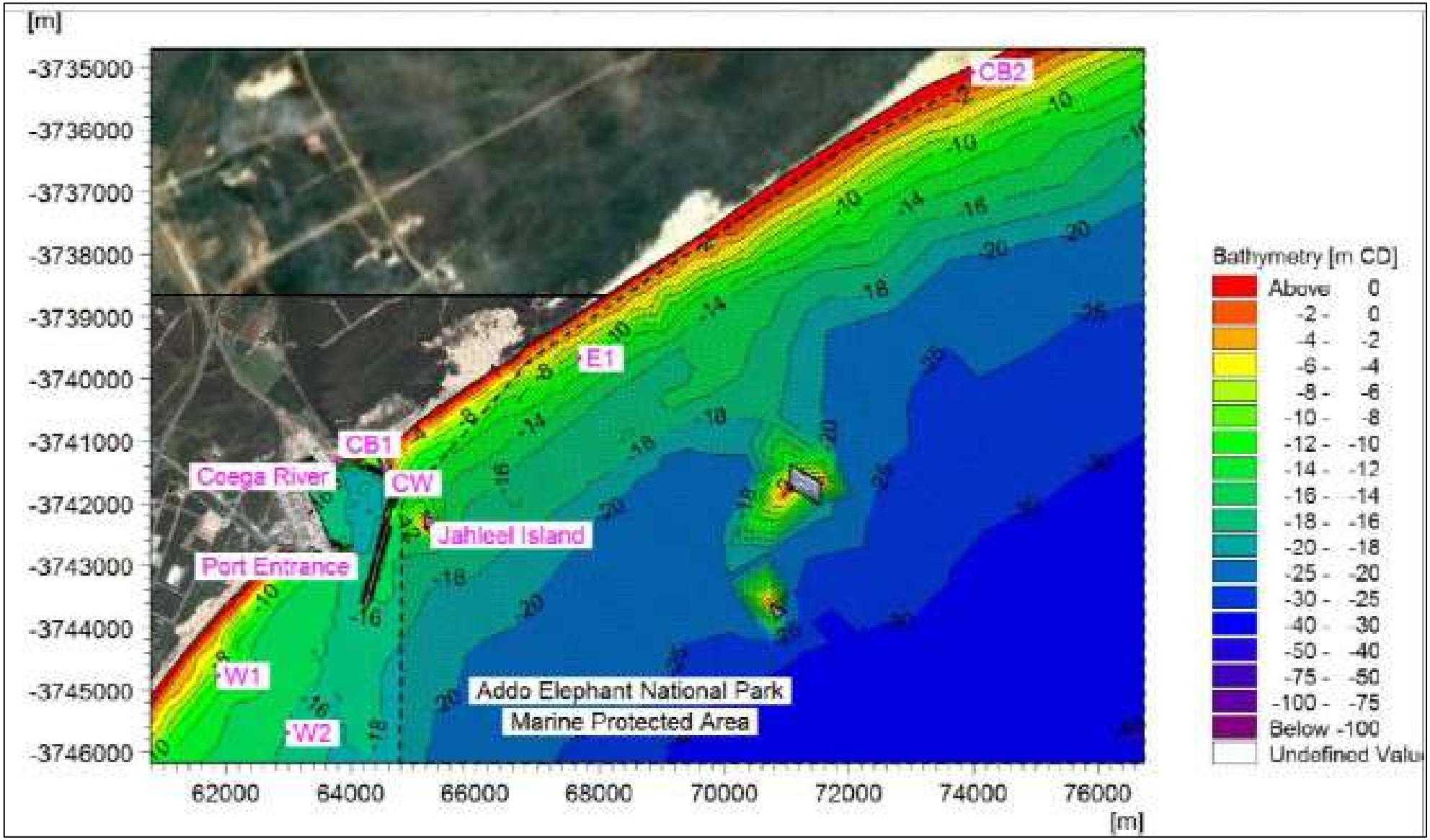


Figure 2.15: Location of intakes and sensitive receptors (PRDW, 2017).

Impact risk assessment for alternative intake locations

A high-levelled risk assessment was conducted to assess the six (6) potential seawater intake servitudes locations.

The following list of environmental, social and economic impacts or risks were identified and considered with respect to determining the preferred seawater intake locations.

- Geographical location
- Physical conditions (e.g. water quality)
- Terrestrial ecology
- Marine ecology
- Social
- Social-economic
- Economic
- Heritage & cultural
- Technical
- Climate change mitigation
- Climate change adaptation

The risks were also considered with respect to the design, construction operation and decommissioning project phases.

Table 2.2 below provides the results of the high-level risk assessment in the form of a screening matrix of the six (6) potential seawater intake servitudes locations. It takes into consideration the impact assessment and mitigation hierarchy, including:

- The nature of potential impacts including significance, consequence, extent, duration and probability; and
- Reversable, irreplaceable loss, can be avoided, managed or mitigated.

Table 2.2: High-levelled environmental, social and economic risk assessment screening matrix for alternative seawater intake servitude locations.

ENVIRONMENTAL ATTRIBUTES	SEAWATER INTAKE LOCATION ALTERNATIVES					
	Western intake at -10 m CD	Western intake at -16 m CD	Cooling water intake inside Port	Cerebos intake within the Port	Cerebos intake Sundays River Mouth	Eastern intake at -10 CD
Geographical location	Not preferred	Not preferred	Preferred	Acceptable	Not preferred	Preferred
Physical conditions (e.g. water quality)	Acceptable	Acceptable	Acceptable	Not preferred	Acceptable	Preferred for aquaculture
Terrestrial ecology	Not preferred	Not preferred	Preferred	Acceptable	Not preferred	Preferred
Marine ecology	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable
Social	Not preferred	Not preferred	Acceptable	Acceptable	Not preferred	Acceptable
Social-economic	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable
Economic	Not preferred	Not preferred	Preferred	Acceptable	Not preferred	Preferred
Heritage & cultural	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable
Technical	Acceptable	Acceptable	Acceptable for cooling	Acceptable	Acceptable	Acceptable
Climate change mitigation	Not preferred	Not preferred	Preferred	Acceptable	Not preferred	Preferred
Climate change adaptation	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

Table 2.3 below summarises the results of the risk assessment.

Table 2.3: Results of a high-level risk assessment completed for the six potential locations of themarine intake servitude.

Abstraction location	Conclusion	Reasonable and feasible
Western intake at -10 m and -16 m CD	**Geographical location:** Abstraction from the west of the Port is a long distance from the point where the seawater is required in Zone 10. **Terrestrial ecology:** The reticulation of seawater around the Port from the west to the east along the N2, poses higher risks to the terrestrial environment along the route, such as disturbance to vegetation and risk of seawater leakages along the route. **Social:** Large volumes of electricity would be required in order to pump seawater from the west of the Port to Zone 10 east of the Port. The country is currently in an energy crises and any avenues to save energy must be considered. **Economic**: The capital and operational costs associated with conveying large volumes of abstracted seawater a long distance around the Port to the power stations and desalination and aquaculture facilities in Zone 10, would not be economically feasible. **Climate change:** The carbon footprint associated with pumping seawater from the west of the Port to Zone 10, would be significant over the life of the project.	**NO**
Cooling water intake inside Port	**Marine ecology:** Since the cooling of the power stations requires the largest volumes of seawater and is not dependent on the quality of the seawater, water for this purpose can be abstracted from the Port which will have a lower environmental impact.	**YES** but only for cooling water, as water quality in the Port is not suitable for aquaculture
Cerebos intake within the Port	To ensure that there are no impacts on Cerebos, it was determined that a shared intake between the two industries would not be viable in this instance.	**NO**
Cerebos intake Sundays River Mouth	**Geographical location:** Abstraction from the Sundays River is a long distance from the point where the seawater is required in Zone 10. **Terrestrial ecology:** The reticulation of seawater from the Sundays River to Zone 10 east of the Port, possibly along the N2, poses higher risks to the terrestrial environment along the route, such as disturbance to vegetation and risk of seawater leakages along the route.	**NO**

Abstraction location	Conclusion	Reasonable and feasible
	Social: Large volumes of electricity would be required in order to pump seawater between the Sundays River and Zone 10. The Country is currently in an energy crises and any avenues to save energy must be considered. **Economic**: The capital and operational costs associated with conveying large volumes of abstracted seawater from the Sundays River to the power stations and, desalination and aquaculture facilities in Zone 10, would not be economically feasible. **Climate change:** The carbon footprint associated with pumping seawater from Sundays River to Zone 10, would be significant over the life of the project.	
Eastern intake at -10 m CD	**Geographical location:** Abstraction from the east of the Port is geographically closer to the location where the seawater is required. **Water quality:** Aquaculture and desalination require a higher seawater quality and abstraction from the Port would not be a viable option. Hence, an open sea intake in close proximity to the approved aquaculture zone (i.e. east of the breakwater) is preferred. **Terrestrial ecology:** The shorter distance for the reticulation of seawater to the point of use, poses a lower risk to the terrestrial environment along the route, such as disturbance to vegetation and risk of seawater leakages along the route. **Economic**: The capital and operational costs associated with conveying large volumes of abstracted seawater from the east of the Port, would be much lower over the life of the project, compared with pumping seawater around the Port from the west. **Climate change:** The carbon footprint associated with pumping costs from the east of the Port would be much lower over the life of the project, compared with pumping seawater around the Port from the west.	**YES**

Conclusion

The **preferred alternative marine intake servitude locations** would be to have two (2) separate seawater intake servitude locations:

- Intake servitude 1: Seawater for Once-Through Cooling and Wet Mechanical Cooling located inside the Port; and
- Intake servitude 2: Seawater for aquaculture and desalination located to the east of the Port.

SPECIFIC LOCATIONS, LENGTH AND WIDTH OF THE SERVITUDES

This section provides an assessment of the more specific locations of the two intake servitudes identified in the previous section, namely:

- Intake Servitude 1: Inside the Port for cooling water; and
- Intake Servitude 2: East of the Port for aquaculture and desalination.

Similar to the determination of the preferred broader geographical locations, the layout of the two proposed intake servitudes are informed by the positions of the proposed outfall locations, as the intakes need to be located where there are no risks of recirculation of effluent into the proposed intakes.

The proposed layout of the two seawater intake servitudes is mostly informed by the results of the more recent 2020 PRDW dispersion modelling report, where the layout is significantly based on the effluent discharge modelling for the worst-case discharge scenario. Figure 2.18 in Section 2.4 below shows the proposed servitude positions on the shoreline, discharge distances offshore and depth of abstraction. It is also proposed that a maximum servitude width of 200 m is established in order to accommodate the various abstraction technologies.

Conclusion

The **preferred alternative for specific locations** of the two intake servitudes based on the worst-case abstraction scenario, includes:

- Intake servitude 1: Inside the Port (for cooling water only) with a servitude radius of 100 m; and
- Intake servitude 2: East of the Port (for combined aquaculture and desalination) with a servitude width of 200 m to a distance of 600 m offshore and to a depth of -10 m CD.

ALTERNATIVE DESIGN AND TECHNOLOGY TO BE USED IN THE ACTIVITY

Cooling water

The different seawater intake infrastructure designs and technologies for the abstraction of cooling water are described in the WSP Technical Report (2020) as also described in the Project Description in Section 2 (i.e. intake basin and pipeline jetty). Within the cooling water intake servitude both technologies will be utilised. These include:

- An intake basin comprising four or more parallel concrete intake channels located inside the Port of Ngqura will be required for the Once-Through Cooling system, requiring large volumes of seawater.
- An intake pipeline comprising a jetty located inside the Port of Ngqura will be required for the Wet Mechanical Cooling system requiring much lower volumes of cooling seawater.

Aquaculture and desalination

Details on designs and technologies that will be used for abstracting seawater for aquaculture and desalination are provided by the PRDW Conceptual Design Report (2016) and CDC personnel, respectively.

The following seawater intake designs and technologies will be utilized for aquaculture and desalination:

- An intake pipeline or pipeline tunnel will be required for high volumes of seawater for desalination and a flow-through system for abalone aquaculture; and
- Vertical beach wells will be required for the finfish aquaculture recirculation system.

A further technology to be included is the WEROP wave pump technology which would be located at the point of intake of the desalination intake pipeline and would facilitate the pumping of seawater to the shoreline.

Conclusion
The **preferred alternative design and technology,** based on the worst-case abstraction scenario, includes:

- **All** feasible seawater intake infrastructure design and technology options (i.e. intake basin, pipeline, jetty, WEROP wave pumps and vertical beach wells).

Consequently, impacts relating to **All** the "worst-case" intake design and technology options will be assessed in the EIAr.

SUMMARY OF PREFERRED SEAWATER INTAKE SERVITUDE ALTERNATIVE

The following table provides a summary of the **preferred seawater intake servitude alternative**, which includes two separate servitudes which will be assessed in the EIA. No other alternatives will be assessed (except for the no-go alternative), since there are no other reasonable and feasible alternatives.

Alternative category	**Preferred alternative**	
Servitude	**Intake servitude 1**	**Intake servitude 2**
Activity	• Abstraction of seawater from the sea for Once-Through and Wet Mechanical Cooling of power stations.	• Abstraction of seawater from the sea for land-based aquaculture and desalination.
Broad geographical location	• Cooling water intake servitude inside the Port located at the root of the eastern breakwater as indicated in PRDW map (Figure 2.18).	• Combined aquaculture and desalination water intake servitude located east of the Port as indicated in PRDW map (Figure 2.18).
Specific location	• Servitude radius of 100 m and a depth of -6 m CD.	• Servitude width of 200 m to a distance of 600 m offshore and a depth of -10 m CD.
Design and Technology	• Once-Through Cooling water intake basin with four concrete channels each 3.5 m wide. • Wet Mechanical Cooling water intake jetty with a 710 mm HDPE pipe.	• Desalination – up to three 1,000 diameter HDPE intake pipes; • Aquaculture – up to three 1,600 diameter pipeline tunnels; • Vertical beach wells; • WEROP wave pumps; and • Stormwater gabions.

Figure 2.16 below shows the broad locations of the preferred intake servitude alternative comprising two intake servitudes.

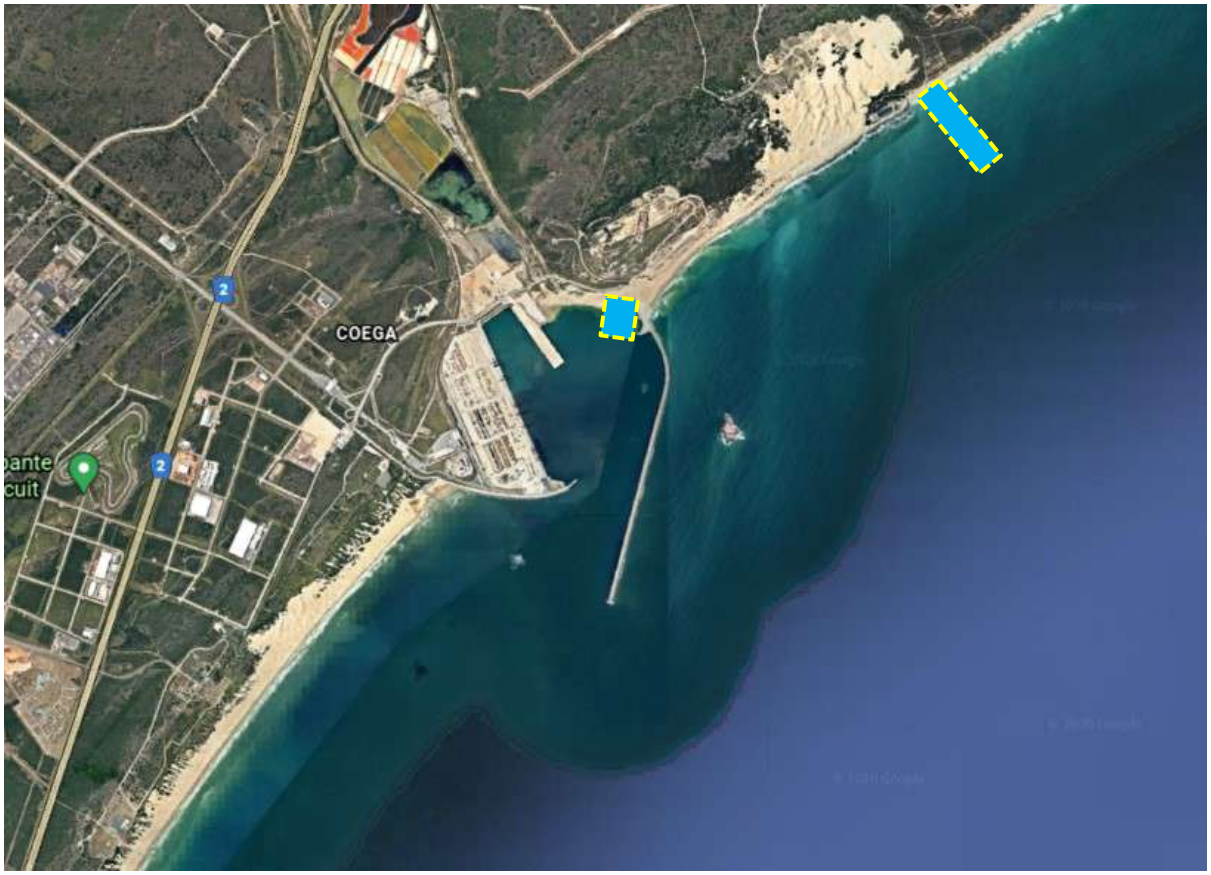


Figure 2.16: Broad locations of the preferred marine intake servitude alternative comprising two (2) intake servitudes.

2.5.4 Analysis of Effluent Discharge Servitude Alternatives

This section addresses the assessment of the alternatives for effluent discharge servitudes.

A detailed motivation for the need to source seawater for various land-based industries in the Coega SEZ is provided at Section 1.5.

ALTERNATIVE TYPE OF ACTIVITY

The need for the marine effluent discharge servitudes is mostly driven by a corresponding need of the respective Coega SEZ industries to return effluent seawater back into the offshore marine environment, including: cooling water and aquaculture effluent. Other effluent streams include brine, treated wastewater and stormwater.

The following **maximum (worst-case)** effluent discharge requirements are projected:

Purpose	Type of effluent	Worst-case discharge flow rates
Cooling water: once-through cooling	Seawater at 28°C and 35 ppt	14.60 m^3/sec
Cooling water: wet mechanical cooling	Seawater at 23°C and 53 ppt	0.30 m^3/sec
Aquaculture flow through system for abalone	Seawater with projected concentrations of ammonia, nitrate, nitrite, TSS, COD.	5.00 m^3/sec
Aquaculture recirculation system for finfish	Seawater with projected concentrations of ammonia, nitrate, nitrite, TSS, COD.	0.94 m^3/sec
Desalination brine	Brine at 60 ppt	1.22 m^3/sec
Wastewater	Treated domestic and industrial wastewater with projected concentrations of ammonia, nitrate, nitrite, TSS, COD, salinity heavy metals and E.coli	0.93 + 0.46 m^3/sec
Stormwater	Rainwater	Uncertain

The same explanation and rationale provided above for determing the **preferred activity** relating to intake servitudes, is also applicable in informing the need for the effluent discharge servitudes.

Conclusion

The **preferred alternative activity** is the establishment of marine discharge servitudes adjacent to the Coega SEZ. Alternative activities other than the establishment of marine servitudes for the discharge of effluent into the ocean, are not considered to be reasonable or feasible.

ALTERNATIVE LOCATIONS FOR THE PROPOSED ACTIVITY

This section addresses the preferred alternative locations for the discharge of various effluent streams into the sea adjacent to the Coega SEZ.

The identification and assessment of reasonable or feasible marine servitude alternatives for discharging effluents into the sea has been an iterative process over a number of years. Pre-feasibility engineering studies (PRDW 2016, for aquaculture) and site selection risk assessment studies (PRDW, 2017) assessed a number of alternative locations for the proposed marine effluent discharge servitude(s).

PRDW 2016 Concept Design Report

The 2016 PRDW Concept Design Report assessed three (3) broad "*locations*" for the discharge of aquaculture effluent (i.e. it did not consider the power station cooling water requirements, as this project had not been conceptualised at this time). These included:

1. East of the Port;
2. In the vicinity of the Port; and
3. West of the Port.

The conclusion was that locating the effluent discharge servitudes east of the Port is the most feasible alternative mostly due to economic benefits associated with discharging the effluent closer to its source in the aquaculture zone located in Zone 10 east of the Port.

PRDW dispersion modelling 2017

In 2017, PRDW conducted a marine dispersion modelling exercise where 12 marine effluent discharge scenarios were developed and then modelled for the defined range of potential effluents. In addition to these 12 scenarios, 3 more scenarios were inferred from results of the modelled scenarios from six (6) sites (Figure 2.16):

- *Option 1* – Approximately 2 km south-west of the western breakwater at 10 m depth.
- *Option 2* – Approximately 2 km south-west of the western breakwater at 16 m depth.
- *Option 3* – Along the seaward side of the eastern breakwater with the discharge point at the elbow of the breakwater.
- *Option 4* – Along the seaward side of the eastern breakwater with the discharge point at the end of the breakwater.
- *Option 5* – Approximately 900 m to the north-east parallel to the eastern breakwater at 10 m depth.
- *Option 6* – Approximately 900 m to the north-east parallel to the eastern breakwater at 20 m depth.

Figure 2.17 shows the location of the various discharge options that were modelled.

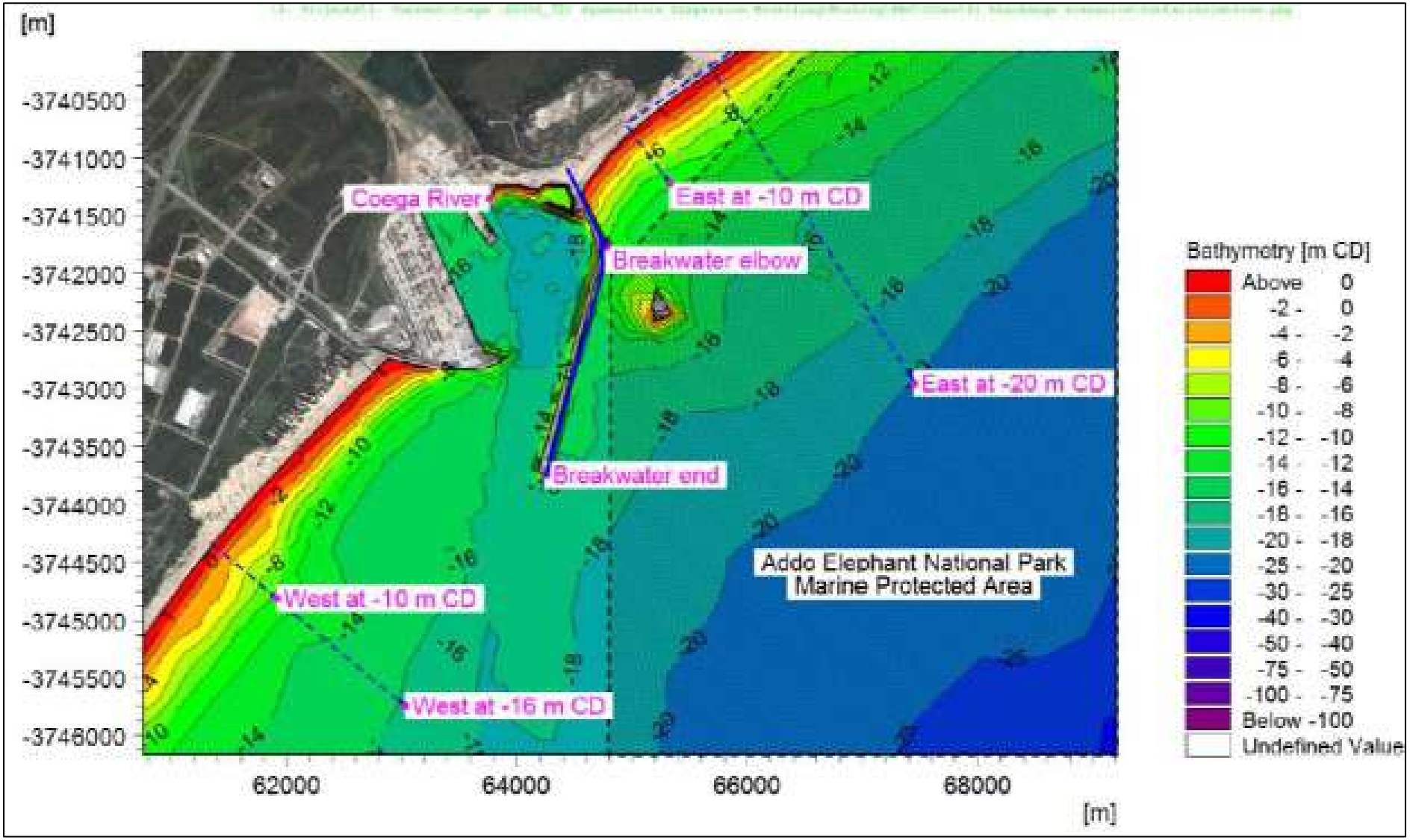


Figure 2.17: Location of modelled discharge outfalls (PRDW, 2017).

The dispersion modelling analysed for mixing zones of 100 m and 300 m from the discharge point. Water quality guidelines were also applied at locations of sensitive receptors, including the boundary of the Addo Elephant Marine Protected Area (MPA), 300 m from the boundary of the MPA, Jahleel Island, 100 m from Jahleel Island and the port entrance.

The results of the dispersion modelling which informs the preferred location for discharging effluents, are summarised below.

Discharge west of the Port

The location of the discharge servitude west of the Port was identified as **'not viable'** for the construction of the proposed servitude for the following reasons:

- Effluent will need to be pumped around the perimeter of the Port which would result in significantly higher capital and operational costs compared with an eastern discharge.
- Although the required dilutions can be achieved, discharges west of the Port at -10 m will enter the Port, which increases the risk of accumulation of particulate matter with associated nutrients and heavy metals. If the pipeline is extended to -16 m, the achieved dilutions reduce the risk of effluent entering the Port is lowered. However, there is still a risk of accumulation of particulate matter with associated nutrients and heavy metals.

Discharge within the Port

Discharging of effluent within the Port was identified as **'not viable'** for the following reason:

- Discharges will potentially become trapped in the Port resulting in accumulation of particulate matter with associated nutrients and heavy metals.

Discharge east of the Port

Discharge east of the Port was considered to be **'potentially viable'** for the following reason:

- The required dilutions can be achieved with no risk of effluent entering the Port or unacceptable environmental damage to the Marine Protected Area (MPA). In addition, the National Environmental Management: Protected Areas Act, 2003 (Act No 57 of 2003) Regulations for the management of the Addo Elephant National Park Marine Protected Area (23 May 2019) Section 10(2) make allowance for discharges into the Addo MPA.

Impact risk assessment for alternative effluent discharge locations

A high-levelled risk assessment was conducted to assess the three (3) broad potential seawater discharge servitudes locations:

- West of the Port;
- Within the Port; and
- East of the Port.

The following list of environmental, social and economic impacts or risks were identified and considered with respect to determining the preferred effluent discharge servitude locations.

- Geographical location
- Physical conditions (e.g. water quality)
- Terrestrial ecology
- Marine ecology
- Social
- Social-economic
- Economic

- Heritage & cultural
- Technical
- Climate change mitigation
- Climate change adaptation

The risks were also considered with respect to the design, construction operation and decommissioning project phases.

Table 2.4 below provides the results of the high-level risk assessment in the form of a screening matrix of the three (3) broad potential effluent discharge servitudes locations. It takes into consideration the impact assessment and mitigation hierarchy, including:

- The nature of potential impacts including significance, consequence, extent, duration and probability; and
- Reversable, irreplaceable loss, can be avoided, managed or mitigated.

Table 2.4: High-levelled risk assessment screening matrix for effluent discharge servitude locations.

Environmental attributes	Effluent discharge servitude location alternatives		
	West of port	Within port	East of port
Geographical location	Not Preferred	Acceptable	Preferred
Physical conditions (e.g. water quality)	Acceptable	Not Preferred	Acceptable
Terrestrial ecology	Not Preferred	Acceptable	Acceptable
Marine ecology	Not Preferred	Not Preferred	Not Preferred
Social	Acceptable	Acceptable	Acceptable
Social-economic	Acceptable	Acceptable	Acceptable
Economic	Not preferred	Acceptable	Preferred
Heritage & cultural	Acceptable	Acceptable	Acceptable
Technical	Acceptable	Acceptable	Acceptable
Climate change mitigation	Not preferred	Acceptable	Acceptable
Climate change adaptation	Acceptable	Acceptable	Acceptable

Table 2.5 below provides a summary of the conclusions made with respect to the preferred discharge servitude locations.

Table 2.5: Results of a high-level risk assessment completed for the three broad potential locations of the effluent discharge servitudes.

Abstraction location	Conclusion	Reasonable and feasible
Discharge west of the Port	**Geographical location:** The discharge of effluent to the west of the Port is a long distance from the point where the effluent will be generated in Zone 10 east of the Port. **Terrestrial ecology:** The reticulation of effluent streams around the Port from the east to the west along the N2, poses higher risks to the terrestrial environment along the route, such as disturbance to vegetation and risk of effluent leakages along the route. **Social:** Large volumes of electricity would be required in order to pump effluent streams from Zone 10 to the west of the Port. The Country is currently in an energy crises and any avenues to save energy must be considered.	NO

Abstraction location	Conclusion	Reasonable and feasible
	Economic: The capital and operational costs associated with conveying large volumes of effluent a long distance around the Port to the west, from the power stations, and desalination and aquaculture facilities in Zone 10, would not be economically feasible. **Water quality**: Although the required dilutions can be achieved, discharges west of the Port at -10 m will enter the Port, which increases the risk of accumulation of particulate matter with associated nutrients and heavy metals. If the pipeline is extended to – 16 m, the achieved dilutions reduce the risk of effluent entering the Port. However, there is still a risk of accumulation of particulate matter with associated nutrients and heavy metals. **Climate change:** The carbon footprint associated with pumping effluent from Zone 10 to the west of the Port would be significant over the life of the project.	
Discharge within the Port	**Water quality and marine ecology:** There is a high risk of effluent becoming trapped within the Port resulting in accumulation of particulate matter with associated nutrients and heavy metals, concequenty impacting on the marine ecology.	NO
Discharge east of the Port	**Geographical location:** Discharge of effluent to the east of the Port is geographically closer to the location where the effluent will be generated in Zone 10. **Economic**: The capital and operational costs associated with conveying large volumes of effluent from Zone 10 to the east of the Port, would be much lower over the life of the project, compared with pumping effluent streams around the Port to the west. **Water quality and marine ecology:** Effluent discharges on the east of the Port would be into a proclaimed Addo Marine Protected Area. However, the results of the dispersion modelling (PRDW, 2020) show that the required dilutions can be achieved for the worst-case effluent scenario. In addition, the Addo MPA Regulations makes allowance for the discharge of effluent streams into the Addo MPA. **Climate change:** The carbon footprint associated with dicharging effluent from Zone 10 into the location east of the Port, would be much lower over the life of the project, compared with pumping effluent around the Port to the west.	YES

Conclusion

The **preferred alternative location** is for the effluent discharge servitudes to be located to the **east of the Port.**

SPECIFIC LOCATIONS, LENGTH AND WIDTH OF THE SERVITUDES

PRDW dispersion modelling 2020

In 2017 PRDW undertook marine effluent dispersion modelling for 12 potential discharge scenarios, to inform the movement of the discharge plumes and possible interactions with planned seawater abstraction points (PRDW, 2017). In 2020, PRDW extended their investigation to model additional scenarios based on the updated effluent characterisation and to refine optimal intake and outlet locations.

It is important to note that at this point, abstraction and effluent dispersion modelling was limited to east of the breakwater, due to discharging to the west of the Port and inside the Port having been excluded as viable options.

It should also be noted that 11 of the 12 discharge scenarios tested by PRDW in 2017 comprised only one discharge location and one effluent, with only one scenario having combined effluents, since the focus of this initial dispersion modelling exercise was to compare different broad discharge locations. The 2020 study, comprised **worst-case effluent scenarios** and multiple discharge locations with all the effluents being discharged simultaneously in order to test the combined impact.

The following six (6) **worst-case** effluent streams were considered in the 2020 PRDW dispersion modelling study:

Purpose	Type of effluent	Worse case discharge flow rates
Cooling water: once-through cooling	Seawater at 28°C and salinity of 35 ppt	14.70 m^3/sec
Cooling water: wet mechanical draft cooling	Seawater at 23°C and salinity of 53 ppt	0.30 m^3/sec
Aquaculture flow through system for abalone	Seawater with projected concentrations of ammonia, nitrate, nitrite, TSS, COD.	5.00 m^3/sec
Aquaculture recirculation system for finfish	Seawater with projected concentrations of ammonia, nitrate, nitrite, TSS, COD.	0.94 m^3/sec
Desalination brine	Brine at 60 ppt	1.22 m^3/sec
Wastewater	Treated domestic and industrial wastewater with projected concentrations of ammonia, nitrate, nitrite, TSS, COD, salinity heavy metals and E.coli	0.93 + 0.46 m^3/sec
TOTAL		**23.55 m^3/sec**

The characteristics of each individual effluent were provided by CDC based on respective industry specialist input. In addition, the modelling of the worst-case discharge scenario required assigning an intake and discharge location for each of the six effluent streams. The intake and discharge locations were chosen to align with the relevant infrastructure within the SEZ as provided by CDC.

The worst-case discharge scenario was run for the summer and winter months. The model outputs show the achieved dilutions in each horizontal and vertical element of the computational mesh at 1-hour intervals throughout the simulation period. Figure 2.18 below provides an example of the dilution contours for worse-case finfish aquaculture effluent.

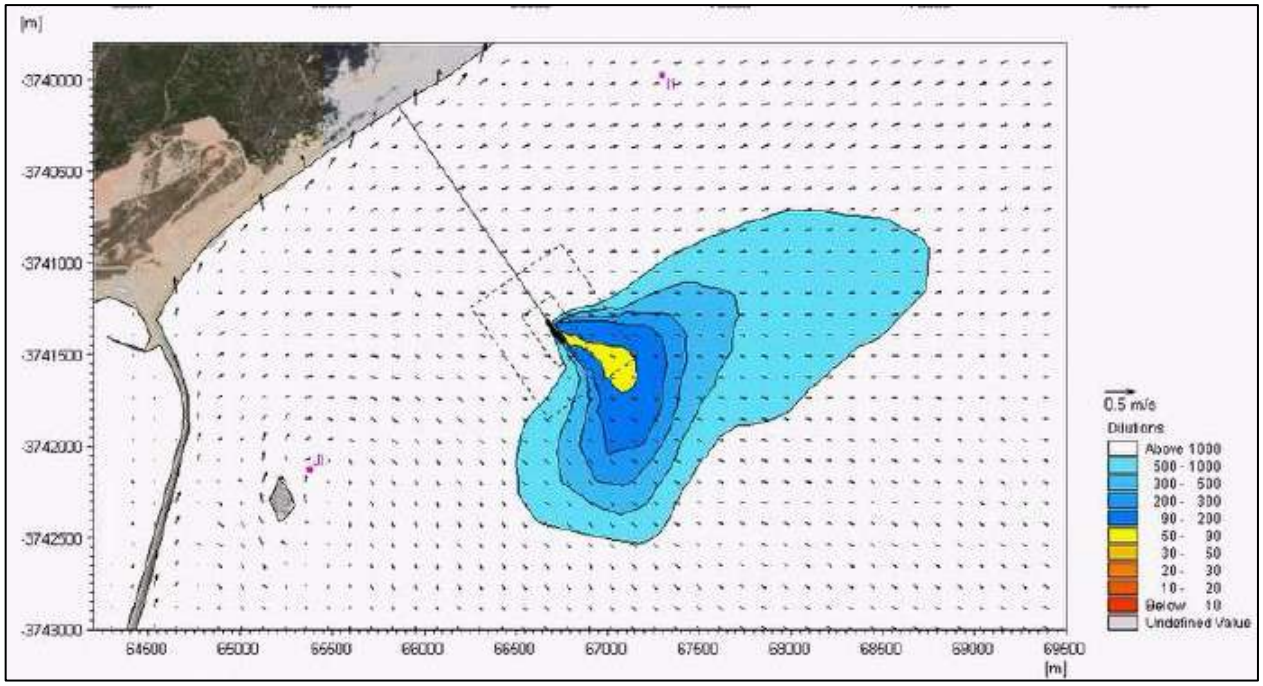


Figure 2.18: Example of dilution contours for finfish aquaculture effluent discharges.

The following conclusions were drawn from the 2020 dispersion modelling study:

- All the discharges considered are able to meet the applicable water quality guidelines within the 300 m mixing zone, except for wastewater and the combined brine and finfish discharge.
- With respect to wastewater, the maximum allowable effluent concentrations (end of pipe) for E.coli, TKN + NH_4 and TSS must be limited in order to meet the guidelines.
- To ensure compliance, the brine and finfish effluent should be discharged separately.
- Both the cooling water discharges tested meet the guidelines and can thus be used.
- Should additional constituents be added to the effluent streams or identified in future, then the end-of-pipe concentrations of these constituents will need to be limited based on the achieved dilutions from the dispersion model as provided in the modelling report (PRDW, 2020) and the applicable guidelines, using the precautionary principle in cases where marine water quality guidelines for these constituents are not clear.

Figure 2.19 below shows the three discharge locations identified by PRDW (2020) in RED.

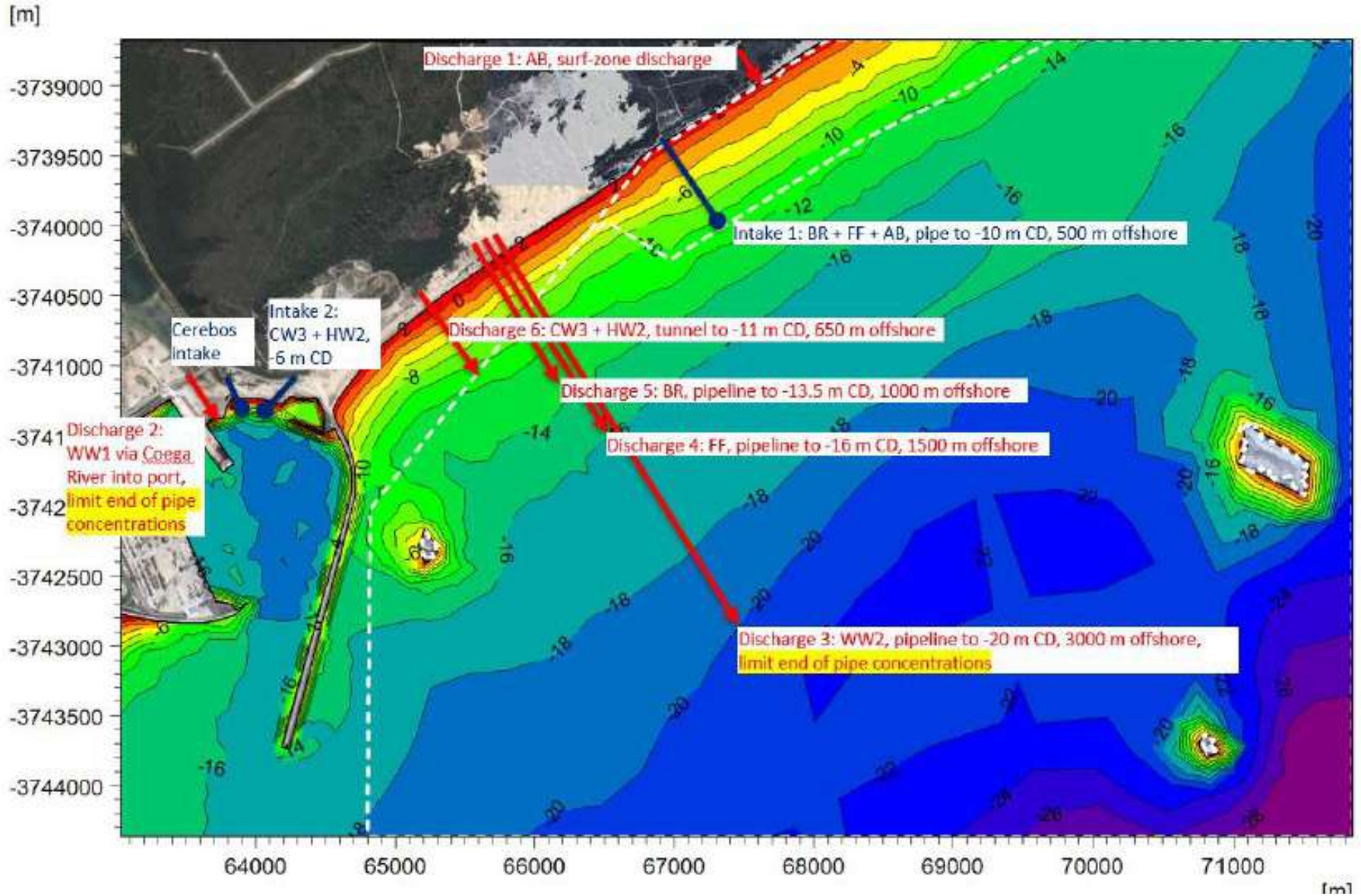


Figure 2.19: Recommended effluent discharge (RED) and intake (BLUE) marine servitude locations (PRDW, 2020).

Conclusion
The **preferred specific alternative locations** for the discharge of the various effluent streams is three separate servitudes comprising:

- Discharge servitude 1:
    - Cooling water effluent discharge servitude 200 m wide to a distance of 650 m offshore and a depth of -11 m CD.
- Discharge servitude 2: Combined effluent discharge servitude 200 m wide with the following:
    - Brine discharge to a distance of 1,000 m offshore and a depth of -13.5 m CD.
    - Finfish aquaculture recirculation system effluent discharge to a distance of 1,500 m offshore and a depth of -16 m CD.
    - Wastewater discharge from phase two WWTW's to a distance of 3,000 m offshore and a depth of -20 m CD.
    - Stormwater onto the beach.
- Discharge servitude 3:
    - Abalone aquaculture flow-through system effluent discharge servituce 100 m wide into the surf zone.
    - Stormwater onto the beach.

ALTERNATIVE DESIGN AND TECHNOLOGY TO BE USED IN THE ACTIVITY

The WSP 2020 technical report investigated two types of infrastructure for the discharge of the Once-Through and Wet Mechanical Cooling water. These included:

- Eight (8) metre wide raceway; and
- Three (3) metre diameter tunnel.

Raceway discharge

The possibility of attaching a raceway to the eastern breakwater of the Port was determined not to be feasible due to risks associated with the structural integrity of the breakwater. An alternative freestanding raceway was also investigated. However, the freestanding raceway option would require significant infrastructure including two lateral breakwaters that would have a large ecological footprint and affect sediment movement. Hence, this option was determined to be both financially and ecologically unacceptable.

Tunnel discharge

WSP have recommended that a tunnel is the most feasible option for discharging the large volumes of water from a once-through cooling system. A 3 m outer diameter tunnel will be required for this purpose. The length from the upper beach to offshore would be about 600 m. Beyond this, seabed mounted pipelines may be used for the diffuser section.

The tunnel would consist of a concrete conduit (concrete pipe section installed by means of jacking and a tunnel boring machine from land). The concrete needs to be of suitable mix design to ensure its design life is reached with the warm seawater flowing inside the tunnel.

The tunnel boring and pipe jacking is large scale operation. Pipe jacking would be installed from the land side to the -11 m relief well (offshore retrieval pit) to extract the drilling equipment. It is likely that a marine jack-up barge may be required for this purpose.

The construction of a tunnel is thus the preferred alternative technology for the discharge of large volumes (14 m^3/sec) of effluent cooling water.

Additional technologies required for servitudes

The construction of pipelines will be required for the discharge of brine, aquaculture effluent (finfish and abalone) and treated wastewater from the Coega WWTW. Directional drilling under the surf zone may be feasible for some of the discharge requirements, as opposed to laying a pipeline on the seabed through the surf zone. Other than that, no other technical alternatives will be considered as a pipeline is considered to have the smallest construction footprint.

Conclusion
The **preferred alternative design and technology** for the three three separate discharge servitudes includes:

- Discharge servitude 1:
  - Tunnel (to accommodate large flows from Once-Through and Wet Mechanical Cooling).
- Discharge servitude 2: Separate pipelines for the following:
  - Brine discharge;
  - Finfish aquaculture recirculation system effluent discharge;
  - Treated wastewater for phase two (2) WWTW's; and
  - Stormwater gabion system.
- Discharge servitude 3:
  - Pipeline for abalone aquaculture flow-through system effluent discharge into the surf zone; and
  - Stormwater gabion system.

PREFERRED EFFLUENT DISCHARGE SERVITUDE ALTERNATIVE

The following table provides a summary of the **preferred alternative effluent discharge servitudes** (made up of three servitudes) that will be assessed in the EIAr. No other alternatives will be assessed except for the no-go alternative, since there are no other reasonable and feasible alternatives.

Alternative category	**Preferred alternative**		
Servitude	**Discharge servitude 1**	**Discharge servitude 2**	**Discharge servitude 3**
Activity	Discharge of Once-Through and Wet Mechanical cooling water effluent totalling 15.0 m^3/sec, back into the sea.	Discharge of finfish aquaculture recirculation system effluent (0.94 m^3/sec), brine (1.22 m^3/sec), treated wastewater (1.4 m^3/sec) in three separate pipelines, and stormwater, into the sea.	Discharge of abalone aquaculture flow-through effluent (5.0 m^3/sec) and stormwater, into the sea.
Geographical location	East of the Port of Nqgura as indicated in PRDW map (Figure 2.18).	East of the Port of Nqgura as indicated in PRDW map (Figure 2.18).	East of the Port of Nqgura as indicated in PRDW map (Figure 2.18).
Specific location	Servitude of 200 m width to -11 m CD, 650 m offshore	Servitude of 200 m width with: • Brine discharge to -13.5 m CD, 1,000 m offshore. • Finfish aquaculture discharge to -16 m CD, 1,500 m offshore. in a pipeline of 3,000mm diameter. • Wastewater from phase 2 of the WWTW to -20 m CD, 3,000 mm offshore.	Servitude of 200 m width along the shoreline.
Design and layout	Tunnel with daimater of up to 3,000 mm.	Pipelines including: • Brine – 700 mm diameter HDPE pipe; • Finfish – 700 mm diameter HDPE pipe;	Beach pipeline – 1,600 mm diameter HDPE pipe.

Alternative category	Preferred alternative		
		• Wastewater – up to 700 mm diameter HDPE pipe. Stormwater gabion system.	Stormwater gabion system.

Figure 2.20 below shows the broad preferred locatins of the three marine discharge servitudes.

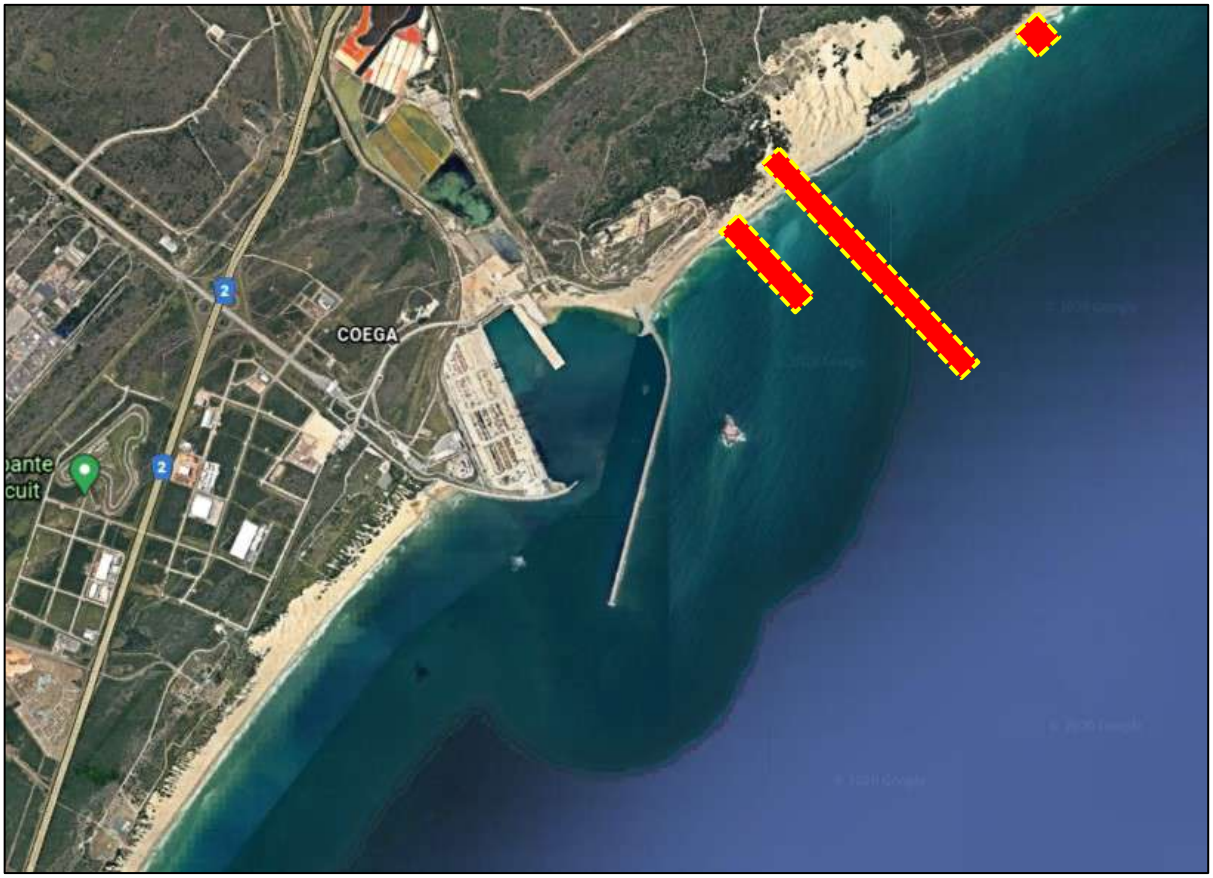


Figure 2.20: Broad positions of proposed effluent discharge (RED) marine servitudes.

2.5.5 Analysis of Land-Based Infrastructure Alternatives

Alternative type of activity to be undertaken

Land-Based infrastructure is required in order to connect the various servitude(s) to the respective industries, as such no activity alternatives are considered to be reasonable / feasible.

Alternative locations for the proposed activity

A desktop screening exercise of available information on land-based sensitive terrestrial and aquatic environments was done to identify suitable alignments for the land-based connections to the proposed servitudes. These alignments were then refined based on the outcome of the marine dispersion modelling undertaken in June 2020. A detailed site-specific terrestrial ecological survey of the area will be undertaken as part of the specialist phase of the project. The following areas have been avoided, as far as practically possible, when placing land-based infrastructure:

- Areas below the coastal management line and/or within 100 m of the high water mark of the sea (unless the nature of the required structure necessitates it to be positioned in this area, in which case appropriate design mitigation must be used to prevent damage to structures or infrastructure as a result of storm surges, unusual high tides, coastal erosion, climate change etc.).
- Mobile dune process areas and/or areas sensitive to coastal erosion.
- Areas that occur within CBAs designated in the Coega Open Space Management Plan (OSMP).
- Known and anticipated habitats used by damara terns (this would correspond with dunefield areas and duneslacks).
- Areas that occur within the 1:100-year floodline of the Coega River or 100 m of the Coega River/Estuary (whichever is greater) and 50 m from wetlands.
- Areas where sensitive archaeological and paleontological sites have been recorded.
- Areas that would conflict with existing facilities or infrastructure (e.g. Port facilities) and / or rights (e.g. mining rights in the coastal dunefields) and planned expansions/infrastructure reflected on approved development plans (e.g. the Coega development framework plan, Masterplan for east of the Coega River and OSMP that shows the position of stormwater infrastructure).
- As part of the approved rezoning EIA for the Coega SEZ, a services corridor has been designated. The alignment and positioning of required land-based infrastructure should coincide with this corridor as far as practically possible. Further, required infrastructure should be limited to disturbed areas such as along roadsides and adjacent to the boundary of approved sites.

The proposed landbased servitudes will be 30 m wide.

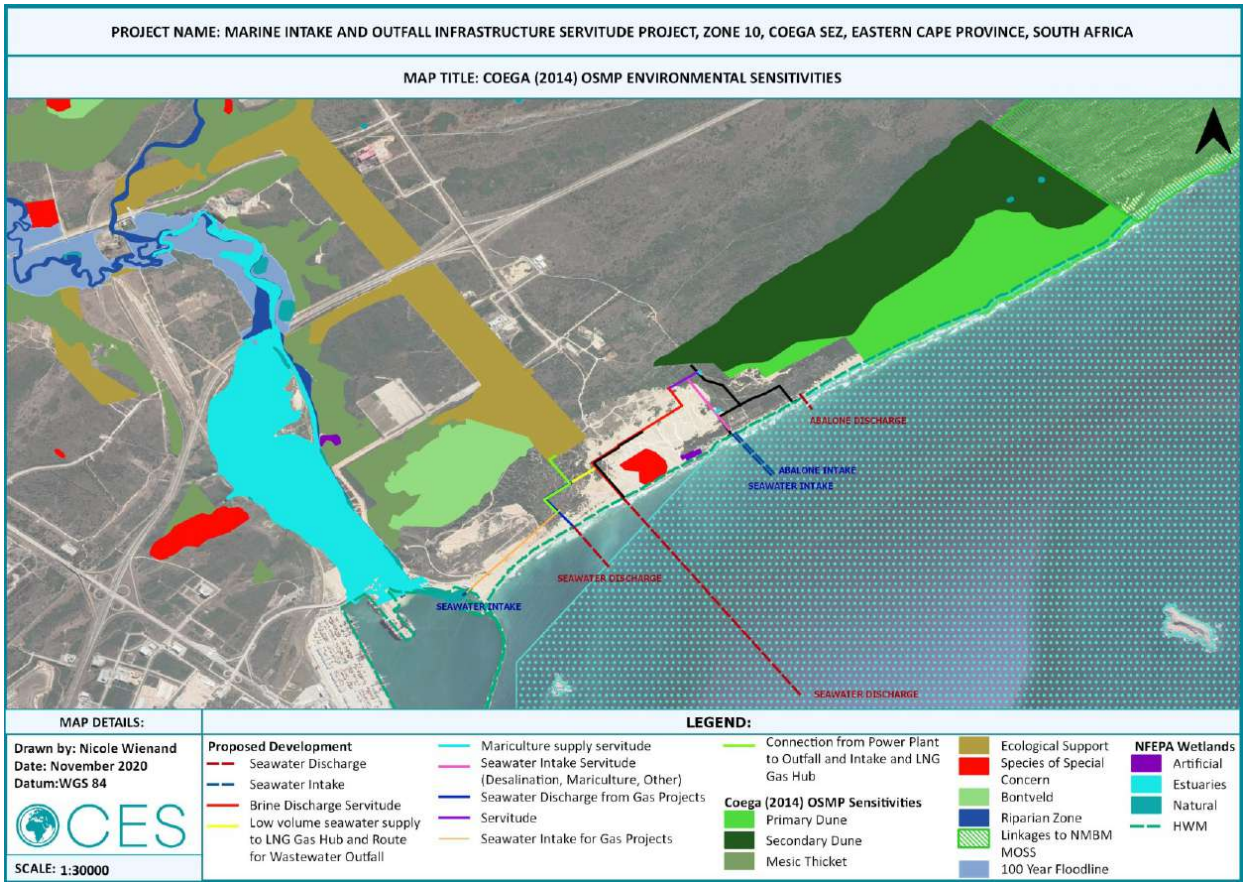


Figure 2.21: Preferred layout, superimposing all terrestrial and marine based sensitive features.

Alternative design and technology of the activity

The landbased seawater intake and effluent discharge pipeline reticulation will comprise of HDPE pipes with diameters ranging between 600 mm to 3000 mm. Various pump stations and booster station will be constructed along the route of the pipeline reticulation.

Alignments and preferred positions will be finalised at EIA stage with input from design engineers to advise on aspects such as topography, pumping requirements, costs, flow rates etc.

Preferred alternative

Alternative category	Landbased servitudes
Activity	Land-Based infrastructure is required in order to connect the various servitude(s) to the respective industries.
Geographical location	Costal area of Zone 10
Specific Location	30 m Servitude (Figure 2.21 above).
Design and layout	HDPE pipes with diameters ranging between 600 mm to 3000 mm

2.5 NO DEVELOPMENT ALTERNATIVE

Various industrial activities occur in and are planned for the Coega SEZ. Several of the industry types will require seawater for their operations (e.g. aquaculture, cooling water for power plants, desalination plants) and/or will have to discharge treated effluent to an environment other than a WWTW. The latter relates mostly to industries that will use seawater in their processes. However, effluent from industries that are discharged to a WWTW (whether on-site or to a central WWTW such as the planned Coega WWTW) will still ultimately end up in the marine environment – this could either be directly discharged to the marine environment or indirectly. If for example, effluent is discharged to the Coega River it will consequently end up in the marine environment.

The use of seawater for industrial activities will reduce reliance on municipal services and infrastructure that would be needed to supply large volumes of potable water. This is of utmost importance as the NMBM is considered to be a water stressed area. In September 2020 the NMBM declared Day Zero and a number of areas within the NMBM were left without water and needed to be provided with this basic service via a number of water tankers. This situation is exacerbated by poor maintenance of water infrastructure within the Metro. It is therefore not only important to reduce the freshwater requirements of industry through the utilisation of seawater, but also to find an alternative means of water provision, such as the desalination of seawater, in addition to improved demand-side of management by the NMBM (e.g. leak detection and repair). This is especially important amidst the COVID-19 crisis that the country is currently facing, with proper sanitation and hygiene being paramount at preventing the spread of this pandemic infection. The utilisation of desalinated water within the SEZ would further relieve some of the stress on the NMBM to provide the required amount of freshwater for industry within the SEZ.

Considering the vast nature of the SEZ and the array of industrial types planned, the need for servitudes to accommodate seawater abstraction and discharge infrastructure has been identified. In the absence of this, individual industries would need to plan and apply for separate abstraction and discharge infrastructure along the coastline, which would likely present far greater environmental impacts on the receiving marine environment as a result of haphazard and multiple discharge points resulting in numerous cumulative impacts. Individual discharges would also make it difficult to control and monitor discharge quality, and to manage risks that may occur in the event of upset conditions.

An integrated and common-user servitude would also result in cost-savings for both the CDC and investors, and would present a more efficient way of planning and providing the required infrastructure for industries to develop and operate in the SEZ. In summary, the following potential benefits are anticipated from having common-user abstraction and discharge servitudes versus individual abstraction and discharge points along the coast:

- The development of an integrated marine servitude avoids the need for several pipelines/infrastructure crossing the beach into the sea, thereby limiting the visual, economic, planning and environmental impacts associated with these.
- The discharge of treated wastewater to the marine environment potentially presents less of a risk when properly managed than discharging to fresh water environments, primarily because of the greater assimilative capacity of the marine environment. The effluent dispersion modelling has confirmed that the target dilutions can be achieved but impacts on the marine ecology still need to be confirmed in the EIAr.

In addition, having the appropriate infrastructure available to investors will enhance the attractiveness of the Coega SEZ as an investment destination and, therefore, future investment trends. This will result in the provision of revenue, foreign exchange, taxes and royalties. An increase in investment into the area will also result in employment, local economic development, skills development, and local procurement. The EA for the aquaculture zone was approved in February 2018. However, if the SEZ is not able to meet the water requirements for this industry, no further development of this zone would be possible.

There are however risks associated with the planned servitude(s) during both construction and operational phases, and careful consideration has to be given to the management of these in the operational phase especially as various industries will become operational at different stages. The purpose of this EIA process is to assess impacts of establishing the servitude(s) in comparison with the no-go option, and to provide mitigation measures for industries (current and future) to incorporate in their design and operations to avoid and/or reduce impacts on the receiving marine environment.

The ‘no go’ option will be used as a baseline throughout the assessment process against which potential impacts will be compared in an objective manner.

3. LEGAL AND POLICY FRAMEWORK

3.1 INTRODUCTION

Item 2 (e) of Appendix 2 of the National Environmental Management Act (NEMA, Act No. 107 of 1998, as amended) Environmental Impact Assessment (EIA) Regulations (2014 and subsequent amendments), states that 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" must be included in the Scoping Report.

Thus, in line with the above legislative requirement the sections below describe the South African legislation that was taken into consideration during the Scoping Phase of the proposed project.

3.2 ENVIRONMENTAL AUTHORISATION LEGISLATIVE PROCESS

3.2.1. NEMA Environmental Authorisation

The National Environmental Management Act (NEMA, Act No. 107 of 1998 and subsequent amendments)

The objective of the NEMA is: "To provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance and procedures for coordinating environmental functions exercised by organs of state; and to provide for matters connected therewith."

A key aspect of the NEMA is that it provides a set of environmental management principles which apply throughout the Republic to the actions of all organs of state that may significantly affect the environment. The proposed development has been assessed in terms of possible conflicts or compliance with these principles. Section 2 of the NEMA contains principles (see Table 3.1) relevant to the proposed project, and which are likely to be utilised in the process of decision making by the competent authority.

Table 3.1: NEMA Environmental Management Principles.

(2)	Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.
(3)	Development must be socially, environmentally and economically sustainable.
(4)(a)	Sustainable development requires the consideration of all relevant factors including the following: i. That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied; ii. That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied; and iii. That waste is avoided, or where it cannot be altogether avoided, minimised and re-used and/or recycled where possible and otherwise disposed of in a responsible manner.
(4)(e)	Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.
(4)(i)	The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions should be based on the consideration and the findings of the assessment.
(4)(j)	The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.
(4)(p)	The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage

	or adverse health effects must be paid for by those responsible for harming the environment ("the polluter pays").
(4)(r)	Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.

As these principles are utilised as a guideline by the competent authority in ensuring the protection of the environment, the proposed development should, where possible, be in accordance with them. Where this is not possible, deviation from the principles would have to be very strongly motivated.

The NEMA introduces the duty of care concept, which is based on the policy of strict liability. This duty of care extends to the prevention, control and rehabilitation of significant pollution and environmental degradation. It also dictates a duty of care to address emergency incidents of pollution. A failure to perform this duty of care may lead to criminal prosecution, and may lead to the prosecution of managers or directors of companies for the conduct of the legal persons.

In addition, the NEMA introduced a new framework for Environmental Impact Assessments (EIAs), the NEMA EIA Regulations (2014 and subsequent 2017 amendments).

Relevance to the proposed project:

Three (3) lists of activities, published on the 21st of April 2006 and amended on 4th of December 2014 (and subsequent 2017 amendments), as Government Notice Numbers R.983, R.984, and R.985 define the activities which require, either a Basic Assessment (applies to activities with limited environmental impacts: GNR. 983 and GNR. 985), or a Scoping and Environmental Impact Assessment (applies to activities which are significant in extent and duration: GNR. 984). Listing Notice 3 (contained in GNR. 985) lists activities which would require authorisation if carried out in specified or sensitive geographical areas. It should be noted that even if only one (1) listed activity is triggered in Listing Notice 2 (GNR. 984), the activity will trigger a full Scoping and EIA, regardless of if more than one (1) activity is triggered in Listing Notice 1 (GNR. 983). All listed activities that are triggered in the above listing notices need to be assessed in the assessment report.

The activities triggered by the proposed development are listed in Table 3.2 below.

Table 3.2: Listed activities triggered by the proposed development.

Number relevant notice	Activity No(s)	Description of each listed activity based on the project description	Comments and observations
Listing Notice 1 of GNR. 983 EIA Regulations dated 4 December 2014	10	The development and related operation of infrastructure exceeding 1,000 metres in length for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharges or slimes: (ii) With a peak throughput of 120 litres per second or more.	The proposed development includes the construction of three effluent discharge pipelines into the sea at a distance exceeding 1,000 metres offshore in pipelines with a diameter of about 3.0 metres, for the following discharges: • Brine discharge to a distance of 1,000 m offshore at a throughput of 1,220 litres per second. • Finfish return seawater discharge to a distance of 1,500 m offshore at a throughput of 940 litres per second.

			• Wastewater from phase two wastewater treatment works (WWTW's) to a distance of 3,000 m offshore at a throughput of 1,390 litres per second. No exclusions apply.
	15	The development of structures in the coastal public property where the development footprint is bigger than 50 square metres.	The proposed development entails the construction of infrastructure (e.g. effluent discharge tunnels and pipelines) with a physical footprint of 414 391 square meters (41.1 Ha) within coastal public property. No exclusions apply.
	17	Development: (i) In the sea; (iii) Within the littoral active zone; (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 (d) Rock revetments or stabilising structures including stabilising walls; (e) Infrastructure or structures with a development footprint of 50 square metres or more.	The proposed development includes the construction of seawater intake and effluent discharge infrastructure (e.g. effluent discharge tunnel and pipelines, intake basin, pipeline and jetty, headworks, pump station, vertical beach wells, distribution chamber) in the sea, within the littoral active zone and within a distance of 100 metres inland of the high-water mark from the sea. The total footprint of infrastructure will be approximately 47 Ha and is larger than the area presented in Listed Activity 16 above as it also includes 100 meters inland of the high-water mark. No exclusions apply.
	18	The planting of vegetation or placing of any material on dunes or exposed sand surfaces of more than 10 square metres, within the littoral active zone, for the purpose of preventing the free movement of sand, erosion or accretion.	The proposed development will include the stabilization of disturbed areas of more than 10 square metres, within the littoral active zone after construction has been completed. No exclusions apply.

	19 A	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 is the greater; or (iii) The sea.	The development will require the excavation and infilling of material exceeding 5 cubic metres in the coastal environment for the construction of infrastructure (e.g. effluent discharge tunnel and pipelines, intake basin, pipelines and jetty, headworks, pump station, vertical beach wells, distribution chamber) that will occur within 100 metres inland of the high-water mark, within the seashore and in the sea. No exclusions apply.
Listing Notice 2 of GNR.984 EIA Regulations dated 4 December 2014	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 generation or release of emissions, pollution or effluent.	The proposed development includes the construction of effluent discharge infrastructure (e.g. effluent discharge tunnel and pipelines) to discharge various effluent streams (cooling water, brine, aquaculture effluent and wastewater) totalling 23.55 m^3/sec into the marine environment, which will require a Coastal Waters Discharge Permit in terms of Section 69 of the NEM:ICMA. No exclusions apply.
	14	The development and related operation of — (i) An anchored platform; or (ii) Any other structure or infrastructure on, below or along the seabed.	The proposed development includes the construction of a tunnel, pipelines and jetty for abstracting seawater from and discharging effluent into the sea, and wave pressure pumps, where the infrastructure will be located on, below and along the seabed. No exclusions apply.
	26	Development — (i) In the sea; (iii) Within the littoral active zone; (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— (g) Tunnels	The development will include the construction of a tunnel for the discharge of cooling water into the sea where the tunnel will be located in the sea, within the littoral zone and within a distance of 100 metres inland of the high-water mark. No exclusions apply.

Listing Notice 3 of GNR.985 EIA Regulations dated 4 December 2014	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. (a) Eastern Cape (ii) Within critical biodiversity areas identified in bioregional plans; (iii) Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; or (v) On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.	The development will include the construction of land-based infrastructure (e.g. pipelines and pump stations) that will require the clearance of a maximum of 22 Ha of indigenous vegetation. This area includes all indigenous vegetation within the land-based servitudes. The area to be cleared is within a CBA in terms of the Metro's current Bioregional Plan, within the littoral active zone and open space No exclusions apply.

Based on the NEMA EIA listed activities which have been identified by CES, namely the Listing Notice 2 listed activities in GNR. 984, the proposed project's application for EA will be subject to the Scoping and EIA Process as stipulated in the regulations. As set out by Section 24C of the NEMA, the relevant competent authority for this activity is the DEFF.

Figure 3.1: The location of the proposed site in relation to the urban edge as outlined in the NMBM SDF (2015).

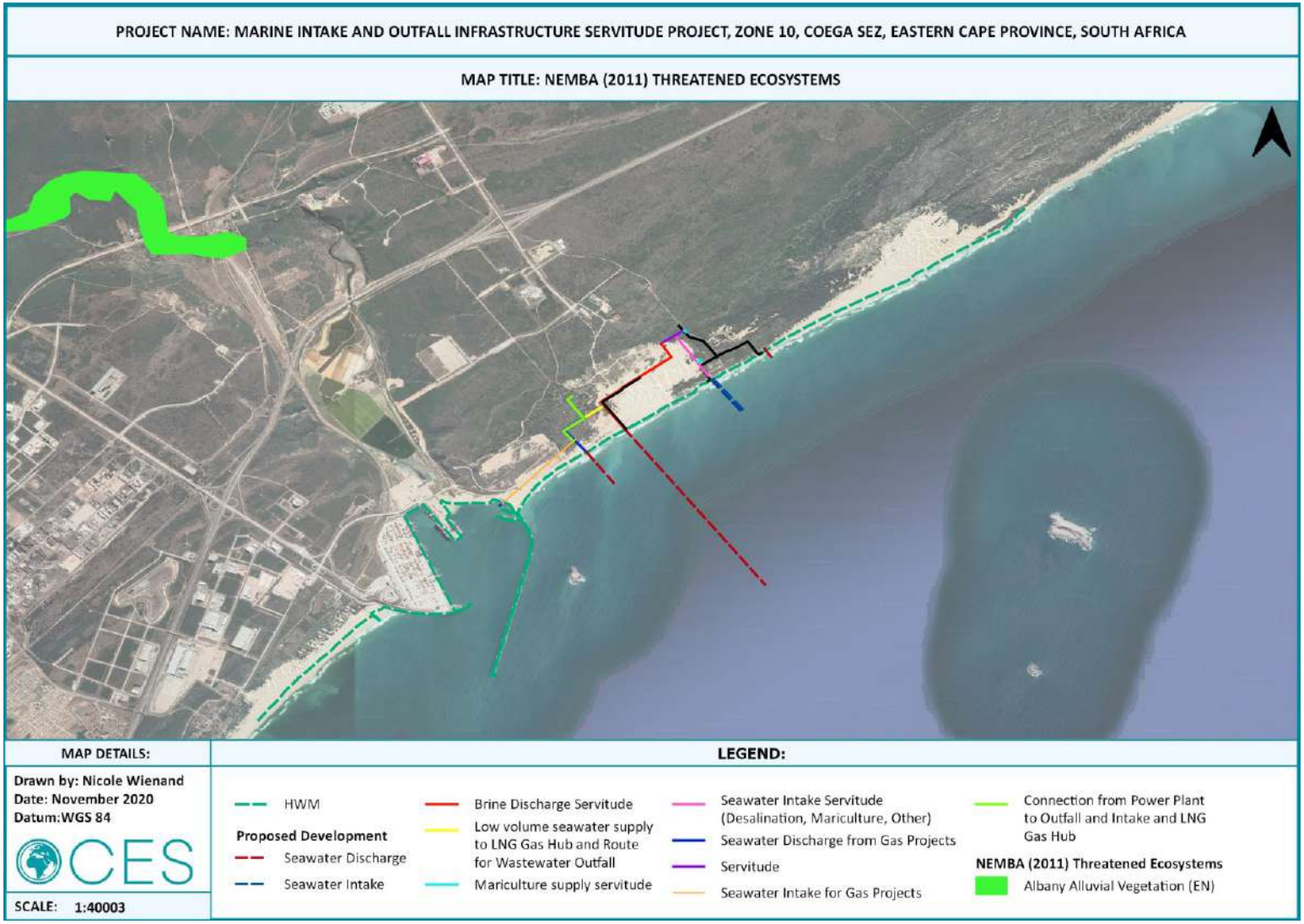


Figure 3.2: Threatened Ecosystems as defined by NEM:BA.

3.2.2. Consolidated Permitting Requirements

National Environmental Management: Integrated Coastal Management Act (24 of 2008)

According to Section 2 of the NEM: ICMA, the objects of this Act are:

- *To determine the coastal zone of the Republic;*
- *To provide, within the framework of the National Environmental Management Act, for the co-ordinated and integrated management of the coastal zone by all spheres of government in accordance with the principles of co-operative governance;*
- *To preserve, protect, extend and enhance the status of coastal public property as being held in trust by the State on behalf of all South Africans, including future generations;*
- *To secure equitable access to the opportunities and benefits of coastal public property; and*
- *To give effect to the Republic's obligations in terms of international law regarding coastal management and the marine environment.*

Section 69(1) of the Act states that no person may discharge effluent that originates from a source on land into coastal waters except in terms of a general discharge permit or a coastal waters discharge permit issued under this section by the Minister after consultation with the Minister responsible for water affairs in instances of discharge of effluent into an estuary.

The abstraction of seawater is not mentioned in the act and therefore this activity does not require any permits from Oceans and Coasts (OC), a branch within the Department of Environmental Affairs with jurisdiction over ocean and coastal management in South Africa.

Relevance to the proposed project:

- A coastal discharge permit will be considered from the Minister for the discharge of effluent into the marine environment.

National Water Act (36 of 1998)

The Act regulates the protection, use, development, conservation, management and control of water resources in South Africa. The principal concerns in terms of the Act are the potential for the proposed development to pollute surface and groundwater resources, and to ensure that water is used as efficiently as possible.

Chapter 4 Part 1 of the NWA sets out general principles for regulating water use. "*Water use is defined broadly, and includes taking and storing water, activities which reduce stream flow, waste discharges and disposals, controlled activities (activities which impact detrimentally on a water resource), altering a watercourse, removing water found underground for certain purposes, and recreation. In general a water use must be licensed unless it is listed in Schedule 1, as an existing lawful use, is permissible under a general authorisation, or if a responsible authority waves the need for a licence. The Minister may limit the amount of water which a responsible authority may allocate. In making regulations the Minister may differentiate between different water resources, classes of water resources and geographical areas*."

Relevance to the proposed project:

19 (1) An owner of land, a person in control of land or a person who occupies or uses the land on which—

(a) Any activity or process is or was performed or undertaken; or

(b) Any other situation exists, which causes, has caused or is likely to cause pollution of a water resource,

must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.

A water use authorisation may be required from the Department of Water and Sanitation (DWS) in accordance with the National Water Act (NWA, Act No. 36 of 1998 and subsequent amendments) if any infrastructure occurs within 100 m of a watercourse and/or occurs within 500 m of a wetland.

3.3 OTHER APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

3.3.1. National Legislation

The Constitution

The Constitution of the Republic of South Africa is the supreme law of the land. As a result, all laws, including those pertaining to the proposed development, must conform to the Constitution. The Bill of Rights - Chapter 2 of the Constitution, includes an environmental right (Section 24) according to which, everyone has the right:

a) To an environment that is not harmful to their health or well-being; and
b) To have the environment protected for the benefit of present and future generations, through reasonable legislative and other measures that:

(i) Prevent pollution and ecological degradation;
(ii) Promote conservation; and
(iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

Relevance to the proposed project:

- Obligation to ensure that the proposed development will not result in pollution and ecological degradation; and
- Obligation to ensure that the proposed development is ecologically sustainable, while demonstrating economic and social development.

The National Environmental Management: Air Quality Act (39 of 2004)

As with the Atmospheric Pollution Prevention Act 45 of 1965, the objective of the Air Quality Act is to protect the environment by providing the necessary legislation for the prevention of air pollution. "*To reform the law regulating air quality in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development; to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and for matters incidental thereto."*

Relevance to the proposed project:

- The "best practicable means" for the abatement of dust during construction and operation if approved have to be taken.
- All appliances used for preventing or reducing to a minimum the escape into the atmosphere of noxious or offensive gases have to be properly operated and maintained and the best practice means for achieving this implemented.
- The proposed development does not trigger any of the listed activities under this Act and as

such no Air Emissions Licence according to the NEM: Air Quality Act (Act 39 of 2004) is required.

National Environmental Management: Waste Act (59 of 2008)

This legislation aims to enforce an integrated approach to waste management, with emphasis on prevention and reduction of waste at source and, where this is not possible, to encourage reuse and recycling in preference to disposal.

Section 16 (Chapter 4) of this Act deals with the general duty in respect to waste management and emphasises that, "*A holder of waste must, within the holder's power, take all reasonable measures to:- avoid the generation of waste and where such generation cannot be avoided, to minimise the toxicity and amounts of waste that are generated; reduce, re-use, recycle and recover waste; where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally sound manner; manage the waste in such a manner that it does not endanger health or the environment or cause a nuisance through noise, odour or visual impacts; prevent any employee or any person under his or her supervision from contravening this Act; and prevent the waste from being used for an unauthorised purpose*".

Chapter 4, Part 3 of this Act deals with reduction re-use and recovery of waste, Part 4 deals with waste management activities, Part 5 covers storage collection and transportation of waste, Part 6 deals with treatment, processing and disposal of wastes, Part 7 covers industry waste management plans and Part 8 deals with contaminated land. Chapter 5 covers all issues regarding the licensing of waste management activities.

Relevance to the proposed project:

- All reasonable measures must be taken to avoid the generation of waste and where such generation cannot be avoided, minimise the toxicity and amounts of waste that are generated; reduce, re-use, recycle and recover waste; where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally sound manner;
- Manage the waste in such a manner that it does not endanger human health or the environment or cause a nuisance through noise, odour or visual impacts.
- Prevent any employee or any person from contravening this Act; and prevent the waste from being used for an unauthorised purpose.
- The proposed development does not trigger any listed activities under this Act and as such does not require a Waste Licence according to the NEM: Waste Act (Act 59 of 2008).

The National Environmental Management: Biodiversity Act (10 of 2004)

This Act provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act 107 of 1998 (see Table 3.3 below). In terms of the Biodiversity Act, the developer has a responsibility for:

- The conservation of endangered ecosystems and restriction of activities according to the categorisation of the area (not just by listed activity as specified in the EIA Regulations).
- Application of appropriate environmental management tools in order to ensure integrated environmental management of activities thereby ensuring that all developments within the area are in line with ecological sustainable development and protection of biodiversity.
- Limit further loss of biodiversity and conserve endangered ecosystems.

Table 3.3: Management and conservation of South Africa's biodiversity within the framework of NEMA.

CHAPTER 4	
	Provides for the protection of species that are threatened or in need of national protection to ensure their survival in the wild; ○ To give effect to the Republic's obligations under international agreements regulating international trade in specimens of endangered species; and ○ Ensure that the commercial utilization of biodiversity is managed in an ecologically sustainable way.
CHAPTER 5 (Part 2)	
Section 73	A person who is the owner of land on which a listed invasive species occurs must: a) Notify any relevant competent authority, in writing, of the listed invasive species occurring on that land; b) Take steps to control and eradicate the listed invasive species and to prevent it from spreading; and c) Take all required steps to prevent or minimise harm to biodiversity.
Section 75	• Control and eradication of a listed invasive species must be carried out by means or methods that are appropriate for the species concerned and the environment in which it occurs. • Any action taken to control and eradicate a listed invasive species must be executed with caution and in a manner that may cause the least possible harm to biodiversity and damage to the environment. • The methods employed to control and eradicate a listed invasive species must also be directed at the offspring, propagating material and re-growth of such invasive species in order to prevent such species from producing offspring, forming seed, regenerating or re-establishing itself in any manner.

The objectives of this Act are to provide, within the framework of the National Environmental Management Act, for:

- The management and conservation of biological diversity within the Republic;
- The use of indigenous biological resources in a sustainable manner.

The Act's permit system is further regulated in the Act's Threatened or Protected Species Regulations, which were promulgated in February 2007.

Relevance to the proposed project:

- The proposed development must conserve endangered ecosystems and protect and promote biodiversity;
- Must assess the impacts of the proposed development on endangered ecosystems;
- No protected species may be removed or damaged without a permit, it should be noted that the CDC has a NECO permit, issued by DEDEAT, for the removal of indigenous vegetation within all developbable areas. The CDC is also in the process of obtaining a TOPS permit for the removal of *Euphorbia meloformis*;
- The proposed site must be cleared of alien vegetation using appropriate means.

The National Forest Act (84 of 1998)

The objective of this Act is to monitor and manage the sustainable use of forests. In terms of Section 12 (1) (d) of this Act and GN No. 1012 (promulgated under the National Forests Act), no person may, except under licence:

- Cut, disturb, damage or destroy a protected tree; or
- Possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree or any forest product derived from a protected

tree.

Relevance to the proposed project:

- If any protected trees in terms of this Act occur on site, the developer will require a licence from the DAFF to perform any of the above-listed activities. It should be noted that the CDC has a permit from DAFF for the removal of protected trees in all developable land within the SEZ. This permit is renewed annually.

National Environmental Management: Protected Areas Act (31 of 2004)

The purpose of this Act is to provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes.

The objectives of this Act are-

- To provide, within the framework of national legislation, including the National Environmental Management Act, for the declaration and management of protected areas;
- To provide for co-operative governance in the declaration and management of protected areas;
- To effect a national system of protected areas in South Africa as part of a strategy to manage and conserve its biodiversity;
- To provide for a representative network of protected areas on state land, private land and communal land;
- To promote sustainable utilisation of protected areas for the benefit of people, in a manner that would preserve the ecological character of such areas;
- To promote participation of local communities in the management of protected areas, where appropriate; and
- To provide for the continued existence of South African National Parks.

Algoa Bay is known to support a high biodiversity of marine life, particularly reef-associated invertebrates and fish, as well as several breeding colonies of endangered or vulnerable seabirds and a suite of cetaceans. For these reasons, the National Protected Areas Expansion Plan (SANBI 2009) proposed a Marine Protected Area (MPA) in Algoa Bay, which would adjoin the Greater Addo Elephant National Park (GAENP). Detailed research and planning for the MPA began in 2006, and has culminated in the current zonal boundaries for the MPA. As such planning of future development around Coega must take the footprint of the MPA into account before construction is authorised. This is necessary to prevent habitat important for ecosystem health from being damaged or lost (Anchor Environmental, 2016).

It should be noted that the 'Notice Declaring the Addo Elephant Marine Protected Area Under Section 22A of the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)' permits outfalls within the MPA.

Relevance to the proposed project:

The proposed project site is in close proximity to the Addo National Park (particularly Jahleel Island) and the declared Addo Elephant Marine Protected Area (stretching from the eastern breakwater past the Sundays River Mouth).

Biodiversity Policy and Strategy for South Africa: Strategy on Buffer Zones for National Parks

The strategy on buffer zones for National Parks was originally established due to the increasing rate and extent of development in and around National Parks, resulting in the isolation of National Parks from wider natural areas. The function of the Buffer Zone is to reduce /mitigate the negative influences that activities in close proximity to National Parks may have on the Park. The function also includes integration of Parks into surrounding landscapes.

The main purpose of the Buffer Zone is thus to:

- "Protect the purpose and value of the National Park which is to be explicitly defined in the management plan submitted in terms of section 39(2) of the Act;
- Protect important areas of high value for biodiversity and/or to society where these extend beyond the boundary of the Protected Area;
- Assist adjacent and affected communities to secure appropriate and sustainable benefits from the National Park and buffer zone area itself by promoting a conservation economy, ecotourism and its supporting infrastructure and services, and sustainability through properly planned harvesting."

According to this strategy, the establishment of a buffer zone around a National Park should be considered if the area is necessary for the proper conservation and effective protection of the National Park and would assist in achieving its objectives. This strategy also states that "*the buffer zone is an area surrounding a National Park which has complementary legal and management restrictions placed on its use and development, aimed at providing an extra layer of protection to the integrity of the National Park.*" This strategy is specifically geared towards sections relating to protected areas as well as Goal 1.4 (Environmentally sound and sustainable development adjacent to protected areas).

A Buffer Zone has the following six (6) objectives:

1. Ensure the persistence of important species and ecological processes;
2. Promote broad based and sustainable economic activity;
3. Preserve, adapt, restore and stabilize cultural heritage and secure the sustainable use thereof;
4. Preserve and improve the quantity and quality of water from catchments in the park and the buffer zone;
5. Protect, enhance and restore the unique and memorable character - the sense of place - that underpins the image of the National Park and their approaches, and
6. Protect and enhance the wilderness experience of park users.

The strategy stipulates that Buffer Zones must be established around National Parks in order to achieve the above goals. These buffer zones should be defined as priority natural areas, catchment protection areas and viewshed protection areas, and be identified by Government and integrated into management plans and Municipal Spatial Frameworks. These may then be established by publication in the Gazette or where appropriate, be declared as protected environments in terms of the Act.

In terms of the implementing the buffer zone strategy, the DEFF is responsible for implementing the specific provisions of National Environmental Management legislation, as they relate to buffer zones, while SANParks is responsible for the management of National Parks. The National Park buffer zones, as defined in the park management plan, can be considered special areas in terms of section 24(2)(b) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA). The strategy also states that all development in a formally established buffer zone that requires an environmental authorisation in terms of the NEMA, will be subject to an environmental impact assessment

process at national level. The Department's decision will be informed by the management authority's (SANParks) opinion on the potential impact on the National Park.

Relevance to the proposed project:

The proposed project area falls within the Addo Elephant National Park buffer zone.

The National Heritage Resources Act (25 of 1999)

The protection of archaeological and paleontological resources is the responsibility of a provincial heritage resources authority and all archaeological objects, paleontological material and meteorites are the property of the State. "*Any person who discovers archaeological or paleontological objects or material or a meteorite in the course of development must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority*".

Relevance to the proposed project:

- No person may alter or demolish any structure or part of a structure, which is older than 60 years or disturb any archaeological or paleontological site or grave older than 60 years without a permit issued by the relevant provincial heritage resources authority.
- No person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter or deface archaeological or historically significant sites.

Occupational Health and Safety Act (85 of 1993)

The objective of this Act is to provide for the health and safety of persons at work (See Table 3.4 below). In addition, the Act requires that, "*as far as reasonably practicable, employers must ensure that their activities do not expose non-employees to health hazards*" (Glazewski, 2005: 575). The importance of the Act lies in its numerous regulations, many of which will be relevant to the proposed development. These cover, among other issues, noise and lighting.

Table 3.4: Health and safety of persons at work according to the Occupational Health and Safety Act

8: GENERAL DUTIES OF THE EMPLOYERS TO THEIR EMPLOYEES	
(1)	Every employer shall provide and maintain, as far as is reasonably practicable, a working environment that is safe and without risk to the health of his employees.
(2)	Without derogating from the generality of an employer's duties under subsection (1), the matters to which those duties refer include in particular- a) The provision and maintenance of systems of work, plant and machinery that, as far as is reasonably practicable, are safe and without risks to health; b) Taking such steps as may be reasonably practicable to eliminate or mitigate any hazard or potential hazard to the safety or health of employees, before resorting to personal protective equipment; d) Establishing, as far as is reasonably practicable, what hazards to the health or safety of persons are attached to any work which is performed, any article or substance which is produced, processed, used, handled, stored or transported and any plant or machinery which is used in his business, and he shall, as far as is reasonably practicable, further establish what precautionary measures should be taken with respect to such work, article, substance, plant or machinery in order to protect the health and safety of persons, and he shall provide the necessary means to apply such precautionary measures; e) Providing such information, instructions, training and supervision as may be necessary to ensure, as far as is reasonably practicable, the health and safety at work of his employees; f) As far as is reasonably practicable, not permitting any employee to do any work or to produce, process, use, handle, store or transport any article or substance or to operate any plant or

8: GENERAL DUTIES OF THE EMPLOYERS TO THEIR EMPLOYEES	
	machinery, unless the precautionary measures contemplated in paragraphs (b) and (d), or any other precautionary measures which may be prescribed, have been taken; g) Taking all necessary measures to ensure that the requirements of this Act are complied with by every person in his employment or on premises under his control where plant or machinery is used; h) Enforcing such measures as may be necessary in the interest of health and safety; i) Ensuring that work is performed and that plant or machinery is used under the general supervision of a person trained to understand the hazards associated with it and who have the authority to ensure that precautionary measures taken by the employer are implemented; and authority as contemplated in Section 37 (1) (b).
14: GENERAL DUTIES OF EMPLOYEES AT WORK Every employee shall at work:-	
(a)	Take reasonable care for the health and safety of himself and of other persons who may be affected by his acts or omissions;
(b)	As regards any duty or requirement imposed on his employer or any other person by this Act, cooperate with such employer or person to enable that duty or requirement to be performed or complied with;
(c)	Carry out any lawful order given to him, and obey the health and safety rules and procedures laid down by his employer or by anyone authorized thereto by his employer, in the interest of health or safety;
(d)	If any situation which is unsafe or unhealthy comes to his attention, as soon as practicable report such situation to his employer or to the health and safety representative for his workplace or section thereof, as the case may be, who shall report it to the employer; and
(e)	If he is involved in any incident which may affect his health or which has caused an injury to himself, report such incident to his employer or to anyone authorized thereto by the employer, or to his health and safety representative, as soon as practicable but not later than the end of the particular shift during which the incident occurred, unless the circumstances were such that the reporting of the incident was not possible, in which case he shall report the incident as soon as practicable thereafter.
15: DUTY NOT TO INTERFERE WITH, DAMAGE OR MISUSE THINGS [S. 15 substituted by S. 3 of Act No. 181 of 1993.]	
	No person shall intentionally or recklessly interfere with, damage or misuse anything which is provided in the interest of health or safety.

Relevance to the proposed project:

- The developer must be mindful of the principles and broad liability and implications contained in the OHSA and mitigate any potential impacts.

Hazardous Substances Act (15 of 1973)

The Act aims to manage hazardous substances. It is the principal national legislation that controls the transportation, and manufacturing, storage, handling, treatment or processing facilities for any substance that is dangerous or hazardous (Groups I-IV).

Relevance to the proposed project:

- Manage the hazardous substances in such a manner that it does not endanger human health or the environment.
- Prevent hazardous substances from being used for an unauthorised purpose.

Relevant Noise Legislation

Specific noise legislation and the following standards have been used to aid the study and guide the decision-making process with regards to noise pollution:

- South Africa - GNR.154 of January 1992: Noise control regulations in terms of section

25 of the Environment Conservation Act (ECA), 1989 (Act No. 73 of 1989).

- South Africa - GNR.155 of 10 January 1992: Application of noise control regulations made under section 25 of the Environment Conservation Act, 1989 (Act No. 73 of 1989).
- South Africa - SANS 10103:2008 Version 6 - The measurement and rating of environmental noise with respect to annoyance and to speech communication.
- South Africa - SANS 10210:2004 Edition 2.2 – Calculating and predicting road traffic noise.
- South Africa - SANS 10357:2004 Version 2.1 - The calculation of sound propagation by the Concawe method.
- NMBM noise control by-law 37 of 2010

The ambient noise level guidelines in SANS 10103:2008 is 70dBA during the day and 60dBA at night in industrial districts. These levels can thus be seen as the target levels for any noise emissions within the SEZ.

SANS 10103:2008 provides typical rating levels for noise in various types of districts, as described in Table 3.5.

Table 3.5: Typical rating levels for noise in various types of districts.

Type of District	Equivalent Continuous Rating Level, LReq.T for Noise					
	Outdoors (dB(A))			Indoors, with open windows (dB(A))		
	Day-night	Daytime	Night-time	Day-night	Daytime	Night-time
Rural Districts	45	45	35	35	35	25
Suburban districts with little road traffic	50	50	40	40	40	30
Urban districts	55	55	45	45	45	35
Urban districts with one or more of the following: Workshops; business premises and main roads	60	60	50	50	50	40
Central business districts	65	65	55	55	55	45
Industrial districts	70	70	60	60	60	50

Furthermore, the South African noise control regulations describe a disturbing noise as any noise that exceeds the ambient noise by more than 7dB. This difference is usually measured at the complainant's location should a noise complaint arise. Therefore, if a new noise source is introduced into the environment, irrespective of the current noise levels, and the new source is louder than the existing ambient environmental noise by more than 7dB, the complainant will have a legitimate complaint.

Guidelines for expected community responses to excess environmental noise is reflected in Table 3.6 below.

Table 3.6: Categories of environmental community / group response (SANS 10103:2008).

EXCESS Lr dB (A)	ESTIMATED COMMUNITY/GROUP RESPONSE	
	CATEGORY	DESCRIPTION
0 - 10	Little	Sporadic complaints

5 - 15	Medium	Widespread complaints
10 - 20	Strong	Threats of community / group action
> 15	Very Strong	Vigorous community / group action

3.3.2. Municipal By-Laws and Planning

There will be certain requirements related to health and safety during construction and approval of method statements. Certain activities related to the proposed development may, in addition to National legislation, be subject to control by municipal by-laws including the NMBM Local Municipality Integrated Development Plan (IDP) and Spatial Development Framework (SDF).

NMBM SDF (2015)

A review of the metro's 2009 Spatial Development Framework (SDF) was completed, resulting in the compilation of the approved 2015 SDF, outlining the desired spatial development of the metropolitan area as contemplated in the Spatial Planning and Land Use Management Act, 2013 (SPLUMA). The SDF provides basic guidelines for a land use management system, and highlights priority investment and development.

The Human Settlements Strategic Framework was adopted by Council in December 2012 and recommended spatial restructuring of the city through the following interventions:

- *Urban Renewal Precincts*: including Inner City areas, Motherwell, Happy Valley, Lower Baakens Valley, Walmer, Gqebera, Korsten, Helenvale and Greater Ibhayi-Northern Areas Hub;
- *Spatial Transformation Precincts*: such as Parsonsvlei, Coega SEZ / Motherwell, Bay West and N2 Developments;
- *Implementation of an Integrated Zoning Scheme and Land Use System*; and
- *Assembly of well-located public and private land for development of Integrated Human Settlements.*

The SDF seeks to generate means to support and enhance urban development. Various interventions may be utilised to support economic growth and development, based on a number of considerations, such as:

- The importance of linking the residents of the Nelson Mandela Bay Municipality to opportunities;
- Directing investments to places where they will have the greatest effect;
- Protecting and enhancing natural and cultural resources for sustainability and enriching the experience of Nelson Mandela Bay Municipality; and
- Weaving the growth of Nelson Mandela Bay strongly into the economic fabric of the Eastern Cape Province.

A wide range of activity nodes or areas exist in the metro which accommodates a variety of activities. These can be divided into four main core areas, namely:

- Port Elizabeth
- Uitenhage
- Despatch
- ***Coega SEZ and the Port of Ngqura***

The SDF recognises the SEZ as a major industrial node in the NMBM:

"Coega SEZ (CDC): The development of the Coega SEZ presents a great potential for job creation and economic growth nearby suburbs, especially Wells Estate, Bluewater Bay, Amsterdamhoek and Motherwell, and the whole Municipality. It is proposed that gap-housing opportunities be created in these residential suburbs in order to accommodate the workforce anticipated from the development of the SEZ. Such residential developments, to meet the growth needs, should be located closer to the Coega SEZ'

Coega Open Space Management Plan (2014) and Coega IDZ Development Framework Plan (2006)

The CDC compiled, with advice from Gibb Africa and Metroplan, a Development Framework Plan (DFP) for the Coega SEZ (previously referred to as the Coega IDZ). This DFP aims to provide an overall development strategy for the Coega IDZ by identifying a series of defined objectives so that the implementation of the Coega IDZ can progress from concept to detailed planning and design. The DFP is based on a range of clusters and activity nodes. It achieves this by:

- Providing a robust but flexible land use, transportation and infrastructure strategy for the Coega site,
- Ensuring that the strategy conforms with National Policy for the planning of Development Zones, confirming that the strategy is consistent with local planning initiatives, commitments and objectives, and
- Demonstrating that the strategy is based on previous feasibility studies, and current "best practice", as demonstrated in similar projects.

An Open Space Management Plan was prepared by CES (2006) and revised and approved in 2014, to provide ecological input into the DFP. The OSMP identifies sensitive ecological areas, and areas of high biodiversity, to ensure that spatial planning considered the ecological setting. Ecological corridors and areas of high biodiversity or where unique fauna and flora occur were identified and where possible incorporated into the DFP.

4. ENVIRONMENTAL AND SOCIAL BASELINE

4.1 INTRODUCTION

This chapter provides background information on the biological, physical (biophysical) and social environment of the surrounding area and the proposed project site. The section draws on the Final Scoping Report drafted by CEN: IEM Unit (CEN Integrated Environmental Management Unit, March 2017: *Final Scoping Report for the Proposed Establishment of a Common User Integrated Marine Abstraction and Discharge Servitude and associated Landbased Infrastructure for Industries in the Coega Industrial Development Zone, Nelson Mandela Bay Municipality, Eastern Cape*, CEN IEM Unit, Port Elizabeth), as well as municipal and local planning tools and any additional published and unpublished material. The environmental baseline section looks at aspects relating to climate, topography, geology, soils, flora, fauna, the marine environment and inland water bodies, and although based mainly on literature, includes observations from an initial site visit. The social baseline addresses the demographic profile, education, health, social services and economy of the region.

4.2 TOPOGRAPHY AND HYDROLOGY

4.2.1. Topography

Topography of the landward component of the study area comprises a series of dunes along the coast which rise over a distance of approximately 500 m to a relatively flat plain at an altitude of approximately 60 m.a.s.l. on either side of the Coega River. The landform of majority of the area is described as "*level plains with some relief*". The mobile transverse dunes on the eastern side of the Port are more pronounced with steep faces, in comparison to the narrower dunefield on the south-western side of the Port. The topography of the Coega estuary and adjacent dunefields has been significantly altered firstly by the establishment of the Saltworks and more recently by the excavation of the deep-water Port and establishment of harbour-related infrastructure.

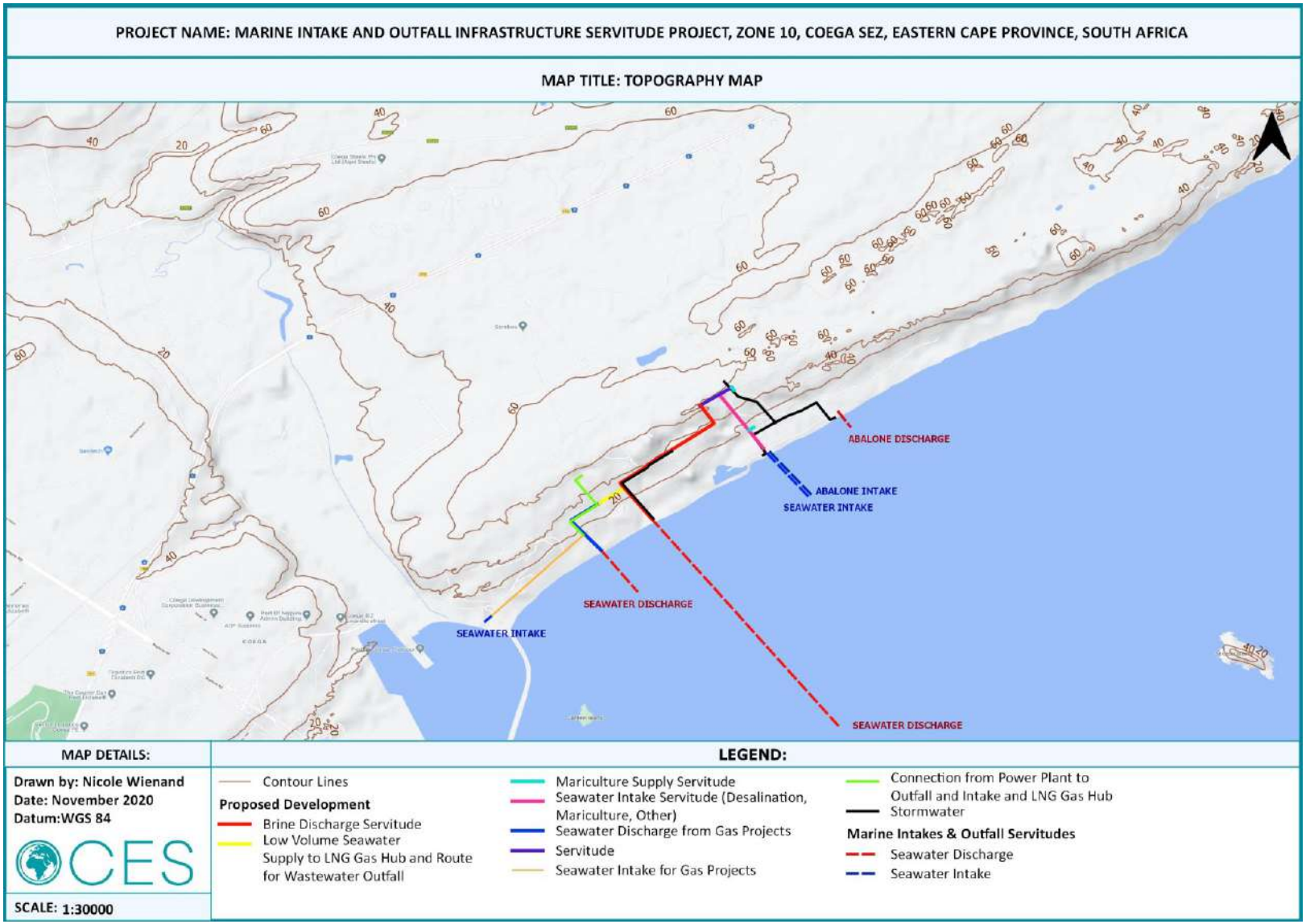


Figure 4.1: Contour map of the proposed project area.

Figure 4.2: Elevation profiles of the proposed development site (a) Inland to the Sea (b) East – West (c) North - South.

4.2.2. Surface Hydrology

There are two surface water features in the study area, the Butterfly Valley and the Coega River. The Butterfly Valley is a seasonal watercourse that drains into the lower reaches of the Coega River, and has been highlighted as an environmentally sensitive area in a number of publications completed for the Coega SEZ and Port Ngqura.

The Coega River is a relatively small sand-bed river in the Coega SEZ. The National Freshwater Ecosystems Priority Areas project, has earmarked several important catchments (sub-quaternaries) based either on the presence of important biota (e.g. rare or endemic fish species) or conversely the degree of riverine degradation, i.e. the greater the catchment degradation the lower the priority to conserve the catchment. The important catchment areas are then classified as Freshwater Ecosystems Priority Areas (NFEPAs). The Coega River is mapped as a Class B river on NFEPA (i.e. largely natural). The river has a catchment area of 550 km^2 and mean annual runoff of 13 x 106 m^3. The section of the river south of the N2 has been modified in various ways, including diversion into a trapezoidal earth channel approximately 3.3 km upstream of the river mouth, the location of a commercial saltworks within the flood plain of the river downstream of the N2 highway bridge (de Souza and Mackintosh, 2000), development of the port and infrastructural development (e.g. roads, bridges, pipelines). The lower reaches in particular have been extensively modified, and are expected to be further impacted on as the Coega SEZ and Port develops. In their 'Preliminary catchment management guidelines for the Coega River', GIBB (1999) describes the present ecological status of the lower reaches of the river as class F (using the river classification guidelines developed by the Department of Water Affairs). Class F rivers are 'Critically modified. Modifications have reached a critical level and the system has been modified completely with an almost complete loss of natural habitat'. The extent of the 1:100 year floodline of the river has been mapped in the area north of the N2 and the R334 to the western

border of the SEZ. The SEZ's most recent Open Space Management Plan identifies the riparian area as a critical biodiversity area.

The National Spatial Biodiversity Assessment (2011) includes the section of the Coega River from the harbour to approximately 3 km upstream of the N2 crossing as an estuary. The estuarine functional zone has been delineated and the current health category of the estuary is rated as 'F' (i.e. Critically/Extremely modified. Modifications have reached a critical level and the system has been modified completely with an almost complete loss of natural habitat and biota. In the worst instances the basic ecosystem functions and processes have been destroyed and the changes are irreversible) (NSBA, 2011: Volume 3).

The NFEPA identifies six natural wetlands in the landward study area:

- One channelled valley bottom wetland;
- Two unchannelled valley bottom wetlands;
- Two depressions; and
- One bench wetland.

Wetlands are protected in terms of the National Water Act and any activity within 500 m of a wetland needs a Water Use Authorisation in terms of Section 21 of the Act.

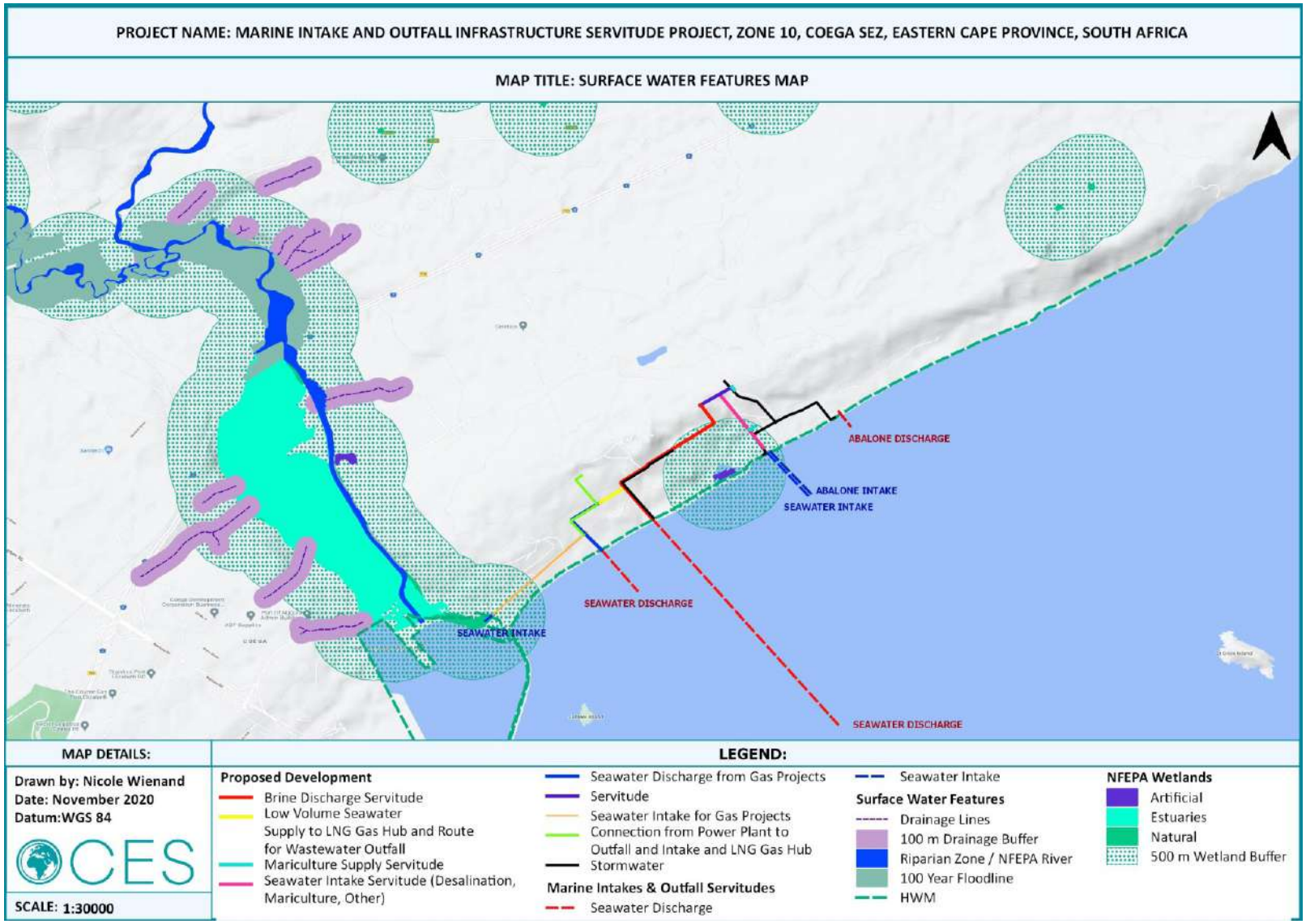


Figure 4.3: Surface hydrology features surrounding the proposed project area.

4.2.3. Groundwater

The southern portion of the Coega SEZ is underlain at depth by an artesian aquifer (Coega Ridge Aquifer). The aquifer is a vital source of freshwater inflow and nutrients to the coastal zone in the Algoa Bay region, contributing to the high productivity rates in this coastal area.

The aquifer is formed by sandstones and quartzites of the Table Mountain Group and is confined by a succession of eastward-thickening Cretaceous formations up to 1,200 m thick near the coast. It is the only artesian system of practical importance in South Africa. Overexploitation of the artesian system has caused several drops in yields that led to regulation of drilling and abstraction.

Groundwater in the Coega Ridge Aquifer flows in an easterly direction and has been carbon fourteen dated at 28,000 years near Coega Kop. Water quality remains relatively constant along its flow path. pH is slightly acidic because of oxidation of pyrite in the Table Mountain Group. It is not likely that groundwater will be polluted or contaminated as it is protected by an aquiclude and is an artesian system.

4.3 CLIMATE

The Eastern Cape has a complex climate. There are wide variations in temperature, rainfall and wind patterns, mainly as a result of movements of air masses, altitude, mountain orientation and the proximity of the Indian Ocean. Climate data is readily available for Coega from the CDC's Saltworks Air Quality Monitoring Station.

The wind regime for the Coega Saltworks area is dominated by westerly to north-westerly flow fields representing the pre-frontal conditions; and south-westerly flow fields representing the frontal conditions. The south-easterly and south-westerly wind flow (i.e. land breeze) increases during daytime conditions while westerly and north-westerly wind flow regimes increases during the night (sea breeze). The proposed project area is subject to strong winds from the west and west-south-west (41% combined frequency) all year round, and east (15%) from October through to March. These winds occur mainly throughout the day and may generate a significant amount of fugitive dust. Diurnal variations in the wind regime occur which are due to the influence of land-sea breeze circulation on the airflow of the region (Figure 4.4).

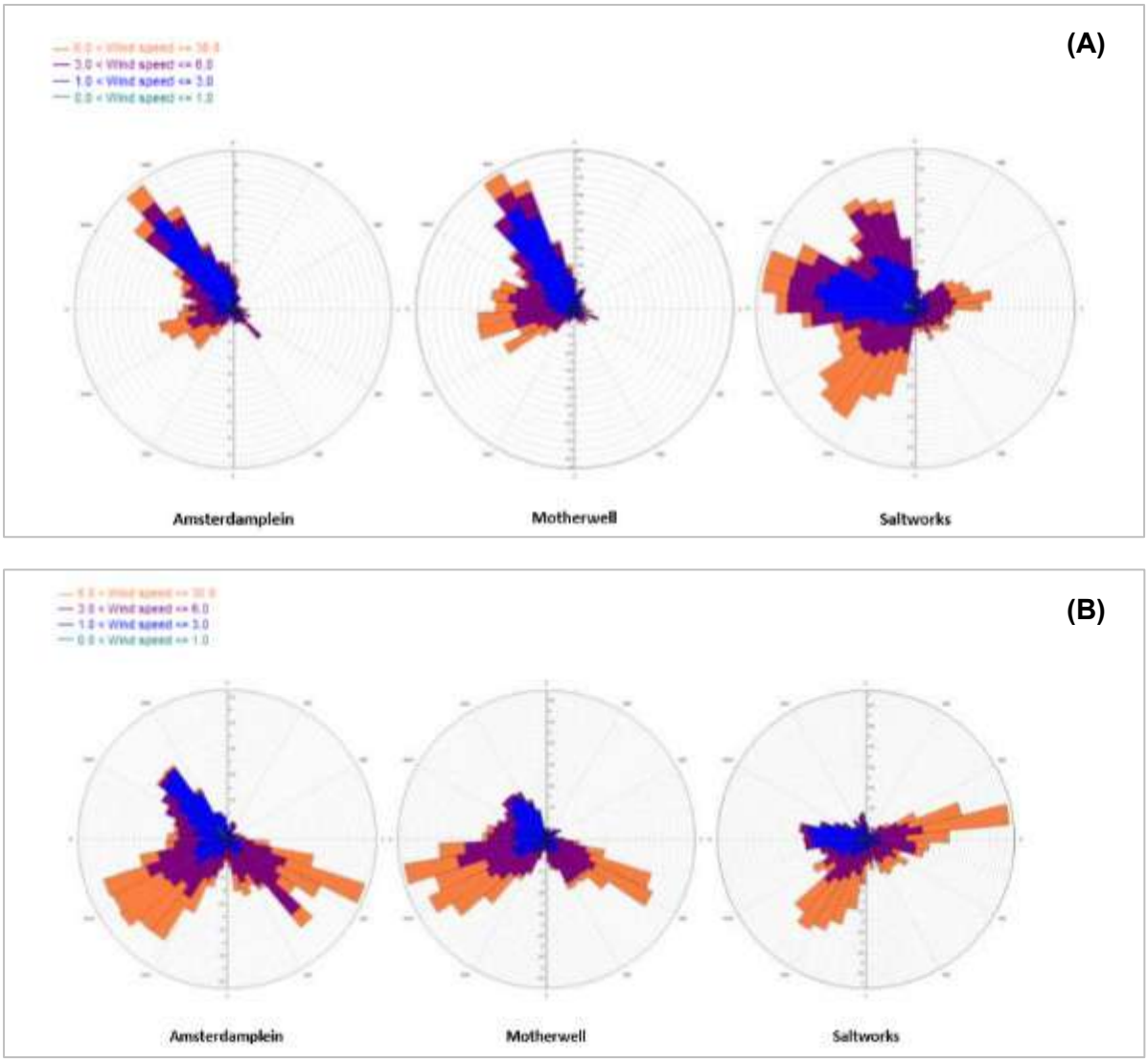


Figure 4.4: (A) Winter seasonal Wind Rose of Amsterdamplein, Motherwell and Saltworks wind speed and prevailing direction in 2019 (B) Summer seasonal Wind Rose of Amsterdamplein, Motherwell and Saltworks wind speed and prevailing direction in 2019 (Source: Coega SEZ Annual Ambient Air Quality Report, 2019).

Coega has a bimodal rainfall pattern with 255.6 mm of rain recorded at the Saltworks monitoring station from January to December 2019. Rainfall peaked in autumn and summer. On average, November had the most rainfall days with January having the least (Figure 4.5). Coega is situated near the junction of the temperate and subtropical climatic regions, and it has a warm temperate climate with the average daily temperature of 18ºC. The maximum temperatures recorded at Coega are 40ºC, while the minimum temperatures recorded are 3ºC. Exceptionally high temperatures may be experienced during berg wind conditions, which occur frequently during autumn and winter. Extreme temperatures also occur during summer, with little accompanying wind (Figure 4.5).

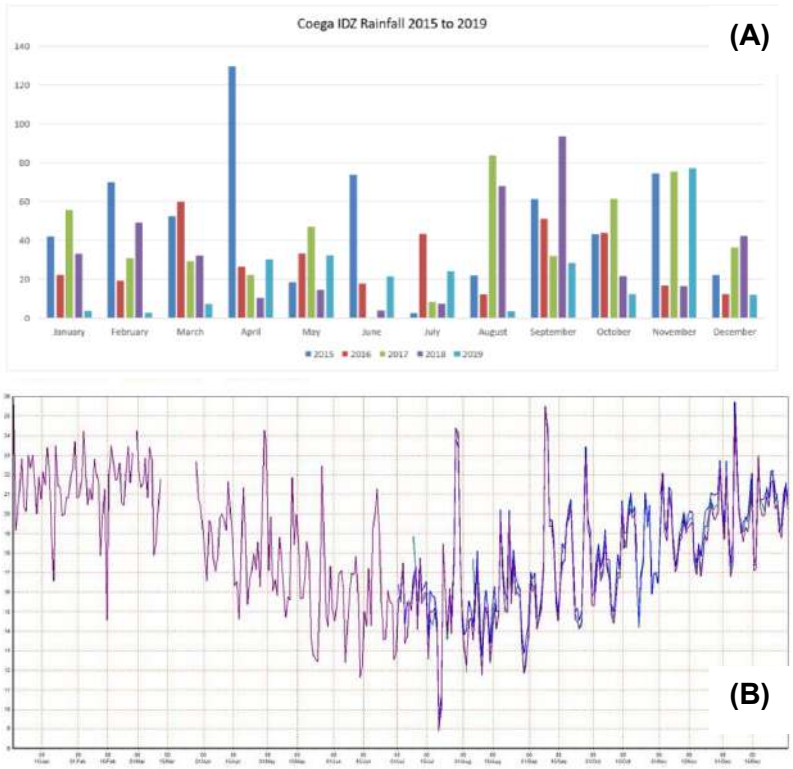


Figure 4.5: (A) Average rainfall data recorded at Coega from 2015 to 2019 (B) Daily average ambient temperatures recorded at Coega from January 2019 to December 2019 (Source: Coega SEZ Annual Ambient Air Quality Report, 2019).

4.4 GEOLOGY AND SOILS

The geology underlying the project area comprises of Quaternary alluvial deposits consisting of unconsolidated coastal sand and calcrete deposited during sea level changes of the Quaternary Period. These Quaternary alluvial deposits overly the Alexandria Formation of the Algoa Group – a 13 m thick package consisting of basal conglomerates rich in oyster shells, calcareous sandstones, pebbly coquina (cemented shells) and thin conglomerates typical of coastal and estuarine environments. The deposition of these layers is thought to have occurred during the marine transgression and regression cycles of the middle Miocene to Pliocene age. Consequently, the Alexandria Formation contains an abundance of marine invertebrate fossils such as bivalves, gastropods, corals, bryozoans, brachiopods and echinoids. Aeolianites of the Nanaga, Nahoon and Schelm Hoek Formations overlie the Alexandria formation in some places within the broader area (Johnson *et al*., 2006).

The geology of the Coega SEZ is characterised by coastal limestone, overlain by calcareous sands blown onshore. Three marine incursions and subsequent limestone deposition phases seem to have occurred, each progressively younger and at lower altitude seaward. The geology towards the sea consists of unconsolidated sands and fluvial sediments within the Coega floodplain. The land north of the N2 national road is dominated by coastal limestone.

The soils of the Coega SEZ can be described as relatively deep, red, lime-rich sandy clay loams. The proposed site is characterised by coastal sands, and sandy soils and lime-containing lithosols.

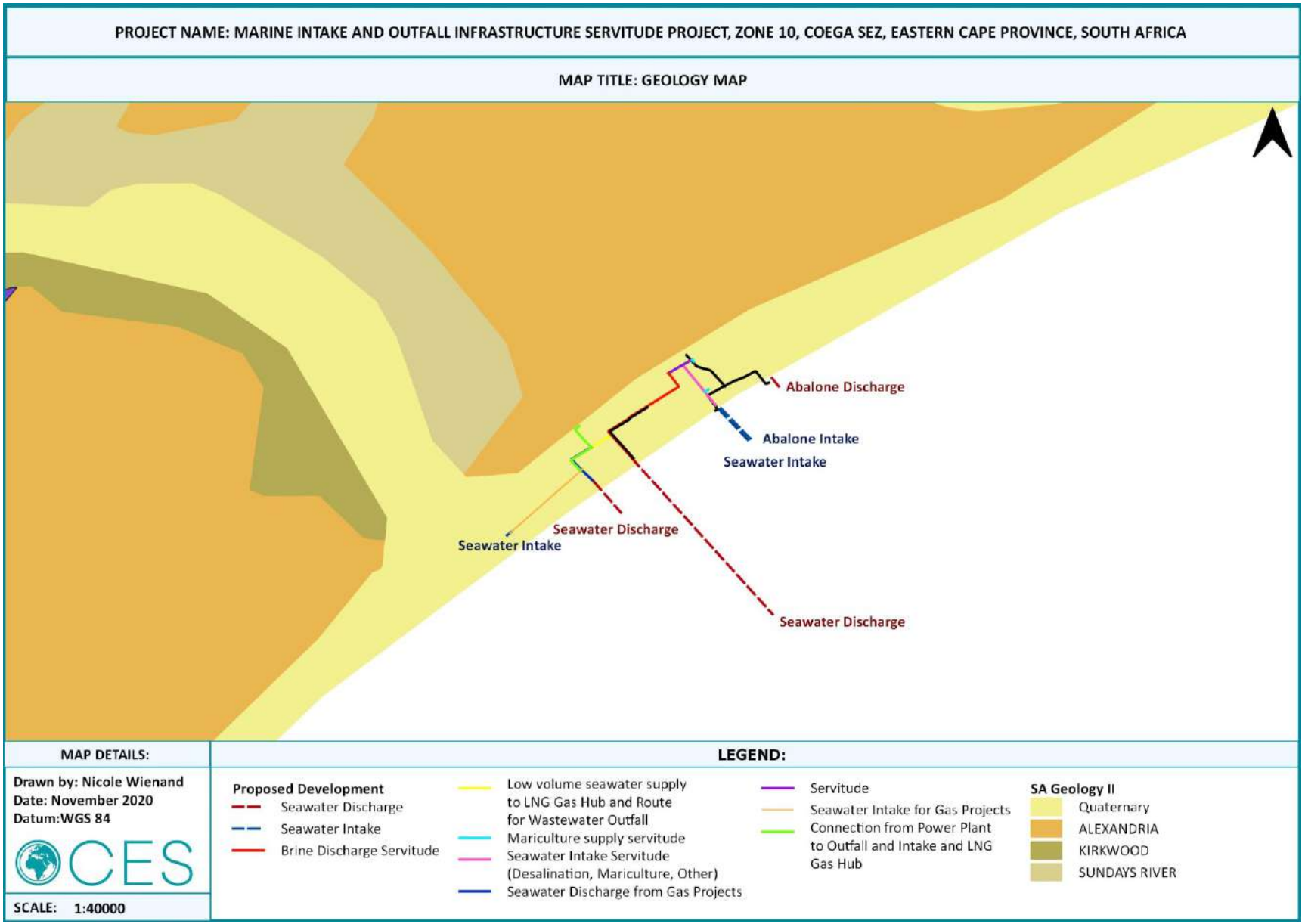


Figure 4.6: Geology of the proposed project site.

4.5 FLORA

4.5.1. National – Mucina and Rutherford

The South African Vegetation Map (SA VEGMAP) of 2018 is an important resource for biodiversity monitoring and conservation management in South Africa. Under the custodianship of the South African National Biodiversity Institute (SANBI) the SA VEGMAP, (2018) was updated in order to 'provide floristically based vegetation units of South Africa, Lesotho and Swaziland at a greater level of detail than had been available before'. The map provides a detailed description of each of South Africa's unique vegetation types along with a comprehensive list of the important species associated with each, including endemic and biologically important species. According to the SA VEGMAP (2018) spatial dataset, the vegetation of the proposed project area consists of:

- Cape Seashore Vegetation and
- St Francis Dune Thicket.

These vegetation types are all classified as 'least threatened'.

Cape Seashore Vegetation

Cape Seashore Vegetation occurs along the coast in the Western Cape and Eastern Cape Provinces. The conservation status of this vegetation type is classified as 'Least Threatened' (Figure 4.8). The conservation target (percent of area) as set by the NSBA is 20%. Almost half of this vegetation type is statutorily conserved in the West Coast, Cape Peninsula Agulhas, proposed Garden Route and Greater Addo Elephant National Parks as well as the Rocher Pan, Cape Columbine, Dassen island, Wolvengat, Kleinmond, Walker Bay, De Mond (Ramsar site), De Hoop, Kleinjongensfontein, Geelkrans, Robberg, (all Western Cape), and Cape St Francis, Cape Recife, Joan Muirhead, Gxulu, Cape Henderson, Kwelera and Bosbokstrand Nature Reserves (all Eastern Cape). A number of private conservation areas such as Donkin Bay, Robben Island, Rein's Coastal Reserve and Tharfield Nature Reserve protect other considerable portions of the Cape Seashore Vegetation. Only about 1.7% has been transformed, mainly by urban development.

St Francis Dune Thicket

St Francis Dune Thicket occurs on flat to moderately undulating coastal dunes from Tsitsikama River Mouth to Sundays River Mouth within the Eastern Cape Province. It is characterised by a mosaic of low (1-3 m) thicket and asteraceous fynbos. The thicket component is dominated by small bush clumps, consisting of small trees and woody shrubs, which are best developed in fire-protected dune slacks while the fynbos component occurs on dune slopes and crests. The fynbos component becomes less prominent towards the eastern distribution of this vegetation type. The geology underlying this vegetation type is mainly restricted to the Schelm Hoek Formation (Grobler *et al.,* 2018).

St Francis Dune Thicket is classified as poorly protected, with a Conservation Target of 19%. Approximately 14.13% of this vegetation type has been transformed due to mining, alien invasion by Acacia cyclops, urban sprawl and erosion (Grobler *et al.,* 2018).

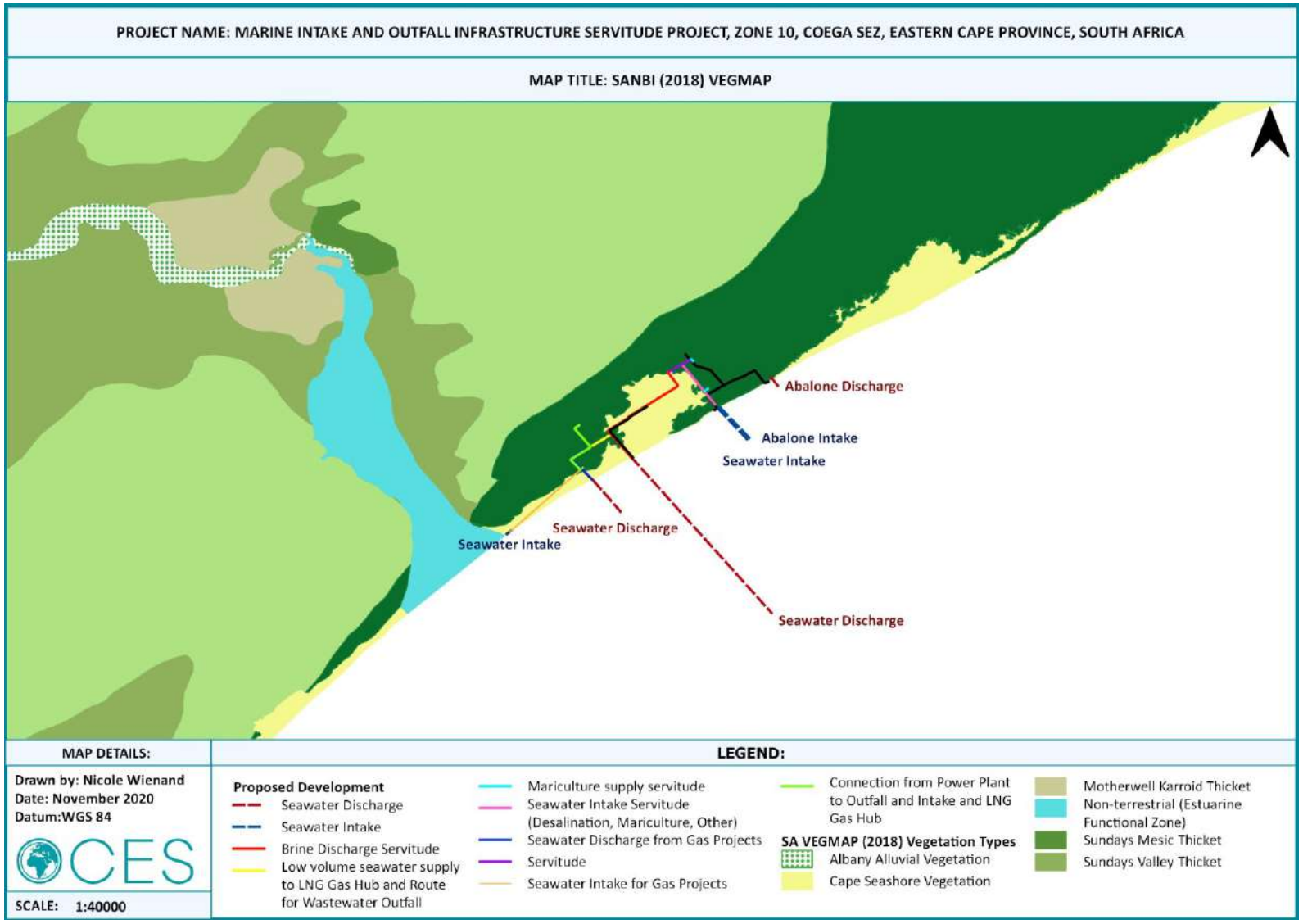


Figure 4.7: National vegetation classification of the proposed project area (Mucina and Rutherford, 2018).

4.5.2. Provincial – Eastern Cape Biodiversity Conservation Plan (2019)

The ECBCP (2019) replaces the ECBCP (2007) in its entirety and provides a map of important biodiversity areas, outside of the Protected Areas network, which can be used to inform land use and resource-use planning and decision making. The objectives of the ECBCP (2019) are to:

1) Identify the minimum spatial requirements needed to maintain a living landscape that continues to support all aspects of biodiversity and retain/maintain essential ecological infrastructure. This is achieved through the selection of areas, based on achieving targets, which represent important biodiversity pattern AND ecological processes;
2) Serve as the primary source of biodiversity information for land use planning and decision-making and
3) Inform conservation and restoration action in important biodiversity areas.

The aim of the ECBCP were to map biodiversity priority areas through a systematic conservation planning process. The main outputs of the ECBCP include Protected Areas (PA), Critical Biodiversity Areas (CBA), Ecological Support Areas (ESA), Other Natural Areas (ONA) and No Natural Habitat Remaining (NNR) for both terrestrial and aquatic ecosystems.

The ECBCP (2019) recognises the previously published and gazetted Nelson Mandela Bay Metropolitan Plan (2014 as revised) and the Coega Development Corporation Open Space System (2014) which has been mapped at a finer scale with detailed expert input and stakeholder engagement and legally enforced and implemented by the responsible agencies. Since it is not desirable for the ECBCP (2019) CBAs and ESAs to be in conflict with the CBAs in neither of these two existing plans, they have been incorporated without modification into the ECBCP(2019). It should be noted however, that as a consequence, the ECBCP (2019) is unable to meet specific biodiverisity targets (ECBCP 2019 Handbook). As such, the ECBCP aquatic CBAs has only been mapped (see Figure 4.8 below) as the terrestrial CBAs have been mapped with the NMBM MOSS (2009) and Coega OSMP (2014) (see Figure 4.10 and 4.11, respectively).

According to the ECBCP (2019), the study area falls within an aquatic ESA 1. The management requirments for these areas are as follows:

Maintain ecological function within the localised and broader landscape. A functional state in this context means that the area must be maintained in a semi-natural state such that ecological function and ecosystem services are maintained.

For areas classified as ESA1, the following objectives apply:

- These areas are not required to meet biodiversity targets, but they still perform essential roles in terms of connectivity, ecosystem service delivery and climate change resilience.
- These systems may vary in condition and maintaining function is the main objective, therefore:
    - Ecosystems still in natural, near natural state should be maintained.
    - Ecosystems that are moderately disturbed/degraded should be restored.

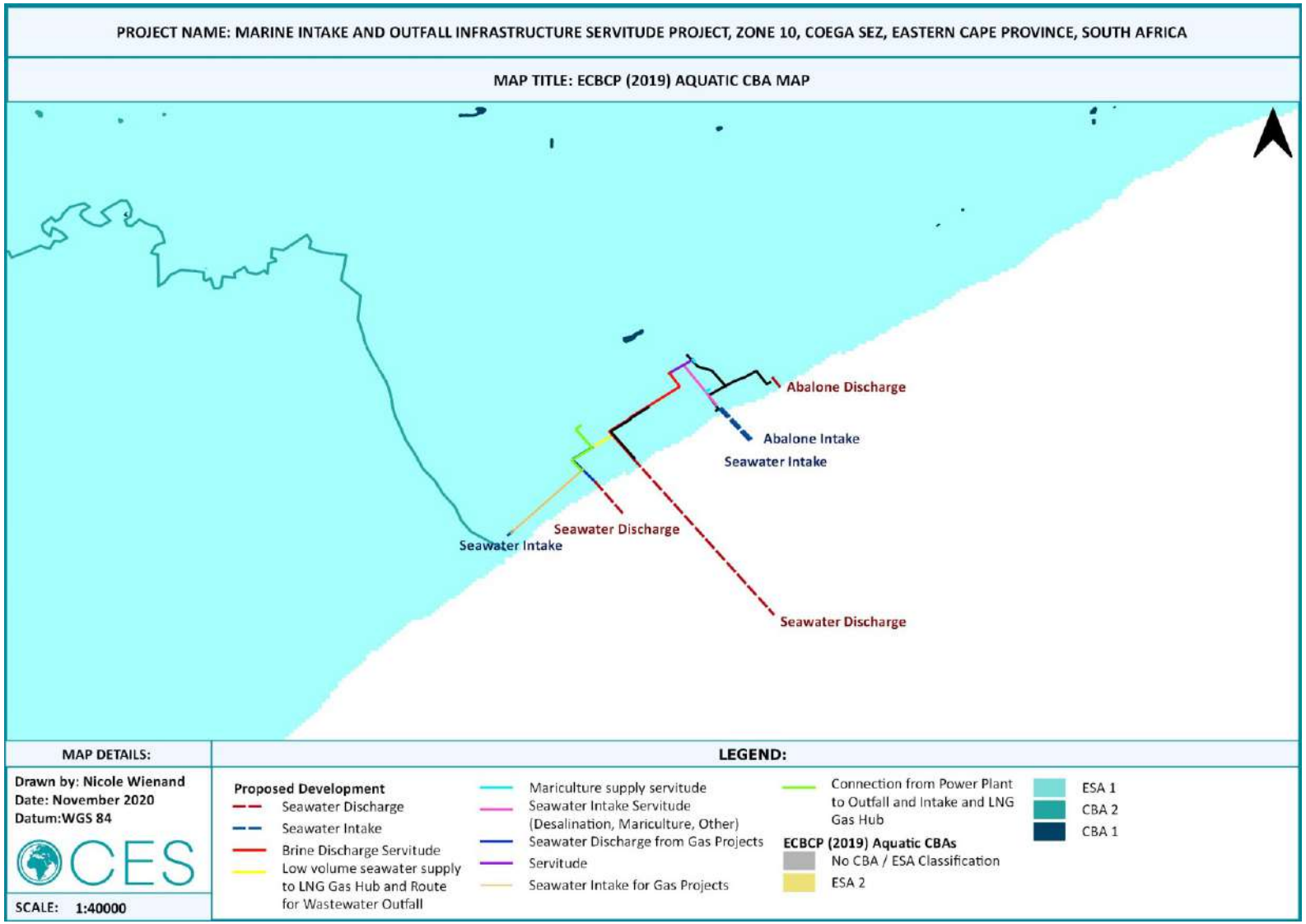


Figure 4.8: Aquatic CBA map of the proposed project area (ECBCP, 2019).

4.5.3. Local – The Metropolitan Open Space System

The MOSS defines the following vegetation types in the study area

Sandy Beaches - classified as Azonal beach types dominated by the deposition of sand. Approximately 86.7% of the intact habitat remains. This vegetation type is classified as "Least Threatened".

Algoa Dune Thicket is a subtropical thicket vegetation type dominated by protected trees such as the Milkwood (*Sideroxylon inerme*) and Candlewood (*Pterocelastrus tricuspidatus*). Waxberry shrubs are abundant in this vegetation type and rare succulents such as *Cotyledon adscendens* are characteristic. This vegetation type is present on calcareous sandstone, silt/siltstone, shelly limestone and coquinite. Approximately 38.4% of the intact vegetation remains. This vegetation type is classified as "Vulnerable".

A Conservation Assessment and MOSS plan was done for the Nelson Mandela Bay Municipal area in 2009. According to this plan, the majority of the land based infrastructure falls within a CBA (refer to Figure 4.10).

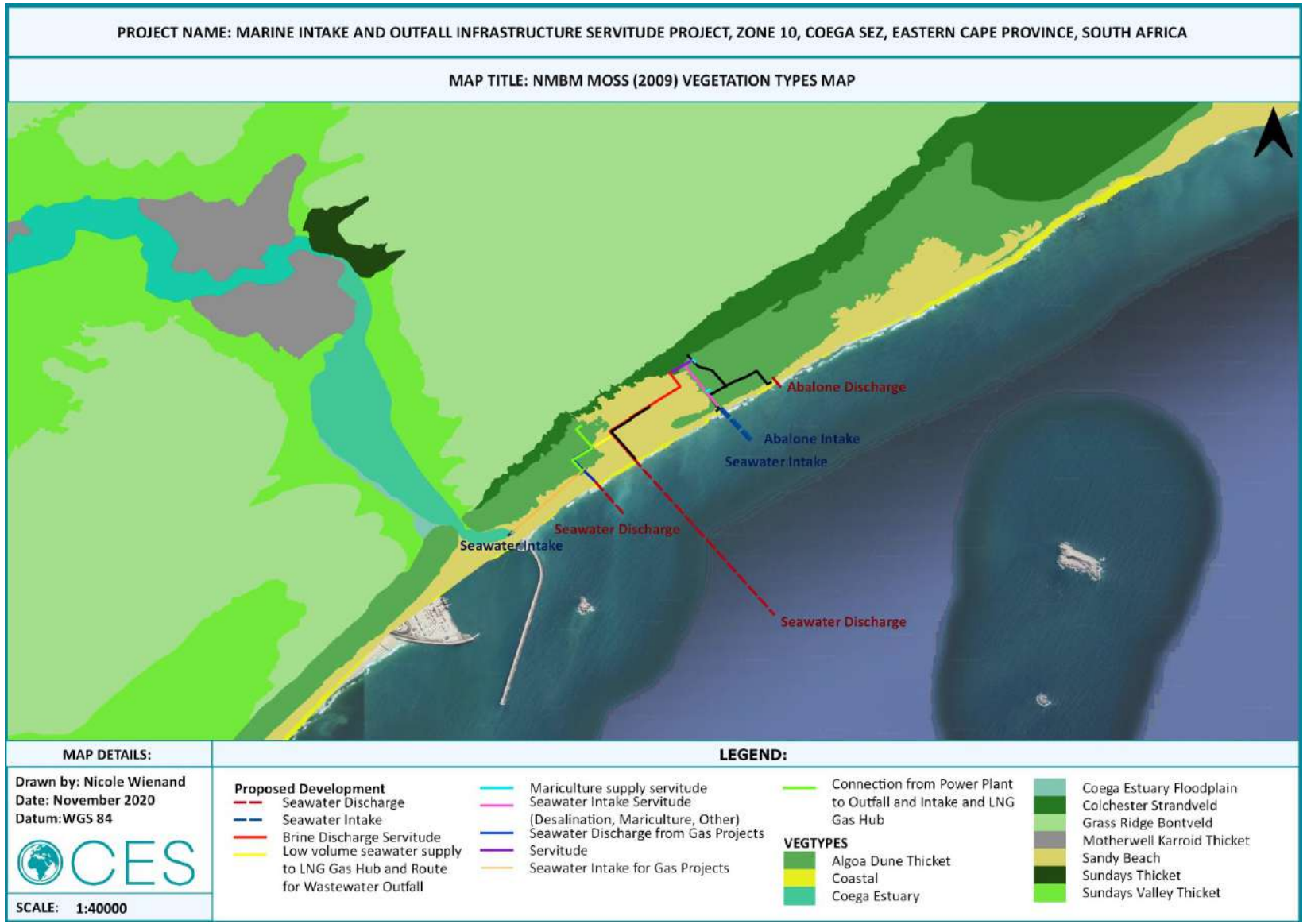


Figure 4.9: Vegetation Map of the proposed project area (MOSS, 2009).

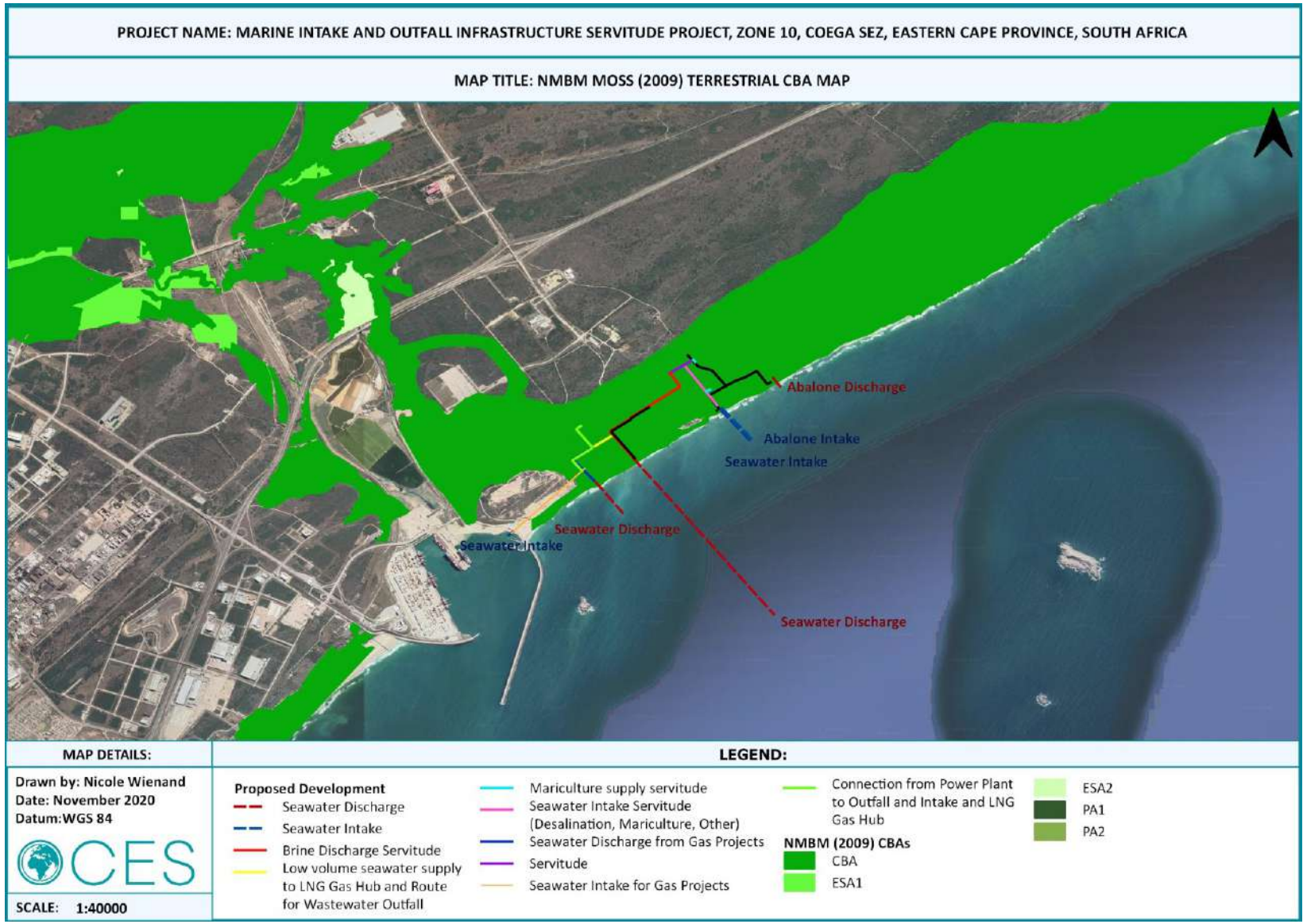


Figure 4.10: Critical Biodiversity Areas of the proposed project area (MOSS, 2009).

4.5.4. Local – Coega Open Space Management Plan

The Coega Open Space Management Plan (OSMP, 2014) was approved by the Department of Environment, Forestry, and Fisheries (DEFF), formerly the Department of Environmental Affairs (DEA), and provides important spatial information on the various land uses, open spaces, and CBA's within the Coega SEZ. The OSMP forms the basis for environmental and planning authorisations and sets out the uses of the open space areas, thereby serving as an important tool guiding development plans and management guidelines within the Coega SEZ.

The primary objectives of the OSMP are to:

- Promote preservation of the environment where natural systems and/or specific habitats require it.
- Manage and preserve the cultural resources within the open spaces of Coega IDZ.
- Manage and preserve land for its aesthetic or passive recreational value, for active recreational use, and for its contribution to the quality of life of the concessionaires, tenants and the public.
- Meet recreation space demands as well as provide natural amenities for the IDZ working population.
- Ensure proper management of open space areas.
- Ensure that linkages to neighbouring open space areas are maintained.
- Use education to promote and accomplish the goals of the environmental vision for Coega IDZ.
- Address the social & cultural needs of workers and families if and where desired.
- Promote educational opportunities within the IDZ and enhance the level of environmental awareness of the workers within the IDZ.
- Improve environmental quality by means of development guidelines to ensure the IDZ can compete with other alternative locations on a global scale.

The development of the OSMP was a mandatory requirement in terms of the legislative framework applicable to the area and was initially established on the findings of the original Strategic Environmental Assessment (SEA) undertaken for the Coega SEZ. The OSMP is updated from time to time, depending on the changing needs of the Coega SEZ and the availability of updated biodiversity information. The data used to inform the information contained in this report is based on the 2014 OSMP – the latest, most up to date version of the Coega OSMP and as such the most up to date spatial dataset. Site sensitivities are therefore based on information from this dataset as depicted in Figure 4.11 included below.

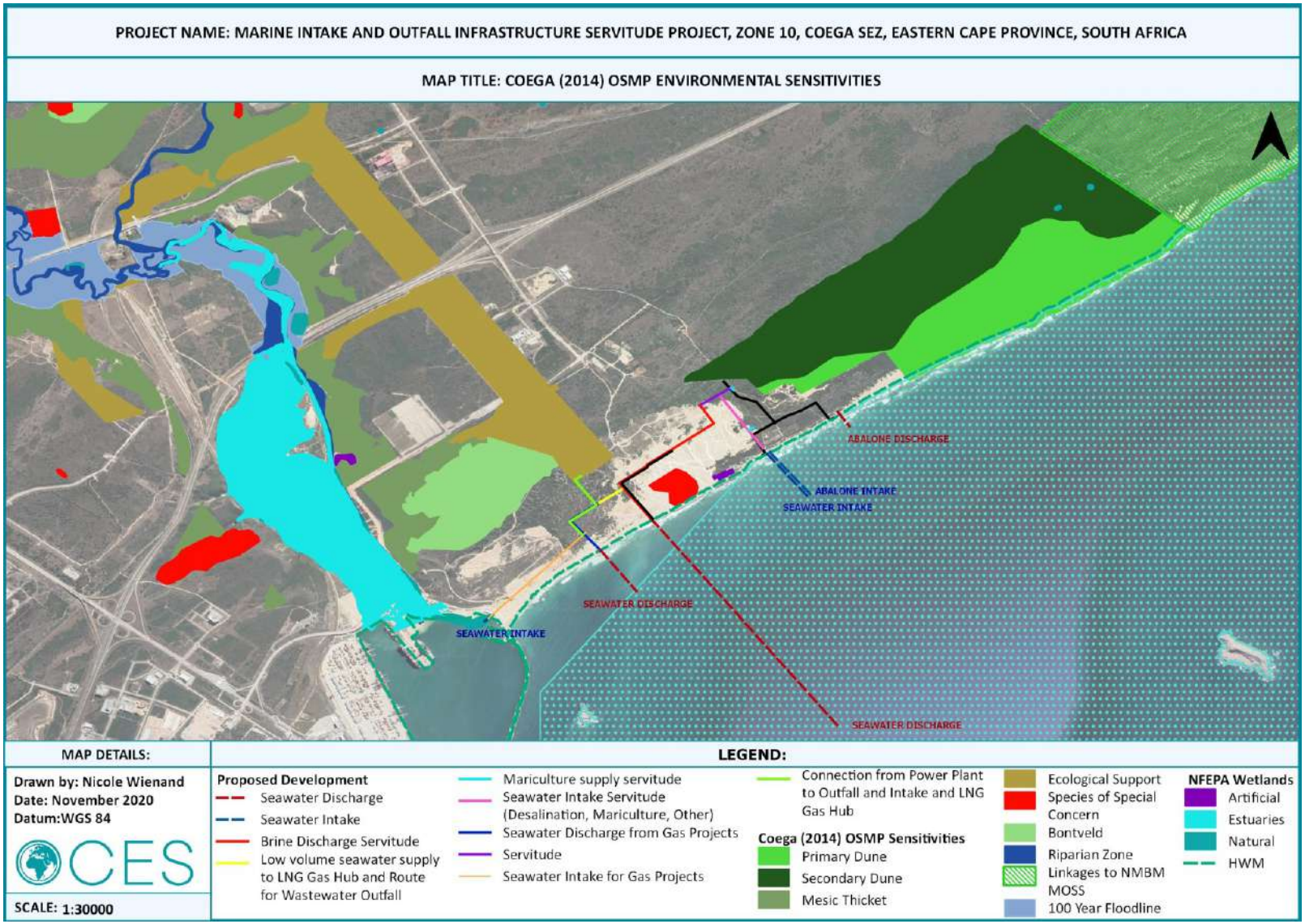


Figure 4.11: Site sensitivities as described by the Coega OSMP.

4.5.5. Floristics

Potential Species of Conservation Concern (SCC) which are likely to occur within the vegetation types within the project area are derived from plants listed in terms of the IUCN, the South African Red Data List, Provincial Nature Conservation Ordinance PNCO and national legislation (NEMBA). QDS 3325DC and 3325DA were consulted to compile the relevant species lists. Based on historical records for the region, it is likely that one Critically Endangered species, five Endangered species, two Protected and two Near Threatened species occur in this area (SIBIS, 2015). All three *Encephalartos* spp. are found on the NEM:BA lists, whilst 11 species were listed on the PNCO. These can be seen in Table 4.1 below. In addition to the above, *Leucadendron argenteum* and *Sideroxylon inerme* are listed as protected trees under the national protected tree species list (National Forest Act).

Table 4.1: Species of Conservation Concern that are likely to occur within the study site

SCIENTIFIC NAME	IUCN	SA RED DATA LIST	NEMBA	PNCO	PROTECTED TREES
Carissa Bispinosa	-	Least Concern	-	Schedule 4	-
Corpuscularia lehmannii	-	Critically Endangered	-	-	-
Cotyledon adscendens	-	Endangered	-		-
Encephalartos horridus	Endangered	Endangered	Endangered	Schedule 3	-
Encephalartos caffer	Near Threatened	Protected	Protected-	Schedule 3	-
Encephalartos lehmannii	Near Threatened	Protected	Protected-	Schedule 3	-
Euyops cf ericifolius	-	Endangered	-	-	-
Gomphocarpus physocarpus	-	Least concern	-	Schedule 4	-
Haworthia fasciata	-	Near Threatened	-	-	-
Leucadendron argenteum	Vulnerable	Endangered	-	Schedule 3	Protected tree
Marsilea schelpeana	Vulnerable	-	-	-	-
Rapanea gilliana	Vulnerable	-	-	-	-
Rhombophyllum rhomboideum	Endangered	Endangered	-	-	-
Sarcostemma viminale	-	Least Concern	-	Schedule 4	-
Scadoxus puniceus	-	Least Concern	-	Schedule 4	-
Sideroxylon inerme	-	Least Concern	-	-	Protected Tree
Strelitzia cf juncea	-	Vulnerable	-	Schedule 4	-
Tritoniopsis antholyza	-	Least Concern	-	Schedule 4	-
Watsonia pillansii	-	Least Concern	-	Schedule 4	-

4.6 FAUNA

South Africa is a diverse country, with approximately 1,663 terrestrial vertebrate faunal species of which 850 species are birds, 343 species are mammals, 350 species are reptiles and 120 species are amphibians spread across seven biomes and 122 million km².

4.6.1. Amphibians

Amphibians are an important and often neglected component of terrestrial vertebrate faunas. They are well represented in sub-Saharan Africa, from which approximately 600 species have been recorded (Frost, 1985). However, distribution patterns in southern Africa are uneven both in terms of species distribution and in population numbers (du Preez and Carruthers, 2009). A relatively rich amphibian fauna occurs in the Eastern Cape, where a total of 32 species and sub-species occur. This represents almost a third of the species known from South Africa. Knowledge of amphibian species diversity in the study area is limited. However, according to the Animal Demographic Unit's Reptile Database, 16 species of frog have been documented in the Quarter Degree Square that the project area falls in. Of these 16 species, none are listed on the IUCN Red List nor as a schedule 1 on the PNCO list. However, all frogs and toads are listed as schedule 2 species on the PNCO list and are therefore considered species of conservation concern. Permits will be required for the removal of all frogs and toads.

4.6.2. Reptiles

South Africa has 350 species of reptiles, comprising 213 lizards, 9 worm lizards, 105 snakes, 13 terrestrial tortoises, 5 freshwater terrapins, 2 breeding species of sea turtle and 1 crocodile (Branch, 1998). Of those 350 reptile species, the Eastern Cape is home to 133 which include 21 snakes, 27 lizards and eight chelonians (tortoises and turtles). The majority of these are found in Mesic Succulent Thicket and riverine habitats. The Animal Demography Unit (A University of Cape Town Research Unit) historical records indicate that 83 species of reptiles are likely to occur in the project site. Only one Near Threatened species (*Nucras taeniolata - Albany Sandveld Lizard)* and one Critically Endangered species (*Bitis albanica- Albany adder*) on the IUCN Red Data List are likely to be found in the study area (Table 4.2). However, all lizards and tortoises are listed as a schedule 2 species on the PNCO list and will therefore require permits for their removal.

Table 4.2: Reptile SCC likely to occur in the Project Area.

FAMILY	SCIENTIFIC NAME	COMMON NAME	RED LIST STATUS	PNCO
Colubridae	*Philothamnus semivariegatus*	Spotted Bush Snake	-	Schedule 2
Colubridae	*Duberria lutrix lutrix*	South African Slug-eater	-	Schedule 2
Colubridae	*Lamprophis aurora*	Aurora House Snake	-	Schedule 2
Colubridae	*Lycodonomorphus rufulus*	Brown Water Snake	-	Schedule 2
Colubridae	*Lycophidion capense capense*	Cape Wolf Snake	-	Schedule 2
Colubridae	*Philothamnus natalensis occidentalis*	Western Natal Green Snake	-	Schedule 2
Colubridae	*Prosymna sundevalli*	Sundevall's Shovel-snout	-	Schedule 2
Lacertidae	*Nucras taeniolata*	Albany Sandveld Lizard	Near threatened	Schedule 2
Viperidae	*Bitis albanica*	Albany Adder	Critically Endangered	Schedule 2

4.6.3. Mammals

Large game makes up less than 15% of the mammal species in South Africa and a much smaller percentage in numbers and biomass. In developed and farming areas, this percentage is greatly reduced, with the vast majority of mammals present being small or medium-sized.

Eighty-nine mammal species have distribution ranges which include the project area.

According to NEMBA, three protected mammal species (South African Hedgehog, Honey Badger and Cape Fox) and one vulnerable species (Leopard) have distributions that coincide with the project area (Table 4.3). However, the likelihood of Leopard and/or Cape Fox occurring on site is **low** as human activity within the area is likely to force the species away from the site. The White tailed mouse, which has a distribution that coincides with the project area is listed as Endangered. Sclater's Mouse Shrew and Schreibers Long-fingered bat are both listed as Near Threatened on the IUCN Red List and have distributions which co-inside with the project area.

Table 4.3: Mammal SCC likely to occur in the Project Area.

Scientific Name	Common Name	IUCN	NEMBA	PNCO
Atelerix frontalis	South African hedgehog	-	Protected	Schedule 2
Mystromys albicaudatus	White-tailed mouse	EN	-	-
Mellivora capensis	Honey Badger	-	Protected	Schedule 2
Vulpes chama	Cape Fox	LC	Protected	-
Myosorex sclateri	Sclater's Mouse Shrew	NT		
Miniopterus schreibersii	Schreibers Long-fingered bat	NT	-	Schedule 2
Panthera pardus	Leopard	NT	Vulnerable	Schedule 2

4.6.4. Birds

Nine bird species are endemic to South Africa, but there are no Eastern Cape endemics. However, there are 62 threatened species within the Eastern Cape Province (Barnes, 2000). Most of these species occur in grasslands or are associated with wetlands, indicating a need to conserve what is left of these ecosystems (Barnes, 2000). According to Southern African Bird Atlas Project 2 (SABAP2) for the QDS 3325DA and 3325DC, 369 bird species (including marine species) have distributions which incorporate the project area. Species include; The Blue Crane (*Anthropoides paradiseus*), which is a critically endangered species according to NEMBA, as well as a listed species on Appendix II of CITES; Damara Tern (*Sterna balaenarum*) which is critically endangered according to the Red Data List and protected in terms of the PNCO, Denham's Bustard (*Neotis denhami*) which is listed as protected on the NEMBA list; and the Martial Eagle (*Polemaetus bellicosus*) which is listed as threatened. Table 4.4 lists the bird species of conservation concern that are likely to occur in the project area. It must be noted that pelagic seabirds which have distribution ranges within the project area but do not nest within the project area have been removed from this table.

Table 4.4: Bird SCC with a distribution range that includes the project area.

Family	Scientific Name	Common name	Red List status	CITES	NEMBA	PNCO
ACCIPITRIDAE	*Circus maurus*	Black Harrier	Vulnerable	-	-	Schedule 2
ACCIPITRIDAE	*Polemaetus bellicosus*	Martial Eagle	Near Threatened	-	Threatened	Schedule 2
ACCIPITRIDAE	*Stephanoaetus coronatus*	Crowned Eagle	Near Threatened	-	-	Schedule 2
ANATIDAE	*Oxyura maccoa*	Maccoa Duck	Near Threatened	-	-	Schedule 2
CHARADRIIDAE	*Charadrius pallidus*	Chestnut-banded Plover	Near Threatened	-	-	Schedule 2
CORACIIDAE	*Coracias garrulus*	European Roller	Near Threatened	-	-	Schedule 2
GRUIDAE	*Anthropoides paradiseus*	Blue Crane	Vulnerable	Appendix II	Critically endangered	Schedule 2
HAEMATOPODIDAE	*Haematopus moquini*	African Black Oystercatcher	Near Threatened	-	-	Schedule 2

Family	Scientific Name	Common name	Red List status	CITES	NEMBA	PNCO
OTIDIDAE	*Neotis denhami*	Denham's Bustard	Near Threatened	-	Protected Species	Schedule 2
PICIDAE	*Campethera notata*	Knysna Woodpecker	Near Threatened	-	-	Schedule 2
SAGITARIIDAE	*Sagittarius serpentarius*	Secretary Bird	Vulnerable	Appendix II	-	Schedule 2
SCOLOPACIDAE	*Limosa limosa*	Black-tailed Godwit	Near Threatened	-	-	Schedule 2
SCOLOPACIDAE	*Numenius arquata*	Eurasian Curlew	Near Threatened	-	-	Schedule 2
STERNIDAE	*Sterna balaenarum*	Damara Tern	Critically endangered	Near Threatened	-	Protected
TIMALIIDAE	*Lioptilus nigricapillus*	Bush Blackcap	Near Threatened	-	-	Schedule 2

Important Bird Areas (IBA) are sites critical for the long-term survival of bird species that are globally threatened, have a restricted range, are restricted to specific biomes/vegetation types and/or have significant populations (Figure 4.12) (BirdLife SA, 2019). South Africa has 101 Global IBAs and an additional 21 Regional IBAs, 15 of which occur within the Eastern Cape Province. One of the discharge servitudes extends into the boundary of the Algoa Bay Islands: Addo Elephant National Park IBA (refer to Figure 4.12). However please note that the servitude will not be in close proximity to any of the islands (> 300 m) and will be at a depth of – 20 CD.

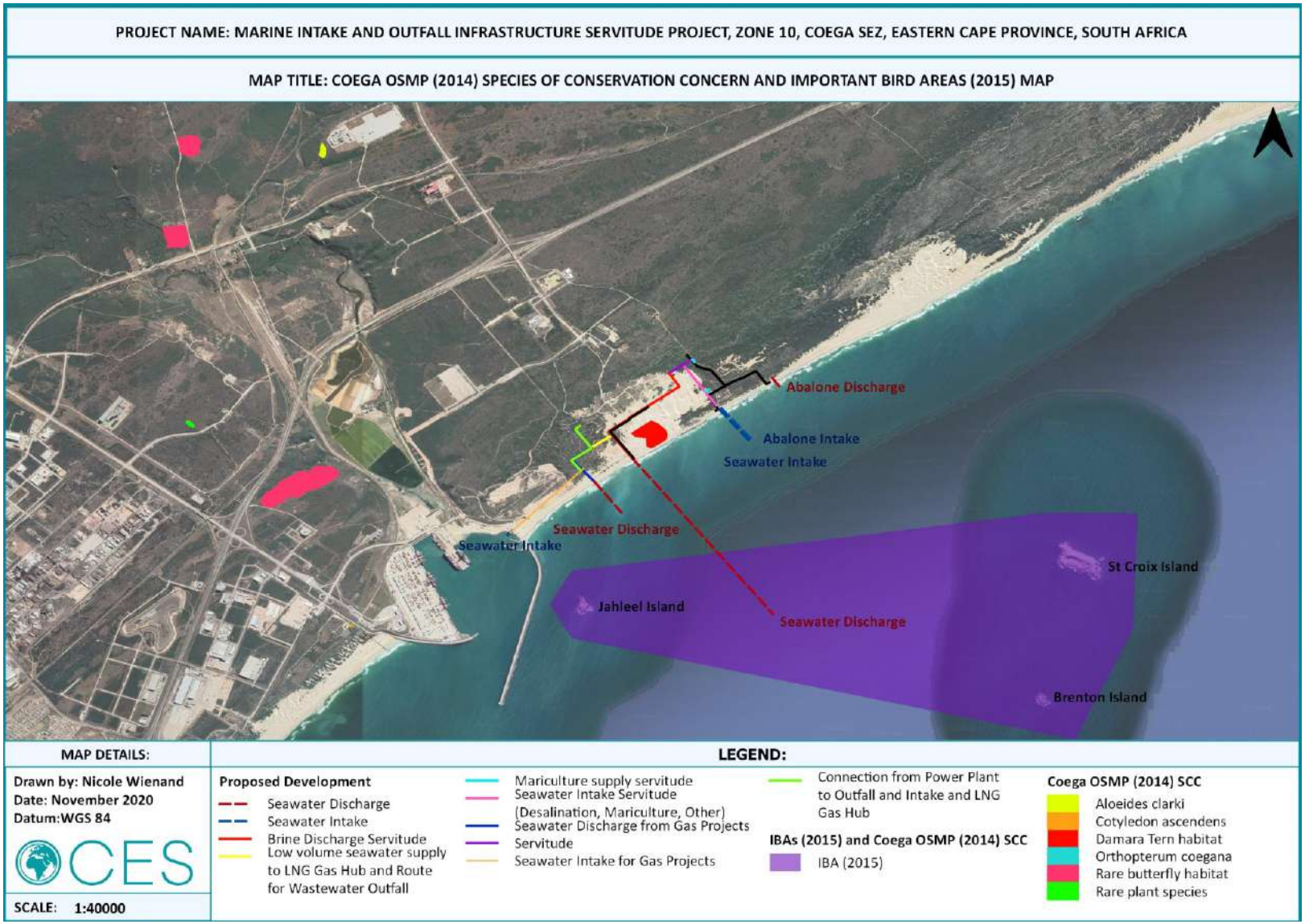


Figure 4.12: Important Bird Areas.

4.7 CONSERVATION AND PLANNING TOOLS

4.7.1. DEFF Screening Tool

The table below provides a summary of the DEFF Screening Report of the proposed site, please refer to Appendix 4.1 for the full report.

Table 4.5: Environmental sensitivities identified by the DEFF Screening Report and the proposed way forward.

VARIABLE	SENSITIVITY	WAY FORWARD
Agriculture	High	The proposed development is within an established special economic zone and as such no agricultural assessment will be conducted for the proposed site.
Fauna	High	An ecological assessment will be conducted for the proposed development site.
Flora	Medium	An ecological assessment will be conducted for the proposed development site.
Terrestrial Biodiversity	Very High	An ecological assessment will be conducted for the proposed development site.
Aquatic Biodiversity	Very High	The presence of any wetlands within the proposed project areas will be confirmed with a site visit.
Archaeological and Cultural Heritage	High	An Archaeological, Palaeontological and Cultural Heritage Assessment was conducted for the SEZ in 2010. The CDC also has a Heritage Management Plan, and guidelines from SAHRA in place to ensure that all aspects of heritage are managed. These recommendations are included in the impact assessment included below and will be included in the EIA. It should be noted that we are aware that generally specialist studies should not be older than 5 years, however, heritage, archaeological and paleontological artifacts are sessile and thus the position of these do not change over time, as such it is considered acceptable to utilise the existing study as the status quo would not have changed.
Civil Aviation	Medium	None required
Defence Theme	Medium	None required

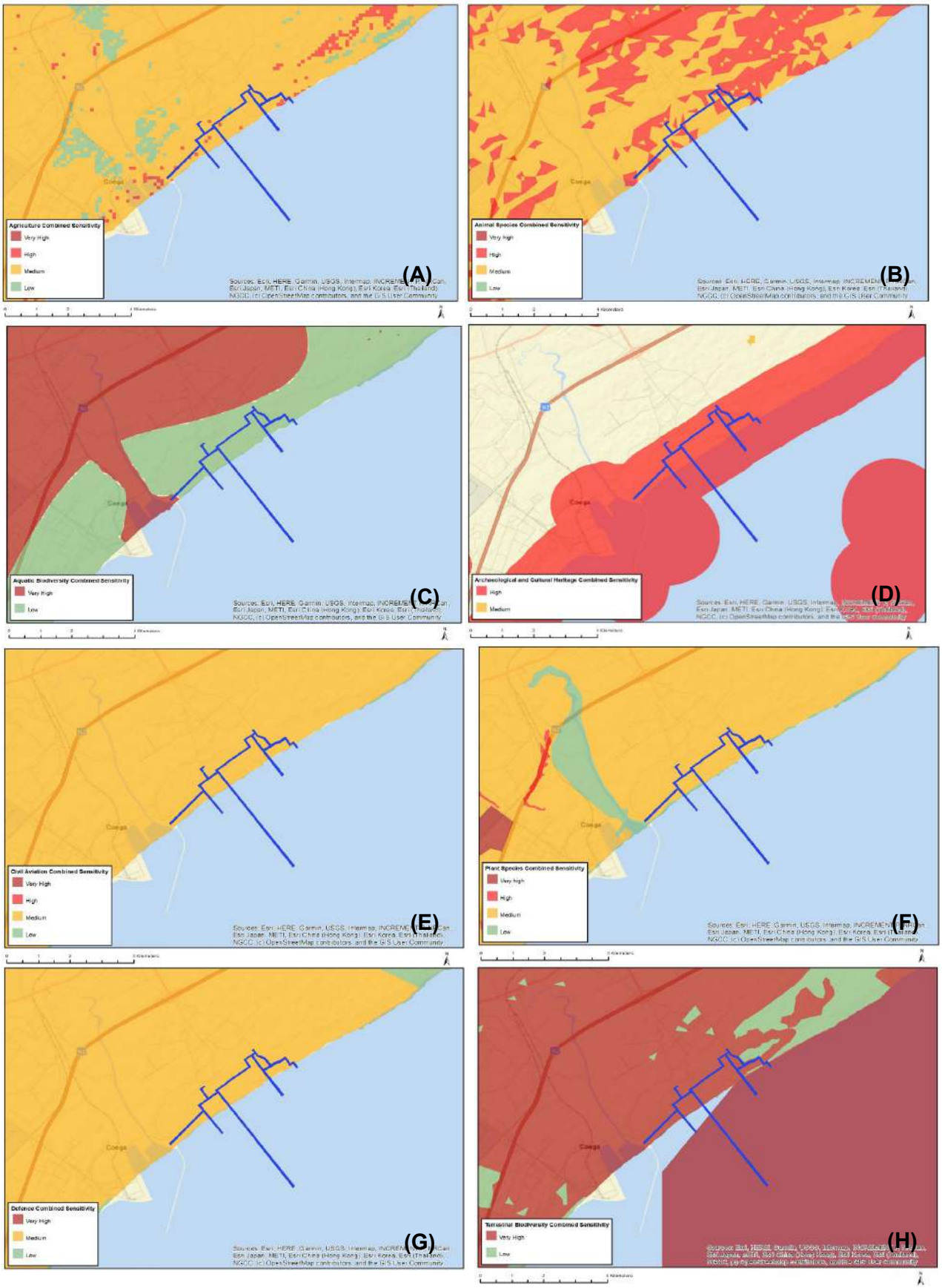


Figure 4.13: DEFF Screening Tool for (A) Agriculture (B) Fauna (C) Aquatic Biodiversity (D) Archaeology and Cultural Heritage (E) Civil Aviation (F) Flora (G) Defence Theme and (H) Terrestrial Biodiversity.

4.7.2. Protected Areas

The marine component of the proposed development falls within the Addo Elephant National Park Marine Protected Area (Figure 4.14).

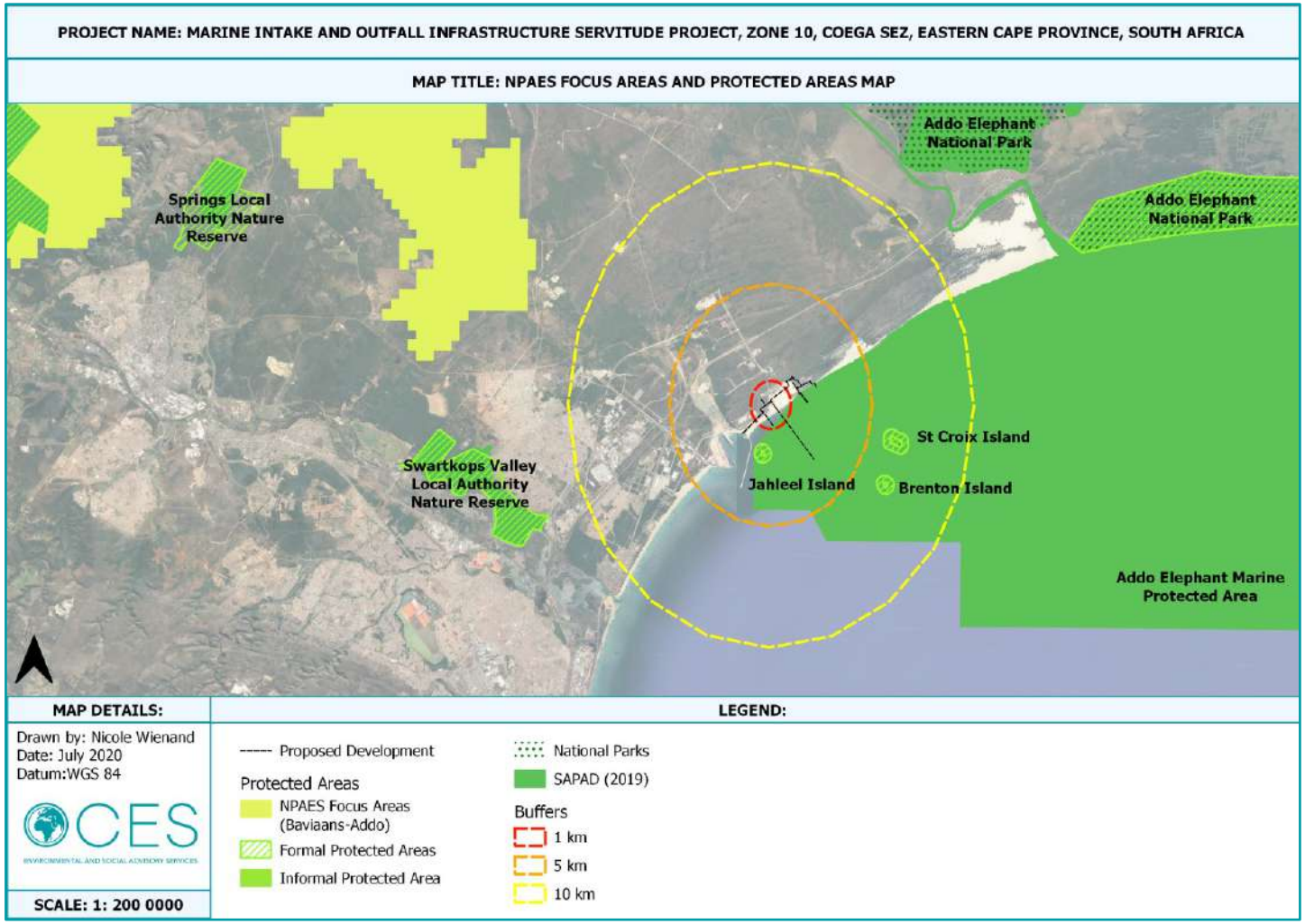


Figure 4.14: Map showing the project site in relation to the nearby protected areas and national protection Expansion Strategy (NPAES) areas.

4.8 MARINE ENVIRONMENT

4.8.1. Oceanography

The Agulhas Current is the dominant feature along this area of the coast and as such the waters off the coast of Algoa Bay are considered to be warm temperate, since the Agulhas current brings warm water from the tropics to the east coast. Average sea temperatures range from approximating 17-22°C (Schumann et al. 2005). Temperature fluctuations may occur along the Eastern Cape coast from time to time for a number of reasons, one of which is upwelling. Upwelling occurs when surface waters are deflected from the coast and thus colder water rises up in order to replace displaced surface water. Even though upwelling occurs to a greater extent and degree along the western coast, upwelling on the south coast is wind driven (usually as a result of Easterly winds), and has been responsible for fish kills, and water as cold as 6°C has been recorded in the area (Ross, 1988). These upwelling events are usually of short duration and as such harmful algal blooms seldom occur. In Algoa Bay, cold upwelled water usually originates from upwelling events at Cape Recife (Port Elizabeth) and Cape Padrone (near Cannon Rocks east of Coega) (Goschen et al. 2012). This is known to occur during periods when wind changes direction to that of westerly winds shortly after upwelling has occurred. According to Goschen and Schumann (1995), upwelled water moving into the bay has resulted in extremely sharp decreases in temperatures (up to 8ºC within 1 day). The dangerous Algal Bloom forming dinoflagellate, *Lingulodinium polyedrum* (previously recorded in the Port of Ngqura), is bioluminescent planktonic species which thrives in predominantly warm coastal waters. With increases in surface temperatures there is a higher likelihood of more frequent and extensive blooms along the coast of the Eastern Cape (SAEON, 2015). When surface temperatures exceed 22 degrees Celsius and nutrient rich bottom water plummets below 12 degrees Celsius, the sea conditions become optimal for bloom formations (SAEON, 2015). Therefore, with increases in temperatures, the frequency and duration of *Lingulodinium polyedrum* blooms are likely to increase.

The average (occurrence of 80% of the time) wave height within the bay is recorded to be less than 2 m. However, wave heights can reach in excess of 3 m during stormy conditions (maximum wave heights of 6 m have been recorded). It should, however, be noted that Algoa Bay is relatively protected against large swells mainly by the rocky headland at Cape Recife, Port Elizabeth (Goschen and Schumann, 2011).

4.8.2. Water Quality

Urban and industrial activities within Port Elizabeth, the Coega SEZ and the Port Elizabeth and Ngqura Harbours currently present a risk to water quality within the area. The main sources and non-point source pollutants described in the Algoa Bay Management Plan (CSIR, 1999) are as follows:

- Pollution (including stormwater run-off) from a number of activities within the catchment, including informal settlements, poorly functioning sewage treatment facilities, industrial effluent, untreated waste, etc.
- Ballast discharge from vessels
- Oil spills from ships
- Litter and waste

The Algoa Management Plan states that as a result of the above mentioned pollutants and due to the difficulty of sampling a large number of diffuse pollutant sources, a comprehensive monitoring programme is required for the area.

4.8.3. Marine Ecology

Birds

In 2005, the Bird Island group and St. Croix Island group both located in Algoa Bay were proclaimed as part of the Greater Addo Elephant National Park. In addition to this, these islands have been proclaimed as an Important Bird Area (No SA 095). According to BirdLife International both of the Algoa Bay Island groups are of considerable importance as they are the only islands along a 1,777 km stretch of coastline between Cape Agulhas and Inhaca Island in Mozambique. Fourteen seabirds, several shorebird and 33 terrestrial bird species have been recorded on the Algoa Bay Islands and eight seabird species currently breed there.

There are four globally threatened species, namely African Penguin (the largest colony in the world currently residing on the St Croix Island Group), Cape Cormorant, Cape Gannet and the African Black Oystercatcher, and two regionally threatened species, namely Caspian Tern (*Sterna)*, and Roseate Tern. The species reaching the 1% or more congregatory threshold[1] are Kelp Gull (*Larus dominicanus)* and Antarctic Tern, while Swift Tern (*Thalasseus bergii)* and Ruddy Turnstone (*Arenaria interpres)* are thought to reach the 0.5% or more congregatory threshold (BirdLife International). Jahleel Island, which is the closest island to the proposed project area (less than 1 km), forms part of the St Croix Island Group (Figure 4.13).

Fish

A total of 4,559 fish, representing 47 species and 27 different families, were caught within the Port of Ngqura between September 2006 and September 2007 during a study by ML Dicken. Catches included species characteristic of both estuarine and shore fisheries (Dicken, 2010). The majority (83.0%) of species caught were marine (with no dependence on estuarine systems) and most were less than size-at-50% maturity (71.4%). The most abundantly caught species were dusky kob (*Argyrosomus japonicas*) (25.5%), elf (*Pomatomus saltatrix*) (24.9%), garrick (*Lichia amia*) (17.7%) and dusky sharks (*Carcharhinus obscurus*) (10.7%) (Dicken, 2010).

The fish caught ranged in size from 5 cm Cape stumpnose (*Rhabdosargus holubi*) to 207 cm Raggedtooth shark (*Carcharias taurus*). The majority (71.4%) of species were considered to be juveniles rather than adults (Dicken, 2010), illustrating that the port is functioning as a nursery area for juvenile fish species.

Fish assemblages differed significantly between the three habitats identified within the port, namely: Dolosse, Quay Wall and Sandy Shore. The Dolosse habitat supported the greatest abundance and diversity of fish species (Dicken, 2010).

The 47 species of fish caught by anglers in the Port of Ngqura indicates a diverse ichthyofauna (Dicken, 2010). The high abundance and diversity within the port is likely to be due to the relatively calm and sheltered environment in comparison to the surrounding coastline (Dicken, 2010). The harbour provides a sheltered environment from predominant winds, providing conditions favourable for juvenile fish recruitment (Garcia-Charton and Perez-Ruzafa 2001). The port structures can create hydrodynamic conditions that promote the retention of planktonic larvae which may provide greater access to food for juvenile fish (Floerl and Inglis 2003 cited in Dicken, 2010). Furthermore, the Port of Ngqura also provides a hard substrata habitat very different to the soft sediment habitat typical of the surrounding sandy beach environments. Therefore, the port has the potential to alter the distribution, diversity and abundance of fish species in the coastal environment (Dicken, 2010). In the case of the Port of Ngqura, these alterations in environmental conditions have resulted in the port functioning

[1] This means 1% of the global population congregates in the area.

as an important habitat for both juvenile and adult fish.

Mammals

The waters surrounding Southern Africa boast 40 different kinds of marine mammals. Between July and December of every year, the Eastern Cape coastline is frequented by Southern Right Whales (*Eubalanena australis*) and Humpback Whales (*Megaptera novaeangliae*), which promote an influx of marine based tourism activities. Other species of cetacea which are known to occur in the area include Indian Ocean bottlenose dolphins (*Tursiops aduncus*), longbeaked common dolphins (*Delphinus capensis*), Indo-Pacific humpback dolphins (*Sousa chinensis*), and Bryde's whales (*Balaenoptera brydei*) (Lubke & Moor, 1998; Reisinger and Karczmarski 2009, Melly 2011). Cape Fur Seals (*Arctocephalus pusillus*) are commonly seen resting ashore or found feeding in aggregations at sea (Lubke & Moor, 1998). Breeding occurs on Black Rocks in Algoa Bay (Mills and Hes, 1997).

Of these species, the Indo-Pacific humpback dolphin (*Sousa chinensis*) is listed as Near Threatened on the IUVN Red data list.

A study by Melly (2011) identified key habitats for various marine mammals and highlighted the significance of Algoa Bay as a breeding and nursery area for southern right whales, and as a potential nursing area and migration route for humpback whales. Key habitat area for southern right whales, humpback dolphins and bottlenose dolphins were identified between the Port of Port Elizabeth and Cape Recife, with key habitats identified along the coastal strip from east of the Sundays River mouth to Woody Cape. Distribution patterns of these species are likely to be correlated to prey distributions (Melly, 2011). Humpback dolphins were found to frequent shallower coastal waters at an average depth of 6.6m, while humpback whales, Brydes whales, and common dolphins were associated with deeper water (Melly, 2011).

Reefs

On intertidal reefs, red algae dominate particularly *Plocamium corallorhiza, P. Cornutum, Pterosiphonia cloiophylla, Hypnea spicifera, Chondrococcus hornemannii, Gigartina paxillata, Laurencia flexuosa* and articulated corallines *Amphiroa bowerbankii, A. ephedraea, Arthrocardia duthiae, Cheilosporum cultratum, Corallina* sp. and *Jania* sp. (Seagrief, 1988). Brown algae are also an important component, particularly species of *Dictyota* and *Dictyopteris, Zonaria subarticulata, Ecklonia biruncinata* and *Iyengaria stellata*. Green algae such as *Caulerpa filiformis, C. racemosa, Bryopsis* spp. and *Codium* spp. play a subordinate role to intertidal community composition (Seagrief, 1988). On intertidal and shallow subtidal reefs grazers and filter feeders are the most prolific fauna. In particular molluscs such as *Perna perna* and *Petella cochlear* and the *ascidian Pyura stolonifera* dominate the intratidal and shallow subtidal (Beckley, 1988). Deeper reefs are dominated by a high diversity of filter feeders, particularly colonial ascidians, sponges, soft corals and bryozoans (Porter *et al*., 2012).

The coastal area stretching from the eastern breakwater past the Sundays River Mouth has been established as a Marine Protected Area by SANParks.

Alien Invasives

Ports are known to have a number of impacts on the marine environment, including the introduction of alien organisms through hull fouling of slow-moving vessels and transportation of ballast water containing alien species (Dicken, 2010). Invasive alien marine species can potentially threaten biodiversity, marine industries as well as human health, and can be exacerbated over time (Bax *et al.*, 2003). While some progress is taking place on the 10,000 species estimated to be in transit around the world in the ballast water, effective solutions are

still a long way off (Bax *et al*., 2003).

In South Africa in 2005, 10 confirmed extant (still in existence or surviving) alien and 22 cryptogenic (introduced species obscure or uncertain origin) species were recorded (Robinson *et al*., 2005), the majority of which are restricted to harbours. However, management action against invasive species is extremely difficult, especially once a species has become established (UNEP Regional Seas Programme, 2014).

4.8.4. Port and Other Industrial Activities

The Coega SEZ was established in 1999 and is adjacent to the modern deep-water port of Ngqura. The SEZ consists of approximately 11,500 ha and has been divided into 14 zones based on the various land uses within the SEZ. The SEZ is designed and zoned for heavy, medium and light industries as well as the construction of factories, warehouses and office complexes. Existing companies operating within the SEZ form part of various sectors including logistics and infrastructure (road, rail, and marine transport), telecommunications and a variety of industries. The SEZ is developed and managed by the Coega Development Corporation (CDC) which looks to initiate local and foreign direct investments in export-oriented industries.

4.9 SOCIAL AND ECONOMIC

4.9.1. Administrative Structure

The project is located within the Nelson Mandela Bay Municipality (NMBM) within the Sarah Baartman District Municipality (formerly the Cacadu District Municipality) of the Eastern Cape Province. The NMBM is divided into several Wards which are the political responsibility of separate councillors. The project falls into Ward 53 and borders Ward 60 (Figure 4.15). The Coega SEZ is located within these wards and falls under the stewardship of the Coega Development Corporation (CDC). The administration of the Port of Ngqura falls under the Transnet National Ports Authority (TNPA).

4.9.2. Demographic Profile

According to StatsSA (2011c) the municipality had a total population of 1,152 114 in 2011, constituting approximately 60.1% black residents, 23.6% coloured, 14.4% white and 1.9% Indian/Asian residents. Of importance to note is that these numbers indicate an evident growth of the metropolitan's population over the last decade. In 2001 the population of the municipality stood at 1,005,779. This indicates a growth rate of 1.36% (StatsSA, 2011b). However, in relation to other metropolitan areas in the country this is a relatively slow growth rate. For example, the growth rate between 2001 and 2011 in Johannesburg was recorded at 3.18% (*ibid*). The youth comprises a substantial portion of the population. Approximately 35% of the metro are below the age of 20 years. More specifically, 25.5% are between the ages of 0 to 14, whilst 68.5% of the population are between the working ages of 15 and 64 (*ibid.*).

With 588 persons per km^2 the population density of the municipality is less than other cities, such as Johannesburg (estimated at 2,696 persons/km^2). There are 324,292 households in the municipality, with an average household size of 3.4 members (StatsSA, 2011b). In terms of gender, the male-to-female ratio can be calculated at 1:1.08, which indicates slightly more females.

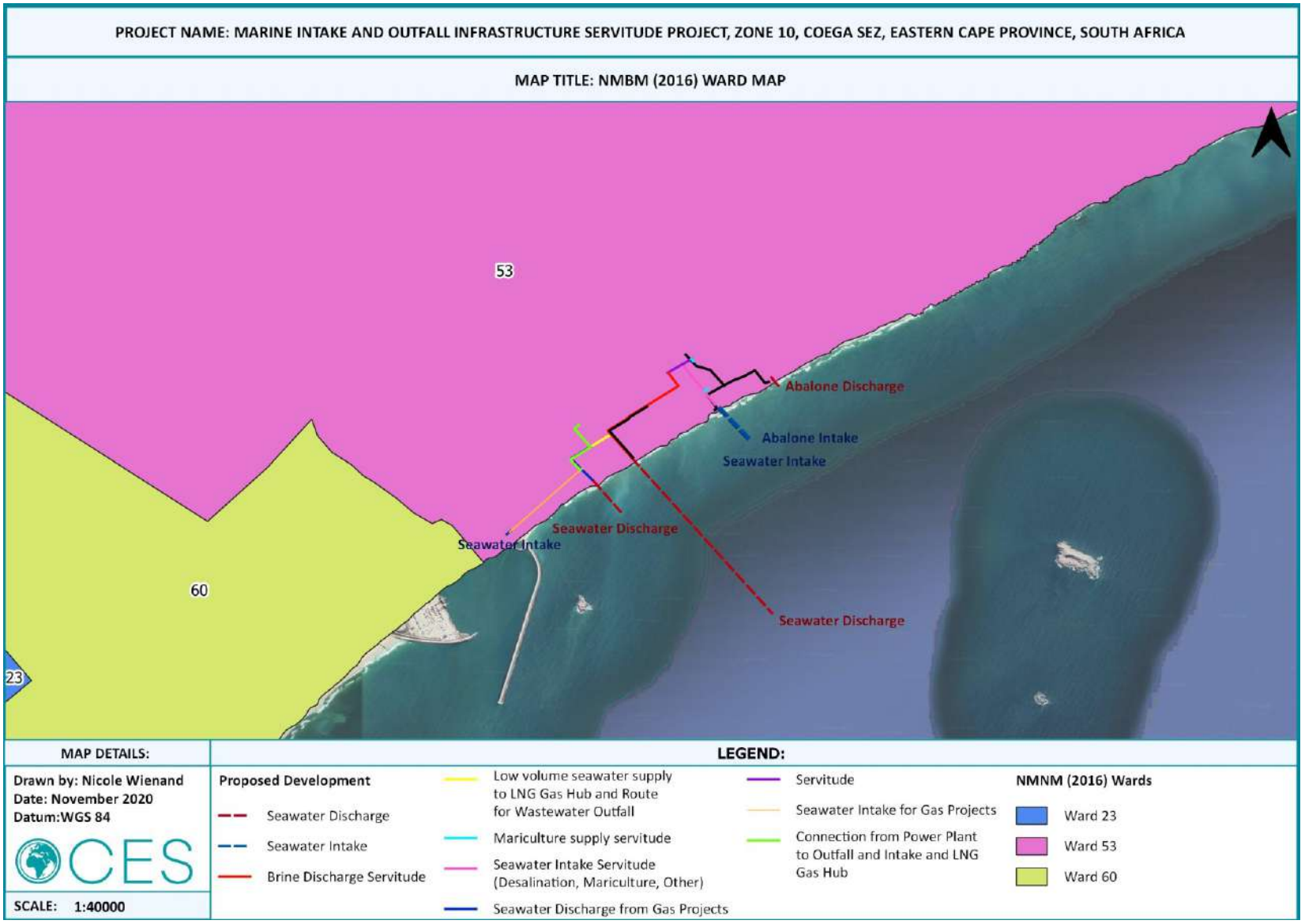


Figure 4.15: Ward Map of the proposed project area. The project area only falls into Ward 53 and borders Ward 60.

4.9.3. Education

Access to education in the Metro is illustrated in Table 4.5 below in terms of the various education levels and categories. Altogether 3% of residents have no schooling, 13% have Grade 7 or lower (primary school level) and 75% have between Grades 8 and 12 (secondary school level). These figures exclude the current population of pre-school and school-going age; i.e. 0-19 years (2011 Census). Factors contributing to low education levels could include poverty and other social challenges, forcing the Municipality to look at strategies, along with other sectors of government and the private sector, aimed at promoting education from early learning development up to tertiary levels (NMBM IDP, 2015).

Table 4.6: Education statistics for the Nelson Mandela Bay Metropolitan Municipality (from StatsSA, 2011).

Institution	Male	Female	Grand Total
Pre-school, including day care; crèche; Grade R and Pre-Grade R in an ECD centre	1177	1149	2325
Ordinary school including Grade R learners who attend a formal school; Grade 1 - 12 learners & learners in a special class	122286	119546	241832
Special schools	1087	832	1919
Further Education and Training Colleges (FET)	4663	5527	10190
Other Colleges	1824	2511	4335
Higher Educational Institution University/University of Technology	11813	13691	25504
Adult Basic Education and Training Centres (ABET Centres)	1564	1995	3559
Literacy classes e.g. Kha Ri Gude; SANLI	277	395	672
Home-based education/ Home schooling	590	554	1143
Not applicable	407713	452922	860636
Grand Total	552994	599121	1152115

Source: StatsSA Census 2011

4.9.4. Health

According to the 2011 Statistics in the Eastern Cape Department of Health (ECDOH) Annual Report 2012/2013 the life expectancy of people living in the Eastern Cape is 59.3 years for females and 53.7 years for males. 6.1% of the population is classified as disabled and only 11.1% of people have medical aid coverage. There are 213 nurses and 28 medical practitioners per 100,000 people in the Eastern Cape (ECDOH, 2013).

According to StatsSA (2013) the leading cause of death in the Eastern Cape is *Mycobacterium tuberculosis* (TB) which accounted for 12.7% of deaths in 2010. The other leading underlying causes of Eastern Cape deaths were influenza, pneumonia, heart disease, chronic lower respiratory diseases, cerebrovascular diseases, intestinal infectious diseases, diabetes, HIV, hypertensive diseases and other viral diseases (Figure 4.16). In the Nelson Mandela Bay Municipality the cure rate for TB is 69.4% in comparison to the province cure rate of 68.9%. TB is also the leading cause for admission in Eastern Cape hospitals according to 2004

statistics presented by Buso *et al*, and is followed by diarrhoeal disease, pneumonia and HIV (ECDOH, 2013). The number of people living with HIV in Nelson Mandela Bay has begun to decline. Within Nelson Mandela Bay strides have been made to ensure that the spread of HIV/AIDS is reduced and treatment is made available.

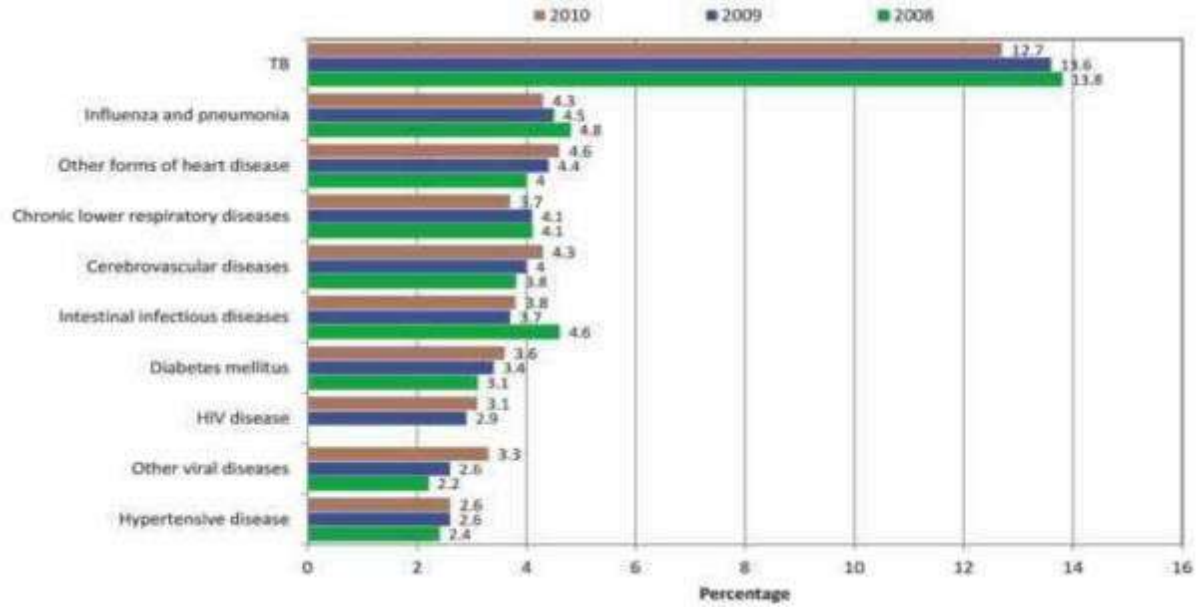


Figure 4.16: Ten leading underlying natural causes of deaths in the Eastern Cape Province from 2008 until 2010 (from StatsSA, 2013 in ECDOH Annual Report, 2013).

The infant mortality rate has been used as a measure of population health (ECDOH Annual Report, 2013). It remains an important indicator reflecting the notion that structural factors affecting the health of the entire population have an impact on the mortality rate of infants. According to StatsSA's 2013 statistics the leading cause of death in Eastern Cape children (aged 0 to 14 years old) is intestinal infectious diseases, which accounts for 15.3 % of these deaths (Figure 4.17). Infant mortality rates declined for the 2007 to 2011 period.

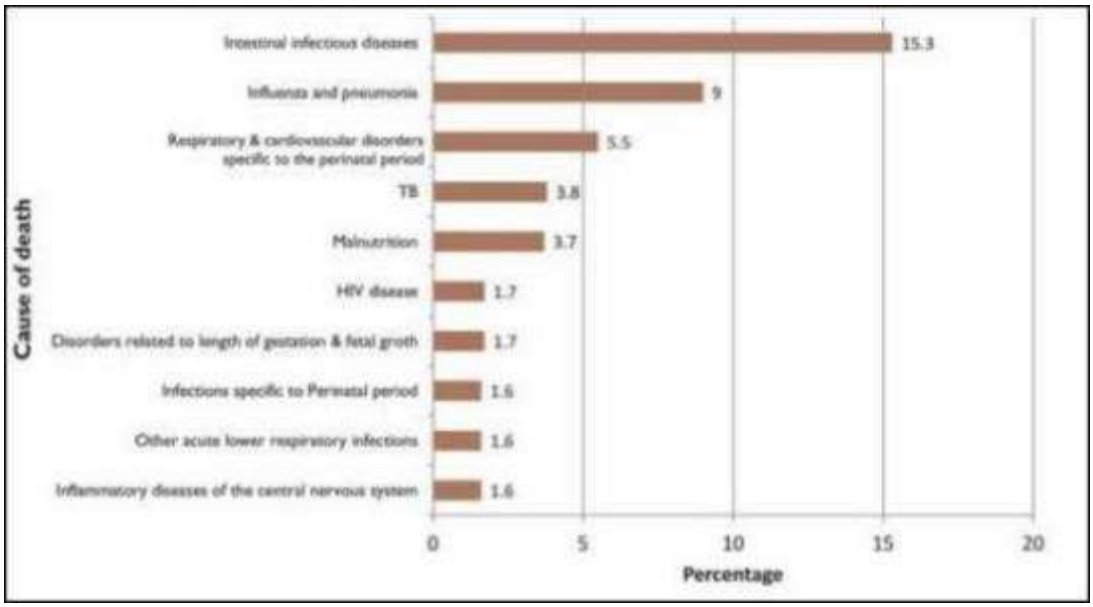


Figure 4.17: Ten leading causes of deaths to Eastern Cape children (0 to 14 years of age) (from StatsSA, 2013 in ECDOH Annual Report, 2013).

4.9.5. Economic Profile

Although the municipality is known for its industrial character and manufacturing sector, high levels of unemployment seems to be a prevailing issue in the metropolitan area. Data presented by the NMBM Municipality IDP (2011-2016) states that official unemployment rate is 28.2% (NMBM, 2011-2016), while StatsSA (2011c) estimates this rate at 36.6%. This might be explained by the fact that the Metropole has a recorded number of 22,411 informal households and 49,000 backyard shacks (*ibid.).* According to de Wit (2012), industrial development in the NMBM area faced several inhibiting effects in the recent global economic recession, which included the national energy deficit.

The municipality's Gross Domestic Product (GDP) growth rate was around 2.1% in 2010, and the average income per capita was estimated to be R52,147 (StatsSA, 2011b). According to the South African Local Economic Development (LED) Network (2015) the metro contributes approximately 44% to the regional GDP for the Eastern Cape Province (SA LED Network, 2015). The largest economic sectors in the metro area are manufacturing, finance, community services and transport. Manufacturing contributes 33% to the metro's GDP (ibid.). Community services, trade and the manufacturing sectors are the sectors that create the most employment in the metro.

The region's economic centres include the nodes of Port Elizabeth, Uitenhage, Despatch and the Coega SEZ and Port of Ngqura. From an economic perspective the Coega SEZ has been very successful in attracting large-scale investments to the metropolitan area. The SEZ has been designed primarily to cater for the area's manufacturing sector, as well as to stimulate socio-economic development, skills development and job creation.

Aligned with the South African economic development agendas, the NMBM has set in motion several strategies specifically aimed at rural development and social service delivery. One of these includes the Municipality's Turnaround Strategy of 2009, which specifically addresses the metropolitan's poverty and LED. This strategy aims to develop a shared agenda for growth which connects households to basic social services. Another strategy includes the municipality's Provincial Growth and Development Plan (PGDP), which attempts specifically to fight poverty and provide basic social services and infrastructural development. The municipality is also developing the Coega SEZ in alignment with the Government's National Spatial Development Perspective (NSDP), which promotes economic development.

The NMBM's IDP identifies several ward priorities which could be addressed through economic development. Some of these could assist with integrating human settlements with adequate provision of water, sanitation and electricity. The need to prevent water leakages and electricity disruptions have also been identified as ward priority areas, together with the need to stimulate rural economies and to develop the youth, women and the disabled.

The NMBM LED strategies are aligned to the national priority areas of the Government of South Africa (GoSA). These are all framed by various guidelines and targets, such as the Government's National Industrial Policy Framework (2012-2015), or the National Development Plan (NDP) (of Vision 2030), released on 11 November 2011 (*cf.* GoSA, 2011). One of several aims of the NDP is to create 11 million employment opportunities and to grow the economy at a steady rate of around 5.4% per annum by 2030. Most of these strategies are based upon particular Key Performance Indicators (KPIs), such as improved service delivery and infrastructural investment, but also sustainable LED (such as the creation of employment opportunities) and social development.

The NMBM's IDP and the Metropolitan Spatial Development Framework (MSDF) outline a number of strategic development areas which the metro is committed to achieve (NMBM, 2011-2016). The framework supports any development which could enhance urban

development, with a key focus on infrastructural development. According to the IDP, some of the metro's development priorities include the development and maintenance of infrastructure for economic development, and access to social services and amenities, especially to disadvantaged communities. The latter is the first mentioned IDP performance area, whereas LED is the second. Job creation, poverty alleviation and the development of the youth, women and disabled are all priority areas under the IDP and MSDF. What should not be overlooked is the importance of providing adequate housing for growing informal settlements, with a housing backlog of 71,411 (*ibid.*).

The average household annual income ranges between R19,601 and R76,400 (approximately R1,633 to R6,366/month) (StatsSA, 2011c). This data is presented in Table 4.7 below. Compared to the international poverty line of US$1.25 per day (R8.48 or R169.6 per month, as re-figured by the World Bank in 2005), this is well-above the acceptable international poverty threshold. Although this is the case, 42% of households earn less than R19,601 annually (R1,633/month), whereas 16% earn no income. However, it should be noted that, according to StatsSA, the average household annual income per annum increased to approximately R51,698 between 2001 and 2011.

Table 4.7: Income brackets*.

Income Ranges	Percentage
No income	16%
R1-R4,800	4%
R4801-R19600	22%
R19601-R76400	30%
R76401-R307600	20%
R307601-R2457600	7.7%
R2457601 >	0.30%

**Source: StatsSA, 2011c.*

4.9.6. Land Use

According to the NMB MOSS (2009) land use zones, the proposed project area falls within Urban formal, Donut and High density alien plant zones (FIGURE). The proposed project area is located within Zone 8 (Port of Ngqura) and Zone 10 of the Coega SEZ. The zones are defined by the Coega Open Space Management Plan of 2014. Zone 8 is the 'Port of Ngqura including the harbour breakwaters, harbour terminals, container yard and surrounding infrastructure. Zone 10 is the 'Mariculture & Aquaculture Cluster' referring to activities pertaining to the marine environment.

4.9.7. Cultural Heritage[2]

A Phase 1 Archaeological Impact Assessment was undertaken for the Coega SEZ (previously referred to as the Coega IDZ) by Dr Johan Binneman in 2010). The section below is as per the findings of the 2010 study.

"*Most of the more than 9 200 hectares of the Coega SEZ is covered by dense low and high grass and impenetrable thicket vegetation, which made it difficult to find archaeological sites/materials. Although most of the inland areas of this large property (the inland zones) are relatively undeveloped, it has been disturbed in the past by small scale farming activities, and more recently by power line and road construction. In a few of the zones large areas have been cleared of vegetation and large-scale developments have taken place. These cleared*

[2] 1. Source: Phase 1 Archaeological Impact Assessment undertaken for the IDZ (Binneman, 2010))

areas provided windows to search for archaeological sites and materials which were not possible due to the dense vegetation.

Although the area/zones investigated were occupied extensively in the past (judging from the large quantity of flaked stone randomly scattered throughout the area), it would appear that the area is relatively poor in large and important archaeological sites. However, many sites/materials and human remains may be covered by soil and vegetation. These may only be exposed when development takes place, as is evident in Zone 7 where archaeological remains were exposed when an area was cleared by bulldozers for the construction of a road.

The most important archaeological sites were found along the coast (on TNPA property) and included mainly shell middens which date from the past ca 8-6 000 years. Similar sites in the shifting sand dunes and coast east of the harbour area were much smaller in size, in terms of depth of deposit, quality and quantity of food waste and cultural material. These archaeological features are usually found between two to five kilometres inland from the coast.

4.9.8. General Infrastructure and Services

According to StatsSA (2011c) 100% of the metropolitan's households have access to the national electricity grid, although 12% of the households situated in un-demarcated informal areas do not have such access. Concerning sanitation services, on the other hand, the metro seems to have the highest percentage of households with access to flush/chemical toilets compared to other district municipalities in the Eastern Cape. Over 90% of households have access to proper sanitation services, whereas 99.68% of households have basic refuse collection. In terms of water access 100% of the households have access to a water point at least within a 200 m radius. Approximately 74.1% of households have piped water inside their house; all formal households have direct water connections.

4.9.9. Noise

The proposed maximum permissible noise rating levels are based on national and international recommendations and guidelines. Most codes of practice and legislation relating to environmental noise incorporate the desired activity and time of day as part of the process that assesses and controls noise. In South Africa, the procedures for the measurement, assessment and control of environmental noise are contained in the Noise Control Regulations of the Environment Conservation Act 73 of 1989 and the SABS Code of Practice 10103:2008 for "*The measurement and assessment of environmental noise with respect to annoyance and speech communication*".

Even though the proposed development is within an established industrial zone care must be taken in regards to increased noise levels, especially in close proximity to the MPA.

4.9.10. Visual

The proposed development site is within an established industrial zone and thus the proposed development is not anticipated to impact significantly on sensitive visual receptors. In addition, the CDC has developed detailed Architectural and Landscape Design Guidelines, which needs to be adhered to by all developers. These guidelines "*seek to achieve an attractive development of distinction without impinging on the creativity of designers or detracting from the corporate identity of individual developers and tenants. An overall integrity of the development is sought which adds address-value and appreciated property values to each development within the Coega SEZ*." In addition to this, the Port of Ngqura also has a set of lighting guidelines for the Port in order to limit the overall impact on Jahleel Island. These will be incorporated into both the EIR and the EMPr.

5. THE EIA PROCESS

5.1 INTRODUCTION

In terms of the South African Environmental Legislative Framework, this project will be subject to the Environmental Authorisation process, which was updated on the 4th of December 2014, and now also includes 2017 amendments. Based on the scope of work, this project requires an Environmental Authorisation in terms of the National Environmental Management Act (NEMA) (Act No. 107 of 1998) and the EIA Regulations of 2014 (with subsequent 2017 amendments), and the process triggered is a Scoping and Environmental Impact Assessment. All the phases, including the Environmental Management Programme report (EMPr), will be prepared in terms of the NEMA EIA Regulations and its amended GN Regulation 982 and the associated listed activities under regulation GN 983, GN 984 and GN 985 (as amended).

5.2 APPROACH TO PROCESS

The EIA process is initiated by the Scoping Phase, which includes a Scoping Phase Public Participation Process (PPP). During the Scoping Phase, the Terms of Reference (ToR) for the full EIR are formulated, and requirements from the authorities are clarified. The Scoping Phase serves to bring stakeholders on board by consulting with relevant government departments and other key stakeholders to identify potential issues and concerns.

After completion of the Scoping Phase, detailed specialist studies are undertaken in order to address the issues identified during the Scoping Phase. All draft reports are submitted for public review, and the key findings are presented to Registered Interested and/or Affected Parties (I&APs) at the provincial and local levels during public meetings or open days. Further details are provided in Section 5.6 below. All comments made by I&APs are captured in an Issues and Response Trail (IRT), and responses will be provided to all issues and concerns raised during the public review period.

All recommendations presented in the EIR and specialist reports must be detailed in an EMPr, which defines the actions required to be implemented during the phases of development. EMPrs are recognised as very important tools for the sound environmental management of projects.

5.3 SCOPING PHASE

The Scoping Phase is outlined in GNR. 982, NEMA EIA Regulations (2014 and subsequent 2017 amendments) under Part 3, section 21 as well as Appendix 2. The process to be followed is outlined in the sections below.

5.3.1. Desktop Review

All aspects of the proposed project are first analysed using a high-level desktop study which looks at the basic description of the project and what the initial environmental and social concerns may be. This includes background information for the project area as well as the proposed activity, details of the activities applied for according to the EIA Regulations (the listed activities) and the type of assessment which will be required. The desktop review involves the analysis of existing spatial data and the interpretation of maps covering the proposed project area, as well as available reports and planning instruments in order to familiarise the project team with the area and the various physical and biological properties of the area. The desktop review also identifies if the project requires any additional licences in terms of water use, waste, land use or any other environmental requirements.

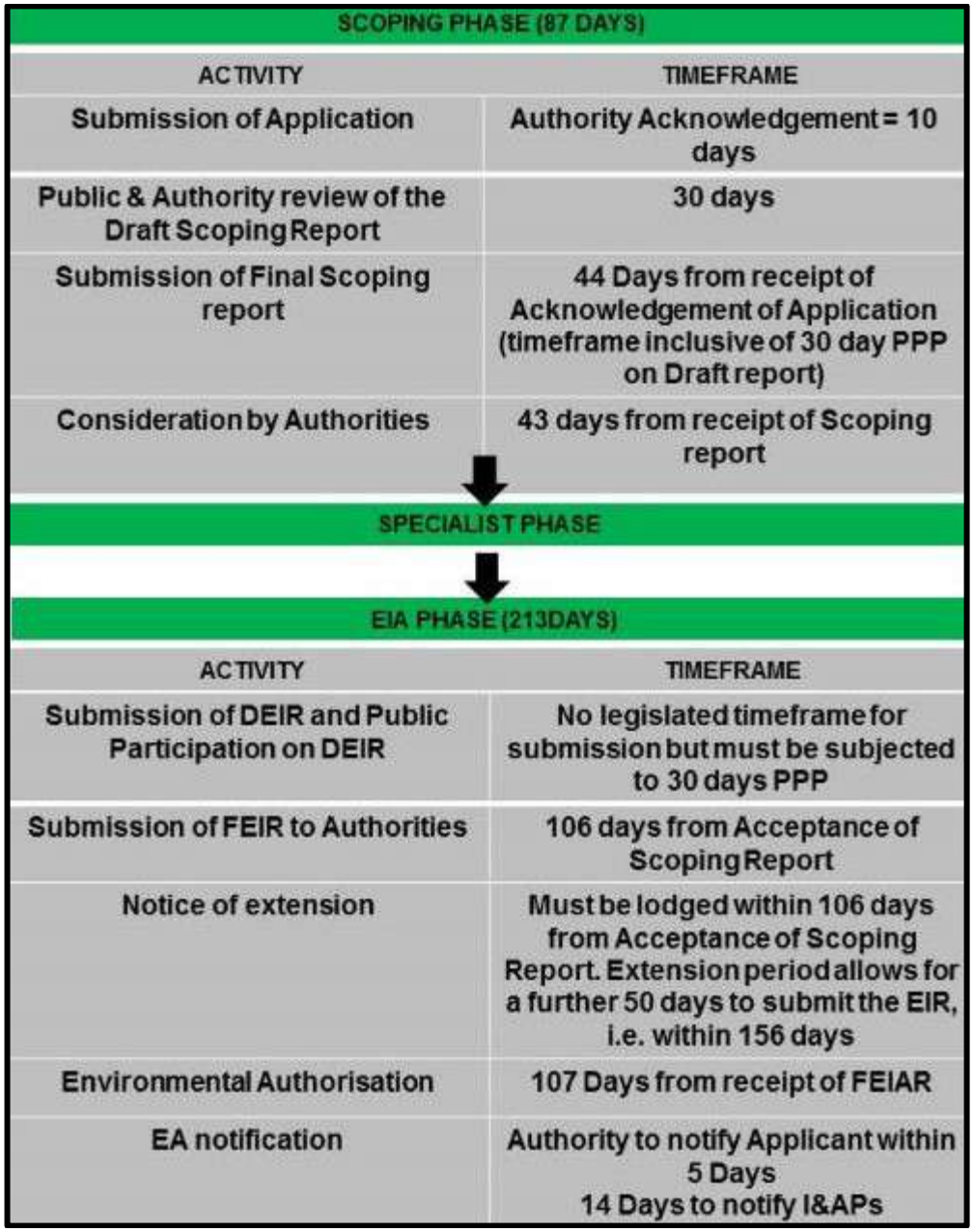


Figure 5.1: EIA Process

5.3.2. Submission of Application Form

An application for environmental authorisation has been submitted to the Competent Authority as per the requirements of Section 16 of the EIA Regulations.

5.3.3. Scoping Report

Draft Scoping Report

The information gathered through the initial (pre-application) PPP phase, as well as the information from the site visit and from the client with regard to the design of the project has been integrated into the Draft Scoping Report. In addition to identify issues, this report also provides:

- A preliminary assessment of the impacts of these issues based on current information

(Chapter 6).
- An overview of the project in relation to South African legislation and relevant guidelines (Chapter 3).
- Terms of Reference (ToR) for the EIA Phase, identifying the issues that need to be addressed in the EIR (Chapter 7).

This Draft Scoping Report will be made available to the public for a period of 30 days for comment. I&APs will be informed of the release of the Draft Scoping Report via e-mail and sms', as well as an advertisement in The Herald. Soft copies of the report will be made available in the following publicly accessible places:

- The local ward councillors' office,
- Posted electronically on CES's website.
- Posted electronically on the CDC's website.

Final Scoping Report

The comments, issues and concerns raised by I&APs and the authorities during the review period of the Scoping Phase will be included into the Final Scoping Report in the form of an Issues and Response Trail.

The Final Scoping Report (this report) will be submitted to the Competent Authority, who will decide whether the main phase of the EIA can be initiated. The Competent Authority will also approve, with or without amendments, the Terms of Reference for the proposed specialist studies, and the Plan of Study for the EIA phase of the assessment, which is presented in Chapter 7 of this report.

5.4 SPECIALIST STUDY PHASE

In order to assess the environmental and social impacts associated with the proposed project, a number of specialist studies will be undertaken as part of the EIA. These studies will cover issues identified at this stage, but additional issues may be identified or additional studies may be requested by the authorities following the Scoping Phase. More details can be found in Section 7.3 of the Plan of Study (Chapter 7).

The objectives of the specialist studies are as follows (full terms of reference for each of the above mentioned assessment are available in Chapter 7, Section 7.3):
- Assist in defining possible constraints associated with the proposed project;
- Determine the potential environmental and social indirect, direct and cumulative risks/impacts to receptors; and
- Advise on mitigation measures for identified significant risks/impacts and measures to enhance positive opportunities of the project.

5.5 INTEGRATION AND ASSESSMENT PHASE

Specialist input forms an important component of the EIA process, and the results of these studies will be incorporated into the Draft EIR. This report will consist of an introductory section, a detailed project description, sections in which the results of all specialist reports are summarised, and an environmental impact section, where impacts will be assessed and rated according to a predefined rating scale. Measures to mitigate negative impacts as proposed by the specialist consultants will also presented. The primary objective is to prepare a report that is scientifically credible but also understandable, with enough detail to deal with all the issues but not too much detail to overcomplicate the report and confuse I&APs.

The EIA process reporting requirements will include the development of a detailed EMPr, which is submitted as a separate report appended to the EIR. The EMPr contains the mitigation measures and monitoring guidelines required to manage and mitigate the impacts identified during the EIA process, for the construction, operational and closure/ decommissioning phases of the development. These mitigation measures presented aim to enhance the potential benefits and minimizing the potential negative impacts of the project. The EMPr will specify responsibilities for the implementation of the programme, for monitoring the effectiveness of the mitigation measures and specify the periodicity of the audits to be carried out.

The Draft EIR, EMPr and specialist reports will be made available for public review for a period of thirty (30), in accordance with the legislated requirements. The availability of the Draft EIA Report and supplementary documents will be advertised in the same manner as described for the Scoping Report.

Once the Draft EIR and supplementary documents have been amended to reflect public comments, the deliverables from the entire EIA Process – the Final EIR, the Final EMPr and a final set of Specialist Reports will be prepared. These reports will incorporate, where necessary, the comments, issues and concerns raised by Registered I&APs and Stakeholders, all of which are provided in an updated IRT. The final EIR, the final Specialist Report Volume and final EMPr will be submitted to the Competent Authority for decision making purposes.

5.5.1. Proposed Timeframe for the EIA

The EIA Process is expected to be completed by March 2021, with completion being defined as the submission of all final reports to the Competent Authority.

The Draft Scoping Report was completed in November 2020. Specialist studies will be undertaken upon approval of the Final coping Report, and hence the Specialist Assessment phase will be completed by February 2021.

The mandatory thirty (30) day public review period on the Draft Scoping Report will run from the 13th of November to the 14th of December 2020, after which the Final Scoping Report will be submitted to the Competent Authority, who must within forty-three (43) days of receipt of the Final Scoping Report either accept or reject it. It is thus anticipated that the decision on the Final Scoping Report will be issued by the end of February 2021.

The Draft EIR is anticipated to be circulated for the mandatory thirty (30) day public review period, from the 19th of February to the 20th of March 2021, after which the Final EIR will be submitted to the Competent Authority for a decision. They have 107 days from receipt of all the Final EIR to either grant or refuse authorisation.

5.6 PUBLIC PARTICIPATION DURING INITIATION AND SCOPING

5.6.1. Objectives of Public Participation

Public Participation aims to:

- Disclose activities planned by the project proponent.
- Introduce the EIA team.
- Identify concerns and grievances from interested and affected parties.
- Harness local expertise, needs and knowledge from the interested and affected parties.

- Respond to grievances and enquiries from I&APs.
- Identify additional or new stakeholders and people affected by, or interested in, the proposed project.
- Gather perceptions and comments on the proposed terms of reference for the specialist studies.
- Ensure that all issues raised by I&APs have, or will be, adequately assessed.
- Share the findings of the EIR and specialists' studies.
- Include any new concerns or comments that arise.

This information is used to:

- Identify underestimated or unanticipated impacts.
- Alert the project to possible communication breakdowns and emerging problems and concerns.
- Encourage the use of local resources and knowledge in the project.
- Identify development opportunities and community projects.
- Ensure that all issues and concerns raised during scoping and in subsequent engagements are dealt with adequately in the EIA process. This is achieved through the preparation of an Issues and Response Trail, also referred to as a Comments Report.

5.6.2. Legislative Context

According to Section 41(2) of the National Environmental Management Act, 107 of 1998 as amended (NEMA) "*the person conducting a public participation process must take into account any relevant guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of an application or proposed application which is subjected to public participation by—*

(a) Fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of—
  (i) The site where the activity to which the application or proposed application relates is or is to be undertaken; and
  (ii) Any alternative site."

Action – A site notice has been displayed on the electronic notice board at the Coega Business Centre. The e-notice will be displayed for the duration of the EIA process. This methodology and approach has been agreed to by both DEDEAT and DEFF. The e-notice replaces the site notice because the area in which the development is proposed, is remote and a site notice will not fulfil the intended purpose of the regulations.

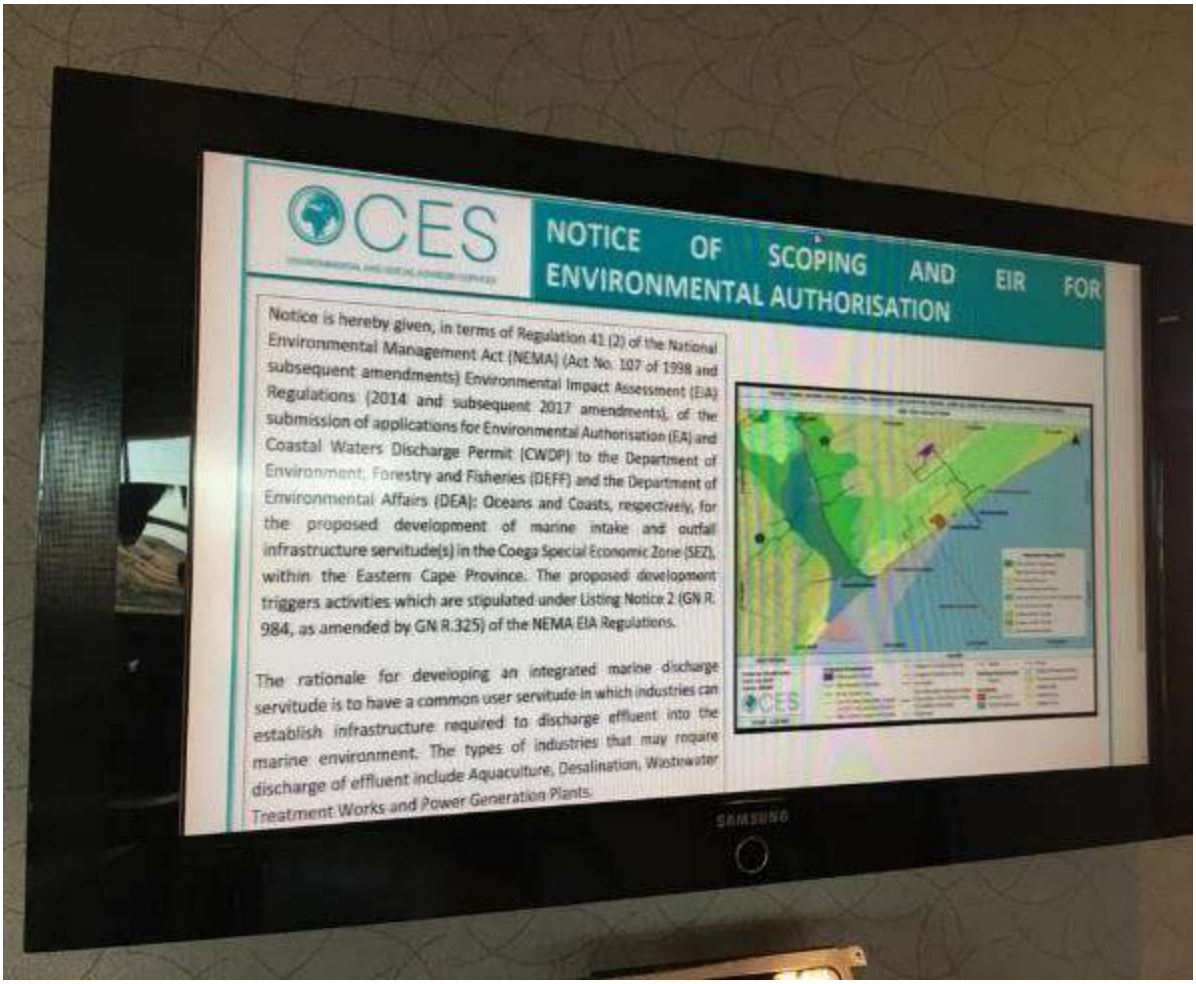


Plate 5.1. Proof of placement of site notice on the electronic notice board at the Coega Business Centre

(b) Giving written notice, in any of the manners provided for in Section 47D of the Act, to—

- *(i) The occupiers of the site and, if the proponent or 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 and to any alternative site where the activity is to be undertaken;*
- *(ii) Owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken and to any alternative site where the activity is to be undertaken;*
- *(iii) The municipal councillor of the ward in which the site and alternative site is situated and any organisation of ratepayers that represent the community in the area;*
- *(iv) The municipality which has jurisdiction in the area;*
- *(v) Any organ of state having jurisdiction in respect of any aspect of the activity; and*
- *(vi) Any other party as required by the competent authority;*

Action -

Landowners and Occupiers:

The CDC (the applicant) owns the majority of the land on which the development is proposed. The names and contact details of those who lease land from the CDC has been provided to

CES by the applicant and included in a stakeholder database and provided with a background information document via e-mail (as all identified I&APs at this stage of the project have access to e-mail). One of the seawater intakes is proposed inside of the Port of Ngqura, which is owned by the Transnet National Ports Authority (TNPA). As the Application is for a linear activity, written consent is not required. However, the TNPA has been included in the stakeholder database compiled by CES and have been notified of the proposed development via email notification, inclusive of a letter of notification and Background Information Document (BID). The CDC has also notified the TNPA, via its environmental co-management structure, of the project and associated environmental assessment process. TNPA is also a member of the Environmental Liaison Committee (ELC) where environmental applications underway are presented and discussed. The remainder of the project area forms part of Coastal Public Property and is therefore state owned. DEA: Oceans and Coasts is directly involved with the proposed project as an Application for a Coastal Lease and Coastal Waters Discharge Permit (CWDP) is required for the discharge of treated effluent into the marine environment. The previous application submitted to DEA: Oceans and Coasts received a reference number (2014/008/EC/Coega IDZ) on the 24th of April 2019. This application number remains valid, however the application needs to be updated to reflect the most recent information. All stakeholders and Interested and Affected Parties (I&APs) will be notified of the development by means of a **phone call, sms and/or email notification**, inclusive of a letter of notification and Background Information Document (BID).

Adjacent Landowners and Occupiers:

As above. Additionally, a newspaper advertisement was placed in a local newspaper (The Herald) on the 13th of November 2020 and an electronic site notice has been displayed on the CDC's electronic notice board in the foyer of the Coega Business Centre.

Municipal councillor of the ward:

Cllr Nomazulu Mthi (Cllr Ward 53) and Cllr Mvuzo Ernest Mbelekane (Cllr Ward 60) of the Nelson Mandela Bay Municipality (NMBM) have been informed of the proposed development **telephonically (via sms) as well as via email notification**, inclusive of a letter of notification and BID.

Municipality:

Thsonono Buyeye (Executive Mayor) and Mandla George (Municipal Manager) of the NMBM were notified of the proposed development **telephonically (via sms) as well as** via email notification, inclusive of a letter of notification and BID. The NMBM is represented on the Coega Environmental Liaison Committee (ELC), the members of which are key stakeholders in all CDC's EIA applications.

Organs of State:

All organs of state applicable to the proposed development have been included in the stakeholder database compiled by CES (refer to Appendix 1 for a detailed list of stakeholders).

The advertisement and electronic site notice will provide any additional individuals with the project information and the opportunity to register on the stakeholder database. All documentation (electronic site notice, advertisement, BID, notification e-mails, etc.) will include a telephone number, postal address, e-mail address as well as a web address of the EAP in order to ensure that all means possible are available to stakeholders to register on the database and to provide comments on the project.

(c) Placing an advertisement in:

(i) One local newspaper; or

(ii) Any official Gazette that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;

(d) Placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official Gazette referred to in paragraph (c)(ii); and

Action – A Newspaper advertisement was placed in The Herald, a locally and provincially distributed newspaper, on the 13th of Novmber 2020 (Plate 5.2) in order to notify the general public of the submission of the application for Environmental Authorisation, as well as the availability of the Draft Scoping Report for a thirty (30) day public review period. The advertisement included a brief description of the proposed project, the main listed activities which are triggered by the proposed project, and the contact details of the EAP (phone number, e-mail address, web address and postal address). The advertisement also encouraged potential I&APs to register on the project I&AP Database and provide information on how to register as an I&AP (Plate 5.2).

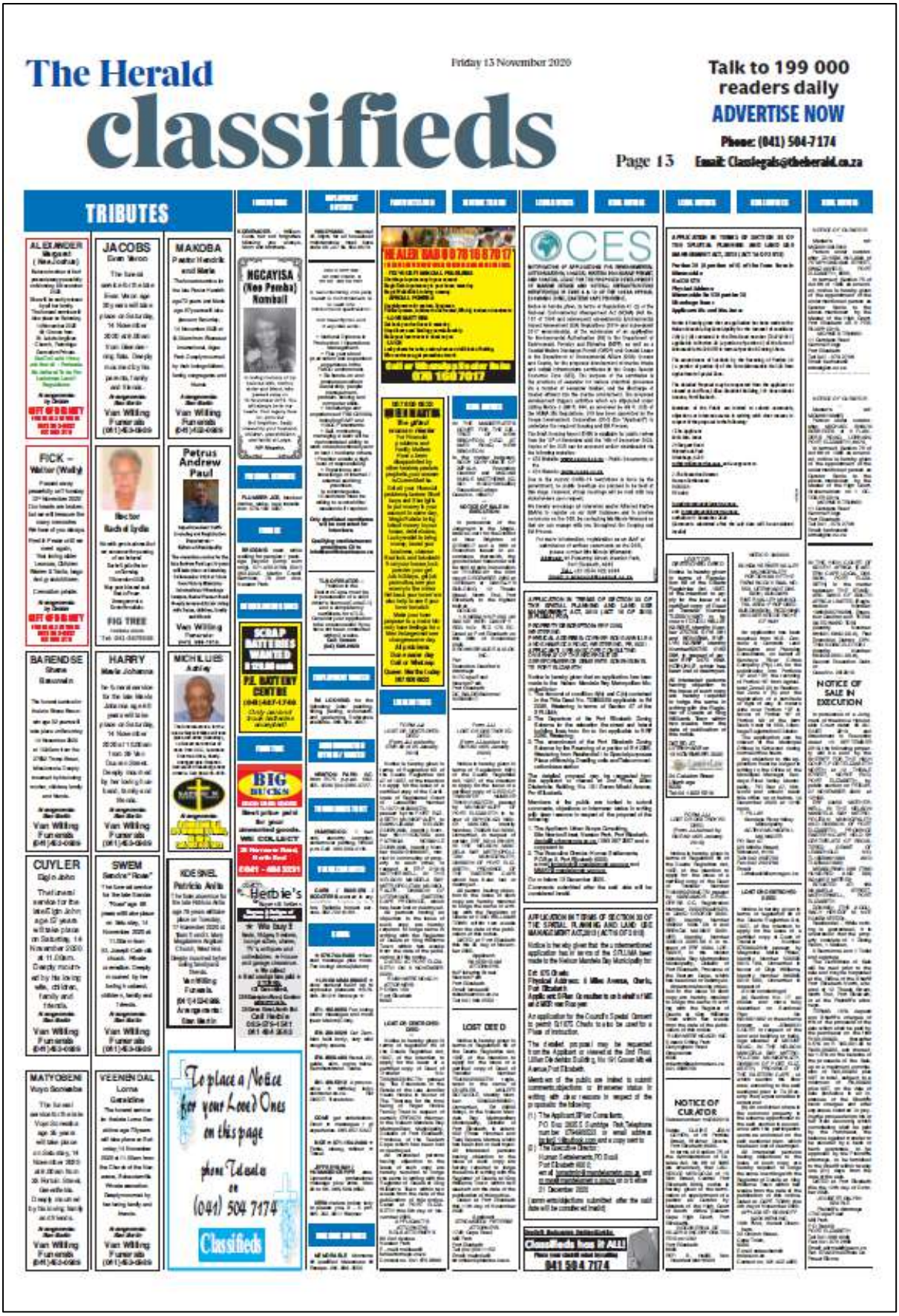


Plate 5.2: Newspaper advertisement placed in the Herald on the 13th of November 2020.

(e) Using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desirous of but unable to participate in the process due to-

(i) Illiteracy;
(ii) Disability; or
(iii) Any other disadvantage.

Action -
Based on information available to date, all stakeholders can be notified either telephonically or via e-mail or both. Due to the current COVID19 restrictions in force by the government no public meetings are planned to be held at this stage. However, **virtual meetings will be held with key stakeholders upon request**. Virtual platforms such as zoom and Microsoft Teams are currently being used successfully to conduct virtual meetings. Both of these applications allow for the recording of these meetings and these recordings are then available for download. In addition at least two (2) Environmental Liaison Committee (ELC) meetings will be conducted on a virtual platform. In addition, to ensure full coverage of potential I&APs a number of Background Information Documents will be delivered to the Ward Councillor's offices for distribution amongst the community. No radio advertisements will be run on local news stations at this stage as the closest community to the CDC is approximately 7 km to the west (Motherwell).

In addition to the above and according to Section 42 of the EIA Regulations "*a proponent or applicant must ensure the opening and maintenance of a register of interested and affected parties and submit such a register to the competent authority, which register must contain the names, contact details and addresses of-*

(a) All persons who, as a consequence of the public participation process conducted in respect of that application, have submitted written comments or attended meetings with the proponent, applicant or EAP;
(b) All persons who have requested the proponent or applicant, in writing, for their names to be placed on the register; and
(c) All organs of state which have jurisdiction in respect of the activity to which the application relates."

Action - Contact details of all stakeholders who have been identified, and/or who have registered as I&APs on the proposed project, are provided in Appendix 1.

5.6.3. Public Participation Tasks

The Public Participation Process will be divided into four phases which allows for initial (pre-application) stakeholder identification, as well as engagement during the Scoping Phase, the EIA Phase and the Environmental Authorisation Phase. The tasks which will be carried out at each phase are described in the table below:

Date	Phase	Meeting and/or deliverable	Objective
1 July 2020	Initiation	Placement of e-notice at CDC Business Centre	To comply with Section 41 of NEMA
06 November 2020		Distribute pre-assessment notifications as stipulated in the Sections outlined above	To comply with Section 41 of NEMA
13 November 2020	Scoping Phase	Distribute notifications of the availability of the Draft Scoping Report for public review as stipulated in the Sections outlined above	To comply with Section 40 of NEMA

Date	Phase	Meeting and/or deliverable	Objective
15 December 2020		Compile Comments and Response Trail for incorporation into the Final Scoping Report	As per legal requirements all issues and/or comments raised by registered interested and affected parties needs to be documented in writing and responded to by the EAP
19 February 2021	EIA Phase	Distribute notifications of the availability of the Draft EIR for public review as stipulated in the Sections outlined above	To comply with Section 40 of NEMA
23 March 2021		Compile Comments and Response Trail for incorporation into the Final EIR	As per legal requirements all issues and/or comments raised by registered interested and affected parties needs to be documented in writing and responded to by the EAP

5.6.4. Issues and Response Trail

All comments received during the Scoping phase, including the 30 day mandatory PPP period, will be incorporated into the Final Scoping Report to be submitted to DEFF.

6. IDENTIFICATION OF POTENTIAL IMPACTS

6.1 INTRODUCTION

CES has developed a revised rating scale for the Scoping Phase of the EIA process in accordance with the requirements outlined in Appendix 2 of the EIA Regulations (2014 and subsequent 2017 amendments). This scale takes into consideration the following variables:

- Significance
- Consequence
- Extent
- Duration
- Probability
- Reversibility and Mitigation

It is however important to note that impacts are assessed and rated on a broader issues level, and are regarded as preliminary. This is because, at the Scoping Phase of the EIA process, a limited amount of information on project related detail is available, and baseline data on the project affected environment and social systems has not yet been gathered. Rating specific impacts requires input from a number of specialist assessments, which are only completed after the Scoping Phase. Thus, a definitive assessment of project specific impacts cannot be completed at the Scoping Phase, and our interpretation of the new requirements is that the environmental and social consequences of the project and alternatives needs to be discussed more broadly than what is required in the EIR. This we refer to as an issues level assessment.

6.2 ISSUES IDENTIFICATION MATRIX

Six factors are considered when assessing the significance of the identified issues, namely:

1. ***Significance*** - Each of the below criterion (points 2-6 below) are ranked, as presented in Table 6.1 to determine the overall significance of an activity. The ranking for the effect (which includes scores for duration; extent; consequence and probability) and reversibility / mitigation are then read off the matrix presented in Table 6.2, to determine the overall significance of the issue. The overall significance is either negative or positive.

2. ***Consequence*** - The consequence scale is used in order to objectively evaluate how severe a number of negative impacts might be on the issue under consideration, or how beneficial a number of positive impacts might be on the issue under consideration.

3. ***Extent*** - The spatial scale defines the physical extent of the impact.

4. ***Duration*** - The temporal scale defines the significance of the impact at various time scales, as an indication of the duration of the impact.

5. The ***probability*** of the impact occurring - The likelihood of impacts taking place as a result of project actions arising from the various alternatives. There is no doubt that some impacts would occur (e.g. loss of vegetation), but other impacts are not as likely to occur (e.g. vehicle accident), and may or may not result from the proposed development and alternatives. Although some impacts may have a severe effect, the likelihood of them occurring may affect their overall significance.

6. ***Reversibility / Mitigation*** – The degree of difficulty of reversing and/or mitigating the various impacts ranges from very difficult to easily achievable. The four categories of reversibility used are listed and explained in Table 6.1 below. Both the practical feasibility

of the measure, the potential cost and the potential effectiveness is taken into consideration when determining the appropriate degree of difficulty.

Table 6.1: Ranking of Evaluation Criteria

EFFECT	**DURATION**	
	Short term	Less than 5 years
	Medium term	Between 5-20 years
	Long term	More than 20 years
	EXTENT	
	Localised	The proposed site and its immediate environs
	Moderate	District / Municipal and Provincial level
	Extensive	National and International level
	CONSEQUENCE	
	Slight	Slight impacts or benefits on the affected system(s) or party(ies)
	Moderate	Moderate impacts or benefits on the affected system(s) or party(ies)
	Severe/ Beneficial	Severe impacts or benefits on the affected system(s) or party(ies)
	PROBABILITY	
	Unlikely	The likelihood of these impacts occurring is slight (low probability)
	May Occur	The likelihood of these impacts occurring is possible (high probability)
	Definite	The likelihood is that this impact will definitely occur
REVERSIBILITY / MITIGATION	**REVERSIBILITY / MITIGATION**	
	Easily achievable	The impact can be easily, effectively and cost effectively mitigated/reversed
	Achievable	The impact can be effectively mitigated/reversed without much difficulty or cost
	Difficult	The impact could be mitigated/reversed but there will be some difficultly in ensuring effectiveness and/or implementation, and significant costs
	Very Difficult	The impact could be mitigated/reversed but it would be very difficult to ensure effectiveness, technically very challenging and financially very costly

In certain cases it may not be possible to determine the severity of an issue at this stage and thus it may be categorised as: Don't know/Can't know

The above criteria are used to determine the overall significance of an activity. The impact effect (which includes duration; extent; consequence and probability) and the reversibility/mitigation of the impact are then read off the significance matrix in order to determine the overall significance of the issue (Table 7.2). The overall significance is either negative or positive and will be classified as low, moderate or high (Table 7.3).

Table 6.2: Matrix used to determine the overall significance of the impact based on the likelihood and effect of the impact.

REVERSIBILITY AND MITIGATION	EFFECT			
		MINOR EFFECT	MODERATE EFFECT	SIGNIFICANT EFFECT
	Easily achievable	LOW SIGNIFICANCE		
	Achievable		MODERATE SIGNIFICANCE	
	Difficult			HIGH SIGNIFICANCE
	Very Difficult			

Table 6.3: Description of Issues Level Significance Ratings and associated range of scores

SIGNIFICANCE RATE	DESCRIPTION
Low	The impacts on this issue are acceptable and mitigation, whilst desirable, is not essential. The impacts on the issue by themselves are insufficient, even in combination with other low impacts, to prevent the development being approved. Impacts on this particular issue will result in either positive or negative medium to short term effects on the social and/or natural environment.
Moderate	The impacts on this issue are important and require mitigation. The impacts on this issue are, by themselves, insufficient to prevent the implementation of the project, but could in conjunction with other issues with moderate impacts, prevent its implementation. Impacts on this particular issue will usually result in either a positive or negative medium to long-term effect on the social and/or natural environment.
High	The impacts on this issue are serious, and if not mitigated, they may prevent the implementation of the project (if it is a negative impact). Impacts on this particular issue would be considered by society as constituting a major and usually a long-term change to the (natural and/or social) environment, and will result in severe effects or if positive, substantial beneficial effects.

The ***issues level environmental significance*** scale needs to take the context into account, and must be applied at the relevant level. For example, if the issue under consideration is "*changes to the terrestrial biological environment*", the impacts to be considered when assessing this issue might include (1) loss of a particular vegetation type, (2) disruption to, or loss of, faunal habitats, (3) fragmentation of habitats (4) loss of species of conservation concern (if known at the Scoping stage of the assessment, and so on). The evaluation of the significance of the issue therefore relies heavily on the information that is available at the Scoping stage and, out of necessity, must be broad and value laden. For this reason, impacts need to reflect the values of the affected society.

Prioritising

The evaluation of the issues, as described above, is used to prioritise which issues require mitigation measures, or which issues might lead to a conclusion that the particular alternative under assessment is not appropriate.

Negative issues that are ranked as being of "**HIGH**" significance will need to be investigated further to determine how the impacts can be minimised, or what alternative activities or mitigation measures can be implemented.

For issues identified as having a negative impact of "**MODERATE**" significance, it would be standard practice to investigate alternate activities and/or mitigation measures. The most effective and practical mitigation measures will then be proposed.

For impacts ranked as "**LOW**" significance, no investigations or alternatives will be considered. Possible management measures will be investigated to ensure that the impacts remain of low

significance.

6.3 ASSESSMENT OF ISSUES

The table below shows the issues identified at the Scoping level for the **preferred alternative** described in the Altenatives Section 2.4 of this scoping report and presents the results of the assessment using the approach described above. It also presents possible mitigation measures at a high level, and the residual impact associated with the issue.

ISSUE	ALTERNATIVE	CAUSE AND COMMENT	SIGNIFICANCE OF IMPACT	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	DEGREE OF REVERSIBILITY AND/OR MITIGATION	MITIGATION MEASURES	RESIDUAL RISK
	(SIGNIFICANCE WITHOUT MITIGATION)								(SIGNIFICANCE WITH MITIGATION)	
IMPACTS ON THE PHYSICAL ENVIRONMENT										
TERRESTRIAL IMPACTS										
Impacts on topography and bathymetry *(design, construction and decommissioning phase)*	Preferred alternative	It is envisaged that changes to the terrestrial topography of certain localities within the study area will be required during the construction of the land-based activities associated with the proposed project, especially along areas of the coastline where intake and outfall infrastructure will be constructed. In addition, there are likely to be minor changes to the bathymetry of the intertidal and subtidal areas as a result of infrastructure being constructed on the sea floor.	**MODERATE –**	Slight	Study Area	Permanent	Definite	Very Difficult	• The seawater abstraction and discharge pipeline infrastructure should be designed to limit impacts on topography and bathymetry. • Excavations and changes to the topography and bathymetry of the site should be kept to the minimum required for construction; • Previously disturbed areas must be utilised wherever possible; and • The general profile of the landscape as well as the sea-floor must be retained as far as practically possible.	**MODERATE –**
	No-Go	The topography and bathymetry within the terrestrial portion of the proposed project area have been impacted on by numerous developments within the Coega SEZ, especially the Port of Ngqura as well as the Sunshine Coast quarry located in Zone 10.	**MODERATE –**	Slight	Study Area	Permanent	Definite	Not Applicable	• Not Applicable	**MODERATE –**
Impacts on land use *(construction, operational and decommissioning phase)*	Preferred alternative	The land-based activities associated with the proposed project will fall within an existing industrial zone (the Coega SEZ) and thus is in line with the proposed land use of the area. Zone 10 of the Coega SEZ is earmarked for aquaculture and, because the proposed development is essential to the functionality of the aquaculture development zone (ADZ), the development and operation of the proposed marine infrastructure servitude will be beneficial to the land use of the area.	**HIGH +**	Beneficial	Study Area	Long Term	Definite	Not Applicable	• None required	**HIGH +**
	No-Go	The no-go option will result in land allocated for aquaculture not being utilised for this purpose as a result of insufficient (or lack of) intake water.	**MODERATE –**	Moderate	Study Area	Permanent	Definite	Not Applicable	• Not Applicable	**MODERATE –**
Soil Contamination and Erosion *(design, construction, operation and decommissioning phase)*	Preferred alternative	The construction of the land-based infrastructure associated with the proposed servitude will require the clearing of vegetation which will result in exposed soil surfaces and thus the potential for soil erosion. In addition, the utilisation of construction vehicles and other construction machinery during the construction phase could result in soil contamination within the area. During the operational phase, any leaks derived from the infrastructure associated with the	**LOW –**	Moderate	Localised	Short Term	May Occur	Achievable	• The seawater abstraction and discharge pipeline infrastructure should be designed to limit risks of erosion. • During construction, disturbance and clearing of natural vegetation should be kept to the minimum required for construction; • Newly cleared and exposed areas must be promptly rehabilitated with indigenous vegetation to avoid soil erosion. Where necessary, temporary stabilization measures must be used	**LOW –**

ISSUE	ALTERNATIVE	CAUSE AND COMMENT	SIGNIFICANCE OF IMPACT	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	DEGREE OF REVERSIBILITY AND/OR MITIGATION	MITIGATION MEASURES	RESIDUAL RISK
	(SIGNIFICANCE WITHOUT MITIGATION)								(SIGNIFICANCE WITH MITIGATION)	
		discharge of effluent could result in soil contamination within the study area.							until vegetation re-establishes; • Plan for the worst case, that is, for heavy rainfall and runoff events, or high winds; • Care must be taken to ensure that runoff is well dispersed so as to limit erosion; • Construction vehicles and equipment must be inspected for leaks on a daily basis. Any leaks must be immediately repaired at an offsite location; • All hydrocarbons and chemicals must be stored on impermeable surfaces with appropriately-sized containment bunds; and • Spill kits must be available at all locations where chemicals of hydrocarbons are stored, handled or used, and spills must be cleaned up immediately in accordance with an established protocol appropriate to the material in question.	
	No-Go	Due to the nature of the Coega SEZ (an industrial development area), there are a number of areas that have previously been eroded and/or contaminated during construction of various infrastructure.	**MODERATE –**	Slight	Study Area	Permanent	Probable	Not Applicable	• Not Applicable	**MODERATE –**
Impacts on Surface and Groundwater Resources *(design, construction, operational and decommissioning phase)*	Preferred alternative	Various substances may result in the pollution of surface and groundwater resources. Construction activities may lead to sediment being deposited into drainage lines, wetlands and other water bodies, including the potential for seepage into groundwater resources. Pollution from litter and general construction waste may occur due to improper site management. Washing down of vehicles and equipment may result in the pollution of drainage lines, wetlands, and other water bodies, and pollution may occur from poor vehicle maintenance and improper storage of hazardous materials such as fuel, etc. Operational activities could result in the pollution of surface and groundwater resources as a result of the discharge of treated effluent, leakages from discharge infrastructure and hazardous chemical spill during maintenance activities.	**MODERATE –**	Severe	Study Area	Long Term	May Occur	Achievable	• The discharge infrastructure should be developed as far away from existing watercourses as is practically feasible; • All chemicals of all types must be stored on impermeable surfaces in secure, bunded and designated storage areas; • Cement must be stored on impermeable storage areas protected from the rain and mixed only in designated areas. Concrete residues must be cleaned up immediately; • Vehicle repairs, servicing, refuelling and washing must be done only in designated areas underlain by impermeable surfaces with appropriately-sized containment bunds and grease traps; • Where it is necessary to service, repair or refuel a vehicle or item of plant on site, drip trays must be used to catch drips, spills and leaks; • Effluent discharge must be continuously monitored to ensure that water quality meets the required national and international standards (whichever is more stringent); and • Surface and groundwater quality monitoring should be conducted to determine if any pollution has occurred as a result of the proposed	**LOW –**

ISSUE	ALTERNATIVE	CAUSE AND COMMENT	SIGNIFICANCE OF IMPACT	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	DEGREE OF REVERSIBILITY AND/OR MITIGATION	MITIGATION MEASURES	RESIDUAL RISK
	(SIGNIFICANCE WITHOUT MITIGATION)								(SIGNIFICANCE WITH MITIGATION)	
									development.	
	No-Go	Due to the nature of the Coega SEZ (an industrial development area), surface and groundwater pollution has potentially occurred as a result of other existing industrial activities within the area.	**MODERATE –**	Severe	Study Area	Permanent	May Occur	Not Applicable	• Not Applicable	**MODERATE –**
MARINE IMPACTS										
Impact on Seawater Quality *(construction, operational and decommissioning phase)*	Preferred alternative	Construction of the proposed marine infrastructure, which will likely include blasting, which will result in sediment plumes leading to increased turbidity of the seawater and potentially smothering marine biota. During the operation of the project, the discharge of treated effluent into the marine environment could reduce the quality of the seawater and could impact on sensitive habitats associated with marine biota. This is especially pertinent with regards to the proximity of the Addo Elephant National Park MPA. Potential pollutants include nutrients (e.g. ammonia, nitrates and nitrates), which may be derived from the effluent from the WWTW and ADZ and brine from desalination facilities. In addition, the discharge of effluent from the G2P projects could result in increased seawater temperatures, which will in turn have impacts on the available oxygen and the several indirect impacts on the biota that rely on specific seawater quality parameters.	**HIGH –**	Very Severe	Study Area	Long term	May Occur	Difficult	• Blasting technology used during the construction phase should be non-noxious and preferably suited to producing courser fragmentation of the rock in order to avoid a large sediment plume; • The effluent discharge point should be located as far as practically possible from the Marine Protected Area; • All industries that will be utilising the discharge infrastructure must undergo rigorous monitoring of treated effluent in order to ensure that the discharge water meets the minimum regulatory standards and permit requirements (e.g. CWDP) prior to entering the discharge infrastructure; and • The recommendations of the marine dispersion modelling, which will be presented as part of the EIA process, must be adhered to when finalising the layout and operational standards for the discharge of water.	**MODERATE –**
	No-Go	There is currently discharge of treated and untreated effluent occurring at several locations along the Algoa Bay coastline. Should the proposed marine infrastructure servitude not be developed, the various industries within the Coega SEZ could apply for separate discharge pipelines, which is likely to result in numerous cumulative seawater impacts.	**HIGH –**	Very Severe	Study Area	Long term	Probable	Not Applicable	• Not Applicable	**HIGH –**
Change in Marine Sediment Dynamics and Wave Action *(design, construction, operational and decommissioning phase)*	Preferred alternative	The design and placement of hard structures within a dynamic coastal environment is likely to result in changes to the sediment dynamics and localised currents in the study area. In addition, the construction of infrastructure in the surf zone could result in changes to the wave action along the shoreline. Changes to the sediment dynamics and wave action of the coastal zone could result in	**MODERATE –**	Moderate	Regional	Long term	May Occur	Very Difficult	• The seawater abstraction and discharge pipeline infrastructure must be designed and planned to minimise the impacts on the marine and coastal sediment dynamics. • Technology used during the construction of the marine infrastructure must be considered in terms of the sediment plume that may result from blasting and other activities. An effort	**LOW –**

ISSUE	ALTERNATIVE	CAUSE AND COMMENT	SIGNIFICANCE OF IMPACT	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	DEGREE OF REVERSIBILITY AND/OR MITIGATION	MITIGATION MEASURES	RESIDUAL RISK
	(SIGNIFICANCE WITHOUT MITIGATION)								(SIGNIFICANCE WITH MITIGATION)	
		increased erosion or deposition along this section of the coastline and could also have several impacts on the marine biota that rely on specific sediment characteristics.							must be made to reduce the sediment plume resulting from construction; • An oceanography specialist must be consulted to provide input on the likely effects on localised currents and wave action (if any) derived from the proposed development; and • The placement of large infrastructure between the low water mark and the highwater mark, should be avoided wherever practically possible.	
	No-Go	This section of Algoa Bay has been significantly altered by the development of the Port of Ngqura. The existence of the port's breakwaters as well as the marine traffic in the surrounding area currently has a significant influence on the marine sediment dynamics. Should the development not go ahead, alternative options may be used for abstraction of seawater and discharge of effluent, resulting is additional changes to the sediment dynamics in the area.	**MODERATE –**	Slight	Regional	Permanent	Probable	Not Applicable	• Not Applicable	**MODERATE –**
Disturbance of the Coastal Zone and Loss of Coastal Public Property *(design, construction, operational and decommissioning phase)*	Preferred alternative	The design of the proposed marine servitude infrastructure could impact on physical coastal habitats for biota such as bird habitats, Construction of the proposed marine infrastructure servitudes will require movement of construction vehicles and machinery within the coastal zone. This could if not managed correctly. Once operational, the servitude(s), which will extend across a portion of coastal public property (CPP), will need to be protected from public access, thus reducing the beach amenity and CPP access in the area.	**MODERATE –**	Slight	Study Area	Long Term	Definite	Achievable	• The seawater abstraction and discharge pipeline infrastructure and layouts must be designed to minimise impacts on physical coastal habitats. • The use of vehicles in a coastal protection zone may require a permit (coastal lease) from the Coastal Conservation and Strategies Directorate of the DEFF, Oceans and Coast Branch (DEFF Oceans and Coasts); • Construction activities taking place within the coastal protection zone must be limited to minimum area required for the purposes of construction; • The Contractor must ensure that all areas where construction vehicles will be working are thoroughly investigated for bird eggs and other faunal habitats prior to commencement of construction; • The area where construction will be taking place must be clearly demarcated and no construction vehicles, machinery or staff will be allowed outside of the demarcated area; and • The marine infrastructure servitude(s) must preferably be located at a previously disturbed area along the coastline and must be kept to a minimum width in order to ensure that no unnecessary loss of coastal public	**LOW –**

ISSUE	ALTERNATIVE	CAUSE AND COMMENT	SIGNIFICANCE OF IMPACT	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	DEGREE OF REVERSIBILITY AND/OR MITIGATION	MITIGATION MEASURES	RESIDUAL RISK
	(SIGNIFICANCE WITHOUT MITIGATION)								(SIGNIFICANCE WITH MITIGATION)	
									property is incurred. • SANParks must be granted 24hr access to the coast through the development zone for monitoring purposes.	
	No-Go	This section of Algoa Bay has been significantly altered by the development of the Port of Ngqura. A large section of the coastline has already been disturbed and a significant portion of coastal public property has been lost. Should the proposed development not go ahead, alternative options may be used for abstraction of seawater and discharge of effluent, which may require additional disturbance of the coastal zone and, potentially, the loss of additional coastal public property.	**MODERATE –**	Slight	Study Area	Permanent	Definite	Not Applicable	• Not Applicable	**MODERATE –**
IMPACTS ON THE BIOLOGICAL ENVIRONMENT										
TERRESTRIAL IMPACTS										
Disruption to Terrestrial Ecosystems (design, construction and decommissioning phase)	Preferred alternative	The design of the proposed marine servitude infrastructure could impact on coastal biota such as bird populations, During the construction phase there will be impacts on natural vegetation including clearing of, or damage to, indigenous coastal vegetation, the removal of intact communities, loss of species of special concern and/or trees protected in terms of the National Forest Act. In addition, the proposed development may result in the introduction of alien species.	**MODERATE –**	Severe	Study Area	Long Term	Probable	Achievable	• Land-based pipeline infrastructure and layouts must be designed to minimise impacts on natural coastal biota. • Work areas must be clearly demarcated so that construction workers limit their impact to these areas alone; • In areas to be disturbed, indigenous vegetation and species of special concern must be removed and stored in an on-site nursery area for site rehabilitation. Any necessary permits (i.e. in accordance with the National Forest Act, Nature Conservation Ordinance and National Environmental Management: Biodiversity Act) must be obtained prior to the removal of protected and/or threatened species; • All construction vehicles must stay on single demarcated access tracks to avoid compaction of sand, soil and roots; • Rehabilitation should be undertaken in a progressive manner. Re-vegetation of the disturbed areas with indigenous material should be undertaken as soon as construction activities at an individual site have been completed; • Only indigenous vegetation that occurs naturally on site is to be planted during site rehabilitation and in landscaping activities; and • All alien vegetation must be removed from site and an alien monitoring programme should be initiated to ensure	**LOW –**

ISSUE	ALTERNATIVE	CAUSE AND COMMENT	SIGNIFICANCE OF IMPACT	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	DEGREE OF REVERSIBILITY AND/OR MITIGATION	MITIGATION MEASURES	RESIDUAL RISK
	(SIGNIFICANCE WITHOUT MITIGATION)								(SIGNIFICANCE WITH MITIGATION)	
									that the site remains clear of all alien vegetation.	
	No-Go	There are currently a number of invasive alien species located within the proposed development area. Under the no-go option, it is likely that further spread and infestation will occur if the status quo remains unchanged.	**MODERATE –**	Moderate	Study Area	Permanent	Probable	Not Applicable	• Not Applicable	**MODERATE –**
MARINE IMPACTS										
Disruption to Intertidal or Sub-Tidal Biota (design, construction, operational and decommissioning phase)	Preferred alternative	The design and construction of the marine infrastructure servitudes could result in the disturbance of intertidal and subtidal areas, resulting in mortalities to marine fauna and flora located within the area. The subtidal reefs offshore of the proposed project area contain habitats of a number of important fish and shellfish species. Noise resulting from the drilling and blasting activities associated with construction will disturb a number of marine fauna and could affect the navigation, communication and sensory systems of several species. During operation, it is possible that several smaller marine species could be entrained in the abstraction infrastructure during the abstraction of seawater.	**HIGH –**	Severe	Study Area	Long Term	Probable	Difficult	• The seawater abstraction and discharge pipeline infrastructure should be designed to limit impacts to marine biota. • Protected marine flora and fauna (if any exists) must be relocated outside of the proposed construction area once the relevant permits have been obtained; • Blasting activities must be limited to a maximum of one blast per day; • An appropriately sized screen/mesh must be placed at the inlet to the abstraction pipelines; • The speed of the inlet water pump should be operated at the minimum possible velocity to avoid the entrainment of smaller marine species; and • All recommendations made by the marine specialist must be adhered to throughout construction of operation of the abstraction and discharge infrastructure.	**MODERATE –**
	No-Go	Previous developments within the Coega SEZ have likely resulted in disruption to marine biota and the continued operation of the Port of Ngqura means that marine fauna and flora within (and in close proximity to) the port are constantly disturbed. Should the proposed development not go ahead, alternative options may be used for abstraction of seawater and discharge of effluent, which may result in further disturbance of marine biota.	**MODERATE –**	Moderate	Study Area	Permanent	Definite	Not Applicable	• Not Applicable	**MODERATE –**
GENERAL IMPACTS AND IMPACTS ON THE SOCIO-ECONOMIC ENVIRONMENT										
Waste Management (construction, operational and decommissioning	Preferred alternative	Solid waste derived from construction activities are likely to include rubble, excavated material, bricks, wire, packaging, concrete, cement and several other materials. Littering on site is likely to result in non-	**MODERATE –**	Severe	Study Area	Long Term	May Occur	Difficult	• Construction material should be reused or recycled wherever possible; • Waste that cannot be reused or recycled should be disposed of in the correct manner at the nearest registered waste disposal site;	**LOW –**

ISSUE	ALTERNATIVE	CAUSE AND COMMENT	SIGNIFICANCE OF IMPACT	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	DEGREE OF REVERSIBILITY AND/OR MITIGATION	MITIGATION MEASURES	RESIDUAL RISK
	(SIGNIFICANCE WITHOUT MITIGATION)								(SIGNIFICANCE WITH MITIGATION)	
phase)		biodegradable plastic material entering the marine environment. Plastic bags, bottles, rope and other litter could have a direct impact on marine fauna resulting in mortalities of fish, birds and/or marine mammals. Solid waste from the operational phase could be derived from maintenance activities and could include dead organic material from the intake infrastructure and inlet screens. Liquid waste will be discharged into the marine environment via the discharge infrastructure and incorrect treatment of the waste could have several impacts on seawater quality.							• Any hazardous materials (e.g. paint, fuel or oil) must be disposed of immediately and in the correct manner; • General good house-keeping should be practiced on site; • If rubble is stored on site, it should be stored on designated portions of land. Designated areas for storage of rubble should be set aside at the onset of construction; • Litter must be controlled during construction (e.g. adequate bins must be made available on site at all times); • Construction materials stored as part of the project must be secured (i.e. plastics must be covered to prevent being blown off site). Skips must be regularly emptied and must be covered; and • All industries that will be utilising the discharge infrastructure must undergo rigorous monitoring of treated effluent in order to ensure that the discharge water meets the minimum regulatory standards and permit requirements (e.g. CWDP) prior to entering the discharge infrastructure.	
	No-Go	The nature of the proposed development site currently allows for litter and other wind-blown waste entering the property from neighbouring sites. This will continue indefinitely should the proposed development not go ahead. In addition, the illegal dumping and littering that takes place throughout the region often results in large volumes of waste entering the marine environment.	**MODERATE –**	Moderate	Study Area	Permanent	Definite	Not Applicable	• Not Applicable	**MODERATE –**
Health and Safety (construction, operational and decommissioning phase)	Preferred alternative	Health and safety aspects will mostly pertain to activities defined under the Occupational Health and Safety Act (Act No. 85 of 1993). Work occurring throughout the proposed development will always consist of health and safety risks.	**LOW –**	Slight	Localised	Short Term	May Occur	Easily Achievable	• All aspects of the Occupational Health and Safety Act (Act No. 85 of 1993), must be adhered to at all times.	**LOW –**
	No-Go	Within an industrial area there is always potential for accidents and health effects.	**LOW –**	Slight	Study Area	Long Term	May Occur	Not Applicable	• Not Applicable	**LOW –**
Impacts on Archaeological, Palaeontological and/or Cultural Sites	Preferred Site	It is possible that sites of archaeological, palaeontological and/or cultural significance are present on or near the proposed development site. This includes marine archaeological sites such as	**LOW –**	Moderate	Localised	Permanent	Unlikely	Irreversible	• Should any archaeological or cultural sites or objects be located during the construction of the proposed project, it should immediately be reported to the National Heritage Council. Failure to report a site or object of archaeological	**LOW +**

ISSUE	ALTERNATIVE	CAUSE AND COMMENT	SIGNIFICANCE OF IMPACT	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	DEGREE OF REVERSIBILITY AND/OR MITIGATION	MITIGATION MEASURES	RESIDUAL RISK
	(SIGNIFICANCE WITHOUT MITIGATION)								(SIGNIFICANCE WITH MITIGATION)	
(construction phase)		shipwrecks. If these sites are not correctly identified and/or protected prior to construction, this may result in the loss of sites of cultural importance. The correct identification and recovery of sites of archaeological, palaeontological and/or cultural importance could potentially provide a better understanding of the heritage and/or geological history of the area.							and/or cultural significance is a contravention of the National Heritage Act (Act No. 25 of 1999); and • All construction site staff must be briefed to immediately report any sites or objects, which are located during the construction of the facility. In the event of finding what appears to be an archaeological site or a cultural and/or historic site or object, work should be terminated until a qualified archaeologist or historian can examine the item or find.	
	No-Go	Archaeological and cultural heritage sites would not be disturbed but would also not be uncovered and therefore not make any contribution to the understanding of the archaeological or cultural heritage of the area.	**LOW –**	Slight	Localised	Permanent	Definite	Not Applicable	• Not Applicable	**LOW –**
Social benefits from the project *(construction, operational and decommissioning phase)*	Preferred alternative	The proposed development will create a number of temporary employment opportunities during the construction phase as well as several permanent employment opportunities during operation for the maintenance of infrastructure.	**LOW +**	Beneficial	Study Area	Short Term	Definite	Easily Achievable	• Utilise local labour as far as possible; and • Construction material must be sourced locally wherever possible.	**LOW+**
	No-Go	Should the project not proceed, no increases in employment or tax revenue will occur.	**LOW –**	Low	Study Area	Short Term	Definite	Not Applicable	• Not Applicable	**LOW–**
Provision of seawater for industrial developments *(operational phase)*	Preferred alternative	The proposed development will result in the abstraction of seawater, which is required for the proposed ADZ, the G2P projects and the desalination plant, as well as several other future developments in the Coega SEZ. This will reduce the consumption of municipal water for existing industries and provide some relief to a water scarce area.	**HIGH +**	Beneficial	Regional	Long Term	Definite	Not Applicable	• None required	**HIGH +**
	No-Go	The current freshwater drought and scarce water resources in the region will continue to place pressure on the municipality and are likely to result in the disinvestment from companies looking to establish their industries within the SEZ. The development of the approved ADZ will not be possible should the seawater abstraction not materialise.	**HIGH –**	Moderate	Regional	Permanent	Definite	Not Applicable	• Not Applicable	**HIGH –**

ISSUE	ALTERNATIVE	CAUSE AND COMMENT	SIGNIFICANCE OF IMPACT	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	DEGREE OF REVERSIBILITY AND/OR MITIGATION	MITIGATION MEASURES	RESIDUAL RISK
	(SIGNIFICANCE WITHOUT MITIGATION)								(SIGNIFICANCE WITH MITIGATION)	
Provision of discharge infrastructure for industrial developments *(operational phase)*	Preferred alternative	The rationale for developing an integrated marine discharge servitude is to have a common user servitude in which a number of possible industries can establish infrastructure required to discharge effluent into the marine environment. The management of the volumes and quality of effluent would be far easier than having several different effluent discharge developments and would streamline the maintenance of infrastructure. The position and depth of the discharge, as well as the release of effluent to the marine environment rather than rivers or estuaries, has potentially less environmental impact due to the increased assimilative and dispersive capacity of the coastal waters.	**HIGH +**	Beneficial	Regional	Long Term	Definite	Not Applicable	• None required	**HIGH +**
	No-Go	The no-go option could result in two possible scenarios namely 1) the establishment of a number of separate different discharge pipelines and infrastructure or 2) a lack of investment in the Coega SEZ as a result of the costs associated with having to establish separate outfall options.	**HIGH –**	Moderate	Regional	Permanent	Definite	Not Applicable	• Not Applicable	**HIGH –**
CROSS CUTTING IMPACTS										
Noise Impacts *(construction and decommissioning phase)*	Preferred alternative	It is anticipated that there will be an increase in noise levels during the construction phase of the proposed development. Increased noise levels for activities occurring within the marine environment have the potential to significantly impact on marine life.	**HIGH –**	Severe	Study Area	Short Term	Definite	Achievable	• Standard mitigation measures are available to reduce noise; • Protected marine fauna must be relocated outside of the proposed construction area once the relevant permits have been obtained; and • Blasting activities must be limited to a maximum of one blast per day.	**MODERATE –**
	No-Go	As the proposed development site is within an industrial zone, there is existing increased noise levels within the project boundaries.	**LOW –**	Slight	Study Area	Permanent	Definite	Not Applicable	• Not Applicable	**LOW –**
Traffic *(construction and decommissioning phase)*	Preferred alternative	During the construction phase, large construction vehicles will be utilising the existing road network and establishing new access ways to get to the proposed development site. This may result in the impeding of traffic flow and damage to the existing roads. In addition, the construction within the marine environment may require the transportation of materials in and out of the Port of Ngqura.	**LOW –**	Slight	Localised	Short Term	Probable	Easily Achievable	• Large construction vehicles must not be permitted to utilize public roads during peak hours; • Damage to public roads caused by large construction vehicles must be repaired immediately; and • The port authorities must be notified and consulted prior to the commencement of construction.	**LOW –**

ISSUE	ALTERNATIVE	CAUSE AND COMMENT	SIGNIFICANCE OF IMPACT	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	DEGREE OF REVERSIBILITY AND/OR MITIGATION	MITIGATION MEASURES	RESIDUAL RISK
	(SIGNIFICANCE WITHOUT MITIGATION)								(SIGNIFICANCE WITH MITIGATION)	
	No-Go	The proposed site is within an existing SEZ and thus there are a number of large vehicles that utilise the surrounding road network. In addition, the Port of Ngqura is currently recognised as one of the busiest ports in South Africa.	**MODERATE –**	Moderate	Study Area	Permanent	Definite	Not Applicable	• Not Applicable	**MODERATE –**
Air Quality *(construction and decommissioning phase)*	Preferred alternative	Impacts on air quality during the construction phase will primarily result from increased dust levels associated with the required excavation, vegetation clearing, grading and other construction activities.	**LOW –**	Slight	Study Area	Short Term	Probable	Easily Achievable	• Standard mitigation measures are available to reduce dust during the construction phase.	**LOW –**
	No-Go	As the Coega SEZ is an established industrial area, there are regular developments taking place that result in increased dust levels. In addition, there are a number of industries within the Coega IDZ that operate under an Air Emissions Licence and therefore are permitted to emit certain pollutants into the atmosphere.	**MODERATE –**	Slight	Localised	Long Term	Probable	Not Applicable	• Not Applicable	**MODERATE –**
Visual Impact *(construction, operational and decommissioning phase)*	Preferred alternative	Construction vehicles and equipment will be evident in the existing landscape during the construction phase. Generation of dust will increase the visibility of the project and may become an eyesore if not managed correctly. The visibility of the proposed development may be noticeable and will have a visual impact on the coastal area that is currently undeveloped. However, in relation to the nature of the surrounding industrial zone, it will not be a significant visual transformation to the general landscape of the Coega SEZ.	**LOW –**	Slight	Study Area	Long Term	Possible	Achievable	• Infrastructure finishes should be of appropriate design and quality; • Infrastructure should be designed in such a way that it fits/blends into the surrounding environment; • Waste must be removed from site regularly and disposed of at a registered landfill site in order to avoid unnecessary litter being viewed on site; and • General good housekeeping must be maintained at all times.	**LOW –**
	No-Go	The existing port and other Coega SEZ infrastructure has resulted in significant changes to the visual landscape of the area.	**MODERATE –**	Moderate	Study Area	Permanent	Definite	Not Applicable	• Not Applicable	**MODERATE –**
Alignment with planning instruments *(construction, operation and decommissioning phase)*	Preferred alternative	The proposed project is in line with the NMBM SDF and the IDP.	**MODERATE +**	Beneficial	Localised	Long Term	Definite	Easily Achievable	No mitigation required	**MODERATE +**
	No-Go	The Coega SEZ is in line with all planning documents								

ISSUE	ALTERNATIVE	CAUSE AND COMMENT	SIGNIFICANCE OF IMPACT	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	DEGREE OF REVERSIBILITY AND/OR MITIGATION	MITIGATION MEASURES	RESIDUAL RISK
	(SIGNIFICANCE WITHOUT MITIGATION)								(SIGNIFICANCE WITH MITIGATION)	
Climate Change *(construction, operation and decommissioning phase)*	Preferred alternative	Influence of unpredictable / erratic physical conditions and plume dilution and dispertion as well as the placement and integrity of physical structure and/or infrastructure in the dynamic coastal environment.	**MODERATE –**	Moderate	Study Area	Long Term	Possible	Achievable	Climate change needs to be considered in the design of all infrastructure related to the project.	**LOW –**
	No-Go	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CUMULATIVE IMPACTS - Relevant state departments involved with water resource and coastal management (e.g. DWS and DEA: Oceans and Coasts), have advised the CDC that it would be beneficial for the SEZ to have dedicated servitudes for the placement of infrastructure needed for the abstraction of seawater and discharge of treated effluent to the marine environment rather than each industry establishing their own set of infrastructure. This would make management of the volumes and quality of effluent easier, would streamline the maintenance of infrastructure, and would also result in less physical impacts to the coastal environment by reducing the number of points where hard structures are placed in the dynamic coastal zone. As such no other intake and outfall infrastructure is planned in the vicinity of the project and therefore cumulative impacts are unlikely to occur.									
Social benefits from the project *(construction, operational and decommissioning phase)*	Preferred alternative	The functionality of the proposed marine abstraction and discharge servitude will also enable the development of a number of other industries (e.g. G2P, WWTW and the ADZ), which will in term result in a number of indirect employment opportunities.	**HIGH +**	Beneficial	Study Area	Short Term	Definite	Easily Achievable	• Utilise local labour as far as possible; and • Construction material must be sourced locally wherever possible.	**HIGH +**
	No-Go	This may also result in a number of investors (e.g. aquaculture companies) pulling out of the CDC SEZ, thus resulting in the loss of several additional potential employment opportunities.	**HIGH –**	Low	Study Area	Short Term	Definite	Not Applicable	Not Applicable	**HIGH –**
Increased pressure on the marine environment of Algoa Bay as a result of discharge effluent and additional hard structures in the dynamic coastal zone *(construction, operational and decommissioning phase)*	Preferred alternative	The design of the proposed marine servitude infrastructure could impact on physical coastal habitats as well as the water quality of the Cerebos intakes.	**MODERATE –**	Slight	Study Area	Long Term	Definite	Achievable	• The seawater abstraction and discharge pipeline infrastructure and layouts must be designed to minimise impacts on physical coastal habitats. • The use of vehicles in a coastal protection zone may require a permit (coastal lease) from the Coastal Conservation and Strategies Directorate of the DEFF, Oceans and Coast Branch (DEFF Oceans and Coasts); • Construction activities taking place within the coastal protection zone must be limited to minimum area required for the purposes of construction; • The Contractor must ensure that all areas where construction vehicles will be working are thoroughly investigated for bird eggs and other faunal habitats prior to commencement of construction; • The area where construction will be taking place must be clearly demarcated and no construction vehicles, machinery or staff will be allowed outside of the demarcated area; and • The marine infrastructure servitude(s) must preferably be located at a previously disturbed area along the	**LOW –**

ISSUE	ALTERNATIVE	CAUSE AND COMMENT	SIGNIFICANCE OF IMPACT	CONSEQUENCE OF IMPACT	EXTENT OF IMPACT	DURATION OF IMPACT	PROBABILITY OF IMPACT	DEGREE OF REVERSIBILITY AND/OR MITIGATION	MITIGATION MEASURES	RESIDUAL RISK
	(SIGNIFICANCE WITHOUT MITIGATION)								(SIGNIFICANCE WITH MITIGATION)	
									coastline and must be kept to a minimum width in order to ensure that no unnecessary loss of coastal public property is incurred.	
	No-Go	This section of Algoa Bay has been significantly altered by the development of the Port of Ngqura. A large section of the coastline has already been disturbed and a significant portion of coastal public property has been lost. Should the proposed development not go ahead, alternative options may be used for abstraction of seawater and discharge of effluent, which may require additional disturbance of the coastal zone and, potentially, the loss of additional coastal public property.	**MODERATE –**	Slight	Study Area	Permanent	Definite	Not Applicable	Not Applicable	**MODERATE –**

7. PLAN OF STUDY FOR EIA

Item 2 (i) of Appendix 2 of the National Environmental Management Act (NEMA, Act No. 107 of 1998, as amended) Environmental Impact Assessment (EIA) Regulations (2014 and subsequent amendments), states that a *"plan of study for undertaking the environmental impact assessment process"* must be included in the Scoping Report.

This Chapter sets out the Plan of Study (PoS) for the EIA phase of the assessment. The Competent Authority will provide relevant comment with respect to the adequacy of this Plan of Study for the EIA, as it informs the content of the EIR and Specialist Reports.

7.1 ALTERNATIVES

Section 2.4 of this Scoping Report details the process of determinining the preferred alternative for the current EA application.

It is important to note that the EIA phase will assess the preferred alternative which inclides both:

- Fundamental alternatives (activity and location); and
- Incemental alternatives (ALL preferred designs and technologies).

The following overall preferred alternative has been identified for the marine intake and discharge servitudes:

Alternative category	**Preferred alternative intake servitudes**	
Servitude	**Intake servitude 1**	**Intake servitude 2**
Activity	• Abstraction of seawater water from the sea for Once-Through and Wet Mechanical Cooling of power stations.	• Abstraction of seawater from the sea for land-based aquaculture and desalination.
Broad geographical location	• Cooling water intake servitude inside the Port located at the root of the eastern breakwater as indicated in PRDW map (Figure 2.18).	• Combined aquaculture and desalination water intake servitude located east of the Port as indicated in PRDW map (Figure 2.18).
Specific location	• Servitude radius of 100 m and a depth of –6 m CD.	• Servitude width of 200 m to a distance of 500 m offshore and a depth of –10 m CD.
Design and Technology	• Once-Through Cooling water intake basin with four concrete channels each 3.5 m wide. • Wet Mechcnial Cooling water intake jetty with a 710 mm HDPE pipe.	• Desalination – up to three 1,000 diameter HDPE intake pipes; • Aquaculture – up to three 1,600 diameter pipeline tunnels; • Vertical beach wells; • WEROP wave pumps; and • Stormwater gabions.

Alternative category	**Preferred alternative discharge servitudes**		
Servitude	**Discharge servitude 1**	**Discharge servitude 2**	**Discharge servitude 3**

Alternative category	Preferred alternative discharge servitudes		
Activity	Discharge of Once-Through and Wet Mechanical cooling water effluent totalling 15.0 m^3/sec, back into the sea.	Discharge of finfish aquaculture recirculation system effluent (0.94 m^3/sec), brine (1.22 m^3/sec), treated wastewater (1.4 m^3/sec) in three separate pipelines, and stormwater, into the sea.	Discharge of abalone aquaculture flow-through effluent (5.0 m^3/sec) and stormwater, into the sea.
Geographical location	East of the Port of Nqgura as indicated in PRDW map (Figure 2.18).	East of the Port of Nqgura as indicated in PRDW map (Figure 2.18).	East of the Port of Nqgura as indicated in PRDW map (Figure 2.18).
Specific location	Servitude of 200 m width to – 11 m CD, 650 m offshore	Servitude of 200 m width with: • Brine discharge to -13.5 m CD, 1,000 m offshore. • Finfish aquaculture discharge to -16 m CD, 1,500 m offshore. in a pipeline of 3,000mm diameter. • Wastewater from phase 2 of the WWTW to – 20 m CD, 3,000 mm offshore.	Servitude of 200 m width along the shoreline.
Design and layout	Tunnel with daimater of up to 3,000 mm.	Pipelines including: • Brine – 700 mm diameter HDPE pipe; • Finfish - 700 mm diameter HDPE pipe; • Wastewater – up to 700 mm diameter HDPE pipe. Stormwater gabion system.	Beach pipeline – 1,600 mm diameter HDPE pipe. Stormwater gabion system.

The following overall preferred alternative has been identified for the landbased intake and discharge pipeline servitude:

Alternative category	Landbased servitudes
Activity	Land-Based infrastructure is required in order to connect the various servitude(s) to the respective industries.
Geographical location	Costal area of Zone 10
Specific Location	30 m Servitude (Figure 2.21 above).
Design and layout	HDPE pipes with diameters ranging between 600 mm to 3000 mm

Operational aspects would be restricted to maintenance of discharge and intake infrastructure and environmental monitoring. As such no design/layout, technology and/or operational alternatives will be assessed for the proposed development as all options mentioned in the project description will require authorisation.

7.1.1. No Development Alternative

The no development option assumes the site remains in its current state, i.e. a Special Economic Zone (SEZ) consisting of various industries, conservation areas and coastal areas. The proposed site falls within the Addo Elephant National Park Marine Protected Area.

The no-go option would thus mean that the land within the Coega SEZ allocated for the marine infrastructure servitude will remain vacant and predominantly undisturbed however, further encroachment of alien and invasive species would thus be expected within the terrestrial environment. Should the no-go option become the preferred option, it may have several negative impacts including the loss of potential employment associated with the project, loss of industrial investment due to the lack of sea water intake options and potential environmental impacts associated with industries opting to discharge of effluent via various other means.

	TYPES	LOCATIONS
Gaps	There are no material gaps in information, other than the information to be provided in the specialist studies that are currently underway.	The preferred alternative has been determined based on input from a desktop assessment of the proposed site, previous specialist assessments undertaken for the proposed development, previous input from stakeholders as well as input from PRDW on the preliminary results of the revised marine dispersion modelling. Please note that all specialist studies are currently underway and has not been completed to date. As such the following gaps have been identified: Economic Assessment: A detailed costing between the eastern and western side of the Port has not yet been completed, although the western option will most certainly be significantly more costly. Ecological Assessment: Although the field work for the ecological assessment has been conducted, the draft report is not yet available and as such there may be additional sensitive sites that will need to be avoided when placing terrestrial infrastructure. Marine Heritage Assessment: The fieldwork for the marine heritage assessment is currently being conducted. Should any shipwrecks be found the placement of marine infrastructure may need to be revised.
Uncertainties	There are currently no inherent uncertainties associated with the proposed project	There are currently no inherent uncertainties associated with the proposed project

Assumptions	Assumes that all the land-based activities requiring seawater will take place and that the correct maximum volumes are projected. Assumes that there is a need for the energy that will be generated by the gas hub and power plants to be constructed within the SEZ. Assumes that there are no other energy generation technologies that could meet the energy requirements and that have lower cooling water requirements.	The preferred layout assumes that the capital and operating costs associated with the location of infrastructure west of the Port would render the project unfeasible. The preferred layout assumes the layout of the servitudes is the optimal layout in terms of the preliminary dispersion modelling results which shows adequate dilution of effluent within the marine environment (i.e. it meets the required water quality guidelines)

7.2 IMPACTS

The following environmental aspects will be assessed as part of the EIA process, although additional impacts might be raised by I&APs, the EAP and/or the specialist consultants, and these will also be assessed. Thus, the list presented below must be regarded as preliminary.

Table 7.1 Impacts to be investigated in the EIA phase

IMPACT	ALTERNATIVE	CAUSE AND COMMENT
IMPACTS ON THE PHYSICAL ENVIRONMENT		
TERRESTRIAL IMPACTS		
Impacts on topography and bathymetry *(design, construction and decommissioning phase)*	Preferred alternative	It is envisaged that changes to the terrestrial topography of certain localities within the study area will be required during the construction of the land-based activities associated with the proposed project, especially along areas of the coastline where intake and outfall infrastructure will be constructed. In addition, there are likely to be minor changes to the bathymetry of the intertidal and subtidal areas as a result of infrastructure being constructed on the sea floor.
	No-Go	The topography and bathymetry within the terrestrial portion of the proposed project area have been impacted on by numerous developments within the Coega SEZ, especially the Port of Ngqura as well as the Sunshine Coast quarry located in Zone 10.
Impacts on land use *(construction, operational and decommissioning phase)*	Preferred alternative	The land-based activities associated with the proposed project will fall within an existing industrial zone (the Coega SEZ) and thus is in line with the proposed land use of the area. Zone 10 of the Coega SEZ is earmarked for aquaculture and, because the proposed development is essential to the functionality of the aquaculture development zone (ADZ), the development and operation of the proposed marine infrastructure servitude will be beneficial to the land use of the area.
	No-Go	The no-go option will result in land allocated for aquaculture not being utilised for this purpose as a result of insufficient (or lack of) intake water.
Soil Contamination	Preferred alternative	The construction of the land-based infrastructure associated with the proposed servitude will require the clearing of vegetation which will result in exposed soil surfaces and thus the potential for soil erosion. In addition, the utilisation of

IMPACT	ALTERNATIVE	CAUSE AND COMMENT
and Erosion *(design, construction, operation and decommissioning phase)*		construction vehicles and other construction machinery during the construction phase could result in soil contamination within the area. During the operational phase, any leaks derived from the infrastructure associated with the discharge of effluent could result in soil contamination within the study area.
	No-Go	Due to the nature of the Coega SEZ (an industrial development area), there are a number of areas that have previously been eroded and/or contaminated during construction of various infrastructure.
Impacts on Surface and Groundwater Resources *(design, construction, operational and decommissioning phase)*	Preferred alternative	Various substances may result in the pollution of surface and groundwater resources. Construction activities may lead to sediment being deposited into drainage lines, wetlands and other water bodies, including the potential for seepage into groundwater resources. Pollution from litter and general construction waste may occur due to improper site management. Washing down of vehicles and equipment may result in the pollution of drainage lines, wetlands, and other water bodies, and pollution may occur from poor vehicle maintenance and improper storage of hazardous materials such as fuel, etc. Operational activities could result in the pollution of surface and groundwater resources as a result of the discharge of treated effluent, leakages from discharge infrastructure and hazardous chemical spill during maintenance activities.
	No-Go	Due to the nature of the Coega SEZ (an industrial development area), surface and groundwater pollution has potentially occurred as a result of other existing industrial activities within the area.
MARINE IMPACTS		
Impact on Seawater Quality *(construction, operational and decommissioning phase)*	Preferred alternative	Construction of the proposed marine infrastructure, which will likely include blasting, which will result in sediment plumes leading to increased turbidity of the seawater and potentially smothering marine biota. During the operation of the project, the discharge of treated effluent into the marine environment could reduce the quality of the seawater and could impact on sensitive habitats associated with marine biota. This is especially pertinent with regards to the proximity of the Addo Elephant National Park MPA. Potential pollutants include nutrients (e.g. ammonia, nitrates and nitrates), which may be derived from the effluent from the WWTW and ADZ and brine from desalination facilities. In addition, the discharge of effluent from the G2P projects could result in increased seawater temperatures, which will in turn have impacts on the available oxygen and the several indirect impacts on the biota that rely on specific seawater quality parameters.
	No-Go	There is currently discharge of treated and untreated effluent occurring at several locations along the Algoa Bay coastline. Should the proposed marine infrastructure servitude not be developed, the various industries within the Coega SEZ could apply for separate discharge pipelines, which is likely to result in numerous cumulative seawater impacts, i.e. several individual discharge servitudes may have a large cumulative impacts to could go undetected if all proposed servitudes are

IMPACT	ALTERNATIVE	CAUSE AND COMMENT
		not taken into account as opposed to a combined discharge servitude, which takes all impacts related to all industries into account.
Change in Marine Sediment Dynamics and Wave Action *(design, construction, operational and decommissioning phase)*	Preferred alternative	The design and placement of hard structures within a dynamic coastal environment is likely to result in changes to the sediment dynamics and localised currents in the study area. In addition, the construction of infrastructure in the surf zone could result in changes to the wave action along the shoreline. Changes to the sediment dynamics and wave action of the coastal zone could result in increased erosion or deposition along this section of the coastline and could also have several impacts on the marine biota that rely on specific sediment characteristics.
	No-Go	This section of Algoa Bay has been significantly altered by the development of the Port of Ngqura. The existence of the port's breakwaters as well as the marine traffic in the surrounding area currently has a significant influence on the marine sediment dynamics. Should the development not go ahead, alternative options may be used for abstraction of seawater and discharge of effluent, resulting is additional changes to the sediment dynamics in the area.
Disturbance of the Coastal Zone and Loss of Coastal Public Property *(design, construction, operational and decommissioning phase)*	Preferred alternative	The design of the proposed seawater intake and discharge infrastructure could impact on physical coastal habitats for biota such as bird habitats Construction of the proposed seawater intake and discharge infrastructure will require movement of construction vehicles and machinery within the coastal zone. Once operational, the servitude(s), which will extend across a portion of coastal public property (CPP), will need to be protected from public access, thus reducing the beach amenity and CPP access in the area.
	No-Go	This section of Algoa Bay has been significantly altered by the development of the Port of Ngqura. A large section of the coastline has already been disturbed and a significant portion of coastal public property has been lost. Should the proposed development not go ahead, alternative options may be used for abstraction of seawater and discharge of effluent, which may require additional disturbance of the coastal zone and, potentially, the loss of additional coastal public property.
IMPACTS ON THE BIOLOGICAL ENVIRONMENT		
TERRESTRIAL IMPACTS		
Disruption to Terrestrial Ecosystems (design, construction and decommissioning phase)	Preferred alternative	The design of the proposed marine servitude infrastructure could impact on coastal biota such as bird populations. During the construction phase there will be impacts on natural vegetation including clearing of, or damage to, indigenous coastal vegetation, the removal of intact communities, loss of species of special concern and/or trees protected in terms of the National Forest Act. In addition, the proposed development may result in the introduction of alien species.
	No-Go	There are currently a number of invasive alien species located within the proposed development area. Under the no-go option,

IMPACT	ALTERNATIVE	CAUSE AND COMMENT
		it is likely that further spread and infestation will occur if the status quo remains unchanged.
MARINE IMPACTS		
Disruption to Intertidal or Sub-Tidal Biota (design, construction, operational and decommissioning phase)	Preferred alternative	The design and construction of the marine infrastructure servitudes could result in the disturbance of intertidal and subtidal areas, resulting in mortalities to marine fauna and flora located within the area. The subtidal reefs offshore of the proposed project area contain habitats of a number of important fish and shellfish species. Noise resulting from the drilling and blasting activities associated with construction will disturb a number of marine fauna and could affect the navigation, communication and sensory systems of several species. During operation, it is possible that several smaller marine species could be entrained in the abstraction infrastructure during the abstraction of seawater.
	No-Go	Previous developments within the Coega SEZ have likely resulted in disruption to marine biota and the continued operation of the Port of Ngqura means that marine fauna and flora within (and in close proximity to) the port are constantly disturbed. Should the proposed development not go ahead, alternative options may be used for abstraction of seawater and discharge of effluent, which may result in further disturbance of marine biota.
GENERAL IMPACTS AND IMPACTS ON THE SOCIO-ECONOMIC ENVIRONMENT		
Waste Management *(construction, operational and decommissioning phase)*	Preferred alternative	Solid waste derived from construction activities are likely to include rubble, excavated material, bricks, wire, packaging, concrete, cement and several other materials. Littering on site is likely to result in non-biodegradable plastic material entering the marine environment. Plastic bags, bottles, rope and other litter could have a direct impact on marine fauna resulting in mortalities of fish, birds and/or marine mammals. Solid waste from the operational phase could be derived from maintenance activities and could include dead organic material from the intake infrastructure and inlet screens. Liquid waste will be discharged into the marine environment via the discharge infrastructure and incorrect treatment of the waste could have several impacts on seawater quality.
	No-Go	The nature of the proposed development site currently allows for litter and other wind-blown waste entering the property from neighbouring sites. This will continue indefinitely should the proposed development not go ahead. In addition, the illegal dumping and littering that takes place throughout the region often results in large volumes of waste entering the marine environment.

IMPACT	ALTERNATIVE	CAUSE AND COMMENT
Health and Safety (construction, operational and decommissioning phase)	Preferred alternative	Health and safety aspects will mostly pertain to activities defined under the Occupational Health and Safety Act (Act No. 85 of 1993). Work occurring throughout the proposed development will always consist of health and safety risks.
	No-Go	Within an industrial area there is always potential for accidents and health effects.
Impacts on Archaeological, Palaeontological and/or Cultural Sites *(construction phase)*	Preferred alternative	It is possible that sites of archaeological, palaeontological and/or cultural significance are present on or near the proposed development site. This includes marine archaeological sites such as shipwrecks. If these sites are not correctly identified and/or protected prior to construction, this may result in the loss of sites of cultural importance. The correct identification and recovery of sites of archaeological, palaeontological and/or cultural importance could potentially provide a better understanding of the heritage and/or geological history of the area.
	No-Go	Archaeological and cultural heritage sites would not be disturbed but would also not be uncovered and therefore not make any contribution to the understanding of the archaeological or cultural heritage of the area.
Social benefits from the project *(construction, operational and decommissioning phase)*	Preferred alternative	The proposed development will create a number of temporary employment opportunities during the construction phase as well as several permanent employment opportunities during operation for the maintenance of infrastructure.
	No-Go	Should the project not proceed, no increases in employment or tax revenue will occur.
Provision of seawater for industrial developments *(operational phase)*	Preferred alternative	The proposed development will result in the abstraction of seawater, which is required for the proposed ADZ, the G2P projects and the desalination plant, as well as several other future developments in the Coega SEZ. This will reduce the consumption of municipal water for existing industries and provide some relief to a water scarce area.
	No-Go	The current freshwater drought and scarce water resources in the region will continue to place pressure on the municipality and are likely to result in the disinvestment from companies looking to establish their industries within the SEZ. The development of the approved ADZ will not be possible should the seawater abstraction not materialise.
Provision of discharge infrastructure for industrial developments *(operational*	Preferred alternative	The rationale for developing an integrated marine discharge servitude is to have a common user servitude in which a number of possible industries can establish infrastructure required to discharge effluent into the marine environment. The management of the volumes and quality of effluent would be far easier than having several different effluent discharge developments and would streamline the maintenance of

IMPACT	ALTERNATIVE	CAUSE AND COMMENT
phase)		infrastructure. The position and depth of the discharge, as well as the release of effluent to the marine environment rather than rivers or estuaries, has potentially less environmental impact due to the increased assimilative and dispersive capacity of the coastal waters.
	No-Go	The no-go option could result in two possible scenarios namely 1) the establishment of a number of separate different discharge pipelines and infrastructure or 2) a lack of investment in the Coega SEZ as a result of the costs associated with having to establish separate outfall options.
CROSS CUTTING IMPACTS		
Noise Impacts *(construction and decommissioning phase)*	Preferred alternative	It is anticipated that there will be an increase in noise levels during the construction phase of the proposed development. Increased noise levels for activities occurring within the marine environment have the potential to significantly impact on marine life.
	No-Go	As the proposed development site is within an industrial zone, there is existing increased noise levels within the project boundaries.
Traffic *(construction and decommissioning phase)*	Preferred alternative	During the construction phase, large construction vehicles will be utilising the existing road network and may establish new accesses to get to the proposed development site. This may result in the impeding of traffic flow and damage to the existing roads. In addition, the construction within the marine environment may require the transportation of materials in and out of the Port of Ngqura.
	No-Go	The proposed site is within an existing SEZ and thus there are a number of large vehicles that utilise the surrounding road network. In addition, the Port of Ngqura is currently recognised as one of the busiest ports in South Africa.
Air Quality *(construction and decommissioning phase)*	Preferred alternative	Impacts on air quality during the construction phase will primarily result from increased dust levels associated with the required excavation, vegetation clearing, grading and other construction activities.
	No-Go	As the Coega SEZ is an established industrial area, there are regular developments taking place that result in increased dust levels. In addition, there are a number of industries within the Coega IDZ that operate under an Air Emissions Licence and therefore are permitted to emit certain pollutants into the atmosphere.
Visual Impact *(construction, operational and decommissioning phase)*	Preferred alternative	Construction vehicles and equipment will be evident in the existing landscape during the construction phase. Generation of dust will increase the visibility of the project and may become an eyesore if not managed correctly. The visibility of the proposed development may be noticeable and may have a visual impact on the coastal area that is currently undeveloped. However, in relation to the nature of the

IMPACT	ALTERNATIVE	CAUSE AND COMMENT
		surrounding industrial zone, it will not be a significant visual transformation to the general landscape of the Coega SEZ.
	No-Go	The existing port and other Coega SEZ infrastructure has resulted in significant changes to the visual landscape of the area.
Climate Change *(construction, operation and decommissioning phase)*	Preferred alternative	Influence of unpredictable / erratic physical conditions and plume dilution and dispertion as well as the placement and integrity of physical structure and/or infrastructure in the dynamic coastal environment.
	No-Go	N/A
Alignment with planning instruments *(construction, operation and decommissioning phase)*	Preferred alternative	The proposed project is in line with the NMBM SDF and the IDP.
	No-Go	The Coega SEZ is in line with all planning documents
Social benefits from the project *(construction, operational and decommissioning phase)*	Preferred alternative	The functionality of the proposed marine abstraction and discharge servitude will also enable the development of a number of other industries (e.g. G2P, WWTW and the ADZ), which will in term result in a number of indirect employment opportunities.
	No-Go	This may also result in a number of investors (e.g. aquaculture companies) pulling out of the CDC SEZ, thus resulting in the loss of several additional potential employment opportunities.
Increased pressure on the marine environment of Algoa Bay as a result of discharge effluent and additional hard structures in the dynamic coastal zone *(construction, operational and decommissioning phase)*	Preferred alternative	The design of the proposed marine servitude infrastructure could impact on physical coastal habitats as well as the water quality of water abstracted via the Cerebos intakes.
	No-Go	This section of Algoa Bay has been significantly altered by the development of the Port of Ngqura. A large section of the coastline has already been disturbed and a significant portion of coastal public property has been lost. Should the proposed development not go ahead, alternative options may be used for abstraction of seawater and discharge of effluent, which may require additional disturbance of the coastal zone and, potentially, the loss of additional coastal public property.

7.3 SPECIALIST STUDIES

The following Specialist Studies are proposed for the EIA Phase of the assessment:

1. Marine and Underwater Cultural and Archaeological Impact Assessment
2. Environmental Economic Impact Assessment

3. Review of existing Baseline Marine Ecology Report
4. Geotechnical Assessment
5. Ecological Impact Assessment
6. Marine Dispersion Modelling
7. Aquatic Impact Assessment – Existing study findings to be incorporated into the EIA
8. Heritage Impact Assessment – Existing study findings to be incorporated into the EIA and EMPr

The Terms of Reference for the above-mentioned studies, which outline the information required from the specialists, are provided below and the methodology for assessing the significance of impacts, is described in the section that follows. The assessment of impacts will focus on the preferred alternative, **including ALL preferred design and technology alternatives**. Specialists will also be required to address issues raised by I&APs in their reports.

7.3.1. Marine and Underwater Cultural and Archaeological Impact Assessment

Algoa Bay is one of the bigger shipwreck traps in South Africa. These shipwrecks represent several nationalities and several historical events, from exploration to trade, military engagements, immigration and industry. There are hundreds of wrecks in the Bay, the precise locations of most of them is unknown. The methodology for the proposed Marine and Underwater Cultural and Archaeological Impact Assessment is as follows:

- Desktop survey of potential underwater heritage sites, especially shipwrecks in the area through study of available and historical records. Databases include published as well as unpublished sources of information. In Algoa Bay, the potential for sensitive shipwrecks is very high and it's important to do an in-depth UHIA;
- Magnetometer survey and analysis of the affected area;
- Full analysis and report on the findings of the fieldwork with probability and significance ratings.
- Field survey on the shore zones, specifically:
    - Underwater Heritage Survey:
- A desktop Heritage Impact Assessment of the maritime cultural heritage is the first step in ascertaining the probability of finding maritime and underwater cultural heritage sites in a proposed development area;
- A full analysed magnetometer survey needs to be conducted. The magnetometer is conducted using 15 meter run lines over the proposed area;
- The magnetic anomalies noted and mapped.
- Underwater heritage sites are mapped on a GIS platform.

7.3.2. Environmental Economic Impact Assessment

The following describes the CES approach to conducting the Environmental Economic Impact Assessment (EEIA) of the proposed marine pipeline servitudes in the Coega SEZ. The EEIA may need to consider inputs from various stakeholders other than the CDC.

Defining EEIA boundaries
When compiling the EEIA, clear boundaries need to be established relating to the geographical and operational extent or scope extent of the assessment.

Materiality
Material is a VERY IMPORTANT ASPECT of the EEIA, as one does not want to focus effort on unimportant and minor issues and impacts. A level of financial materiality will therefore need to be decided by the project team and CDC prior to conducting detailed costing exercises.

The determination of materiality may be influenced by the following two main dimensions:

- The significance of the environmental and social impacts of the marine pipeline; and
- Their substantive influence on the assessments and decisions of stakeholders.

There will need to be a very clear explanation of how the Materiality principle were applied to identify material environmental issues, including any assumptions made.

Distinguishing and weighting of different types of costs

The following types of sustainability costs may need to be distinguished and weighted differently in the EEIA:

- Positive and negative;
- Direct and indirect;
- External costs;
- Actual or potential;
- Short term or long term; and
- Intended or unintended.

CES will identify all habitats and activities that impose environmental impacts will be affected by the proposed pipelines, including:

- Marine;
- Terrestrial; and
- Fresh water.

Important biodiversity and species information will be available from SANBI and the Eastern Cape Biodiversity Conservation Plan. DEA Oceans and Coasts also has information of sensitive coastal environments. Other EIA information will also provide useful information on the extent of expected impacts.

CES will attach economic values to the potential impacts on biodiversity. Although environmental impacts are difficult to quantify, will determine appropriate valuation methods for various environmental and social aspects, such as:

- Cost to remediate or replace;
- Cost of setting up a biodiversity offset project;
- Costs of natural resource goods and services (e.g. value of harvested fish or shellfish); and
- Willingness to pay.

In some instances, it may be impossible or very challenging to attach a financial value to an environmental or social cost or benefit. In such instances, qualitative information may be necessary, or even a range of financial estimates provided. Valuation in many instances will be based on an estimated RANGE of valuations usually reflecting orders of magnitude (i.e. the range could be R1 million to R10 million).

Where impacts are impossible to value, qualitative information can be provided. The timing of risks could be relevant:

- Short term – 1 to 10 years (i.e. immediate loss of biodiversity due to construction footprint);
- Medium term – 10 to 50 years (i.e. accumulation of heavy metals in marine sediments); and
- Long term – 50 to 100 years (e.g. climate change induced sea level rise).

Vulnerability relates to the ability to respond to identified risks. CES can assess the current and future needs in terms of preparing to reduce or mitigate vulnerability to future risks.

In addition to conducting on the ground site assessments of the proposed project area, CES will source and evaluate as much existing information as possible, including:

- Eastern Cape Biodiversity Conservation Plan;
- Nelson Mandela Bay Metro Environmental Management Plan and Coastal Management Plan;
- CDC EIAs, EMP and EMS; and
- Stakeholder Engagements (e.g. SANParks).

CES will derive an EEIA matrix of all possible environmental impacts and risks and will assess in terms of probable materiality on how much effort to expend in further attaching a financial value to a particular cost.

Sample EEIA Matrix
The following is a simple example of what an EEIA matrix will look like:

Type of cost/benefit	Nature of cost	Valuation of cost	Nature of benefit	Valuation of benefit
ENVIRONMENTAL				
Direct	Loss of aquatic and terrestrial biodiversity due to expansion footprint	• Cost of offset • Natural resource value (i.e. environmental goods and services)		
Indirect	Invasive terrestrial and marine organisms	Cost to eliminate aliens	Benefit of formal proclamation of environmental offset	Environmental goods and services provided by offset
	Air pollution from tenant activities	Cost to monitor and reduce emissions	Renewable energy projects	Value of project and revenue
	Water pollution from tenant activities	Cost to monitor clean up water or processes		
External	Exposure to climate change impacts	Cost per ton of carbon		

7.3.3. Review of existing Baseline Marine Ecology Report

It is anticipated that the existing Baseline Marine Ecology Report will be updated with additional dispersion modelling results. These results are likely to result in a refinement of the impacts associated with outfall / discharges. CES have included Dr Barry Clark on the team to review the report.

7.3.4. Geotechnical Assessment

A geotechnical assessment will be undertake to determine the suitability of the site for the construction of land-based infrastructure.

Methodology for the geotechnical assessment is as follows:

- Excavate ten tests using a tractor-loader backhoe (TLB) excavator to a planned depth of 3.0 m below surface of shallower refusal;
- Profile the soil according to the Guidelines for Soil and Rock Logging in Southern Africa (2009); and

- Conduct Dynamic Cone Penetrometer (DCP) tests adjacent to each test pit to a planned depth of 2.0 m below surface or shallower refusal.
  Limited disturbed soil samples will be collected from representative soil horizons and submitted to a SANAS-accredited soil testing laboratory.

7.3.5. Ecological Impact Assessment

Construction of the marine pipeline servitudes and associated infrastructure requires the removal of extensive vegetation and habitat. It is important to assess the level of impact on biodiversity, especially the floristic and threatened vegetation types. It is necessary to determine the baseline condition of the area to assess the impacts on flora and faunal species arising through the further loss of habitat and food sources. The terms of reference for the biodiversity and faunal assessment will be:

- Undertake a desktop assessment of the biodiversity and conservation value of the study area in terms of the relevant biodiversity plans;
- Assess the conservation value of the various ecological habitats in the area, in order to assess the significance of habitat loss on faunal groups as a result of the development;
- Identify the main animal communities associated with the plant communities (amphibian, mammals, birds, and reptiles);
- Identify any rare or endangered faunal and floral species;
- Assess the extent of alien flora and faunal species over the site, and associated risks of alien invasion as a result of the project;
- Describe the impacts of current land use, so that the potential impacts from the development on the natural environment can be understood in this context;
- Place the project area within the biodiversity context of the region;
- Provide a sensitivity map of the concession area in order for the proponent to better place the layout of the project's infrastructure;
- To address all ecological issues and concerns raised by I&APs during the scoping phase;
- Determine the impacts of the construction and operation of the proposed development on the biodiversity in the area;
- The significance of the potential impacts and benefits will be assessed using the CES methodology. Any predictions will need to include the confidence in the impacts occurring, and the significance of these impacts occurring on the local flora and fauna;
- Provide recommendations and mitigation measures that will reduce negative impacts on the local ecology and optimize conservation benefits.
- Provide recommendations for the relocation of floral specied of special concern.

7.3.6. Marine Dispersion Modelling

The terms of reference for the Marine Dispersion Modelling are as follows:

- Assess the dispersion of effluent discharged from the Coega SEZ in terms of changes in key water quality parameters (e.g. temperature, salinity, suspended solids and a conservative tracer) using an appropriate wave refraction and hydrodynamic model (SWAN, Delft3D-WAVE and FLOW, MIKE21);
- Determine levels of these water quality parameters at the edge of the mixing zone and proposed water intake localities. The model will investigate/assess dispersion plume movement and water quality at the edge of the mixing zone. That will be overlaid on suggested abstraction points to determine if the discharges will potentially have an impact on the quality of abstraction water, such as for proposed land-based aquaculture activities. The results will inform the final position of the seawater abstraction points within the abstraction servitude(s);

- Advise on the position of sea water intake localities for anticipated uses;
- Advise on the position of the discharge servitude(s). Input should be given to engineers on the type and depth of discharge required to achieve desired dilution and dispersion;
- The near-field parameters (e.g. types of effluent, changes in water temperature and salinity as well as initial dilutions) must be determined in consultation with the appointed marine ecologist working with the modelling team. The results will enable the marine ecologist to assess the impacts of the discharges on the various ecosystems based on the predicted achievable dispersions, as well as to provide information on the best location for the intakes (outfalls) and depth of intake (discharge);
- The appointed marine ecologist must interpret the model results, advise on required model outputs and assess the impacts of the discharges on the various ecosystems based on the predicted achievable dispersions, as well as provide information on the best location for the intakes (outfalls) and depth of intake (discharge);
- The hydrodynamic model must be used to determine the near shore wave conditions and wave energy dissipation. The hydrodynamic model will thus be three-dimensional and include the effects of waves, wind, tides, temperature stratification, salinity and heat fluxes;
- Provision has been made for simulating an additional 3 scenarios, in addition to the 12 scenarios previously modelled, determined by a specific location (horizontal and vertical position), a specific discharge rate, and associated discharge parameters. The environmental conditions for a scenario will include a winter, summer and a calm period. Scenarios will be determined and concluded in discussion with the appointed project team at a workshop;
- The study will need to confirm that the water quality at the proposed aquaculture intake(s) is not impaired by the proximity of the proposed discharges and associated effluent plumes;
- The modelling must address the worst case scenario and characterise the extent and duration for which there is non-compliance with the required dilutions governed by applicable water quality guidelines and / or the water quality requirements of other users in the region;
- The effluent dispersion modelling study must quantitatively inform the associated marine ecological assessment;
- The specialist report must include:
    - An update of the previous marine dispersion modelling done in 2017, where relevant;
    - Identification and brief summary of any applicable legislation and/or license/permit applications that may be required or that are relevant to the specialist study being undertaken;
    - An assessment of the compliance of the effluent discharges with receiving water quality guidelines, the extent and duration of the exceedance of these guidelines and any potential effects of the effluent discharges on water quality at the proposed aquaculture / seawater cooling intakes and other beneficial users (current and known/likely future);
    - Recommendations on mitigation measures required to minimise identified impacts; and
    - Inputs into the Environmental Management Plan (EMP) for the proposed construction and operation of the marine intake discharge structures.
- An initial project kick-off meeting and scenario workshop will be held at the Coega Business Centre, where the confirmation of the discharge scenarios will be assessed. PRDW's marine modeler will be required to attend the kick-off meeting and scenario workshop. Meetings will be held between 10am and 4pm to allow for flights/trips from out of PE and negate the requirement for accommodation;
- PRDW's marine modeler will be required to attend a Coega ELC meeting in Port

Elizabeth at the Dept. of Environmental Affairs, where the findings of the marine dispersion modelling will be presented to the environmental authorities responsible for approving the environmental permits for the project;

- PRDW's marine modeler and marine ecologist will be required to attend a workshop with relevant stakeholders once the modelling results are available to discuss recommended placement of servitude(s) and likely impact on beneficial users (e.g. Port, SANParks, fisheries, etc.)
- PRDW will be required to conduct ongoing liaison with the appointed Environmental Assessment Practitioners for the EIA and the appointed marine ecological specialist to ensure integration into the EIA report. Liaison would include skype calls, telecons and emails.

7.3.7. Aquatic Impact Assessment

The Coega Development Corporation (CDC) appointed Scherman Colloty & Associates (SC&A) to assess and delineated all wetlands located within the Coega SEZ in September 2016. This study identified three wetlands within zone 10 of the SEZ, none of which are situated within 500 m of the proposed development (refer to Figure included below), except the Coega River/Estuary (port). As per the NFEPA (2011) spatial data set (please see Figure 4.3 under Section 4.2.2: Surface Hydrology), the artificial wetland located along the coast, in the centre of the proposed development, is Coega Marine Growers and as such not a wetland. Therefore, since the development will not take place within a wetland and/or surface water feature or within 500 m of a wetland and.or surface water feature no additional aquatic impact assessment will be undertaken for the proposed development.

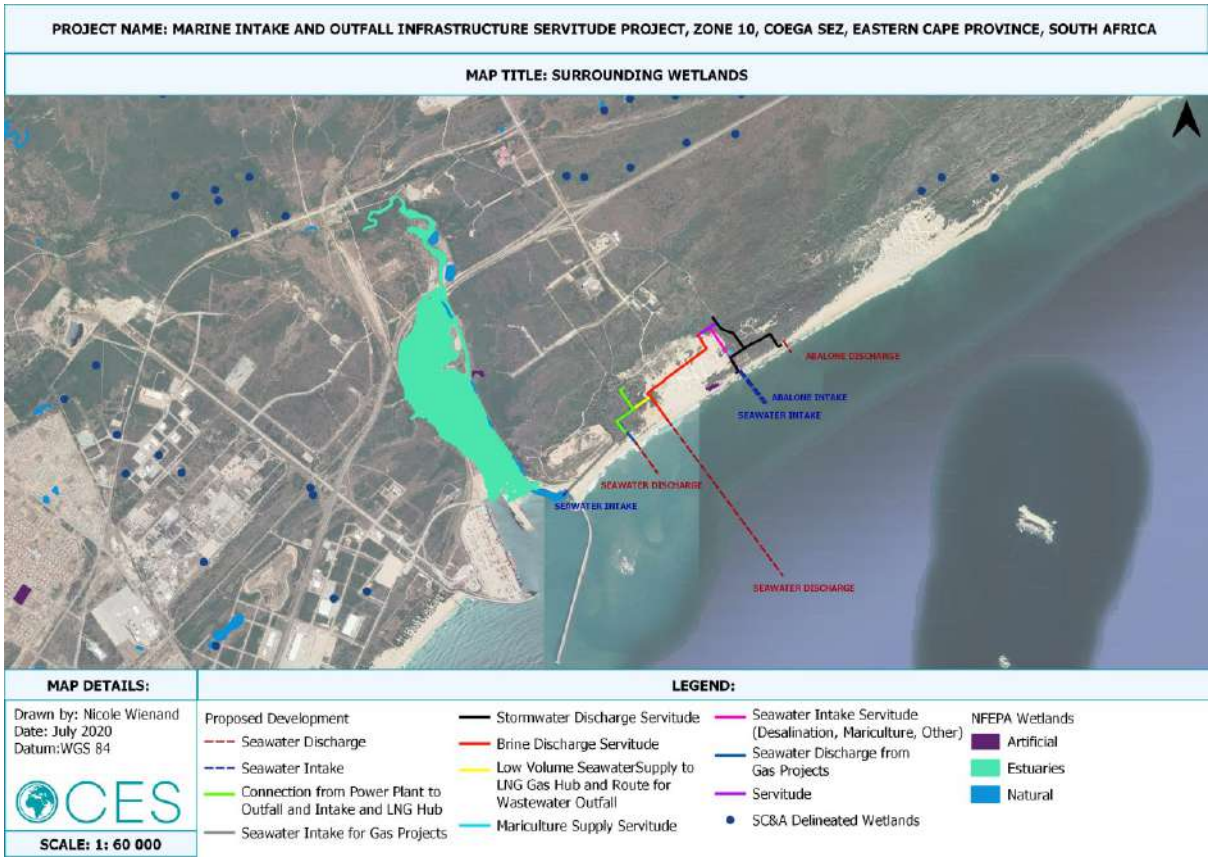


Figure 7.1: Infrastructure overlain on the identified wetlands within the SEZ.

7.3.8. Terrestrial heritage, archaeological and paleontological assessment

An Archaeological, Palaeontological and Cultural Heritage Assessment was conducted for the SEZ in 2010. The CDC also has a Heritage Management Plan, and guidelines from SAHRA in place to ensure that all aspects of heritage are managed. These recommendations are included in the impact assessment included below and will be included in the EIA. It should be noted that we are aware that generally specialist studies should not be older than 5 years, however, heritage, archaeological and paleontological artifacts are sessile and thus the position of these do not change over time, as such it is considered acceptable to utilise the existing study as the status quo would not have changed. As such, no additional heritage and paleontoligical assessment will be conducted for the proposed development.

7.4 IMPACT ASSESSMENT METHODOLOGY FOR THE EIA PHASE

CES has developed an evaluation criteria of impacts in accordance with the requirements outlined in Appendix 2 of the EIA Regulations (2014, as amended). This methodology takes into consideration the following variables:

Nature
Negative or positive impact on the environment.

Type
Direct, indirect and/or cumulative effect of impact on the environment.

Significance prior to mitigation
Four factors need to be considered when assessing the significance of impacts, namely:

- Relationship of the impact to temporal scales - the temporal scale defines the significance of the impact at various time scales, as an indication of the duration of the impact.
- Relationship of the impact to spatial scales - the spatial scale defines the physical extent of the impact.
- The severity of the impact - the severity/beneficial scale is used in order to scientifically evaluate how severe negative impacts would be, or how beneficial positive impacts would be on a particular affected system or a particular affected party. The severity of impacts can be evaluated with and without mitigation in order to demonstrate how serious the impact is when nothing is done about it. The word '*mitigation*' means not just '*compensation*', but includes concepts of containment and remedy. For beneficial impacts, optimization means anything that can enhance the benefits. However, mitigation or optimization must be practical, technically feasible and economically viable.
- The likelihood of the impact occurring - the likelihood of impacts taking place as a result of project actions differs between potential impacts. There is no doubt that some impacts could occur (e.g. loss of vegetation), but other impacts are not as likely to occur (e.g. vehicle accident), and may or may not result from the proposed development. Although some impacts may have a severe effect, the likelihood of them occurring may affect their overall significance.

Each criterion (Table 7.2) is ranked with scores to determine the overall significance of an activity. The criterion is then considered in two categories, viz. effect of the activity and the likelihood of the impact. The total scores recorded for the effect and likelihood are then read off the matrix presented in Table 7.3, to determine the overall significance of the impact (Table 7.4). The overall significance is either negative or positive.

The environmental significance scale is an attempt to evaluate the importance of a particular impact. This evaluation needs to be undertaken in the relevant context, as an impact can either

be ecological or social, or both. The evaluation of the significance of an impact relies heavily on the values of the person making the judgment. For this reason, impacts of especially a social nature need to reflect the values of the affected society.

Prioritising

The evaluation of the impacts, as described above is used to prioritise which impacts require mitigation measures.

Negative impacts that are ranked as being of "VERY HIGH" and "HIGH" significance will be investigated further to determine how the impact can be minimised or what alternative activities or mitigation measures can be implemented. These impacts may also assist decision makers i.e. numerous HIGH negative impacts may bring about a negative decision.

For impacts identified as having a negative impact of "MODERATE" significance, it is standard practice to investigate alternate activities and/or mitigation measures. The most effective and practical mitigations measures will then be proposed.

For impacts ranked as "LOW" significance, no investigations or alternatives will be considered. Possible management measures will be investigated to ensure that the impacts remain of low significance.

Table 7.2: Criterion used to rate the significance of an impact.

EFFECT	**TEMPORAL SCALE**		
	Short term	Less than 5 years	
	Medium term	Between 5 and 20 years	
	Long term	Between 20 and 40 years (a generation) and from a human perspective almost permanent.	
	Permanent	Over 40 years and resulting in a permanent and lasting change that will always be there	
	SPATIAL SCALE		
	Localised	At localised scale and a few hectares in extent	
	Study area	The proposed site and its immediate environs	
	Regional	District and Provincial level	
	National	Country	
	International	Internationally	
	SEVERITY		**BENEFIT**
	Slight / Slightly Beneficial	Slight impacts on the affected system(s) or party (ies)	Slightly beneficial to the affected system(s) or party (ies)
	Moderate / Moderately Beneficial	Moderate impacts on the affected system(s) or party(ies)	An impact of real benefit to the affected system(s) or party (ies)
	Severe / Beneficial	Severe impacts on the affected system(s) or party (ies)	A substantial benefit to the affected system(s) or party (ies)
	Very Severe / Very Beneficial	Very severe change to the affected system(s) or party(ies)	A very substantial benefit to the affected system(s) or party (ies)
LIKELIHOOD	**LIKELIHOOD**		
	Unlikely	The likelihood of these impacts occurring is slight	
	May Occur	The likelihood of these impacts occurring is possible	
	Probable	The likelihood of these impacts occurring is probable	
	Definite	The likelihood is that this impact will definitely occur	

Table 7.3: Matrix used to determine the overall significance of the impact based on the effect and likelihood of occurrence.

LIKELIHOOD	EFFECT		
		LOW	HIGH
	Unlikely	LOW	
	May Occur	MODERATE	
	Probable		HIGH
	Definite		VERY HIGH

Table 7.4: Environmental Significance Scale.

SIGNIFICANCE RATE		DESCRIPTION
LOW –	LOW +	An acceptable impact for which mitigation is desirable but not essential. The impact by itself is insufficient even in combination with other low impacts to prevent the development being approved. These impacts will result in either positive or negative medium to short term effects on the social and/or natural environment.
MODERATE –	MODERATE +	An important impact which requires mitigation. The impact is insufficient by itself to prevent the implementation of the project but which in conjunction with other impacts may prevent its implementation. These impacts will usually result in either a positive or negative medium to long-term effect on the social and/or natural environment.
HIGH –	HIGH +	A serious impact, if not mitigated, may prevent the implementation of the project (if it is a negative impact). These impacts would be considered by society as constituting a major and usually a long-term change to the (natural &/or social) environment and result in severe effects or beneficial effects.
VERY HIGH –	VERY HIGH +	A very serious impact which, if negative, may be sufficient by itself to prevent implementation of the project. The impact may result in permanent change. Very often these impacts are unmitigable and usually result in very severe effects, or very beneficial effects.

Significance post mitigation

Once mitigation measure are proposed, the following criteria are then used to determine the overall significance (i.e. post mitigation significance) of the impact.

- Reversibility: The degree to which an environment can be returned to its original/partially original state.
- Irreplaceable loss: The degree of loss which an impact may cause.
- Mitigation potential: The degree of difficulty of reversing and/or mitigating the various impacts ranges from very difficult to easily achievable. The four categories used are listed and explained in Table 7.5 below. Both the practical feasibility of the measure, the potential cost and the potential effectiveness is taken into consideration when determining the appropriate degree of difficulty.

Table 7.5: Criteria considered post mitigation

REVERSIBILITY	
Reversible	The activity will lead to an impact that can be reversed provided appropriate mitigation measures are implemented.
Irreversible	The activity will lead to an impact that is permanent regardless of the implementation of mitigation measures.
IRREPLACEABLE LOSS	
Resource will not be lost	The resource will not be lost/destroyed provided mitigation measures are implemented.
Resource will be partly lost	The resource will be partially destroyed even though mitigation measures are implemented.
Resource will be lost	The resource will be lost despite the implementation of mitigation measures.
MITIGATION POTENTIAL	
Easily achievable	The impact can be easily, effectively and cost effectively mitigated/reversed.
Achievable	The impact can be effectively mitigated/reversed without much difficulty or cost.
Difficult	The impact could be mitigated/reversed but there will be some difficultly in ensuring effectiveness and/or implementation, and significant costs.
Very Difficult	The impact could be mitigated/reversed but it would be very difficult to ensure effectiveness, technically very challenging and financially very costly.

These criteria are applied using the logic represented in the flow chart below (Figure 7.1).

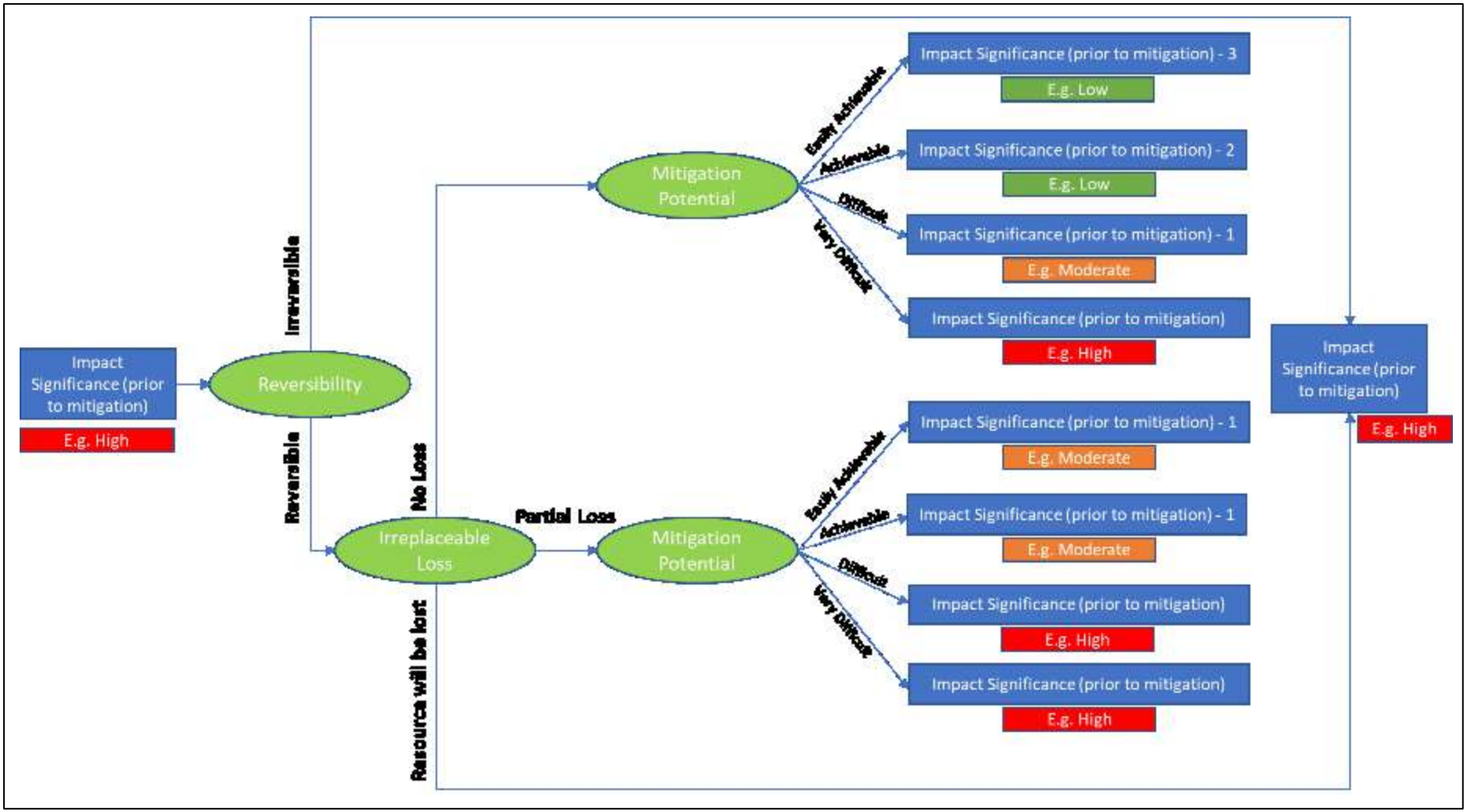


Figure 7.1: Logic used to rate overall significance post mitigation

7.5 THE PUBLIC PARTICIPATION PROCESS

The Public Participation Process will be divided into four phases which allows for initial (pre-application) stakeholder identification, as well as engagement during the Scoping Phase, the EIA Phase and the Environmental Authorisation Phase. The tasks which will be carried out at each phase are described in the table below:

Date	Phase	Meeting and/or deliverable	Objective
1 July 2020	Initiation	Placement of e-notice at CDC Business Centre	To comply with Section 41 of NEMA
06 November 2020		Distribute pre-assessment notifications as stipulated in the Sections outlined above	To comply with Section 41 of NEMA
13 November 2020	Scoping Phase	Distribute notifications of the availability of the Draft Scoping Report for public review as stipulated in the Sections outlined above	To comply with Section 40 of NEMA
15 December 2020		Compile Comments and Response Trail for incorporation into the Final Scoping Report	As per legal requirements all issues and/or comments raised by registered interested and affected parties needs to be documented in writing and responded to by the EAP
19 February 2021	EIA Phase	Distribute notifications of the availability of the Draft EIR for public review as stipulated in the Sections outlined above	To comply with Section 40 of NEMA
23 March 2021		Compile Comments and Response Trail for incorporation into the Final EIR	As per legal requirements all issues and/or comments raised by registered interested and affected parties needs to be documented in writing and responded to by the EAP

The primary aims for the public participation process include the following:

- Disclose activities planned by the project proponent and the EIA team.
- Identify concerns and grievances from interested and affected parties.
- Harness local expertise, needs and knowledge from the interested and affected parties.
- Respond to grievances and enquiries from I&APs.
- Identify additional or new stakeholders and people affected by, or interested in, the proposed project.
- Gather perceptions and comments on the proposed terms of reference for the specialist studies.
- Ensure that all issues raised by I&APs have been adequately assessed.
- Share the findings of the EIR and specialist studies, such as significant impacts, mitigation measures, management actions, and monitoring programmes.
- Include any new concerns or comments that arise.

The **Public Participation Process has** commencedand will continue during the Scoping and EIA phase, during which I&APs are afforded further opportunities to raise their issues, concerns and comments regarding the proposed project. It is possible that some of the project details may have changed in response to the preliminary findings presented in the Final Scoping Report, and as a result of design changes made by the project proponent. I&APs and key stakeholders are given the opportunity to review the Draft EIR before it is submitted to the authorities for consideration. Comments on the Draft EIR received from I&APs will be included and addressed in the Final EIR.

7.5.1. Identification of and Consultation with Key Stakeholders

I&APs and Key Stakeholders were identified prior to the Scoping Phase of the project. The identification and engagement if necessary, of I&APs and Key Stakeholders will continue through into the Scoping and EIA Phase of the project as the public participation process is a continuous process that runs throughout the duration of an environmental investigation.

In terms of engagement with the competent authority, the DEFF has been engaged throughout the project in the form of meetings, telephone calls and follow-up emails. The DEFF will be provided with an opportunity to comment on the draft reports and will also be invited to attend the public meetings associated with the project. A pre-application meeting was held with the DEFF at the CDC on the 15th of August 2019. Please refer to Appendix 4.1 for the pre-application meeting minutes. Subsequent engagement with the DEFF will be as per the PPP tasks outlined in Table 7.6.

7.5.2. I&AP Database

All I&AP information (including contact details), together with dates and details of consultations and a record of all issues raised is recorded within a comprehensive database of I&APs. This database will be updated on an on-going basis throughout the project, and will act as a record of the communication/ involvement process.

7.5.3. Advertising

In terms of the EIA Regulations, the availability of the Draft Scoping Report and the Draft EIR (to be advertised) will be advertised in a local and provincial newspaper (The Herald) to ensure that the widest group of I&APs possible are informed of the project. Other advertisements to be placed during the course of the EIA Phase of the project will relate to the availability of reports for public review, the dates of public meetings, as well as the advertising of the environmental authorisation/decision.

The newspaper advertisement (during the Scoping and EIR Phase of the project) will notify the general public of the availability of the Draft EIR for a thirty (30) day public review period. The advertisement will include, but will not be limited to, a brief description of the proposed project, the main listed activities which are triggered by the proposed project, and the date, time and venue of the open day/public meetings. The advertisement will also encourage potential I&APs to register on the project I&AP Database and provide information on how to register as an I&AP.

7.5.4. Public Meetings

Due to the current COVID19 restrictions in force by the government no public meetings are planned to be held at this stage. However, **virtual meetings will be held with key stakeholders upon request**. Virtual platforms such as zoom and Microsoft Teams are currently being used successfully to conduct virtual meetings. Both of these applications allow for the recording of these meetings and these recordings are then available for download. In addition at least two (2) Environmental Liaison Committee (ELC) meetings will be conducted on a virtual platform (one

conducted on the 20th of August 2020 and another to be conducted on the 19th of November 2020). In addition, to ensure full coverage of potential I&APs a number of Background Information Documents has be delivered to the Ward Councillor's offices for distribution amongst the community. No radio advertisements will be run on local news stations at this stage as the closest community to the CDC is approximately 7 km to the west (Motherwell).

7.5.5. Issues & Response Trail

All issues, comments and concerns raised during the public participation process of the EIA process will be compiled into an Issues and Response Trail and incorporated and submitted as part of the Final Scoping Report.

7.5.6. Notification of Environmental Authorisation (EA)

Advertisements announcing the Environmental Authorisation will be placed in the same provincial and/or local newspaper used to announce the project and the EIA. The adverts will inform I&APs of the decision and where the Environmental Authorisation can be accessed. It will also draw their attention to their right to appeal the decision and set out the appeal procedures.

7.6 ENVIRONMENTAL IMPACT ASSESSMENT

7.6.1. Proposed structure of EIR

To avoid the EIR being excessively long and cumbersome, whilst meeting the content requirements specified in the EIA Regulations, the final report will be divided into a number of volumes, as indicated in Table 7.6.

Table 7.6: Volumes that will be generated in the EIA phase for the proposed project.

Volume Number	Report	Contents
1	**Scoping Report**	As per the Final Scoping Report.
2	**Environmental Impact Assessment Report (EIR)**	**Introduction:** Detail of the environmental assessment practitioner who compiled the report and expertise of the EAP to carry out an environmental impact assessment **Description of the Project:** A description of the property on which the activity is to be undertaken, the location of the activity on the property and a description of the types of activities that are proposed for the development. **Description of the Affected Environment:** The natural environment, socio-economic environment and the legal, policy and planning setting. **The Public Participation Process:** Steps undertaken in order to notify and involve I&APs, advertisements, meetings held, issues and comments. **Summary of Comments and Response Trail:** Summary of comments and issues raised by I&APs and responses to the issues. **Summary of Specialist Reports:** Summary of the findings and recommendations of all specialist studies. **Alternatives Considered:** Description of all alternatives considered in the EIA, initial screening of alternatives, description and comparative assessment of all alternatives identified during the EIA.

		Project related Impacts on Climate Change **The Significance of Potential Environmental Impacts:** The methodology used to determine the significance of environmental impacts, the impacts on the natural environment and the impacts on the socio-economic environment. **Environmental Impact Statement:** A summary of the key findings of the EIA and a comparative assessment of the positive and negative implications of the proposed activity and identified alternatives. **Conclusions:** An opinion as to whether the activity should or should not be authorised and any conditions that should be made in respect to any form of authorisation.
3	**Specialist Studies**	This volume will be a compilation of all the specialist studies undertaken in the EIA, and will include the specialist studies listed in Section 7.3 above plus any additional specialist studies required by the Competent Authority.
4	**Environmental Management Programme Report (EMPr)**	**Introduction:** The details of the EAP who prepared the EMPr, the expertise of the EAP who prepared the EMPr and a detailed description of the aspects of the activity covered by the EMPr. **Mitigation Measures and Actions:** Planning and design, pre-construction and construction activities and operational phase actions to be undertaken. **Responsibilities:** Persons responsible and time periods for implementation. **Monitoring Programme**

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APPENDIX 1.1: PUBLIC PARTICIPATION PROCESS ON INITIAL SUBMISSION OF THE DRAFT AND FINAL SCOPING REPORT

APPENDIX 1.1-1: BACKGROUND INFORMATION DOCUMENT

CES

ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

BACKGROUND INFORMATION DOCUMENT (BID) & INVITATION TO COMMENT

NOTIFICATION OF APPLICATIONS FOR ENVIRONMENTAL AUTHORISATION AND COASTAL WATERS DISCHARGE PERMIT FOR THE PROPOSED DEVELOPMENT OF MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE(S) IN ZONE 8 & 10 OF THE COEGA SPECIAL ECONOMIC ZONE, WITHIN THE EASTERN CAPE PROVINCE.

AIM OF THIS DOCUMENT

The purpose of this document is to ensure that people that are interested in, or affected by, the proposed development are provided with the information about the project, the process being followed and provided with an opportunity to be involved in the Scoping and Environmental Impact Assessment (EIA) process for the proposed marine intake and outfall infrastructure servitude(s) project in Zone 8 and 10 of the Coega Special Economic Zone (SEZ), within the Eastern Cape Province.

Registering as an Interested and/or Affected Party (I&AP) allows individuals or groups the opportunity to contribute ideas, issues and concerns relating to the project. I&APs also have an opportunity to review all the reports and submit their comments on those reports. All the comments which are received during this process will be included in the final reports, which are then submitted to the relevant Competent Authority, the National Department of Environment, Forestry and Fisheries (DEFF), formerly referred to as the Department of Environmental Affairs (DEA).

THE SCOPING AND ENVIRONMENTAL IMPACT REPORTING PROCESS

According to the National Environmental Management Act (NEMA) (Act No. 107 of 1998 and subsequent amendments) Environmental Impact Assessment (EIA) Regulations (2014 and subsequent 2017 amendments), the potential impacts on the environment will have to be assessed in terms of the listed activities. These environmental listed activities, initially published on the 21st of April 2006, were amended in 2010, 2014 and again on the 7th of April 2017, as Government Notice (GN) Numbers R. 983 (GN R. 327), R. 984 (GN R. 325), and R. 985 (GN R. 324) which define the activities which require, respectively, a Basic Assessment (GN R. 983 and GN R. 985 listed activities which apply to activities with limited environmental impacts), or a Scoping and EIA process (GN R. 984 listed activities which apply to activities which are significant in extent and duration).

The proposed development triggers activities contained in Listing Notice 2 (GN R. 984, as amended by GN R. 325) of the NEMA EIA Regulations (2014 and subsequent 2017 amendments) and therefore requires a full Scoping and EIA Process. As part of the Scoping and EIA Process, as well as Regulation 41 of the NEMA EIA Regulations (2014 and subsequent 2017 amendments), CES (on behalf of the Applicant) must consult with the landowners, occupiers, abutting landowners and the public and submit the results of such consultation to the Competent Authority.

1

Table 1: NEMA Listed Activities triggered by the proposed development.

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.
1	The development of facilities or infrastructure for the generation of electricity from a renewable resource where – (i) The electricity output is more than 10 MW but less than 20MW; or (ii) The output is 10 MW or less but the total extent of the facility covers an area in excess of 1 ha. Excluding where such development of facilities or infrastructure is for photovoltaic installations and occurs – (a) Within an urban area; or (b) On existing infrastructure.	The proposed development entails the construction and installation of one or more wave pumps. This technology makes use of wave energy for a variety of benefits including desalination, aquaculture and low levels of electricity production, without consuming any electricity in the process, and will be utilised for the pumping of smaller volumes of seawater.
9	The development of infrastructure exceeding 1,000 m in length for the bulk transportation of water or storm water – (i) With an internal diameter of 0.36 m or more; or (ii) With a peak throughput of 120 litres per second or more. Excluding where – (a) Such infrastructure is for bulk transportation of water or storm water drainage inside a road reserve or railway line reserve; or (b) **Where such development will occur in an urban area**.	Construction of infrastructure for the transfer of abstracted seawater from the sea/marine environment to the respective industries.
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) Two 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.	Construction of infrastructure to transfer electricity from the Sonop substation to pump stations at the headworks.
13	The development of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50,000 m³ or more, unless such storage falls within the ambit of Activity 16 in Listing Notice 2 of 2014.	Seawater will need to be pumped to a storage facility for distribution to the various industries, e.g. aquaculture, desalination and cooling water for power stations.
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 and 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;	Development of land-based infrastructure (e.g. headworks, pump station, vertical beach wells, distribution chamber) in coastal public property.

	(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.	
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 (c) Embankments; (d) Rock revetments or stabilising structures including stabilising walls; (e) Buildings of 50 square metres or more; or (f) Infrastructure with a development footprint of 50 square metres or more. Excluding – (aa) The development of structures within existing ports and harbours that will not increase the development footprint of the port or harbour; (bb) The development of a port or harbour, in which case Activity 26 in Listing Notice 2 of 2014 applies; (cc) 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) Where such development occurs within an urban area.	Development of land-based infrastructure (e.g. headworks, pump station, vertical beach wells, distribution chamber) within a distance of 100 m from the sea and the development of marine based infrastructure in the sea. The total footprint of infrastructure is likely to exceed 50 m^2.
18	The planting of vegetation or placing of any material on dunes or exposed sand surfaces of more than 10 square metres, within the littoral active zone, for the purpose of preventing the free movement of sand, erosion or accretion, excluding where – (i) The planting of vegetation or placement of any material relates to restoration and maintenance of indigenous coastal vegetation undertaken in accordance with a maintenance management plan; or (ii) Such planting of vegetation or placing of material will occur behind a development setback.	Possible stabilisation of areas in the littoral active zone post-construction if required.
19	The infilling or depositing of any material of more than 10 m^3 into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 m^3 from a watercourse – But excluding where such infilling, depositing, dredging, excavation, removal or moving – (a) Will occur behind a development setback; (b) Is for maintenance purposes undertaken in	Excavation and infilling of material in the coastal environment for the construction of infrastructure related to the marine servitude(s).

3

	accordance with a maintenance management plan; (c) Falls within the ambit of Activity 21 in this notice, in which case that activity applies; (d) Occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or (e) 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.	
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.	Construction of associated infrastructure (e.g. pump station, headworks, distribution chamber, access roads, electrical distribution) would most likely result in the clearing of more than 1 ha of vegetation.
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 generation or release of emissions, pollution or effluent, excluding – (i) Activities which are identified and included in Listing Notice 1 of 2014; (ii) Activities which are included in the list of waste management activities published in terms of Section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies. (iii) The development of facilities or infrastructure for the treatment of effluent, polluted water, wastewater or sewage where such facilities have a daily throughput capacity of 2,000 m^3 or less; or (iv) Where the development is directly related to aquaculture facilities or infrastructure where the wastewater discharge capacity will not exceed 50 m^3 per day.	The discharge of effluent to the marine environment via the marine servitude will require a Coastal Waters Discharge Permit in terms of Section 69 of the NEM:ICMA
14	The development and related operation of — (i) An anchored platform; or (ii) Any other structure or infrastructure on, below or along the sea bed. Excluding – (a) Development of facilities, infrastructure or structures for aquaculture purposes; or (b) The development of temporary structures or infrastructure where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared.	Construction of pipelines/channels/tunnels/wave pumps etc. in the marine servitude for abstracting seawater and/or discharging effluent.
26	Development — (i) In the sea; (ii) In an estuary (iii) Within the littoral active zone; (iv) In front of a development setback; or	Development of infrastructure associated with the marine abstraction/discharge servitude in the coastal environment.

	(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 ports and harbours (g) Tunnels; or (h) Underwater channels. But excluding the development of structures within existing ports and harbours that will not increase the development footprint of the port or harbour.	
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.
2	The development of reservoirs, excluding dams, with a capacity of more than 250 m^3. a. Eastern Cape iii. Inside Urban Areas (aa) Areas zoned for use as pubic open space (bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, or zoned for a conservation purpose; or (cc) Areas seawards of the development setback line or within urban protected areas	The stormwater retention dam will be situated within an area designated as open space within the SEZ.
12	The clearance of an area of 300 m^2 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. (a) Eastern Cape (ii) Within critical biodiversity areas identified in bioregional plans (iii) Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; or (iv) On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.	Constructing associated infrastructure for the marine and land based servitude will result in the clearance of more than 300 m^2 of indigenous vegetation. The area is within a CBA in the metro's current Bioregional Plan. Alternatives will be assessed in this EIA process for the placement of infrastructure, but it is likely that some structures/infrastructure may occur in the littoral active zone and/or within 100 m of the high water mark of the sea.
14	The development – (i) Dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 10 m^2 or more; or (ii) Infrastructure or structures with a physical footprint of 10 m^2 or more; Where such development occurs – (a) Within a watercourse;	Depending on the final location of land based infrastructure, it is possible that infrastructure may need to be constructed within 32 m of drainage lines and/or wetlands.

	(b) In front of a development setback; or (c) If no development setback exists, within 32 m of a watercourse, measured from the edge of a watercourse; – Excluding the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour; a. Eastern Cape iii. Inside Urban Areas: (cc) Areas seaward of the development setback line.	

In addition, Section 69(1) of the Integrated Coastal Management Act (Act 24 of 2008) states that no person may discharge effluent that originates from a source on land into coastal waters except in terms of a general discharge permit or a coastal waters discharge permit issued under this section by the Minister. As such an application for a Coastal Waters Discharge Permit will be submitted to DEA: Oceans and Coasts.

PROJECT DESCRIPTION

The Coega Special Economic Zone (SEZ) is situated on the northern side of Port Elizabeth within the Nelson Mandela Bay Municipality (NMBM) seated within the Sarah Baartman District, Eastern Cape. The integrated SEZ and Port of Ngqura is approximately 11,500 ha in extent and comprises of 14 zones designated for various light, medium and heavy industrial land uses. The purpose of the marine intake and outfall infrastructure and servitudes project is the provision of seawater for various industries (aquaculture, power provision and desalination) via a number of seawater intakes and the discharge of treated effluent into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast. The Port of Ngqura (Zone 8) and Zone 10 within the SEZ have been proposed.

INTAKE INFRASTRUCTURE

The rationale for developing an integrated marine abstraction servitude(s) is to have a common user servitude in which a number of possible industries can establish infrastructure required to abstract seawater from the marine environment. The types of industries that will require seawater can be grouped as follows:

- Aquaculture (Finfish): 0.94 m^3/s
- Aquaculture (Abalone): 5 m^3/s
- Seawater for desalination: 2.03 m^3/s
- Intake for Power stations: 14.74 m^3/s (worst-case)
- Intake for LNG Gas hub: 4m^3/s (worst-case)

There will be two seawater abstraction servitudes with associated infrastructure; one inside the Port of Ngqura for the power station's cooling water requirements, and the other for the requirements of the aquaculture industries and for desalination. Within each servitude, a number of different seawater abstraction technologies could be utilised, depending on industry requirements. The types of abstraction technologies to be utilised include the following:

- Seawater Abstraction Pipeline;

- Vertical Beach Wells;
- Onshore Pump Station and Screening Facility; and
- WEROP Wave Pump

Detailed descriptions of these technologies will be provided in the Scoping Report as well as the Environmental Impact Assessment Report.

OUTFALL INFRASTRUCTURE

The rationale for developing an integrated marine discharge servitude is to have a common user servitude in which a number of possible industries can establish infrastructure required to discharge effluent into the marine environment. The types of industries that may require discharge of effluent can be grouped as follows:

- Aquaculture (Finfish): 0.94 m^3/s
- Aquaculture (Abalone): 5 m^3/s
- Brine from Desalination: 1.22 m^3/s
- Discharge for Power stations: 14.6 m^3/s (worst-case)
- Discharge for LNG Gas hub: 4 m^3/s (worst-case)
- Waste water from Waste Water Treatment Works: 0.93 + 0.46 m^3/s
- Stormwater Discharge

A servitude(s) in which various industries can establish infrastructure to discharge treated effluent to the marine environment will be constructed. Depending on the volume and nature of the effluent, different types of discharge infrastructure may be built in the servitude(s) (e.g. pipelines, beach discharge or tunnels). The time of construction of the various discharge structures within the servitudes will be dictated by the demand and timing of the implementation of these various industries. The position of the discharge servitude, depth of discharge, and design of discharge infrastructure will be determined via a dispersion modelling process and engineering studies.

Seawater from the abalone farms will be discharged directly to the marine environment via a pipeline and/or have the option of diverting some of the seawater to a desalination facility.

Finfish effluent from various users will be treated on site by each investor, before being discharged via a pipeline to the marine environment.

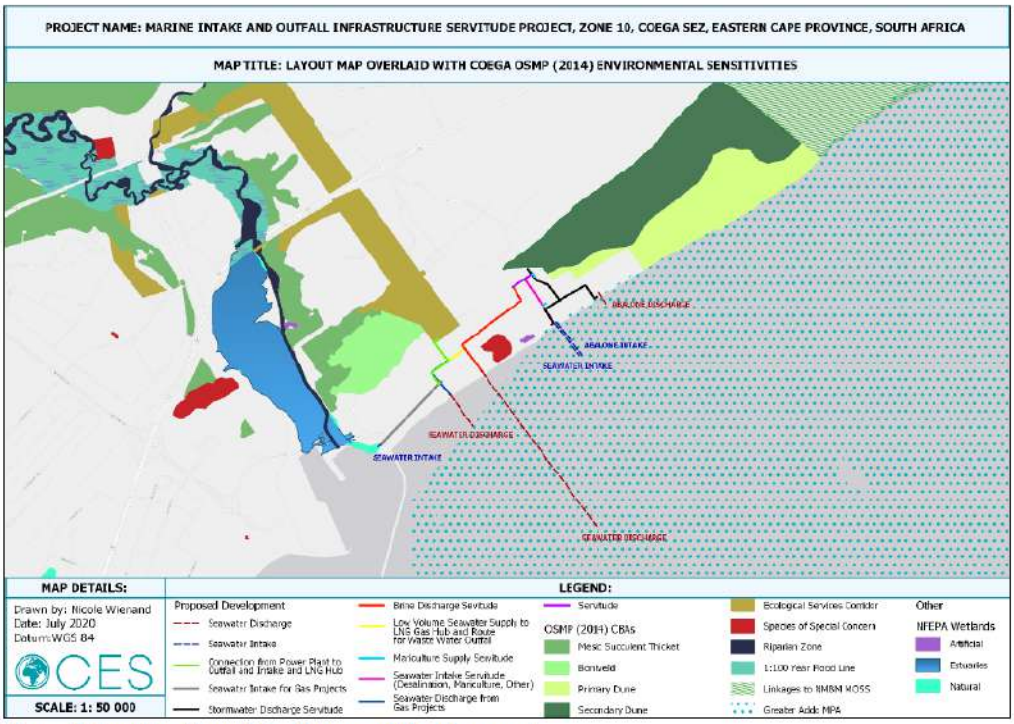


Figure 1: Locality Map of the Proposed Development.

APPROACH TO THE SCOPING AND EIR PROCESS

The proposed project triggers activities contained in Listing Notice 2 (GN R. 984, as amended by GN R. 325) of the of the NEMA EIA Regulations (2014 and subsequent 2017 amendments) and therefore requires a **full Scoping and EIA Process**. The relevant Competent Authority for the Environmental Assessment Process is the DEFF. The relevant Competent Authority for the Coastal Waters Discharge Permit is DEA: Oceans and Coasts.

periods and project developments throughout the Scoping and EIR process of the proposed development.

2. **STEP 2:** Register by contacting Ms Nicole Wienand with your name and contact details via post, phone or e-mail.

CES is required to engage with all private and public parties that could be interested and/or affected by the proposed development in order to distribute information for review and comment in a transparent manner.

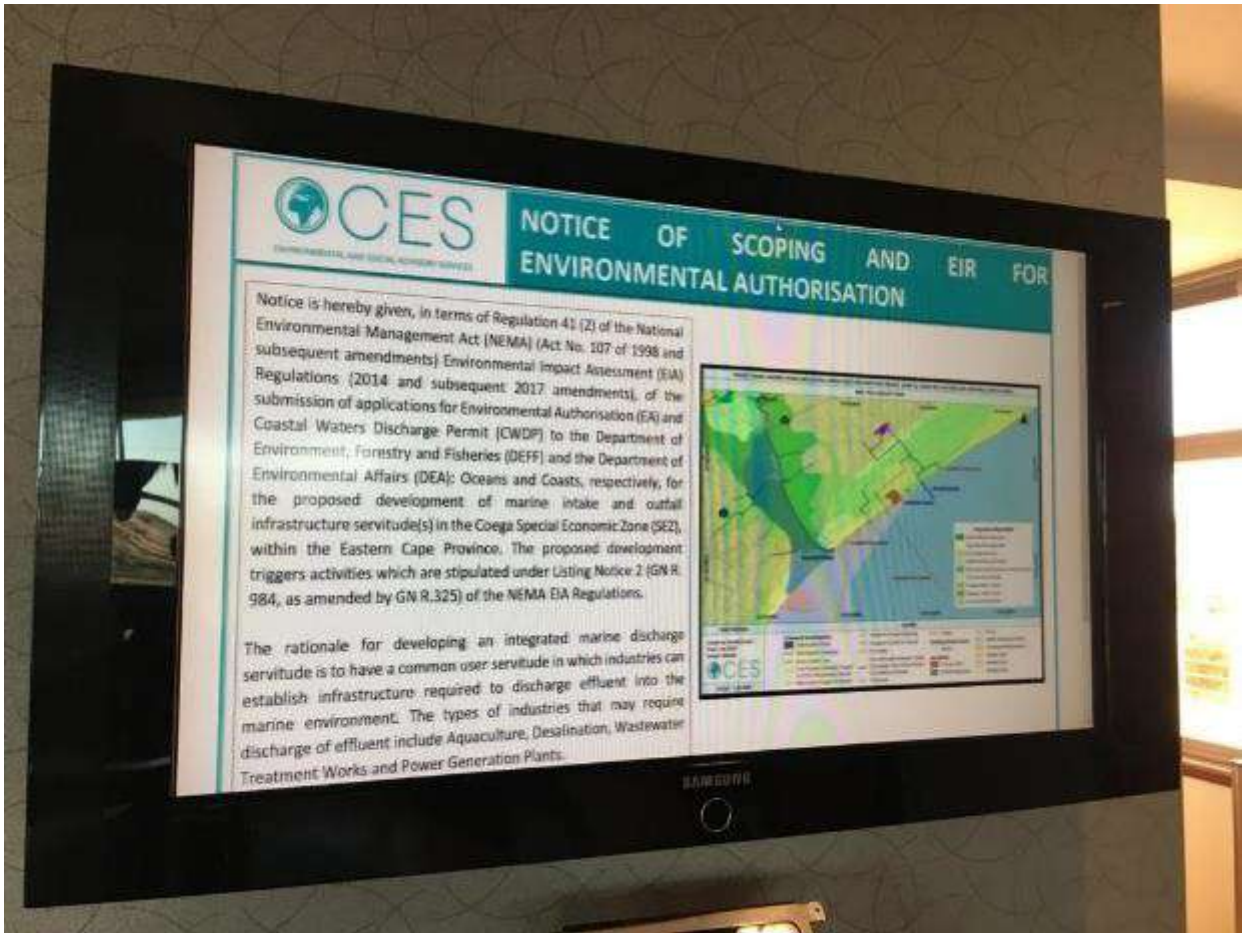
In the same light, it is important for I&APs to note the following:

1. For CES to continue engaging with you, please ENSURE that you register on our database by contacting Ms Nicole Wienand.
2. As the Scoping and EIR process is regulated by specific review and comment timeframes, it is your responsibility to submit your comments within these timeframes.

Please contact **Ms Nicole Wienand** to register as an I&AP for the proposed Coega Marine Intake and Outfall Servitude(s) Project, for enquiries and/or for the submission of your written comments:

CONTACT DETAILS	
Environmental Company:	Coastal and Environmental Service (CES)
Project Manager:	Ms Nicole Wienand
Address:	36 Pickering Street, Newton Park, Port Elizabeth
Telephone Number:	+27 (0)46 622 2364
E-mail Address:	n.wienand@cesnet.co.za
Website:	www.cesnet.co.za

APPENDIX 1.1-2: THE SITE NOTICE



APPENDIX 1.1-3: INTERESTED AND AFFECTED PARTIES LIST

Contact	Affected Landowners/Lessees	Email address	Contact No	Called 07/08/2020	Called 10/08/2020	Postal address
Andrea Shirley	Coega Development Corporation	Andrea.Shirley@coega.co.za	041 403 0400			Private Bag X6009, Port Elizabeth, 6000
Mpatisi Pantsi	TNPA	Mpatisi.pantsi@transnet.net	041 507 8449/ 0832948783	Yes – No answered	No answer	PO Box 612054, Bluewater Bay, 6212
Contact	**Surrounding Landowners/Lessees**	**Email address**	**Contact No**	**Called 07/08/2020**	**Called 10/08/2020**	**Postal address**
Danie Gerber (Branch Manager)	Zone 1 – DSV	danie.gerber@za.dsv.com	041 517 1182	Requested to be removed from the mailing list		Not available
Sheree Harmse		sheree.harmse@za.dsv.com	041 517 1182			Not available
Jackson Tutu (Manager)		jacksont@digistics.co.za	041 405 0300		No Answer	Suez Road, Zone 1, Coega SEZ
Allistair Stallenberg (General Manager)		AllistairS@digistics.co.za	083 6296868	Will check when he gets back to the office		Suez Road, Zone 1, Coega SEZ
Guthrie Robertson (Managing Executive)	Zone 1 – Famous Brands	guthrie.robertson@Famousbrands.co.za	041 492 0220		No answer	13 Intsimbi Road, Zone 1, Coega SEZ
Arnold Barnard (Operations Manager)		arnold.barnard@famousbrands.co.za	041 492 0203/ 060 988 4114		Information received	13 Intsimbi Road, Zone 1, Coega SEZ
Gloria January		gloria.january@Famousbrands.co.za	082 333 2069		No answer	
Beth Hurr (PDC Warehouse Manager)	Zone 1 – Isuzu Motors	beth.hurr@isuzu.co.za	041 407 0200/ 0845487000		No answer	62 Umlambo Street, Zone 1, Coega SEZ
Mbongeni Mbiko		mbiko.mbongeni@isuzu.co.za	041 403 3322/ 0722761982		No answer	62 Umlambo Street, Zone 1, Coega SEZ
Craig Vaughan (General Manager)	Zone 1 – PE Cold Storage	craig@pecoldstorage.co.za	041 405 0800			Corner of Bridgewater Street and Alcyon Road, Zone 1, Coega SEZ
Charl de Lange		charl@pecoldstorage.co.za	083 320 6222		Ask to resend it	
George Efstrapiou (CEO)		george@pecoldstorage.co.za	041 581 0907			Corner of Bridgewater Street and Alcyon Road, Zone 1, Coega SEZ
Karl McLachlan (site manager)	Zone 1 – Vector Logistics	karl.mclachlan@apmterminals.com	041 486 3021/ 066 474 3114		No person by that name at PE branch	129 Amatye Street, Zone 1, Coega SEZ
Rudo Stoltenkamp (Operations Manager)		RudoS@vectorlog.com	041 402 1500/ 084 506 0642		Confirmed – Info received	Amatye Street, Zone 1, Coega SEZ

Jurie Schoeman (Operations EM)		JurieS@vectorlog.com	082 326 0816		Not available	Amatye Street, Zone 1, Coega SEZ
George Charalambous	Zone 1 – National Ship Chandlers	GeorgeC@natship.net	041 484 7633			29 Kiel Street, Zone 1, Coega SEZ
Adro Stylianou Business Development Manager)		andros@natship.net	031 205 4221/ 082 802 9108		No answer	29 Kiel Street, Zone 1, Coega SEZ
Rhyan Webb (General Manager)	Zone 1 – Apli /Coega Fruit Terminals	Rhyanw@apliafrica.com	083 321 2205		No answer	Not available
Lynette Barnard (Area Logistics Manager)	Zone 1 - Parmalat	lynette.barnard@za.lactalis.com	083 386 6160		Email changed , email sent	Corner of Amatye and Ocean View, Zone 1, Coega SEZ
Aaron Lench (Branch Manager)	Zone 1 – The Courier Guy	aaron@thecourierguy.co.za	041 408 6832/ 067 426 6387		Confirmed – Info received	
Shaldon Chetty (Depot Manager)	Zone 1 - MSC	shaldon.chetty@msc.com	083 214 2145		Confirmed – Info received d	
Ben Fouche	Zone 1 – BAIC SA	ben.fouche@baicsa.co.za	082 940 0425		No answer	
Len Cowley (Depot Manager)	Zone 2 – Zacpack / CFR	LCowley@zacpak.co.za	041 405 0600/ 082 296 3984		Confirmed – Info received	87 Nurburgring Street, Zone 2, Coega SEZ
Liu Shijie (Deputy Director)	Zone 2 - FAW	liushijie@faw.co.za	087 700 8006		No answer	Not available
Nadine Forlee (Assistant to CEO & Plant Manager)		nadine@faw.co.za	087 700 2949		No answer	30 Nurburgring Street, Zone 2, Coega SEZ
Haiyang Yao (Admin Manager)		yaohaiyang@faw.co.za	074 663 8388		Confirmed – Info received	30 Nurburgring Street, Zone 2, Coega SEZ
Theo Theuner (Managing Director)	Zone 2 – HELLA	theo.theuner@hella.com	041 996 5704/ 071 852 1990		Not available	
Adrian Vardy (CEO)	Zone 3 – Dynamic Commodities	adrian@dynamicfood.com	082 873 2214		No answer	13 Intsimbi Road, Zone 3, Coega SEZ
Marc Later (Director)		marc@dynamicfood.com	082 495 7796		No answer	13 Intsimbi Road, Zone 3, Coega SEZ
Heinrich Vosloo (Operations Manager)		heinrich@dynamicfood.com	078 746 6570		Confirmed – Info received	13 Intsimbi Road, Zone 3, Coega SEZ
Phillip Nieman (CEO)	Zone 3 – Coega Dairy	philip@coegadairy.com	041 405 0000/ 082 498 8491		No answer	142 Cable Road, Zone 3, Coega SEZ
Mark Harris (Managing Executive)		Mark@Coegadairy.com	041 405 0000		Not available	142 Cable Road, Zone 3, Coega SEZ
Vincent Ntuli	Zone 3 – Air Products	Vincent.Ntuli@Airproducts.co.za	072 3168745		To confirm	Not Available
Satish Brugwathypersad (Project Manager – Project Execution)	Zone 3 - Afrox	satish.bhugwathypersad@afrox.linde.com	011 456 3794		Not available	197 Hamile Road, Zone 3, Coega SEZ

Rene Naidu (General and Regional Manager)		rene.naidu@afrox.linde.com	011 456 3794		Not available	197 Hamile Road, Zone 3, Coega SEZ
Andile Qwase (Plant Manager)		Andile.Qwase@afrox.linde.com	041 405 9643/ 071 477 9363		No answer	197 Hamile Road, Zone 3, Coega SEZ
Martin Foster (Managing Director)	Zone 3 – Himoin SA	mfoster@himoinsa.com	081 485 5679		Confirmed – Info received	A6 Multi User Facility, Zone 3, Coega SEZ
Mapkgole Johannes	Zone 3 – Enel Green Power	(johannes.mapokgole@enel.com)	010 344 0200			Not available
Herbert Ball	Zone 3 - Corromaster	herbert@corromaster.co.za	041 405 0140/ 082 887 3635		Not available	Cnr. Bumba and Anvil Street, Zone 3, Coega SEZ
Charles Lumsden (CEO)	Zone 3 – Ocean Legacy Marine Engineering (OLME)	charles.lumsden@oftgroup.co.za	041 586 1400/ 083 413 4002		Confirmed – Info received	A6 Multi User Facility, Zone 3, Coega SEZ
Pieter van Heerden (Managing Director)		pieter.vanheerden@oftgroup.co.za	041 463 2959			A6 Multi User Facility, Zone 3, Coega SEZ
Len Mulders (Logistics Manager)	Zone 3 – Bacarac Foods	info@bacaracfoods.co.za	083 226 5927		Confirmed – Info received	Not Available
Ellian Peterson (Facilities Manager)	Zone 4 – Discovery Health	ellianp@discovery.co.za	041 409 7300/ 062 295 2167		Confirmed – Info received	BPO Building, Corner of Zibuko Street and Laleyon Road, Zone 4, Coega SEZ
Hennie van Staden (Service executive)		henniev@discovery.co.za	041 409 7132			BPO Building, Corner of Zibuko Street and Laleyon Road, Zone 4, Coega SEZ
Brian Windsor (General Manager)	Zone 4 - WNS	Brian.Windsor@wns.com	074 122 0665		Confirmed – Info received	Not available
Ashwin Langeveldt (HR Manager)	Zone 5 – Bosun Bricks	ops01.bbpe@bosun.co.za	041 405 0100		Email address confirmed	Corner Neptune Drive and MR 435, Zone 5, Coega SEZ
Joy du Plessis (Branch Manager)	Zone 5 – Sanitech	joyd@sanitech.co.za	041 453 8996		Confirmed – Info received	Alumina Road, Zone 5, Coega SEZ
Jerome Perils (Managing Director)	Zone 5 – Ke Nako Concrete	jerome@kenakoconcrete.co.za	041 405 0151/ 082 390 7639		Confirmed – Info received	Not available
Hendrik du Preez (Site Manager)	Zone 5 – Osho Cement / CEMZA	hendrickm@cemza.co	041 461 1105/ 072 446 1406		Confirmed – Info received	Not available
Hassan Khan (Director)	Zone 6 & 11 - Coega Steels	hassan@agnisa.co.za	041 450 1331/ 082 805 6500		Aware of the project	Corner of Furnace Close and Ring Road, Zone 6, Coega SEZ
John Drinkwater (Managing Director)	Zone 7 – Cerebos	johnd@cerebos.co.za	041 403 6700/ 082 654 9507		Confirmed – Info received	Not available
Sinawo Mtongana		sinawom@cerebos.co.za				Not available

James Classen (Facility Manager)	Zone 13 – DEDISA Peaking Power	James.Classen@peakersoperations.co.za	041 405 0511/ 076 810 9090		Confirmed – Info received	Not available
Contact	**Organ of State – National & Provincial**	**Email**	**Contact No**	**Called 07/08/2020**	**Called 10/08/2020**	**Postal**
Milicent Solomons	Department of Environment, Forestry and Fisheries (DEFF)	MSolomons@environment.gov.za	012 399 9382			
Luyanda Veto		LVeto@environment.gov.za	Not Available			Not Available
Wayne Hector (Deputy Director)	DEFF: Strategic Infrastructure Development	whector@environment.gov.za	086 111 2468			Pvt Bag X447, Pretoria, 0001
Constance Musemburi	DEFF: Case Officer	cmusemburi@environment.gov.za	012 399 9416			Pvt Bag X447, Pretoria, 0001
Masina Litsoane	DEFF	mlitsoane@environment.gov.za	012 399 937			Pvt Bag X447, Pretoria, 0001
Rose Masela	Department of Environmental Affairs (DEA) - Biodiversity	rmasela@environment.gov.za	012 399 9511	No answer		Department of Environmental Affairs, A2-2-14, 473 Steve Biko Rd, Environmental House, Pretoria
Stanley Tshitwamulomoni (Acting Director)		stanleyt@environment.gov.za	012 399 9573	No answer		
Yazeed Peterson	DEA: Oceans and Coasts (Coastal Pollution Management Division)	ypeterson@environment.gov.za	021 819 2409/ 082 211 0544	Requested email		PO Box 52126, Cape Town, 8002
Reuben Molale		rmolale@environment.gov.za	021 819 2493		No answer	
Tandiwe Njajula		TNjajula@environment.gov.za	021 819 2442		No Answer	Not Available
Mulalo Tshikotshi		Mtshikot@environment.gov.za	Not Available			Not Available
Mpho Ligudu		MLigudu@environment.gov.za	Not Available			Not Available
Thabo Nokoyo	Department of Agriculture, Forestry and Fisheries (DAFF) – Eastern Cape	NokoyoD@daff.gov.za	043 604 5446	Number not in service		Private Bag X 3917, North End, 6056
Dorothy Jagers		DorothyJ@daff.gov.za		Number not in service		
John Geeringh	Eskom	john.geeringh@eskom.co.za GeerinJH@eskom.co.za	012 332 5305			P O Box 1091, Johannesburg, 2000.
Vusi Kubheka	Department of Mineral Resources (DMR): Mineral Regulation	vusi.kubheka@dmr.gov.za vincentvusi02@gmail.com	041 403 6600 / 060 550 4673	No answer	Asked to send to personal email	Bag X6076, Port Elizabeth, 6001
Veliswa Baduza (Chief executive officer)	South African Heritage Resource Agency (SAHRA)	vbaduza@sahra.org.za	021 462 4502	No available	No answer	PO Box 4637, Cape Town, 8000
Phillip Hine		phine@sahra.org.za	021 462 4502	Not available	No answer	
Andries Struwig	Eastern Cape Department of Economic Development, Environmental Affairs and Tourism (DEDEAT)	andries.Struwig@dedea.gov.za	041 508 5808/ 0795031762	No answer		Private Bag X5001, Greenacres, Port Elizabeth, 6057
Charmaine Struwig		Charmaine.Mostert@dedea.gov.za	041 508 800/39	Not available		

Dayalan Govender (Regional manager)		Dayalan.Govender@dedea.gov.za	041 508 5893/ 0828545395	Notification received		
Lyndon Mardon (Provincial Air Quality Officer)		lyndon.mardon@dedea.gov.za	043 605 7128/ 0718653914	Notification received		
Marisa Bloem	Eastern Cape Department of Water and Sanitation (DWS)	bloemm@dws.gov.za	041 501 0717	No answer	No answer	Private Bag X6041, Port Elizabeth, 6000
Thandi Mmachaka	DWS – Water Quality Management	mmachakat@dws.gov.za	041 501 0704/ 082-9533532	No Answer	No answer	Pvt Bag X6041, Port Elizabeth, 6000
Ncumisa Heymann		HeymannN@dws.gov.za	041-5010709 / 0839533057	Not available	Not available	Pvt Bag X6041, Port Elizabeth, 6000
Randall Moore	EC Department of Roads and Public Works	Randall.Moore@dpw.ecape.gov.za	041 403 6001	No Answer		PO Box 1110, Algoa Park, Port Elizabeth
Sello Mokhanya	Eastern Cape Provincial Heritage Resources Authority (ECPHRA)	smokhanya@ecphra.org.za/ info@ecphra.org.za	043 642 2811/ 043 745 0888	Number does not exist		P.O. Box 16208, Amathole Valley, 5616
Malaika Koali-Lebona (Manager: Biodiversity Stewardship Programme)	Eastern Cape Parks and Tourism Agency	Malaika.Koali-Lebona@ecpta.co.za	043 705 4400/ 079 496 7931	Requested info to be sent to Kagiso below		PO Box 11235, Southernwood, East London, 5213
Kagiso Mangwale		Kagiso.mangwale@ecpta.co.za	082 416 2532	Email sent		
Bongi Stofile	South African Maritime Safety Authority (SAMSA)	bstofile@samsa.org.za	021 366 2600/ 0833849563		Confirmed – Info received	Not available
Sizule Silinta	Department of Agriculture and Land Affairs – Eastern Cape	sizulesilinta@gmail.com / Sivuyile.silinga@gmail.com	040 653 1153		Sizule not available but Email address confirmed	Not available
Cheryl Lipman	WESSA – Eastern Cape	cheryl@wessaep.co.za	041 585 9606		Number incorrect	Not available
Jenny Gon		j-gon@intekom.co.za				Not available
Rob Milne	SANParks	rob.milne@sanparks.org	082 483 2477		Confirmed – Info received	Not available
Dr Ane Oosthuizen	SANParks	Ane.Oosthuizen@sanparks.org	071 400 0371		Confirmed – Info received	Not available
Nick Degoede (Park Manager – Addo Elephant National Park)	SANParks	nick.degoede@sanparks.org	042 233 8670		Not available	R335, Addo, 6105
Contact	**Organ of State - Municipal**	**Email**	**Contact No**	**Called 07/08/2020**	**Called 10/08/2020**	**Postal**

Mongameli Bobani (Executive Mayor)	Nelson Mandela Bay Municipality (NMBM)	pamayor@mandelametro.gov.za	041 506 3267/8 041 506 3431		No answer	Not available
Vacant Nobuntu Mgogoshe (Municipal Manager)		cm@mandelametro.gov.za	041 506 3209		Confirmed – Info received	Not available
Cllr Nomazulu Mthi (Cllr Ward 53)		nomazulu.mthi29@gmail.com	073 430 5967		Confirmed – Info received	17 Kalushe Street, Kamvelihle, Motherwell, Port Elizabeth, 6211
Cllr Mvuzo Ernest Mbelekane (Cllr Ward 60)		mvuzomm@gmail.com	041 461 2749/ 073 416 3046		SMS sent as requested	33 Nxuba Street, Wells Estate, Motherwell, Port Elizabeth, 6211
Ms Pakama Dyani (Deputy Director: Beaches and Resorts)		pdyani@mandelametro.gov.za	041 506 1429/ 079 490 0494		No answer	PO Box 12435, Central, Port Elizabeth, 6000
Darryl Bailey (Principal: Environmental Health)		dbailey@mandelametro.gov.za	041 994 1239		No answer	PO Box 12435, Central, Port Elizabeth, 6000
MS. Kithi Ngesi (Director: Beaches, Resorts & Events Management)		kngesi@mandelametro.gov.za	041 506 2740/ 082 782 0408		No answer	PO Box 12435, Central, Port Elizabeth, 6000
Rosa Blaauw (Environmental Manager)		rblaauw@mandelametro.gov.za; phowes@mandelametro.gov.za	041 506 5206/ 0827989604		No answer	PO Box 11, Port Elizabeth, 6000
Patrick Nodwele (Air Pollution and Noise Control)		kslabbert@mandelametro.gov.za; pnodwele@mandelametro.gov.za; gmhlonyane@mandelametro.gov.za	041 506 5216/ 0794900361		Confirmed – Info received	PO Box 11, Port Elizabeth, 6000
Ms Buyiswa Deliwe		bhumani@mandelametro.gov.za			Email sent	
Mr Kobus Slabbert		kslabbert@mandelametro.gov.za			Email sent	
Joram Mkosana		jmkosana@mandelametro.gov.za	041 506 5464		Not available	PO Box 11, Port Elizabeth, 6000
Gill Miller			041 506 1332		No answer	
Contact	**Other Stakeholders**	**Email**	**Contact No**	**Called 07/08/2020**	**Called 10/08/2020**	**Postal**
Kobus Gerber (Chairman)	Nelson Mandela Bay Rate Payers Association	kobusgerber2@gmail.com	072 233 4823		Confirmed – Info received	Not available
Mike Bridgeford	Eden to Addo Corridor Initiative	mikebridgeford@telkomsa.net	+27 (0)44 533 1623		No answer	Not available

Andrea Shirley	Coega Development Corporation (CDC)	Andrea.Shirley@coega.co.za	082 657 4648			Private Bag X6009, Port Elizabeth, 6000
Keith du Plessis		Keith.DuPlessis@coega.co.za	082 740 7654			Private Bag X6009, Port Elizabeth, 6000
Khuthala Somdaka		Khuthala.Somdaka@coega.co.za	082 314 3853			Private Bag X6009, Port Elizabeth, 6000
Lunga Tungu		Lunga.Tungu@coega.co.za	041 403 0400/ 0826509674			Private Bag X6009, Port Elizabeth, 6000
Viwe Biyana		Viwe.Biyana@coega.co.za	0781347381			Private Bag X6009, Port Elizabeth, 6000
Graham Taylor		Graham.Taylor@coega.co.za	041 403 0454/ 0832283055			Pvt Bag X6009, Port Elizabeth, 6000
Christelle Christelle du Plessis		christelle@habitatlink.co.za	0741485583			PO Box 63879, Greenacres, 6057
Renee de Klerk	Transnet Capital Projects	renee.deklerk@transnet.net	041 507 8657 / 0833004342		Confirmed – Info received	Not available
Johan Schutte	Cbm Africa	Johan@cbmafrica.co.za	071 470 5374		Confirmed – Info received	Not available
Richard Clark	Wild Coast Abalone	richard@wcabalone.co.za	043 841 1999/ 083 232 9010		Confirmed – Info received	Not available
Chris Carnegie	Carnegie Energie	chris@carnegieenergie.co.za	082 605 1366		No answer	Not available
Contact	**I&APs Registered in previous processes**	**Email**	**Contact No**	**Called 07/08/2020**	**Called 10/08/2020**	**Postal**
Chris Albertyn	Registered I&AP	chris@laqs.co.za	042-2960229 / 0834604179			Not available
Sandy Wren	Registered I&AP	sandy@publicprocess.co.za	041-3748426 / 0824909828			Not available
Huldah Solomon (GM SA)	Registered I&AP	Huldah.solomon@gm.com	Not available			Not available
Paul Martin	Registered I&AP	pmartin@axxess.co.za	041-4665698 / 0732524111			Not available
Paul-Pierre Steyn (NMMU)	Registered I&AP	Paul.steyn@nmmu.ac.za	Not available			Not available
Simon Wijnberg	Registered I&AP	simon@impact-freewater.com	Not available			Not available
Tim Foxen	Registered I&AP	tfoxen@monetgas.com	Not available			Not available
Contact	**Newly Registered I&APs**	**Email**	**Contact No**			**Postal**
David Louw	Cerebos	Davel@cerebos.co.za	041 403 6709		Read Receipt received	PO Box 7137, Newton Park, 6055, South Africa
John Drinkwater	Cerebos	Johnd@cerebos.co.za			Confirmed – Info received	

Schalk Potgieter (Director: Strategic Planning and Policy Formulation)	Human Settlements Directorate	SPotgiet@mandelametro.gov.za	+27 (0)41 506 2168/ +27 (0)82 374 1233		Requested to call later in the week	

PROOF OF NOTIFICATION OF THE SUBMISSION OF APPLICATION FOR EA TO AUTHORITIES AND KEY STAKEHOLDERS

Notification sent on the 24th of July 2020

From: Nicole Wienand
Sent: Friday, 24 July 2020 17:18
To: 'Andrea.Shirley@coega.co.za' <Andrea.Shirley@coega.co.za>; 'Mpatisi.pantsi@transnet.net' <Mpatisi.pantsi@transnet.net>; 'danie.gerber@za.dsv.com' <danie.gerber@za.dsv.com>; 'sheree.harmse@za.dsv.com' <sheree.harmse@za.dsv.com>; 'jacksont@digistics.co.za' <jacksont@digistics.co.za>; 'kens@digistics.co.za' <kens@digistics.co.za>; 'AllistairS@digistics.co.za' <AllistairS@digistics.co.za>; 'guthrie.robertson@Famousbrands.co.za' <guthrie.robertson@Famousbrands.co.za>; 'arnold.barnard@famousbrands.co.za' <arnold.barnard@famousbrands.co.za>; 'beth.hurr@isuzu.co.za' <beth.hurr@isuzu.co.za>; 'mbiko.mbongeni@isuzu.co.za' <mbiko.mbongeni@isuzu.co.za>; 'craig@pecoldstorage.co.za' <craig@pecoldstorage.co.za>; 'george@pecoldstorage.co.za' <george@pecoldstorage.co.za>; 'karl.mclachlan@apmterminals.com' <karl.mclachlan@apmterminals.com>; 'schoeman.marinus@apmterminals.com' <schoeman.marinus@apmterminals.com>; 'RudoS@vectorlog.com' <RudoS@vectorlog.com>; 'JurieS@vectorlog.com' <JurieS@vectorlog.com>; 'GeorgeC@natship.net' <GeorgeC@natship.net>; 'DavidB@natship.net' <DavidB@natship.net>; 'andros@natship.net' <andros@natship.net>; 'Rhyanw@apliafrica.com' <Rhyanw@apliafrica.com>; 'lynette.barnard@parmalat.co.za' <lynette.barnard@parmalat.co.za>; 'aaron@thecourierguy.co.za' <aaron@thecourierguy.co.za>; 'shaldon.chetty@msc.com' <shaldon.chetty@msc.com>; 'ben.fouche@baicsa.co.za' <ben.fouche@baicsa.co.za>; 'LCowley@zacpak.co.za' <LCowley@zacpak.co.za>; 'liushijie@faw.co.za' <liushijie@faw.co.za>; 'nadine@faw.co.za' <nadine@faw.co.za>; 'yaohaiyang@faw.co.za' <yaohaiyang@faw.co.za>; 'theo.theuner@hella.com' <theo.theuner@hella.com>; 'adrian@dynamicfood.com' <adrian@dynamicfood.com>; 'marc@dynamicfood.com' <marc@dynamicfood.com>; 'heinrich@dynamicfood.com' <heinrich@dynamicfood.com>; 'philip@coegadairy.com' <philip@coegadairy.com>; 'johann@coegadairy.com' <johann@coegadairy.com>; 'Mark@Coegadairy.com' <Mark@Coegadairy.com>; 'vincentn@apsap.co.za' <vincentn@apsap.co.za>; 'satish.bhugwathypersad@afrox.linde.com' <satish.bhugwathypersad@afrox.linde.com>; 'rene.naidu@afrox.linde.com' <rene.naidu@afrox.linde.com>; 'Andile.Qwase@afrox.linde.com' <Andile.Qwase@afrox.linde.com>; 'mfoster@himoinsa.com' <mfoster@himoinsa.com>; 'johannes.mapokgole@enel.com' <johannes.mapokgole@enel.com>; 'herbert@corromaster.co.za' <herbert@corromaster.co.za>; 'charles.lumsden@oftgroup.co.za' <charles.lumsden@oftgroup.co.za>; 'pieter.vanheerden@oftgroup.co.za' <pieter.vanheerden@oftgroup.co.za>; 'info@bacaracfoods.co.za' <info@bacaracfoods.co.za>; 'ellianp@discovery.co.za' <ellianp@discovery.co.za>; 'henniev@discovery.co.za' <henniev@discovery.co.za>; 'Brian.Windsor@wns.com' <Brian.Windsor@wns.com>; 'ops01.bbpe@bosun.co.za' <ops01.bbpe@bosun.co.za>; 'joyd@sanitech.co.za' <joyd@sanitech.co.za>; 'jerome@kenakoconcrete.co.za' <jerome@kenakoconcrete.co.za>; 'hendrickm@cemza.co' <hendrickm@cemza.co>; 'hassan@agnisa.co.za' <hassan@agnisa.co.za>; 'johnd@cerebos.co.za' <johnd@cerebos.co.za>; 'sinawom@cerebos.co.za' <sinawom@cerebos.co.za>; 'James.Classen@peakersoperations.co.za' <James.Classen@peakersoperations.co.za>; 'MSolomons@environment.gov.za' <MSolomons@environment.gov.za>; 'LVeto@environment.gov.za' <LVeto@environment.gov.za>; 'whector@environment.gov.za' <whector@environment.gov.za>; 'cmuseburi@environment.gov.za' <cmuseburi@environment.gov.za>; 'mlitsoane@environment.gov.za' <mlitsoane@environment.gov.za>; 'rmasela@environment.gov.za' <rmasela@environment.gov.za>; 'stanleyt@environment.gov.za' <stanleyt@environment.gov.za>; 'ypeterson@environment.gov.za' <ypeterson@environment.gov.za>; 'rmolale@enviornment.gov.za' <rmolale@enviornment.gov.za>; 'TNjajula@environment.gov.za' <TNjajula@environment.gov.za>; 'Mtshikot@environment.gov.za' <Mtshikot@environment.gov.za>; 'MLigudu@environment.gov.za' <MLigudu@environment.gov.za>; 'NokoyoD@daff.gov.za' <NokoyoD@daff.gov.za>; 'DorothyJ@daff.gov.za' <DorothyJ@daff.gov.za>; 'john.geeringh@eskom.co.za' <john.geeringh@eskom.co.za>; 'GeerinJH@eskom.co.za' <GeerinJH@eskom.co.za>; 'vusi.kubheka@dmr.gov.za' <vusi.kubheka@dmr.gov.za>; 'vbaduza@sahra.org.za' <vbaduza@sahra.org.za>; 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'Khuthala.Somdaka@coega.co.za' <Khuthala.Somdaka@coega.co.za>; 'Lunga.Tungu@coega.co.za' <Lunga.Tungu@coega.co.za>; 'Viwe.Biyana@coega.co.za' <Viwe.Biyana@coega.co.za>; 'Graham.Taylor@coega.co.za' <Graham.Taylor@coega.co.za>; 'christelle@habitatlink.co.za' <christelle@habitatlink.co.za>; 'renee.deklerk@transnet.net' <renee.deklerk@transnet.net>; 'Johan@cbmafrica.co.za' <Johan@cbmafrica.co.za>; 'richard@wcabalone.co.za' <richard@wcabalone.co.za>; 'chris@carnegieenergie.co.za' <chris@carnegieenergie.co.za>; 'chris@laqs.co.za' <chris@laqs.co.za>; 'sandy@publicprocess.co.za' <sandy@publicprocess.co.za>; 'davel@cerebos.co.za' <davel@cerebos.co.za>; 'Huldah.solomon@gm.com' <Huldah.solomon@gm.com>; 'pmartin@axxess.co.za' <pmartin@axxess.co.za>; 'Paul.steyn@nmmu.ac.za' <Paul.steyn@nmmu.ac.za>; 'simon@impact-freewater.com' <simon@impact-freewater.com>; 'tfoxen@monetgas.com' <tfoxen@monetgas.com>
Cc: 'Andrea Shirley' <Andrea.Shirley@coega.co.za>; Chantel Bezuidenhout <c.bezuidenhout@cesnet.co.za>
Subject: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Dear Stakeholders and Interested and/or Affected Parties (I&APs),

COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT, COEGA SPECIAL ECONOMIC ZONE (SEZ), PORT ELIZABETH, EASTERN CAPE: NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION AND COASTAL WATERS DISCHARGE PERMIT

Coastal and Environmental Services (CES) has been appointed by the Coega Development Corporation (CDC) to conduct the application for Environmental Authorisation (EA) for the abovementioned project.

Notice is hereby given in terms of the National Environmental Management Act (NEMA) (Act No. 107 of 1998 and subsequent amendments) Environmental Impact Assessment (EIA) Regulations (2014 and subsequent 2017 amendments), in regards to the submission of an application for EA to the national Department of Environment, Forestry and Fisheries (DEFF) and a Coastal Waters Discharge Permit to DEA: Oceans and Coasts. The proposed Coega Marine Intake and Outfall Infrastructure triggers a Scoping and EIA Process in terms of the NEMA EIA Regulations (2014 and subsequent 2017 amendments).

Please find the project Background Information Document (BID) attached for your perusal and comment.

For more information, registration on the I&AP Database or the submission of written comments, please contact:
Miss Nicole Wienand
Tel: +27 (46) 622 2364
E-mail: n.wienand@cesnet.co.za

Kind regards,
Nicole Wienand
Environmental Consultant
CES - Environmental and Social Advisory Services

Port Elizabeth | Eastern Cape | South Africa
Cell: +27 (81) 044 1925

Screenshot of email sent of the 24th of July 2020

COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBL...

Reply | Reply All | Forward

NW Nicole Wienand

To 'Andrea.Shirley@coega.co.za'; 'Mpatisi.pantsi@transnet.net'; 'danie.gerber@za.dsv.com'; 'sheree.harmse@za.dsv.com'; 'jacksont@digistics.co.za'; 'kens@digistics.co.za'; 'AllistairS@digistics.co.za'; 'guthrie.robertson@Famousbrands.co.za'; +121 others

Fri 2020/07/24 17:18

Cc 'Andrea Shirley'; Chantel Bezuidenhout

Marine Pipeline BID - July 2020.pdf
1 MB

Dear Stakeholders and Interested and/or Affected Parties (I&APs),

COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT, COEGA SPECIAL ECONOMIC ZONE (SEZ), PORT ELIZABETH, EASTERN CAPE: NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION AND COASTAL WATERS DISCHARGE PERMIT

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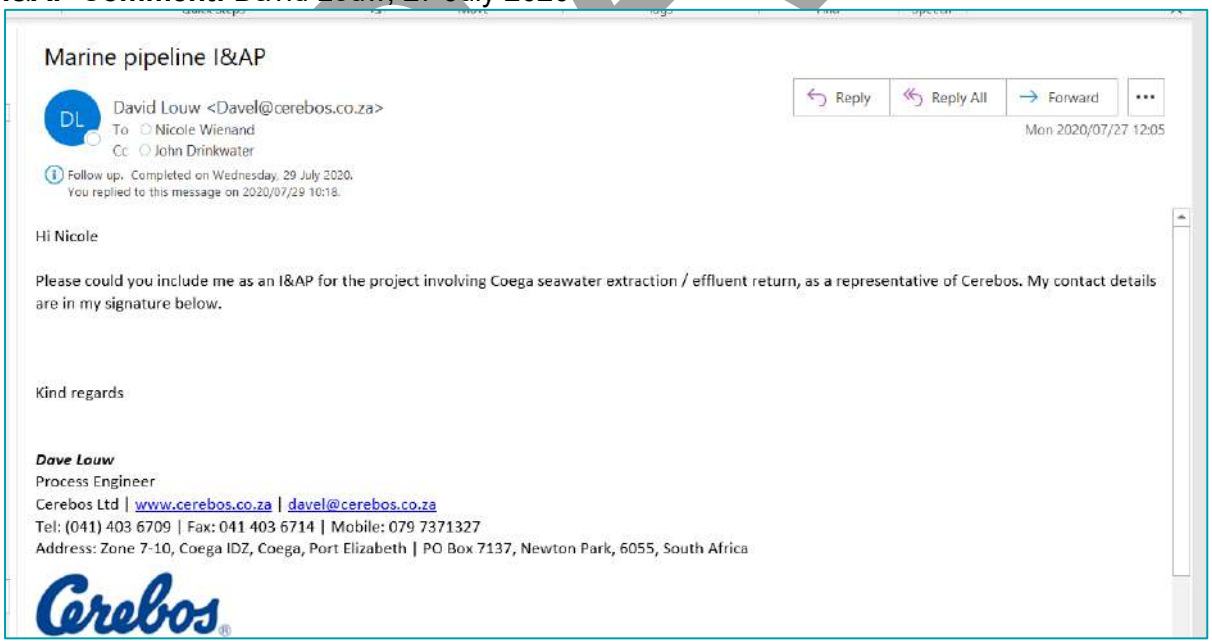
For more information, registration on the I&AP Database or the submission of written comments, please contact:
Miss Nicole Wienand
Tel: +27 (46) 622 2364
E-mail: n.wienand@cesnet.co.za

Kind regards,
Nicole

30 CES
Nicole Wienand
Environmental Consultant
CES - Environmental and Social Advisory Services

Responses to email notification sent on the 24th of July 2020

I&AP Comment: David Louw, 27 July 2020



Marine pipeline I&AP

Reply | Reply All | Forward

DL David Louw <Davel@cerebos.co.za>

To Nicole Wienand

Cc John Drinkwater

Mon 2020/07/27 12:05

Follow up. Completed on Wednesday, 29 July 2020.
You replied to this message on 2020/07/29 10:18.

Hi Nicole

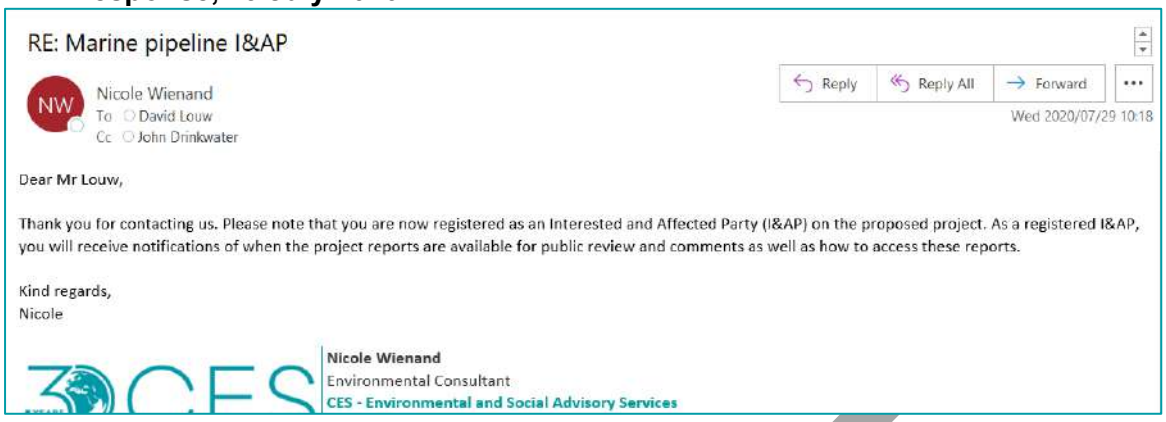
Please could you include me as an I&AP for the project involving Coega seawater extraction / effluent return, as a representative of Cerebos. My contact details are in my signature below.

Kind regards

Dave Louw
Process Engineer
Cerebos Ltd | www.cerebos.co.za | davel@cerebos.co.za
Tel: (041) 403 6709 | Fax: 041 403 6714 | Mobile: 079 7371327
Address: Zone 7-10, Coega IDZ, Coega, Port Elizabeth | PO Box 7137, Newton Park, 6055, South Africa

Cerebos

EAP Response, 29 July 2020.



RE: Marine pipeline I&AP

Reply | Reply All | Forward

NW Nicole Wienand
To David Louw
Cc John Drinkwater

Wed 2020/07/29 10:18

Dear Mr Louw,

Thank you for contacting us. Please note that you are now registered as an Interested and Affected Party (I&AP) on the proposed project. As a registered I&AP, you will receive notifications of when the project reports are available for public review and comments as well as how to access these reports.

Kind regards,
Nicole

Nicole Wienand
Environmental Consultant
CES - Environmental and Social Advisory Services

I&AP Comment: Schalk Potgieter, 28 July 2020

Re: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR...

Reply | Reply All | Forward

SP Schalk Potgieter <SPotgiet@mandelametro.gov.za>
To Nicole Wienand

Tue 2020/07/28 08:35

Follow up. Completed on Wednesday, 29 July 2020.
You replied to this message on 2020/07/29 10:19.
If there are problems with how this message is displayed, click here to view it in a web browser.

Morning

Please register as I&AP

Thanks

***Schalk Potgieter** Pr. Pln (A/716/1992), MSAPI, LEAD Fellow*
Director: Strategic Planning and Policy Formulation
HUMAN SETTLEMENTS DIRECTORATE
Tel.: +27 41 506 2168

EAP Response: 29 July 2020

RE: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR...

Reply | Reply All | Forward

NW Nicole Wienand
To 'Schalk Potgieter'

Wed 2020/07/29 10:20

Dear Mr Potgieter,

Thank you for contacting us. Please note that you are now registered as an Interested and Affected Party (I&AP) on the proposed project. As a registered I&AP, you will receive notifications of when the project reports are available for public review and comments as well as how to access these reports.

Kind regards,
Nicole

Nicole Wienand
Environmental Consultant
CES - Environmental and Social Advisory Services

PROOF OF NOTIFICATION OF THE AVAILABILITY OF THE DSR FOR PUBLIC REVIEW (START OF MANDATORY 30-DAY PUBLIC REVIEW PERIOD)

Notification Sent on the 29th of July 2020

From: Nicole Wienand
Sent: Wednesday, 29 July 2020 11:54
To: 'Andrea.Shirley@coega.co.za' <Andrea.Shirley@coega.co.za>; 'Mpatisi.pantsi@transnet.net' <Mpatisi.pantsi@transnet.net>; 'danie.gerber@za.dsv.com' <danie.gerber@za.dsv.com>; 'sheree.harmse@za.dsv.com' <sheree.harmse@za.dsv.com>; 'jacksont@digistics.co.za' <jacksont@digistics.co.za>; 'kens@digistics.co.za' <kens@digistics.co.za>; 'AllistairS@digistics.co.za' <AllistairS@digistics.co.za>; 'guthrie.robertson@Famousbrands.co.za' <guthrie.robertson@Famousbrands.co.za>; 'arnold.barnard@famousbrands.co.za' <arnold.barnard@famousbrands.co.za>; 'beth.hurr@isuzu.co.za' <beth.hurr@isuzu.co.za>; 'mbiko.mbongeni@isuzu.co.za' <mbiko.mbongeni@isuzu.co.za>; 'craig@pecoldstorage.co.za' <craig@pecoldstorage.co.za>; 'george@pecoldstorage.co.za' <george@pecoldstorage.co.za>; 'karl.mclachlan@apmterminals.com' <karl.mclachlan@apmterminals.com>; 'schoeman.marinus@apmterminals.com' <schoeman.marinus@apmterminals.com>; 'RudoS@vectorlog.com' <RudoS@vectorlog.com>; 'JurieS@vectorlog.com' <JurieS@vectorlog.com>; 'GeorgeC@natship.net' <GeorgeC@natship.net>; 'DavidB@natship.net' <DavidB@natship.net>; 'andros@natship.net' <andros@natship.net>; 'Rhyanw@apliafrica.com' <Rhyanw@apliafrica.com>; 'lynette.barnard@parmalat.co.za' <lynette.barnard@parmalat.co.za>; 'aaron@thecourierguy.co.za' <aaron@thecourierguy.co.za>; 'shaldon.chetty@msc.com' <shaldon.chetty@msc.com>; 'ben.fouche@baicsa.co.za' <ben.fouche@baicsa.co.za>; 'LCowley@zacpak.co.za' <LCowley@zacpak.co.za>; 'liushijie@faw.co.za' <liushijie@faw.co.za>; 'nadine@faw.co.za' <nadine@faw.co.za>; 'yaohaiyang@faw.co.za' <yaohaiyang@faw.co.za>; 'theo.theuner@hella.com' <theo.theuner@hella.com>; 'adrian@dynamicfood.com' <adrian@dynamicfood.com>; 'marc@dynamicfood.com' <marc@dynamicfood.com>; 'heinrich@dynamicfood.com' <heinrich@dynamicfood.com>; 'philip@coegadairy.com' <philip@coegadairy.com>; 'johann@coegadairy.com' <johann@coegadairy.com>; 'Mark@Coegadairy.com' <Mark@Coegadairy.com>; 'vincentn@apsap.co.za' <vincentn@apsap.co.za>; 'satish.bhugwathypersad@afrox.linde.com' <satish.bhugwathypersad@afrox.linde.com>; 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'phine@sahra.org.za' <phine@sahra.org.za>; 'andries.Struwig@dedea.gov.za' <andries.Struwig@dedea.gov.za>; 'Charmaine.Mostert@dedea.gov.za' <Charmaine.Mostert@dedea.gov.za>; 'Dayalan.Govender@dedea.gov.za' <Dayalan.Govender@dedea.gov.za>; 'lyndon.mardon@dedea.gov.za' <lyndon.mardon@dedea.gov.za>; 'bloemm@dws.gov.za' <bloemm@dws.gov.za>; 'mmachakat@dws.gov.za' <mmachakat@dws.gov.za>; 'mnotozaN@dws.gov.za' <mnotozaN@dws.gov.za>; 'HeymannN@dws.gov.za' <HeymannN@dws.gov.za>; 'Randall.Moore@dpw.ecape.gov.za' <Randall.Moore@dpw.ecape.gov.za>; 'smokhanya@ecphra.org.za' <smokhanya@ecphra.org.za>; 'info@ecphra.org.za' <info@ecphra.org.za>; 'Malaika.Koali-Lebona@ecpta.co.za' <Malaika.Koali-Lebona@ecpta.co.za>; 'bstofile@samsa.org.za' <bstofile@samsa.org.za>; 'sizulesilinta@gmail.com' <sizulesilinta@gmail.com>; 'cheryl@wessaep.co.za' <cheryl@wessaep.co.za>; 'j-gon@intekom.co.za' <j-gon@intekom.co.za>; 'rob.milne@sanparks.org' <rob.milne@sanparks.org>; 'Ane.Oosthuizen@sanparks.org' <Ane.Oosthuizen@sanparks.org>; 'nick.degoede@sanparks.org' <nick.degoede@sanparks.org>; 'pamayor@mandelametro.gov.za' <pamayor@mandelametro.gov.za>; 'cm@mandelametro.gov.za' <cm@mandelametro.gov.za>; 'nomazulu.mthi29@gmail.com' <nomazulu.mthi29@gmail.com>; 'mvuzomm@gmail.com' <mvuzomm@gmail.com>; 'pdyani@mandelametro.gov.za' <pdyani@mandelametro.gov.za>; 'dbailey@mandelametro.gov.za' <dbailey@mandelametro.gov.za>; 'kngesi@mandelametro.gvo.za' <kngesi@mandelametro.gvo.za>; 'rblaauw@mandelametro.gov.za' <rblaauw@mandelametro.gov.za>; 'phowes@mandelametro.gov.za' <phowes@mandelametro.gov.za>; 'kslabbert@mandelametro.gov.za' <kslabbert@mandelametro.gov.za>; 'pnodwele@mandelametro.gov.za' <pnodwele@mandelametro.gov.za>; 'gmhlonyane@mandelametro.gov.za' <gmhlonyane@mandelametro.gov.za>; 'jmkosana@mandelametro.gov.za' <jmkosana@mandelametro.gov.za>; 'kobusgerber2@gmail.com' <kobusgerber2@gmail.com>; 'mikebridgeford@telkomsa.net' <mikebridgeford@telkomsa.net>; 'Andrea.Shirley@coega.co.za' <Andrea.Shirley@coega.co.za>; 'Keith.DuPlessis@coega.co.za' <Keith.DuPlessis@coega.co.za>; 'Khuthala.Somdaka@coega.co.za' <Khuthala.Somdaka@coega.co.za>; 'Lunga.Tungu@coega.co.za' <Lunga.Tungu@coega.co.za>; 'Viwe.Biyana@coega.co.za' <Viwe.Biyana@coega.co.za>; 'Graham.Taylor@coega.co.za' <Graham.Taylor@coega.co.za>; 'christelle@habitatlink.co.za' <christelle@habitatlink.co.za>; 'renee.deklerk@transnet.net' <renee.deklerk@transnet.net>; 'Johan@cbmafrica.co.za' <Johan@cbmafrica.co.za>; 'richard@wcabalone.co.za' <richard@wcabalone.co.za>; 'chris@carnegieenergie.co.za' <chris@carnegieenergie.co.za>; 'chris@laqs.co.za' <chris@laqs.co.za>; 'sandy@publicprocess.co.za' <sandy@publicprocess.co.za>; 'davel@cerebos.co.za' <davel@cerebos.co.za>; 'Huldah.solomon@gm.com' <Huldah.solomon@gm.com>; 'pmartin@axxess.co.za' <pmartin@axxess.co.za>; 'Paul.steyn@nmmu.ac.za' <Paul.steyn@nmmu.ac.za>; 'simon@impact-freewater.com' <simon@impact-freewater.com>; 'tfoxen@monetgas.com' <tfoxen@monetgas.com>; 'Davel@cerebos.co.za' <Davel@cerebos.co.za>; 'Johnd@cerebos.co.za' <Johnd@cerebos.co.za>; 'SPotgiet@mandelametro.gov.za' <SPotgiet@mandelametro.gov.za>
Cc: Chantel Bezuidenhout <c.bezuidenhout@cesnet.co.za>
Subject: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Dear Interested and Affected Party,

The Coega Development Corporation (CDC) intends to development marine intake and outfall infrastructure servitude(s), of which the purpose is the provision of seawater for various industries (aquaculture, power provision and desalination) via a number of seawater intakes and the discharge of treated effluent into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast.

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A short description of the proposed infrastructure is included below:

INTAKE INFRASTRUCTURE

The rationale for developing an integrated marine abstraction servitude(s) is to have a common user servitude in which a number of possible industries can establish infrastructure required to abstract seawater from the marine environment. The types of industries that will require seawater can be grouped as follows:

- Aquaculture (Finfish): 0.94 m^3/s
- Aquaculture (Abalone): 5 m^3/s
- Seawater for desalination: 2.03 m^3/s
- Intake for power stations: 14.74 m^3/s (worst-case)
- Intake for LNG Gas hub: 4m^3/s (worst-case)

There will be two (2) seawater abstraction servitudes with associated infrastructure; (1) inside the Port of Ngqura for the power station's cooling water requirements, and (2) for the requirements of the aquaculture industries and for desalination. Within each servitude, a number of different seawater abstraction technologies could be utilised, depending on industry requirements. The types of abstraction technologies to be utilised include the following:

- Seawater Abstraction Pipeline;
- Vertical Beach Wells;
- Onshore Pump Station and Screening Facility; and
- WEROP Wave Pump.

Detailed descriptions of these technologies are provided in the Marine Intake and Outfall Infrastructure Servitude Project Draft Scoping Report (DSR).

OUTFALL INFRASTRUCTURE

The rationale for developing an integrated marine discharge servitude is to have a common user servitude in which a number of possible industries can establish infrastructure required to discharge effluent into the marine environment. The types of industries that may require discharge of effluent can be grouped as follows:

- Aquaculture (Finfish): 0.94 m^3/s
- Aquaculture (Abalone): 5 m^3/s
- Brine from desalination: 1.22 m^3/s
- Discharge for power stations: 14.6 m^3/s (worst-case)
- Discharge for LNG Gas hub: 4 m^3/s (worst-case)
- Waste water from Waste Water Treatment Works (WWTW): 0.93 + 0.46 m^3/s

A servitude(s) in which various industries can establish infrastructure to discharge treated effluent to the marine environment will be constructed. Depending on the volume and nature of the effluent, different types of discharge infrastructure may be built in the servitude(s) (e.g. pipelines, beach discharge or tunnels). The time of construction of the various discharge structures within the servitudes will be dictated by the demand and timing of the implementation of these various industries. The position of the discharge servitude, depth of discharge, and design of discharge infrastructure will be determined using a dispersion modelling process and engineering studies.

Seawater from the abalone farms will be discharged directly into the marine environment via a pipeline and/or have the option of diverting some of the seawater to a desalination facility.

Finfish effluent from various users will be treated on site by each investor, before being discharged via a pipeline to the marine environment.

The proposed Marine Intake and Outfall Infrastructure Servitude Project triggers a Scoping and EIA Process in terms of the 2014 EIA Regulations (as amended in 2017) due to the proposed development triggering Listing Notice (LN) 2 activities, including LN 2 GNR. 984: Activities 6, 14 and 26. In addition to the aforementioned LN 2 activities, the proposed development will trigger numerous activities in LN 1 (GNR. 983) and LN 3 (GNR. 985). Coastal & Environmental Services (Pty) Ltd, trading as CES, has been appointed to undertake the required Scoping and EIA Process on behalf of the proponent.

The Marine Intake and Outfall Infrastructure Servitude Project DSR (DEFF Reference No.: 14/12/16/3/3/2/2001) is available for public review from the 29th of July until the 29th of August 2020. A copy of the DSR can be accessed and/or downloaded via the following links:

- CES website: http://www.cesnet.co.za/public-documents; www.cesnet.co.za – Public Documents
- CDC website: https://www.coega.co.za/DocumentList.aspx?cmd=browse&objID=80&catID=51; or the
- Dropbox Link: https://www.dropbox.com/sh/auadfwuarycdo7e/AAAbCfQxHFV_GuVRsldACrP-a?dl=0

Due to the current COVID-19 restrictions in force by the government, no public meetings are planned to be held at this stage. However, **virtual meetings will be held with key stakeholders upon request**.

Please contact **Ms Nicole Wienand** to register as an I&AP for the proposed Coega Marine Intake and Outfall Servitude(s) Project, for enquiries and/or for the submission of your written comments:

CONTACT DETAILS	
Environmental Company:	Coastal and Environmental Service (Pty) Ltd. (Trading as CES)
Project Manager:	Ms Nicole Wienand
Address:	36 Pickering Street, Newton Park, Port Elizabeth
Telephone Number:	+27 (0)46 622 2364
Email Address:	n.wienand@cesnet.co.za
Website:	www.cesnet.co.za

Kind regards,
Nicole

Nicole Wienand
Environmental Consultant
CES - Environmental and Social Advisory Services
Port Elizabeth | Eastern Cape | South Africa
Contact: +27 (0)46 622 2364
n.wienand@cesnet.co.za | www.cesnet.co.za

Screenshot of email sent of the 29th of July 2020

COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

NW Nicole Wienand

To 'Andrea.Shirley@coega.co.za'; 'Mpatisi.pantsi@transnet.net'; 'danie.gerber@za.dsv.com'; 'sheree.harmse@za.dsv.com'; 'jacksont@digistics.co.za'; 'kens@digistics.co.za'; 'AllistairS@digistics.co.za'; 'guthrie.robertson@Famousbrands.co.za'; 'arnold.barnard@famousbrands.co.za'; 'beth.hurr@isuzu.co.za'; 'mbiko.mbongeni@isuzu.co.za'; **+121 others**

Cc Chantel Bezuidenhout

Wed 2020/07/29 11:54

You forwarded this message on 2020/08/04 09:04.

Dear Interested and Affected Party,

The Coega Development Corporation (CDC) intends to development marine intake and outfall infrastructure servitude(s), of which the purpose is the provision of seawater for various industries (aquaculture, power provision and desalination) via a number of seawater intakes and the discharge of treated effluent into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast.

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A short description of the proposed infrastructure is included below:

INTAKE INFRASTRUCTURE

The rationale for developing an integrated marine abstraction servitude(s) is to have a common user servitude in which a number of possible industries can establish infrastructure required to abstract seawater from the marine environment. The types of industries that will require seawater can be grouped as follows:

- Aquaculture (Finfish): 0.94 m^3/s
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OUTFALL INFRASTRUCTURE

The rationale for developing an integrated marine discharge servitude is to have a common user servitude in which a number of possible industries can establish infrastructure required to discharge effluent into the marine environment. The types of industries that may require discharge of effluent can be grouped as follows:

- Aquaculture (Finfish): 0.94 m^3/s
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A servitude(s) in which various industries can establish infrastructure to discharge treated effluent to the marine environment will be constructed. Depending on the volume and nature of the effluent, different types of discharge infrastructure may be built in the servitude(s) (e.g. pipelines, beach discharge or tunnels). The time of construction of the various discharge structures within the servitudes will be dictated by the demand and timing of the implementation of these various industries. The position of the discharge servitude, depth of discharge, and design of discharge infrastructure will be determined using a dispersion modelling process and engineering studies.

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- CDC website: https://www.coega.co.za/DocumentList.aspx?cmd=browse&objID=80&catID=51; or the
- Dropbox Link: https://www.dropbox.com/sh/auadfwuarycdo7e/AAAbCfQxHFV_GuVRsIdACrP-a?dl=0

Due to the current COVID-19 restrictions in force by the government, no public meetings are planned to be held at this stage. However, **virtual meetings will be held with key stakeholders upon request**.

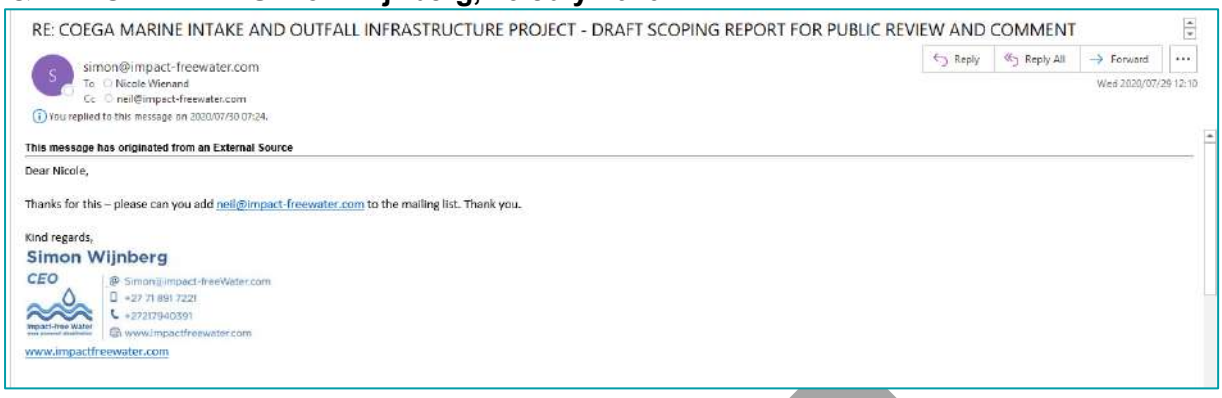
Please contact **Ms Nicole Wienand** to register as an I&AP for the proposed Coega Marine Intake and Outfall Servitude(s) Project, for enquiries and/or for the submission of your written comments:

CONTACT DETAILS	
Environmental Company:	Coastal and Environmental Service (Pty) Ltd. (Trading as CES)
Project Manager:	Ms Nicole Wienand
Address:	36 Pickering Street, Newton Park, Port Elizabeth
Telephone Number:	+27 (0)46 622 2364
Email Address:	n.wienand@cesnet.co.za
Website:	www.cesnet.co.za

Kind regards,

Responses to email notification sent on the 29th of July 2020

I&AP COMMENT: Simon Wijnberg, 29 July 2020



RE: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

simon@impact-freewater.com
To Nicole Wienand
Cc neil@impact-freewater.com

Wed 2020/07/29 12:10

You replied to this message on 2020/07/30 07:24.

This message has originated from an External Source

Dear Nicole,

Thanks for this – please can you add neil@impact-freewater.com to the mailing list. Thank you.

Kind regards,

Simon Wijnberg
CEO
Simon@impact-freeWater.com
+27 71 891 7221
+27217940391
www.impactfreewater.com
www.impactfreewater.com

EAP Response, 30 July 2020

RE: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

Nicole Wienand
To simon@impact-freewater.com
Cc neil@impact-freewater.com

Thu 2020/07/30 07:26

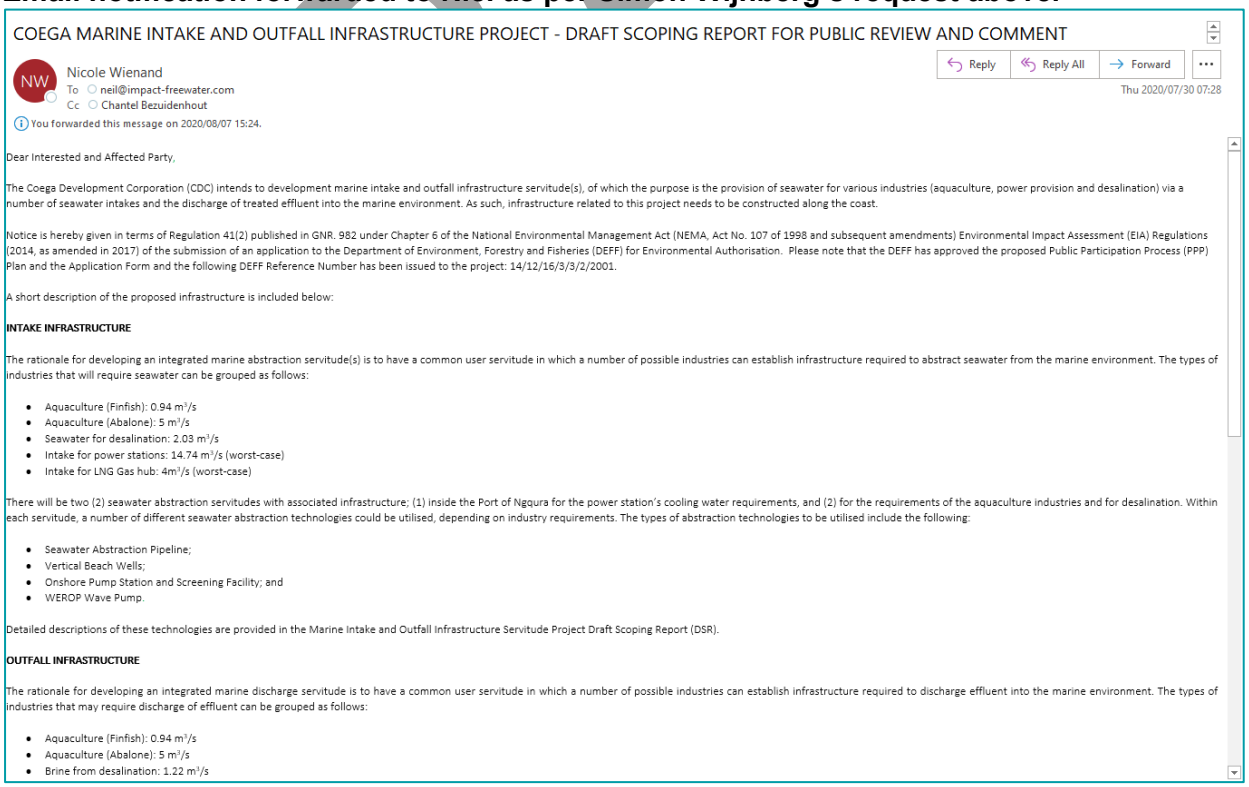
Good morning Simon,

Thank you for contacting us. Please note Neil has been added to our I&AP database and is now registered as an Interested and Affected Party (I&AP) on the proposed project.

Kind regards,
Nicole

Nicole Wienand
Environmental Consultant
CES - Environmental and Social Advisory Services
Port Elizabeth | Eastern Cape | South Africa
Contact: +27 (0)46 622 2364
n.wienand@cesnet.co.za | www.cesnet.co.za

Email notification forwarded to Niel as per Simon Wijnberg's request above.



COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

Nicole Wienand
To neil@impact-freewater.com
Cc Chantel Bezuidenhout

Thu 2020/07/30 07:28

You forwarded this message on 2020/08/07 15:24.

Dear Interested and Affected Party,

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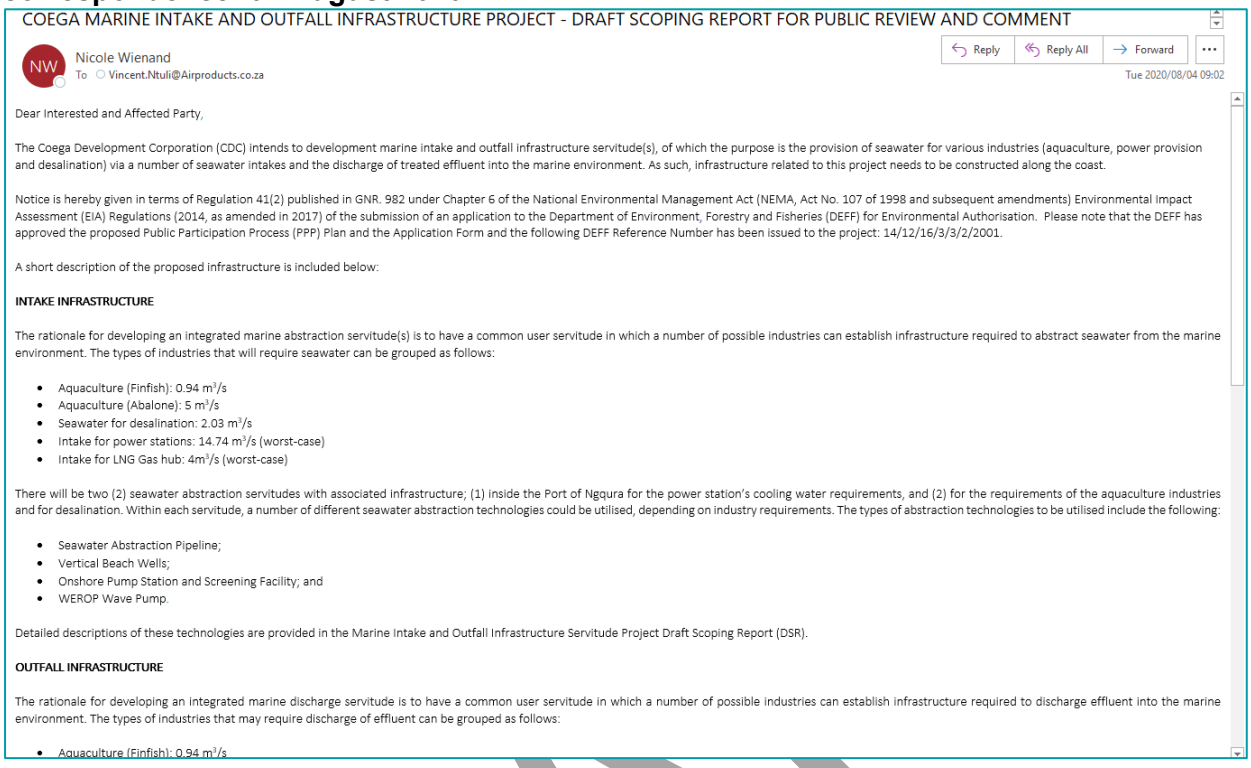
- Aquaculture (Finfish): 0.94 m^3/s
- Aquaculture (Abalone): 5 m^3/s
- Brine from desalination: 1.22 m^3/s

Email notification forwarded to Vincent Ntuli as requested after telephone correspondence: 04 August 2020



COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

NW Nicole Wienand
To Vincent.Ntuli@Airproducts.co.za

Tue 2020/08/04 09:02

Dear Interested and Affected Party,

The Coega Development Corporation (CDC) intends to development marine intake and outfall infrastructure servitude(s), of which the purpose is the provision of seawater for various industries (aquaculture, power provision and desalination) via a number of seawater intakes and the discharge of treated effluent into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast.

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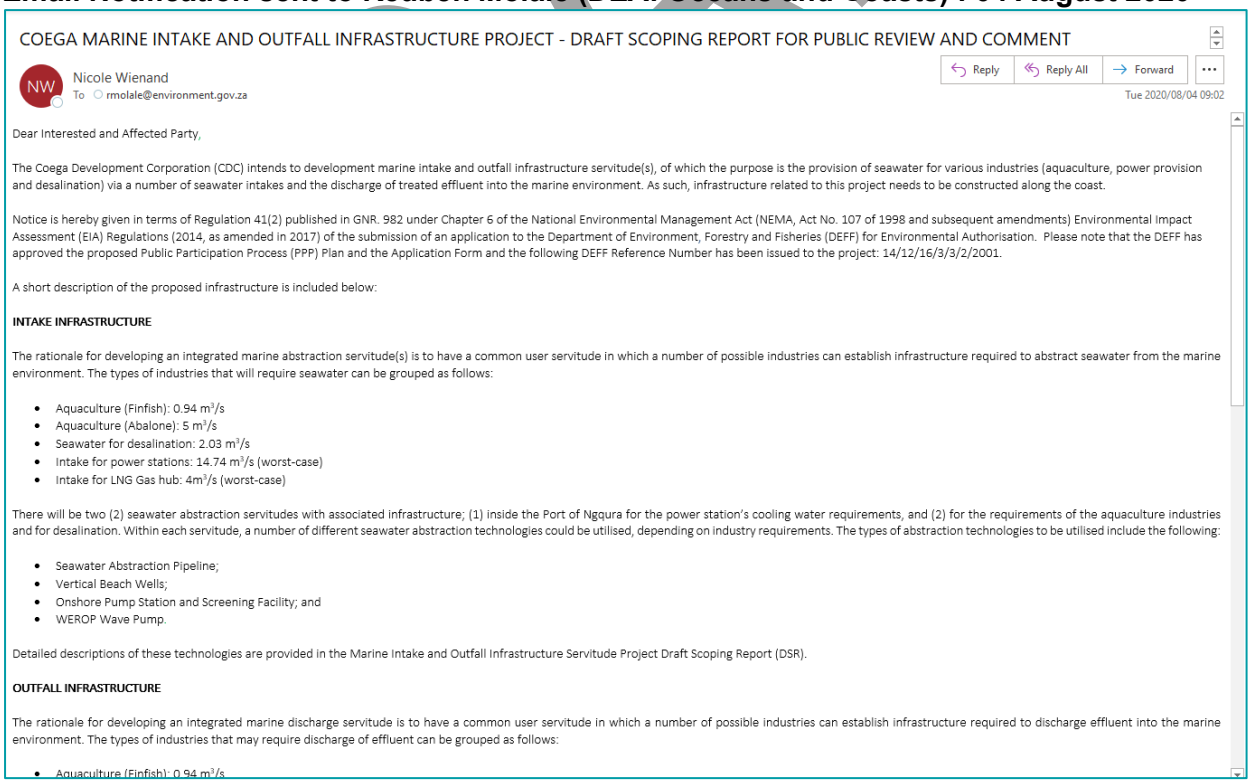
- Aquaculture (Finfish): 0.94 m^3/s

Email Notification sent to Reuben Molale (DEA: Oceans and Coasts) : 04 August 2020



COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

NW Nicole Wienand
To rmolale@environment.gov.za

Tue 2020/08/04 09:02

Dear Interested and Affected Party,

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- Vertical Beach Wells;
- Onshore Pump Station and Screening Facility; and
- WEROP Wave Pump.

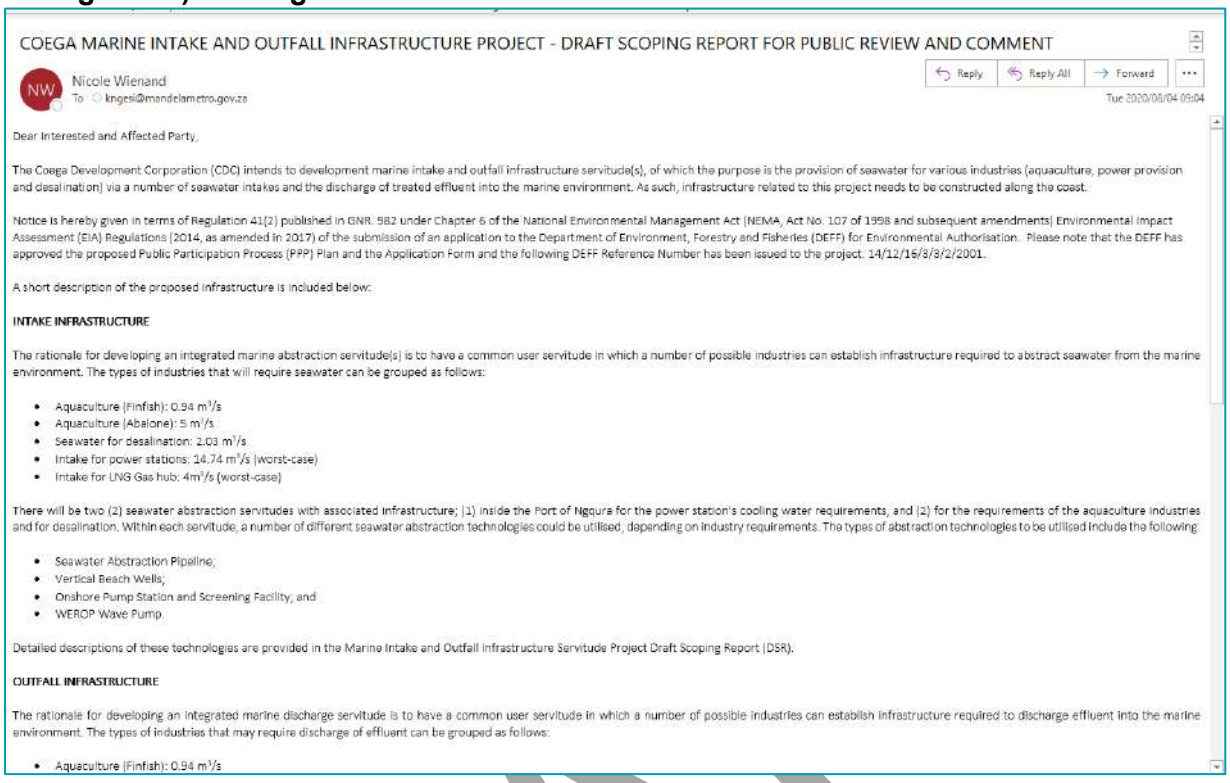
Detailed descriptions of these technologies are provided in the Marine Intake and Outfall Infrastructure Servitude Project Draft Scoping Report (DSR).

OUTFALL INFRASTRUCTURE

The rationale for developing an integrated marine discharge servitude is to have a common user servitude in which a number of possible industries can establish infrastructure required to discharge effluent into the marine environment. The types of industries that may require discharge of effluent can be grouped as follows:

- Aquaculture (Finfish): 0.94 m^3/s

Email Notification sent to MS. Kithi Ngesi (Director: Beaches, Resorts & Events Management): 04 August 2020



COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

Nicole Wienand
To: kngesi@mandelametro.gov.za

Tue 2020/08/04 09:04

Dear Interested and Affected Party,

The Coega Development Corporation (CDC) intends to development marine intake and outfall infrastructure servitude(s), of which the purpose is the provision of seawater for various industries (aquaculture, power provision and desalination) via a number of seawater intakes and the discharge of treated effluent into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast.

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A short description of the proposed infrastructure is included below:

INTAKE INFRASTRUCTURE

The rationale for developing an integrated marine abstraction servitude(s) is to have a common user servitude in which a number of possible industries can establish infrastructure required to abstract seawater from the marine environment. The types of industries that will require seawater can be grouped as follows:

- Aquaculture (Finfish): 0.94 m^3/s
- Aquaculture (Abalone): 5 m^3/s
- Seawater for desalination: 2.03 m^3/s
- Intake for power stations: 14.74 m^3/s (worst-case)
- Intake for LNG Gas hub: 4m^3/s (worst-case)

There will be two (2) seawater abstraction servitudes with associated infrastructure; (1) inside the Port of Ngqura for the power station's cooling water requirements, and (2) for the requirements of the aquaculture industries and for desalination. Within each servitude, a number of different seawater abstraction technologies could be utilised, depending on industry requirements. The types of abstraction technologies to be utilised include the following:

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- Vertical Beach Wells;
- Onshore Pump Station and Screening Facility; and
- WEROP Wave Pump.

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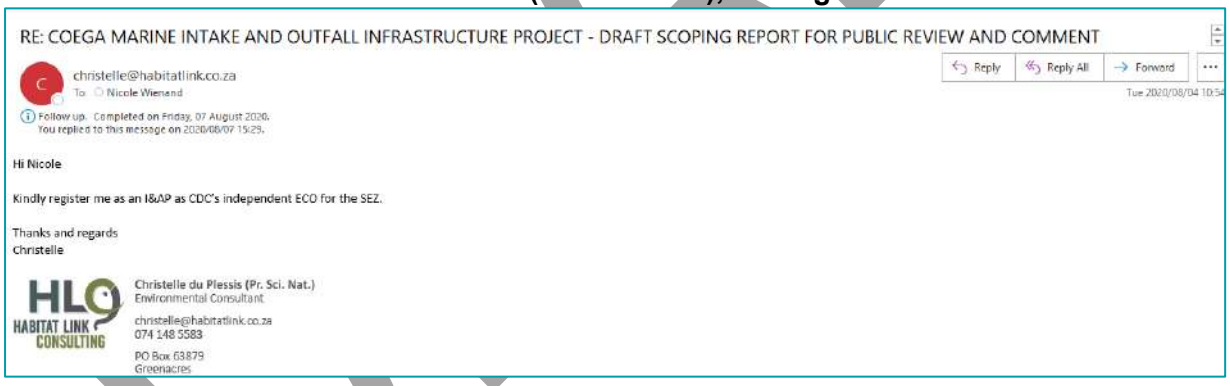
- Aquaculture (Finfish): 0.94 m^3/s

I&AP Comment: Christelle du Plessis (Habitat Link), 04 August 2020



RE: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

christelle@habitatlink.co.za
To: Nicole Wienand

Tue 2020/08/04 10:54

Follow up. Completed on Friday, 07 August 2020.
You replied to this message on 2020/08/07 15:29.

Hi Nicole

Kindly register me as an I&AP as CDC's independent ECO for the SEZ.

Thanks and regards
Christelle

HABITAT LINK CONSULTING

Christelle du Plessis (Pr. Sci. Nat.)
Environmental Consultant
christelle@habitatlink.co.za
074 148 5583
PO Box 63879
Greenacres

EAP Response, 07 August 2020

Reply | Reply All | Forward

Nicole Wienand
To: christelle@habitatlink.co.za

Fri 2020/08/07 15:30

You replied to this message on 2020/08/11 14:09.

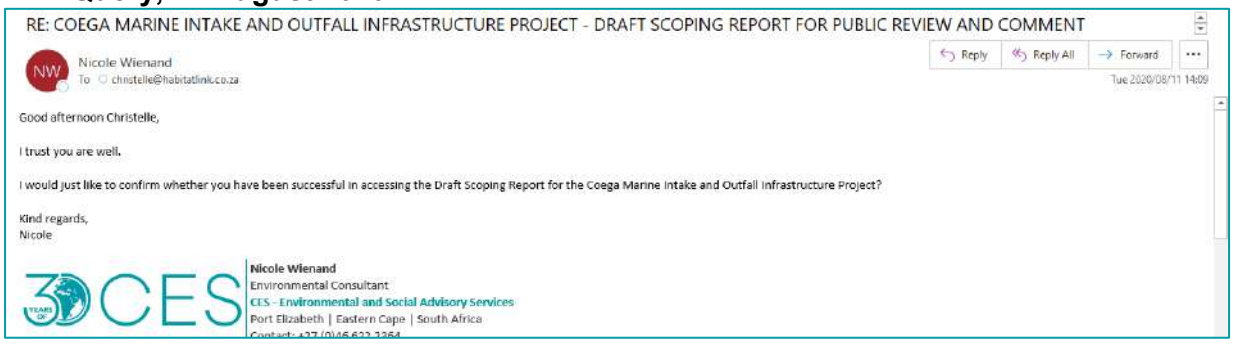
Good afternoon Christelle,

Thank you for contacting us. Please note that you have been included in the database for this project as the CDC's independent ECO.

Kind regards,
Nicole

Nicole Wienand
Environmental Consultant
CES - Environmental and Social Advisory Services

EAP Query, 11 August 2020



RE: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

Nicole Wienand
To: christelle@habitatlink.co.za

Tue 2020/08/11 14:09

Good afternoon Christelle,

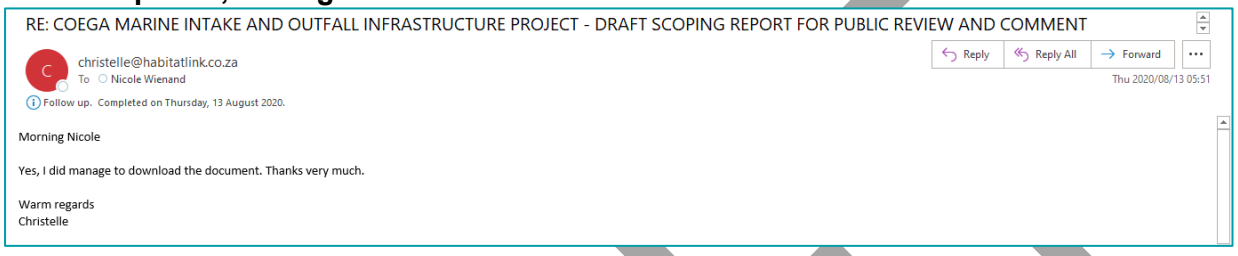
I trust you are well.

I would just like to confirm whether you have been successful in accessing the Draft Scoping Report for the Coega Marine Intake and Outfall Infrastructure Project?

Kind regards,
Nicole

Nicole Wienand
Environmental Consultant
CES - Environmental and Social Advisory Services
Port Elizabeth | Eastern Cape | South Africa

I&AP Response, 13 August 2020



RE: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

christelle@habitatlink.co.za
To: Nicole Wienand

Thu 2020/08/13 05:51

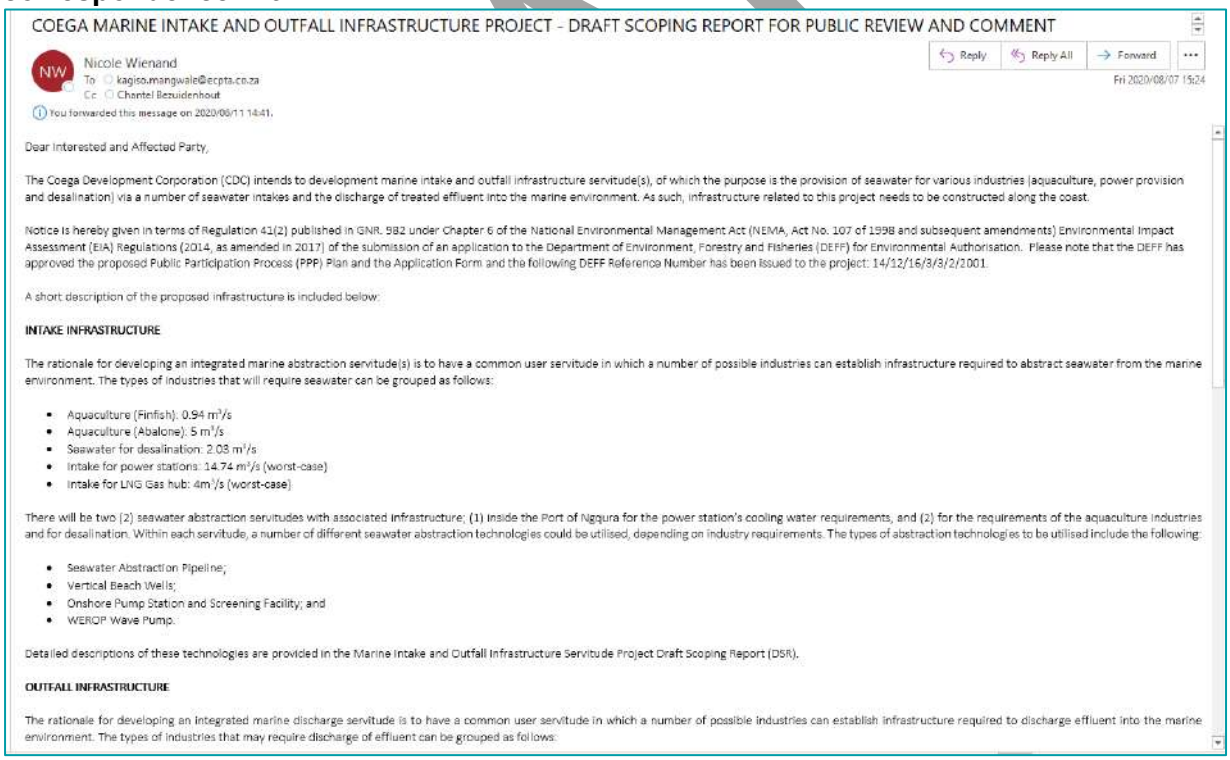
Follow up. Completed on Thursday, 13 August 2020.

Morning Nicole

Yes, I did manage to download the document. Thanks very much.

Warm regards
Christelle

Email Notification sent to Kagiso Mangwale (ECPTA): 07 August 2020 following telephone correspondence with ECPTA



COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

Nicole Wienand
To: kagisomangwale@ecpta.co.za
Cc: Chantel Bezuidenhout

Fri 2020/08/07 15:24

You forwarded this message on 2020/08/11 14:41.

Dear Interested and Affected Party,

The Coega Development Corporation (CDC) intends to development marine intake and outfall infrastructure servitude(s), of which the purpose is the provision of seawater for various industries (aquaculture, power provision and desalination) via a number of seawater intakes and the discharge of treated effluent into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast.

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A short description of the proposed infrastructure is included below:

INTAKE INFRASTRUCTURE

The rationale for developing an integrated marine abstraction servitude(s) is to have a common user servitude in which a number of possible industries can establish infrastructure required to abstract seawater from the marine environment. The types of industries that will require seawater can be grouped as follows:

- Aquaculture (Finfish): 0.94 m^3/s
- Aquaculture (Abalone): 5 m^3/s
- Seawater for desalination: 2.08 m^3/s
- Intake for power stations: 14.74 m^3/s (worst-case)
- Intake for LNG Gas hub: 4m^3/s (worst-case)

There will be two (2) seawater abstraction servitudes with associated infrastructure; (1) inside the Port of Ngqura for the power station's cooling water requirements, and (2) for the requirements of the aquaculture industries and for desalination. Within each servitude, a number of different seawater abstraction technologies could be utilised, depending on industry requirements. The types of abstraction technologies to be utilised include the following:

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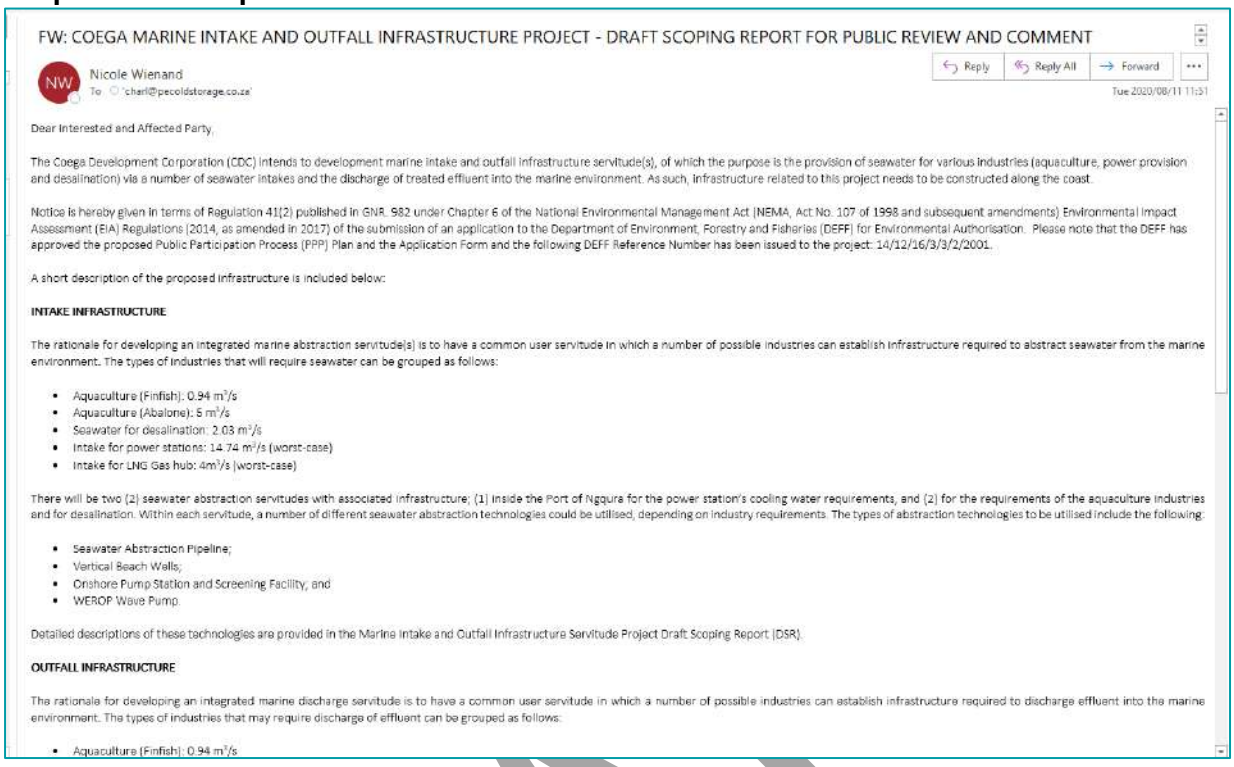
Email Notification sent to Charl de Lange (PE Cold Storage): 11 August 2020 following telephone correspondence



FW: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Nicole Wienand
To: 'charl@pecoldstorage.co.za'

Reply | Reply All | Forward

Tue 2020/08/11 11:51

Dear Interested and Affected Party,

The Coega Development Corporation (CDC) intends to development marine intake and outfall infrastructure servitude(s), of which the purpose is the provision of seawater for various industries (aquaculture, power provision and desalination) via a number of seawater intakes and the discharge of treated effluent into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast.

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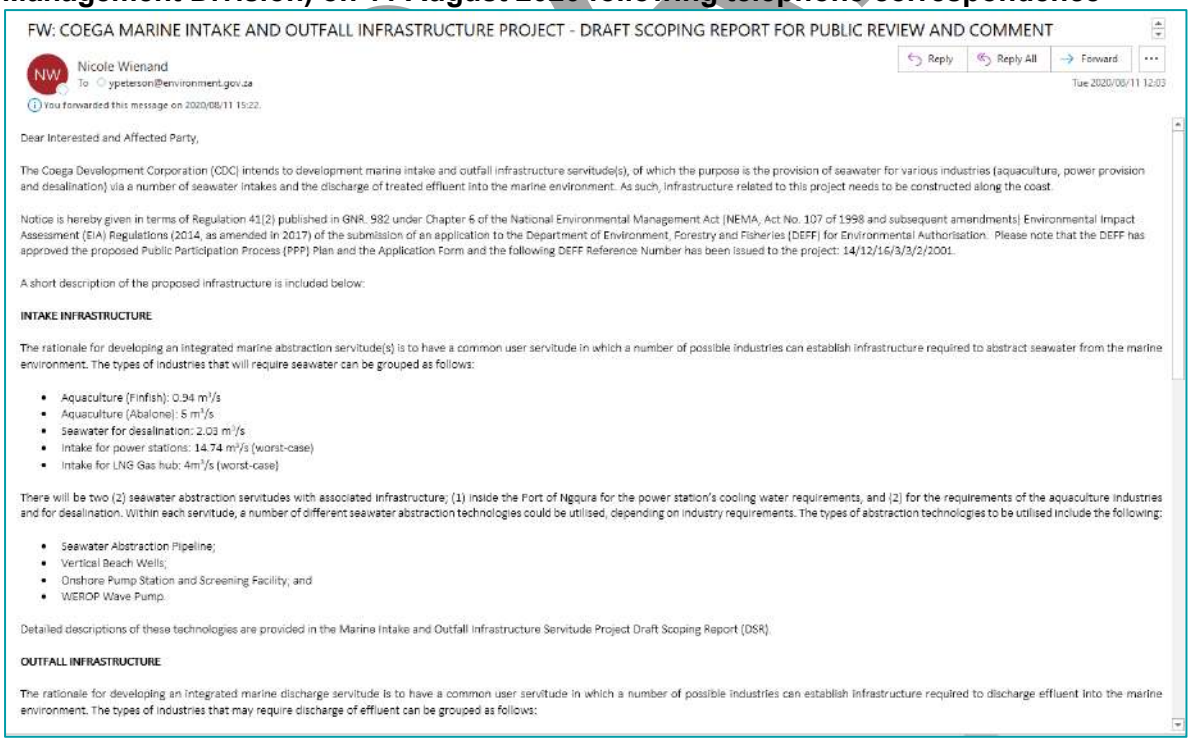
- Aquaculture (Finfish): 0.94 m^3/s

Email Notification sent to Yazeed Peterson (DEA: Oceans and Coasts - Coastal Pollution Management Division) on 11 August 2020 following telephone correspondence



FW: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Nicole Wienand
To: ypeterson@environment.gov.za

Reply | Reply All | Forward

Tue 2020/08/11 12:03

You forwarded this message on 2020/08/11 15:22.

Dear Interested and Affected Party,

The Coega Development Corporation (CDC) intends to development marine intake and outfall infrastructure servitude(s), of which the purpose is the provision of seawater for various industries (aquaculture, power provision and desalination) via a number of seawater intakes and the discharge of treated effluent into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast.

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A short description of the proposed infrastructure is included below:

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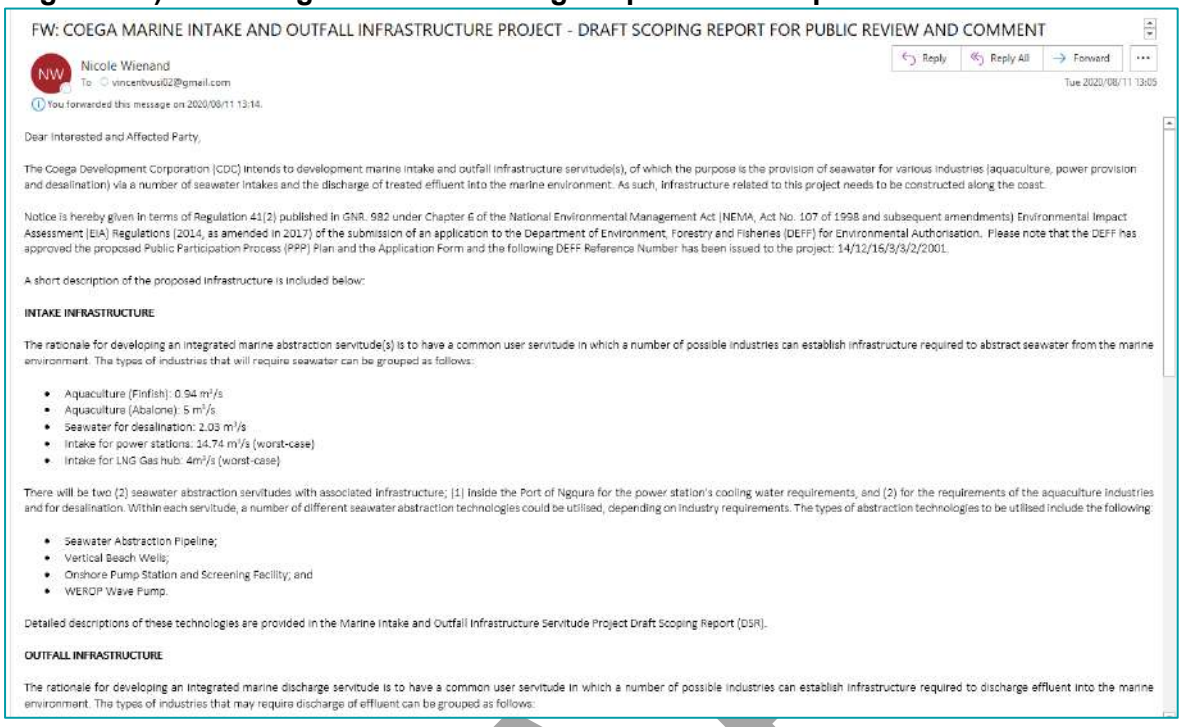
Email Notification sent to Vusi Kubheka (Department of Mineral Resources (DMR): Mineral Regulation) on 11 August 2020 following telephone correspondence



FW: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

Nicole Wienand
To: vincentvusi02@gmail.com
Tue 2020/08/11 13:05

You forwarded this message on 2020/08/11 13:14.

Dear Interested and Affected Party,

The Coega Development Corporation (CDC) intends to development marine intake and outfall infrastructure servitude(s), of which the purpose is the provision of seawater for various industries (aquaculture, power provision and desalination) via a number of seawater intakes and the discharge of treated effluent into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast.

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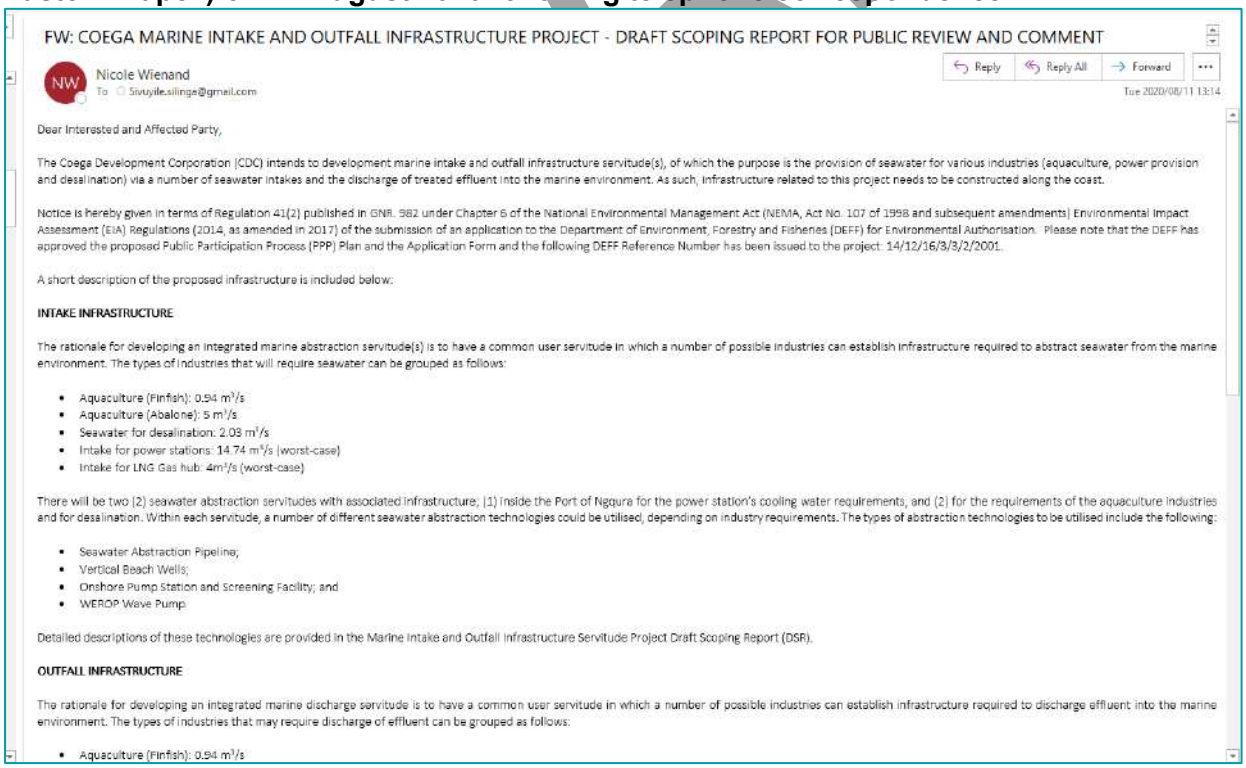
Email Notification sent to Sizule Silinta (Department of Agriculture and Land Affairs – Eastern Cape) on 11 August 2020 following telephone correspondence



FW: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

Nicole Wienand
To: Sivuyile.silinga@gmail.com
Tue 2020/08/11 13:14

Dear Interested and Affected Party,

The Coega Development Corporation (CDC) intends to development marine intake and outfall infrastructure servitude(s), of which the purpose is the provision of seawater for various industries (aquaculture, power provision and desalination) via a number of seawater intakes and the discharge of treated effluent into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast.

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A short description of the proposed infrastructure is included below:

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- Aquaculture (Finfish): 0.94 m^3/s

I&AP Comment: Ane Oosthuizen (SANParks), following telephone correspondence on the 11 August 2020

RE: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

Ane Oosthuizen <260038@sanparksorg.mail.onmicrosoft.com>
To: Nicole Wienand
Tue 2020/08/11 13:47

You replied to this message on 2020/08/11 14:42.

Hi Nicole
Thank you for the reminder.
Please register me as I&AP for the EIA.
Kind regards

Dr Ané Oosthuizen
National Marine Co-ordinator
Park Planning & Development
South African National Parks

071 4000371
Ane.Oosthuizen@sanparks.org

EAP Response, 11 August 2020

RE: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

Nicole Wienand
To: 'Ane Oosthuizen'
Tue 2020/08/11 14:43

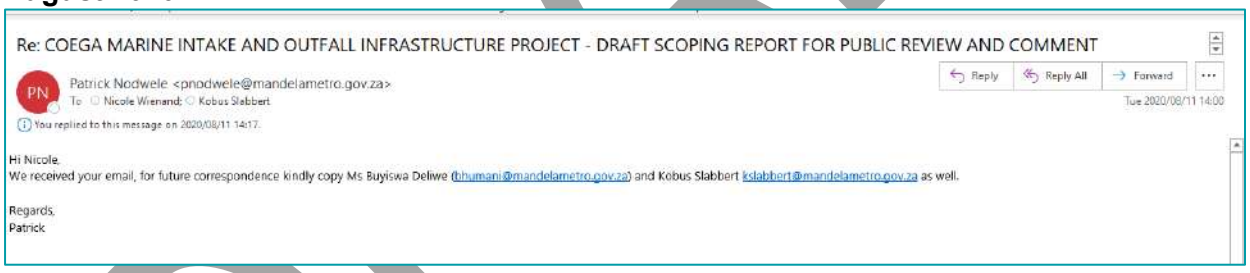
Good afternoon Ane,

Thank you for your email. Please note that you have been included as an Interested and Affected Party (I&AP) on the database for this project.

Kind regards,
Nicole

Nicole Wienand
Environmental Consultant
CES - Environmental and Social Advisory Services
Port Elizabeth | Eastern Cape | South Africa

I&AP Comment: Patrick Nodwele (NMBM), following telephone correspondence on the 11 August 2020



Re: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

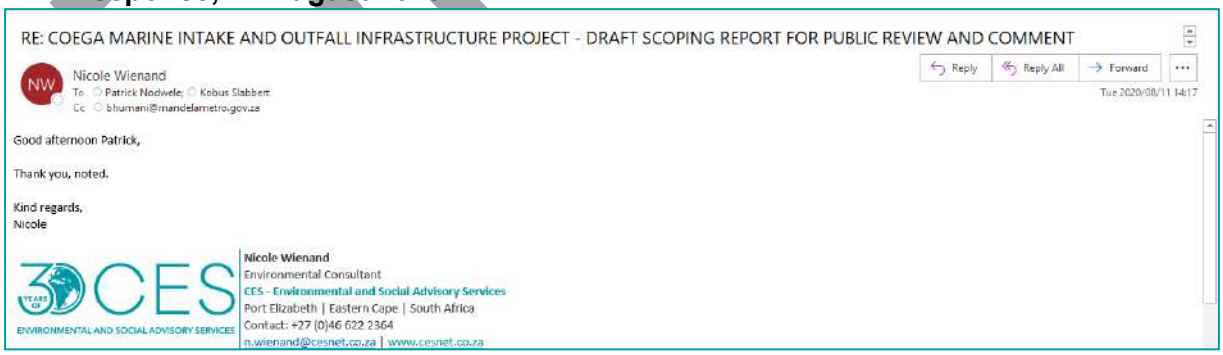
Patrick Nodwele <pnodwele@mandelametro.gov.za>
To: Nicole Wienand; Kobus Slabbert
Tue 2020/08/11 14:00

You replied to this message on 2020/08/11 14:17.

Hi Nicole,
We received your email, for future correspondence kindly copy Ms Buyiswa Deliwe (bhumani@mandelametro.gov.za) and Kobus Slabbert kslabbert@mandelametro.gov.za as well.

Regards,
Patrick

EAP Response, 11 August 2020



RE: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

Nicole Wienand
To: Patrick Nodwele; Kobus Slabbert
Cc: bhumani@mandelametro.gov.za
Tue 2020/08/11 14:17

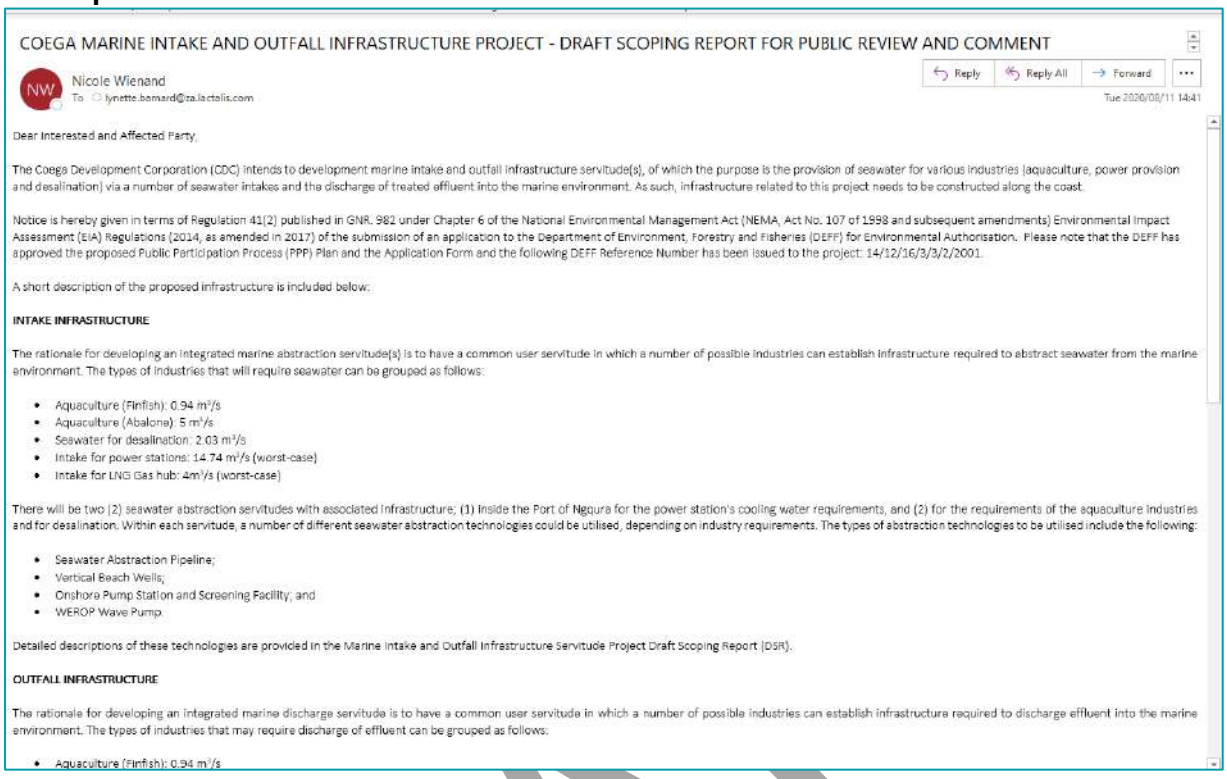
Good afternoon Patrick,

Thank you, noted.

Kind regards,
Nicole

Nicole Wienand
Environmental Consultant
CES - Environmental and Social Advisory Services
Port Elizabeth | Eastern Cape | South Africa
Contact: +27 (0)46 622 2364
n.wienand@cesnet.co.za | www.cesnet.co.za

Email Notification sent to Lynette Barnard on 11 August 2020 following telephone correspondence



COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

NW Nicole Wienand
To: lynette.barnard@za.lactalis.com

Tue 2020/08/11 14:41

Dear Interested and Affected Party,

The Coega Development Corporation (CDC) intends to development marine intake and outfall infrastructure servitude(s), of which the purpose is the provision of seawater for various industries (aquaculture, power provision and desalination) via a number of seawater intakes and the discharge of treated effluent into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast.

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A short description of the proposed infrastructure is included below:

INTAKE INFRASTRUCTURE

The rationale for developing an integrated marine abstraction servitude(s) is to have a common user servitude in which a number of possible industries can establish infrastructure required to abstract seawater from the marine environment. The types of industries that will require seawater can be grouped as follows:

- Aquaculture (Finfish): 0.94 m^3/s
- Aquaculture (Abalone): 5 m^3/s
- Seawater for desalination: 2.03 m^3/s
- Intake for power stations: 14.74 m^3/s (worst-case)
- Intake for LNG Gas hub: 4m^3/s (worst-case)

There will be two (2) seawater abstraction servitudes with associated infrastructure; (1) inside the Port of Ngqura for the power station's cooling water requirements, and (2) for the requirements of the aquaculture industries and for desalination. Within each servitude, a number of different seawater abstraction technologies could be utilised, depending on industry requirements. The types of abstraction technologies to be utilised include the following:

- Seawater Abstraction Pipeline;
- Vertical Beach Wells;
- Onshore Pump Station and Screening Facility; and
- WEROP Wave Pump.

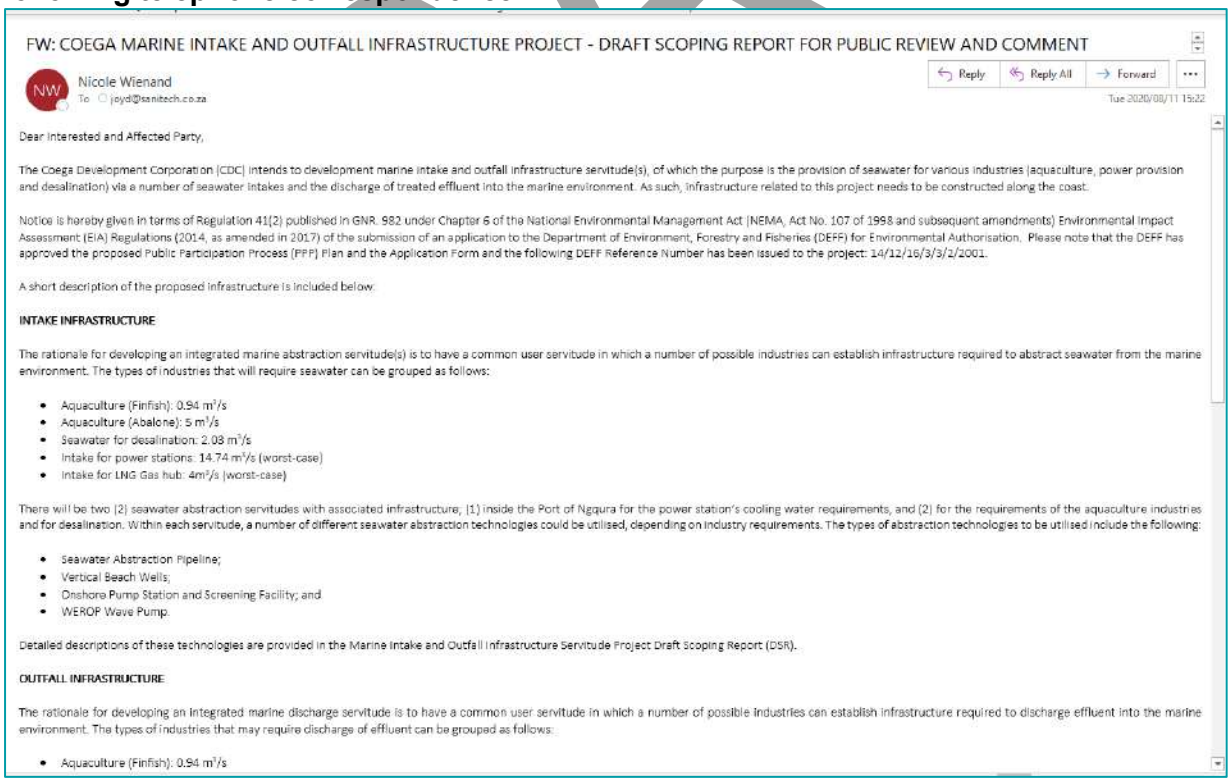
Detailed descriptions of these technologies are provided in the Marine Intake and Outfall Infrastructure Servitude Project Draft Scoping Report (DSR).

OUTFALL INFRASTRUCTURE

The rationale for developing an integrated marine discharge servitude is to have a common user servitude in which a number of possible industries can establish infrastructure required to discharge effluent into the marine environment. The types of industries that may require discharge of effluent can be grouped as follows:

- Aquaculture (Finfish): 0.94 m^3/s

Email Notification sent to Joy du Plessis (Branch Manager - Sanitech) on 11 August 2020 following telephone correspondence



FW: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

NW Nicole Wienand
To: joyd@sanitech.co.za

Tue 2020/08/11 15:22

Dear Interested and Affected Party,

The Coega Development Corporation (CDC) intends to development marine intake and outfall infrastructure servitude(s), of which the purpose is the provision of seawater for various industries (aquaculture, power provision and desalination) via a number of seawater intakes and the discharge of treated effluent into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast.

Notice is hereby given in terms of Regulation 41(2) published in GNR. 982 under Chapter 6 of the National Environmental Management Act (NEMA, Act No. 107 of 1998 and subsequent amendments) Environmental Impact Assessment (EIA) Regulations (2014, as amended in 2017) of the submission of an application to the Department of Environment, Forestry and Fisheries (DEFF) for Environmental Authorisation. Please note that the DEFF has approved the proposed Public Participation Process (PPP) Plan and the Application Form and the following DEFF Reference Number has been issued to the project: 14/12/16/3/3/2/2001.

A short description of the proposed infrastructure is included below:

INTAKE INFRASTRUCTURE

The rationale for developing an integrated marine abstraction servitude(s) is to have a common user servitude in which a number of possible industries can establish infrastructure required to abstract seawater from the marine environment. The types of industries that will require seawater can be grouped as follows:

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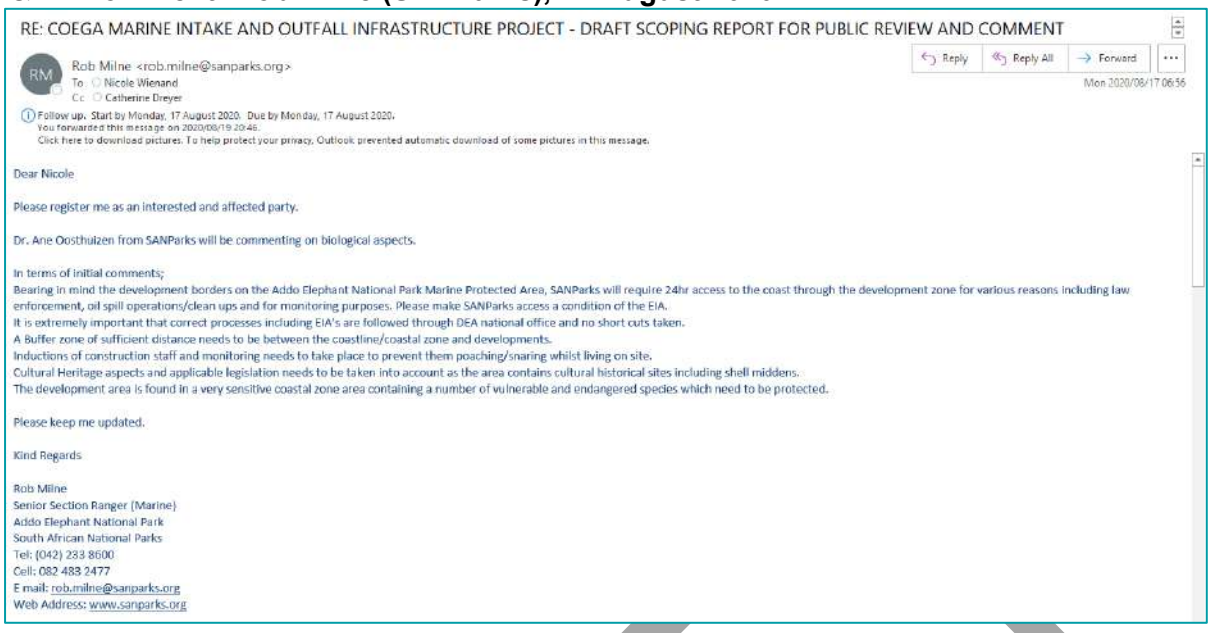
OUTFALL INFRASTRUCTURE

The rationale for developing an integrated marine discharge servitude is to have a common user servitude in which a number of possible industries can establish infrastructure required to discharge effluent into the marine environment. The types of industries that may require discharge of effluent can be grouped as follows:

- Aquaculture (Finfish): 0.94 m^3/s

I&AP Comment: Rob Milne (SANParks), 17 August 2020



RE: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

Reply | Reply All | Forward

RM Rob Milne <rob.milne@sanparks.org>
To Nicole Wienand
Cc Catherine Dreyer
Mon 2020/08/17 06:56

Follow up. Start by Monday, 17 August 2020. Due by Monday, 17 August 2020.
You forwarded this message on 2020/08/19 20:46.
Click here to download pictures. To help protect your privacy, Outlook prevented automatic download of some pictures in this message.

Dear Nicole

Please register me as an interested and affected party.

Dr. Ane Oosthuizen from SANParks will be commenting on biological aspects.

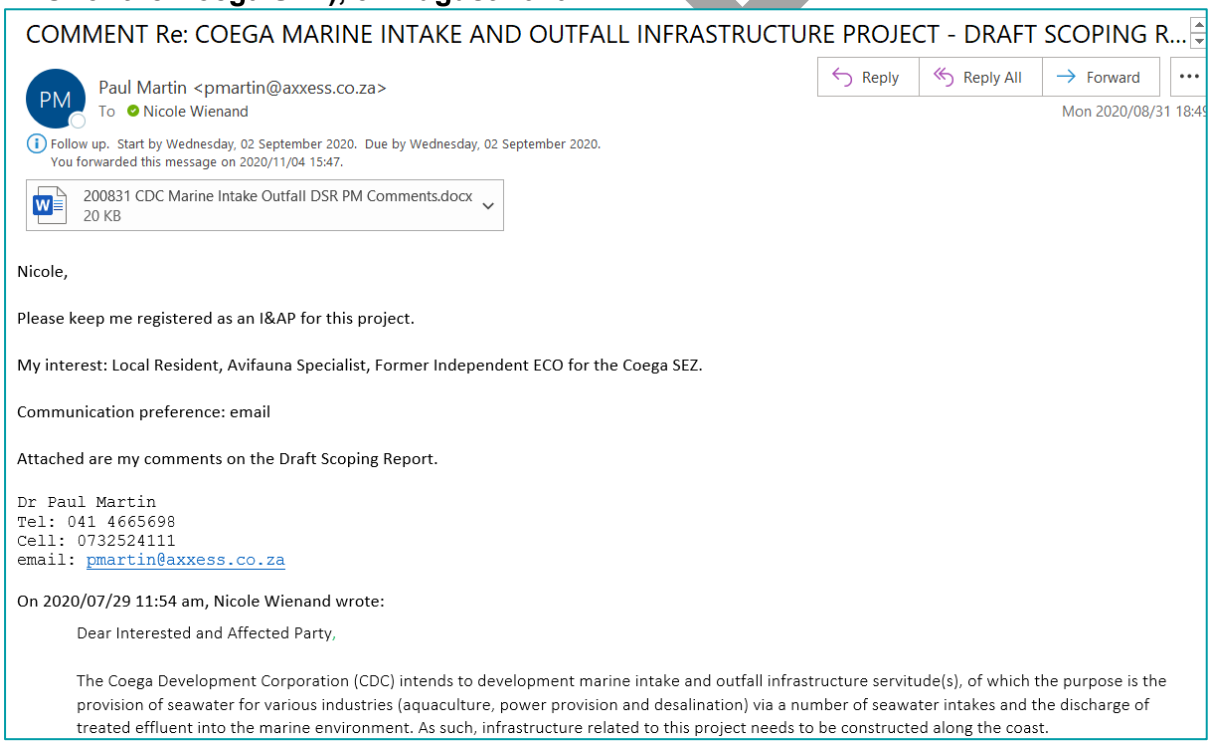
In terms of initial comments;
Bearing in mind the development borders on the Addo Elephant National Park Marine Protected Area, SANParks will require 24hr access to the coast through the development zone for various reasons including law enforcement, oil spill operations/clean ups and for monitoring purposes. Please make SANParks access a condition of the EIA.
It is extremely important that correct processes including EIA's are followed through DEA national office and no short cuts taken.
A Buffer zone of sufficient distance needs to be between the coastline/coastal zone and developments.
Inductions of construction staff and monitoring needs to take place to prevent them poaching/snaring whilst living on site.
Cultural Heritage aspects and applicable legislation needs to be taken into account as the area contains cultural historical sites including shell middens.
The development area is found in a very sensitive coastal zone area containing a number of vulnerable and endangered species which need to be protected.

Please keep me updated.

Kind Regards

Rob Milne
Senior Section Ranger (Marine)
Addo Elephant National Park
South African National Parks
Tel: (042) 233 8600
Cell: 082 483 2477
E mail: rob.milne@sanparks.org
Web Address: www.sanparks.org

I&AP Comment: Paul Martin (Local Resident, Avifauna Specialist, Former Independent ECO for the Coega SEZ), 31 August 2020



COMMENT Re: COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - DRAFT SCOPING R...

Reply | Reply All | Forward

PM Paul Martin <pmartin@axxess.co.za>
To Nicole Wienand
Mon 2020/08/31 18:49

Follow up. Start by Wednesday, 02 September 2020. Due by Wednesday, 02 September 2020.
You forwarded this message on 2020/11/04 15:47.

200831 CDC Marine Intake Outfall DSR PM Comments.docx
20 KB

Nicole,

Please keep me registered as an I&AP for this project.

My interest: Local Resident, Avifauna Specialist, Former Independent ECO for the Coega SEZ.

Communication preference: email

Attached are my comments on the Draft Scoping Report.

Dr Paul Martin
Tel: 041 4665698
Cell: 0732524111
email: pmartin@axxess.co.za

On 2020/07/29 11:54 am, Nicole Wienand wrote:

> Dear Interested and Affected Party,
>
> The Coega Development Corporation (CDC) intends to development marine intake and outfall infrastructure servitude(s), of which the purpose is the provision of seawater for various industries (aquaculture, power provision and desalination) via a number of seawater intakes and the discharge of treated effluent into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast.

Comments attached in the above email from Paul Martin

Marine Intake & Outfall Infrastructure Servitude Project, Coega SEZ

Comments on Draft Scoping Report (31 Aug 2020)

Dr Paul Martin, pmartin@axxess.co.za Tel: 041 4665698
Interest: Local Resident, Avifauna Specialist, Former ECO for the Coega SEZ.

My comments on the Draft Scoping Report:

1. **Leaks:** Designs / operational mitigation to detect and prevent seawater leaks on land is required (seawater is a potent herbicide). There is a similar requirement to prevent / detect leaks along the effluent infrastructure.
2. **Water Quality:** Noted that this EIA will assess water quality impacts (from e.g. the proposed WWTW, Aquaculture & power stations) on the marine environment. As the full extent and nature of the industries are not yet known a very precautionary / worst case scenario approach is required, especially as very few WWTW in RSA comply with their permit conditions. Aquaculture will presumably result in elevated nutrient levels in discharge water. It is noted that the proposed discharge pipe locations are "upstream" (west to east longshore drift) of the proposed intake pipes – leading to a contamination risk (noted that modelling will be done to assess this).
3. **Alien Marine Organisms:** The Aquaculture Zone EIA did not assess the impact of escaped marine organisms (from aquaculture projects) on the marine environment. Will this EIA do so / how will mitigation ensure that nothing gets into the discharge systems.
4. **Heritage:** Noted that the Heritage Impact Assessment (2010) and the Recommendations of SAHRA dated 16 March 2011 will be adhered to. There will almost certainly be shell middens along the pipeline routes through the coastal zone.
5. **Decommissioning / Repairs**: At all stages construction / repair waste (old pipes, etc) need to be removed – including all scrap, etc underwater. The marine engineering work looks complicated – meaning a lot can go wrong.
6. **Ownership of the infrastructure:** Presumably CDC is going to be the holder of the Environmental Authorization (EA) and will be responsible for ensuring the operational maintenance of the infrastructure and ensuring that all tenants comply with requirements? A rigorous monitoring and enforcement system is required to prevent tenants shirking their obligations (this must be a condition of the EA).
7. **Existing EAs / RoDs / EMPrs:** Existing Environmental Authorisations & their EMPRs for areas impacted by the development need to be checked to avoid any conflicting recommendations / actions (e.g. The Port & CDC RoDs, Mining & Aquaculture EAs, Manganese EA, etc).
8. **Mammals**:
    a. 2002 Port RoD Condition 2.18: "The NPA must ensure that the Duthies golden mole and Pygmy hairy-footed gerbil occurring in the dune habitats in the Coega area are included in the relocation and management plan to the satisfaction of the relevant provincial environmental department". See attached that includes a discussion that *Gerbilliscus paeba exilis* that has known colonies at the bases of the Ngqura breakwaters may be a distinct threatened species.
    b. Blasting must e.g. avoid whale periods (especially Southern Right Whale calving periods and Humpback Whale Cow/Calf return migration periods).
9. **Avifauna:**
    a. E.g. Table 4.4: SCC bird species should include Regional (SA Red Data Book) & Global (IUCN Red List) species as well as gazetted Threatened or Protected Species (TOPS) – both Terrestrial and Marine (e.g. GN 476 dd 30 May 2017).
    b. Bird lists for the area are included in previous EIAs / available on BIrdMap (e.g. Bush Blackcap / Black-tailed Godwit are at best vagrants, Black Oystercatcher is no longer a SCC).

c. Damara Tern colony: See Mining Right EIA avifauna report for potential impacts. Apart from direct disturbance impacts on the colony, indirect impacts include water quality / turbidity (may impact the feeding grounds of this near-shore feeder), sand starvation of the dunefield – if this project further prevents sand entering the dunefield this will be an additional impact, attraction of mammalian and aerial predators (e.g. due to effluent discharges, marine material / waste at the pump stations). Timing construction to avoid the Damara Tern breeding period should be considered as one of the mitigating actions & there should be continued colony monitoring.

d. If the seawater intake results in Cerebos closing its Coega Saltpans (as it will have access to alternative brine sources), this will have a Very High Permanent Impact on avifauna (see Manganese Project EIA). It is not clear which project EIA will assess this possibility – if the saltpans cease to operate is a decommissioning EIA required before the pans start to dry out?

Please note the above comments received from Paul Martin will be addressed I the Final Scoping Scoping Report.

PROOF OF SMS NOTIFICATION SENT TO I&APS ON THE 30TH OF JULY 2020

Message History Detail: Batch 1074428983

Time submitted	2020-07-30 15:23:51.0
Total messages	186
Total credits	196.80
Delivery summary	

Delivery to network failed	4.84%
Delivered to mobile	79.03%
Delivery failed	8.06%
Failed: expired	8.06%

Recipient	Status	Credits	Completed time	BodyHelp
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+2729186269	Delivery failed	2.50	2020-07-30 22:39:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+2729186269	Delivery failed	2.50	2020-07-30 22:39:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
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+27609884114	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27609884114	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
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+27622952167	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27622952167	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
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+27664743114	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
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+27674266387	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
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+27724461406	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
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+27741220665	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27741220665	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3):

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+27741485583	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27741485583	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
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+27769112885	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation

				E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27769112885	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27781347381	Delivered to mobile	1.00	2020-07-30 15:25:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27781347381	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27781347381	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3):

				SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27787466570	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27787466570	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27787466570	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27794900361	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth.

				D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27794900361	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27794900361	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27795031762	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27795031762	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 2 of 3): ga Development Corporation

				E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27795031762	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27814855679	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27814855679	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27814855679	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 3 of 3):

				SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27822963984	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27822963984	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27822963984	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27823255416	Delivery failed	1.00	2020-07-30 15:39:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth.

				D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27823255416	Delivery failed	1.00	2020-07-30 15:54:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27823255416	Delivery failed	1.00	2020-07-30 16:09:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27823260816	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27823260816	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation

				E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27823260816	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27823332069	Failed: expired	1.00	2020-08-01 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27823332069	Failed: expired	1.00	2020-08-01 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27823332069	Failed: expired	1.00	2020-08-01 15:23:00	Concatenated SMS (part 3 of 3):

				SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27823741233	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27823741233	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27823741233	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27823907639	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth.

				D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27823907639	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27823907639	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27824957796	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27824957796	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation

				E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27824957796	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27824988491	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27824988491	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27824988491	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3):

				SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27825178240	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27825178240	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27825178240	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27826051366	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth.

				D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27826051366	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27826051366	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27826509674	Failed: expired	1.00	2020-08-01 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27826509674	Failed: expired	1.00	2020-08-01 15:24:00	Concatenated SMS (part 2 of 3): ga Development Corporation

				E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27826509674	Failed: expired	1.00	2020-08-01 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27826549507	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27826549507	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27826549507	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3):

				SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27827820408	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27827820408	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27827820408	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27827989604	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth.

				D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27827989604	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27827989604	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27828029108	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27828029108	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation

				E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27828029108	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27828055965	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27828055965	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27828055965	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3):

				SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27828545395	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27828545395	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27828545395	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27828732214	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth.

				D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27828732214	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27828732214	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27828768766	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27828768766	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation

				E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27828768766	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27829402276	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27829402276	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27829402276	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 3 of 3):

				SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27829433279	Delivery failed	1.00	2020-07-31 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27829433279	Delivery failed	1.00	2020-08-01 01:32:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27829433279	Delivery failed	1.00	2020-07-31 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27829533532	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth.

				D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27829533532	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27829533532	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27832265927	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27832265927	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 2 of 3): ga Development Corporation

				E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27832265927	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27832283055	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27832283055	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27832283055	Delivered to mobile	1.00	2020-07-30 15:25:00	Concatenated SMS (part 3 of 3):

				SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27832360085	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27832360085	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27832360085	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27832948783	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth.

				D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27832948783	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27832948783	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27833004342	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27833004342	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 2 of 3): ga Development Corporation

				E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27833004342	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27833206222	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27833206222	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27833206222	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3):

				SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27833212205	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
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+27833212205	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
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				D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27833849563	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27833849563	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27833866160	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
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				E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
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+27836296868	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27836296868	Delivered to mobile	1.00	2020-07-30 15:24:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27839533057	Delivery failed	1.00	2020-07-31 18:23:00	Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth.

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+27843008579	Delivered to mobile	1.00	2020-07-30 15:25:00	Concatenated SMS (part 2 of 3): ga Development Corporation

				E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27843008579	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
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+27845487000	Delivered to mobile	1.00	2020-07-30 15:23:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
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				SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
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+27846284499	Failed: expired	1.00	2020-08-01 15:51:00	Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27846284499	Failed: expired	1.00	2020-08-01 15:51:00	Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27862198074	Delivery to network failed	1.20		Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth.

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+27862198074	Delivery to network failed	1.20		Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
+27877002949	Delivery to network failed	1.20		Concatenated SMS (part 1 of 3): Project Name Marine Intake and Outfall Infrastructure Servitude(s) in the Coega SEZ, near Port Elizabeth. D E F F Ref. No 14/12/16/3/3/2/2001 Applicant: Coe
+27877002949	Delivery to network failed	1.20		Concatenated SMS (part 2 of 3): ga Development Corporation

				E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27877002949	Delivery to network failed	1.20		Concatenated SMS (part 3 of 3): SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
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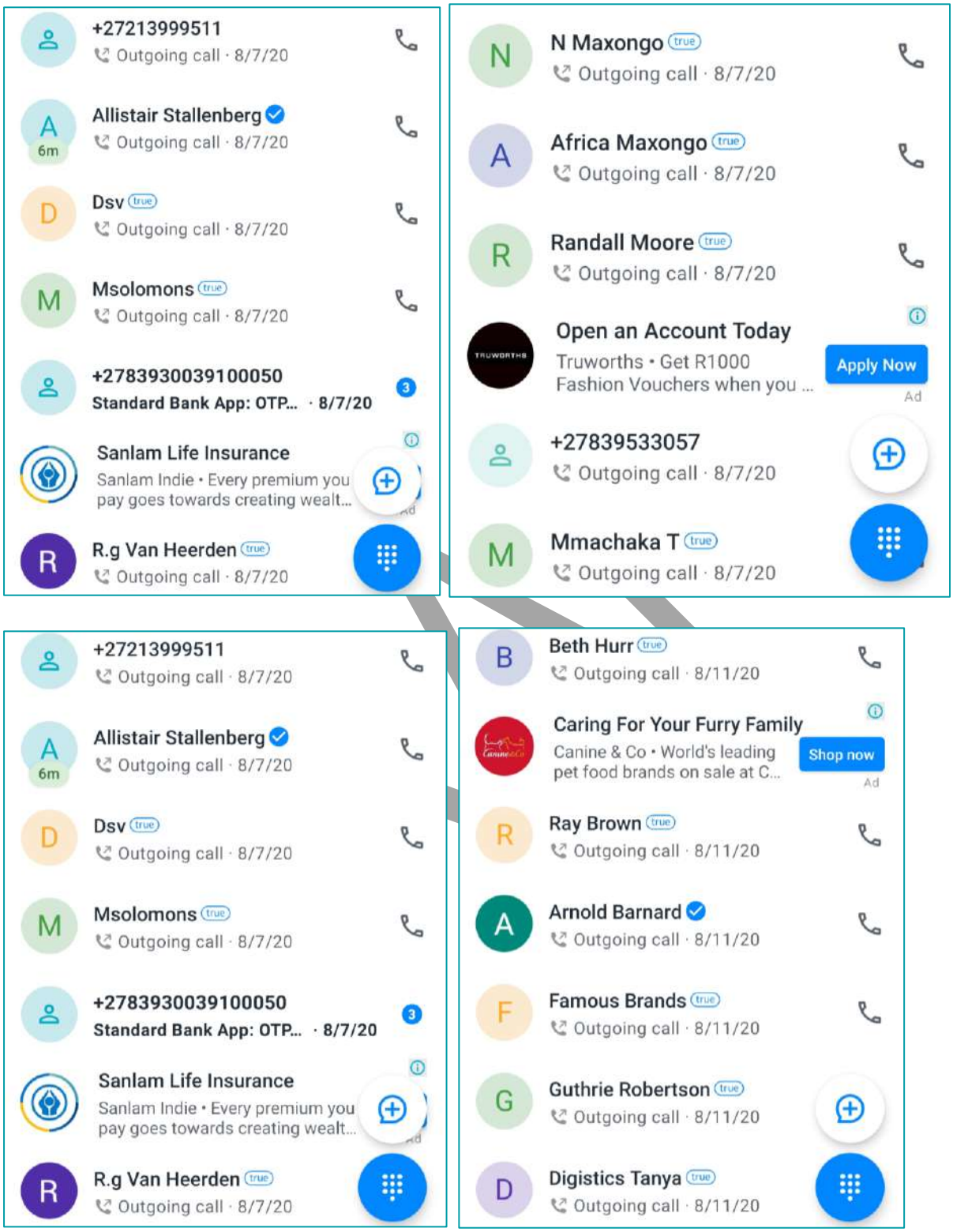
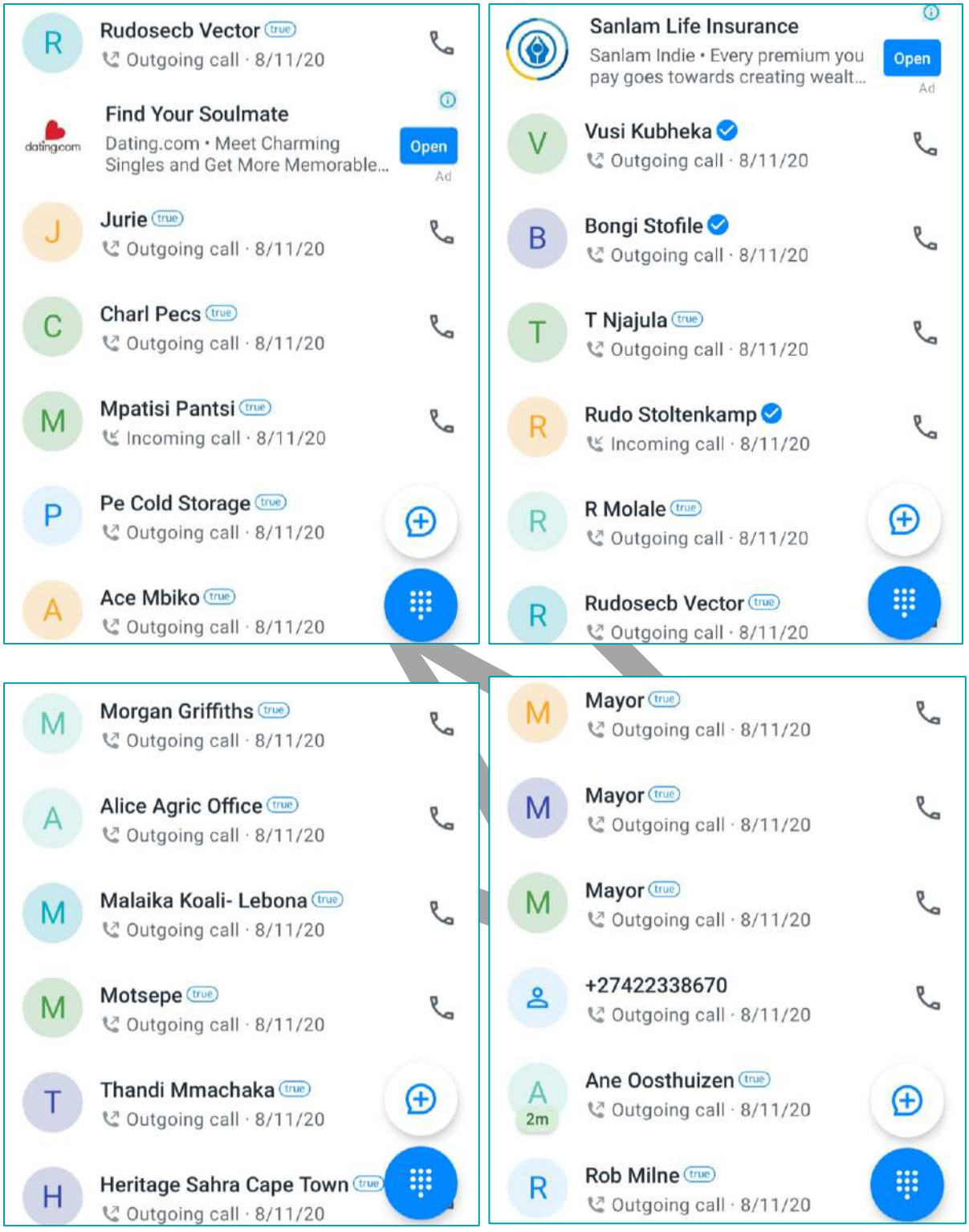
+27877008006	Delivery to network failed	1.20		Concatenated SMS (part 2 of 3): ga Development Corporation E A P C E S D r a f t S c o p i n g R e p o r t (DSR) Public Review Period: 29 July to 29 August 2020 F o r more information and/or a copy of the D
+27877008006	Delivery to network failed	1.20		Concatenated SMS (part 3 of 3):

				SR please contact Ms Nicole Wienand n.wienand@cesnet.co.z a / 0466222364
Records: 186				

PROOF OF TELEPHONE PHONECALLS MADE TO I&APS ON THE 7TH AND THE 11TH OF AUGUST 2020

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Find Your Soulmate
Dating.com • Meet Charming Singles and Get More Memorable...
Open
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Charl Pecs true
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Mpatisi Pantsi true
Incoming call · 8/11/20
Pe Cold Storage true
Outgoing call · 8/11/20
Ace Mbiko true
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Sanlam Life Insurance
Sanlam Indie • Every premium you pay goes towards creating wealt...
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Vusi Kubheka
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Bongi Stofile
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Outgoing call · 8/11/20
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Heritage Sahra Cape Town true
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Mayor true
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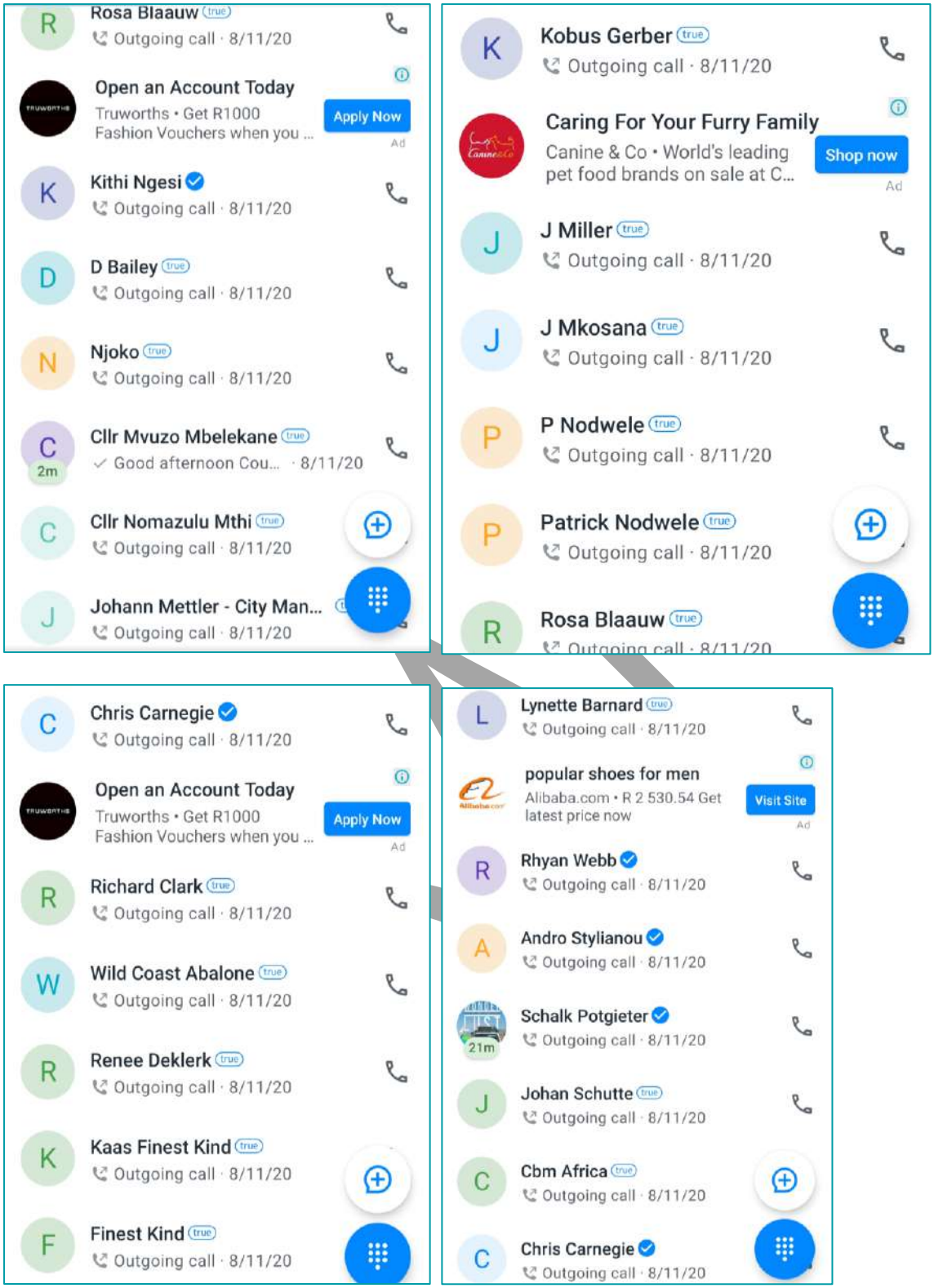
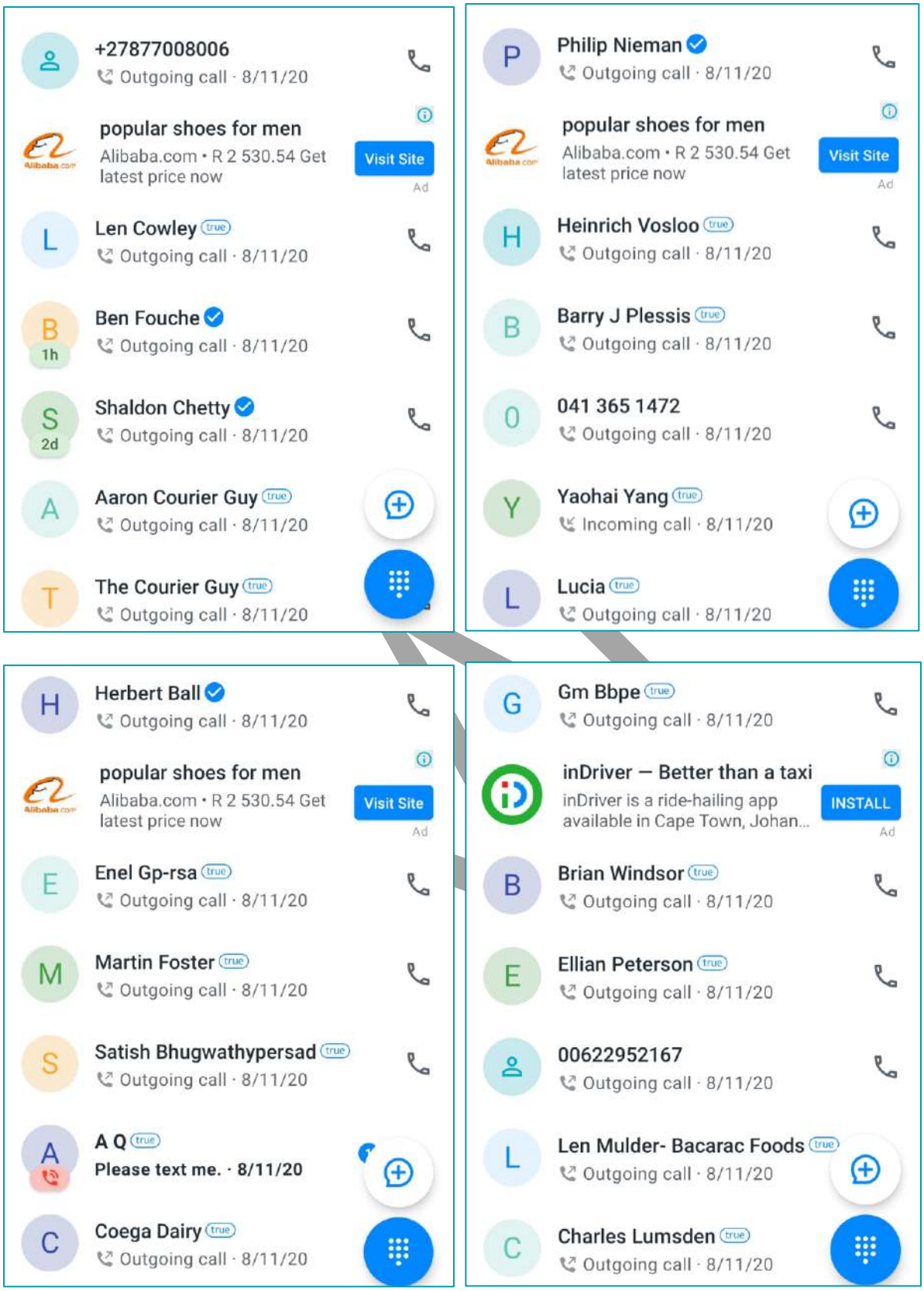
Ane Oosthuizen true
Outgoing call · 8/11/20
2m
Rob Milne true
Outgoing call · 8/11/20


Rosa Blaauw
Outgoing call · 8/11/20
Open an Account Today
Truworths • Get R1000 Fashion Vouchers when you ...
Apply Now
Ad
Kithi Ngesi
Outgoing call · 8/11/20
D Bailey
Outgoing call · 8/11/20
Njoko
Outgoing call · 8/11/20
Cllr Mvuzo Mbelekane
Good afternoon Cou... · 8/11/20
2m
Cllr Nomazulu Mthi
Outgoing call · 8/11/20
Johann Mettler - City Man...
Outgoing call · 8/11/20
Kobus Gerber
Outgoing call · 8/11/20
Caring For Your Furry Family
Canine & Co • World's leading pet food brands on sale at C...
Shop now
Ad
J Miller
Outgoing call · 8/11/20
J Mkosana
Outgoing call · 8/11/20
P Nodwele
Outgoing call · 8/11/20
Patrick Nodwele
Outgoing call · 8/11/20
Rosa Blaauw
Chris Carnegie
Outgoing call · 8/11/20
Open an Account Today
Truworths • Get R1000 Fashion Vouchers when you ...
Apply Now
Ad
Richard Clark
Outgoing call · 8/11/20
Wild Coast Abalone
Outgoing call · 8/11/20
Renee Deklerk
Outgoing call · 8/11/20
Kaas Finest Kind
Outgoing call · 8/11/20
Finest Kind
Outgoing call · 8/11/20
Lynette Barnard
Outgoing call · 8/11/20
popular shoes for men
Alibaba.com • R 2 530.54 Get latest price now
Visit Site
Ad
Rhyan Webb
Outgoing call · 8/11/20
Andro Stylianou
Outgoing call · 8/11/20
Schalk Potgieter
Outgoing call · 8/11/20
21m
Johan Schutte
Outgoing call · 8/11/20
Cbm Africa
Outgoing call · 8/11/20
Chris Carnegie
Outgoing call · 8/11/20


+27877008006
Outgoing call · 8/11/20
popular shoes for men
Alibaba.com • R 2 530.54 Get latest price now
Visit Site
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Len Cowley true
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Ben Fouche
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Shaldon Chetty
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Aaron Courier Guy true
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The Courier Guy true
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Philip Nieman
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Heinrich Vosloo true
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Barry J Plessis true
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041 365 1472
Outgoing call · 8/11/20
Yaohai Yang true
Incoming call · 8/11/20
Lucia true
Outgoing call · 8/11/20
Herbert Ball
Outgoing call · 8/11/20
popular shoes for men
Alibaba.com • R 2 530.54 Get latest price now
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Enel Gp-rsa true
Outgoing call · 8/11/20
Martin Foster true
Outgoing call · 8/11/20
Satish Bhugwathypersad true
Outgoing call · 8/11/20
A Q true
Please text me. · 8/11/20
Coega Dairy true
Outgoing call · 8/11/20
Gm Bbpe true
Outgoing call · 8/11/20
inDriver — Better than a taxi
inDriver is a ride-hailing app available in Cape Town, Johan...
INSTALL
Ad
Brian Windsor true
Outgoing call · 8/11/20
Ellian Peterson true
Outgoing call · 8/11/20
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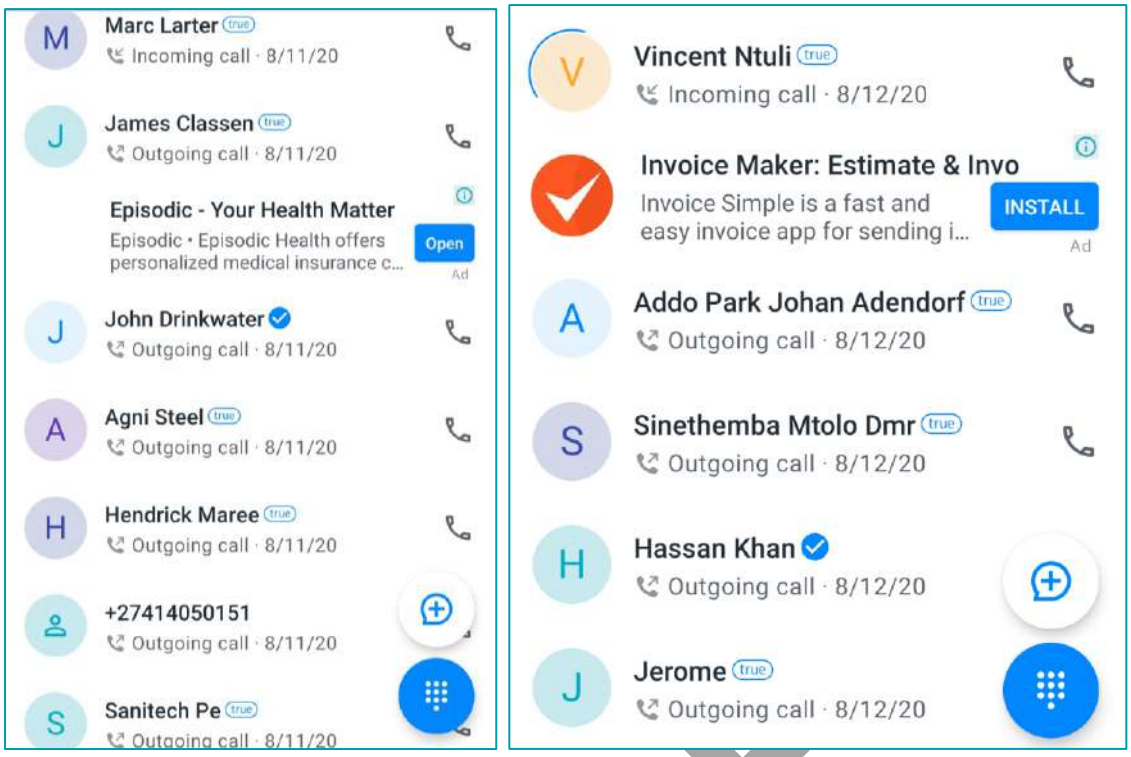
Outgoing call · 8/11/20
Len Mulder- Bacarac Foods true
Outgoing call · 8/11/20
Charles Lumsden true
Outgoing call · 8/11/20


Marc Larter
Incoming call · 8/11/20
James Classen
Outgoing call · 8/11/20
Episodic - Your Health Matter
Episodic • Episodic Health offers personalized medical insurance c...
Open
Ad
John Drinkwater
Outgoing call · 8/11/20
Agni Steel
Outgoing call · 8/11/20
Hendrick Maree
Outgoing call · 8/11/20
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Vincent Ntuli
Incoming call · 8/12/20
Invoice Maker: Estimate & Invo
Invoice Simple is a fast and easy invoice app for sending i...
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Addo Park Johan Adendorf
Outgoing call · 8/12/20
Sinethemba Mtolo Dmr
Outgoing call · 8/12/20
Hassan Khan
Outgoing call · 8/12/20
Jerome
Outgoing call · 8/12/20

HISTORICAL I&AP COMMENTS FOR THE PROPOSED DEVELOPMENT.

Public participation was done in accordance with Chapter 6 of the EIA Regulations (2014) and guidelines published in assistance of interpretation of these regulations. Pre-application notices were placed in the media (The Star, the Herald and Die Burger), on the CDC's electronic notice board, and were sent out as Background Information Documents (BIDs) to identified stakeholders (refer to Chapter 9 for the Interested and Affected Party database). IAPs were given 30 days to submit comments on the notices (i.e. from 6 September to 7 October 2016). Comments submitted by IAPs on the pre-application notices have been incorporated in this FSR.

The Draft Scoping Report (pre-application phase) was presented at the Environmental Liaison Committee meeting on 17 November 2016, and a consultation meeting was held with Oceans and Coasts in Cape Town on 28 November 2016.

The Draft Scoping Report identified and described potential impacts associated with the proposed establishment of an integrated marine discharge and abstraction servitude (s) and associated land-based infrastructure. All registered IAPs, state departments and other potentially interested IAPs were notified of the availability of the Draft Scoping Report for review and 30 day commenting period. The notice included a link to download the full report from CEN IEM Unit's website, and noted that if IAPs had difficulty in downloading the report, they should contact the EAP to make it available by other means. A hard copy of the report was placed at the CDC's offices and was provided to commenting state departments (i.e. the Eastern Cape DEDEAT, DEA Oceans and Coasts) as well as the review authority (i.e. DEA). A public open meeting was held on 22 February 2017 where IAPs could engage with the EAP and project proponent and discuss the project.

Comments received on the DSR and at the public meeting were incorporated into the Final Scoping Report, which was submitted to the authorities for their review. IAPs were notified of the submission of the report to the DEA, and were sent a copy of the Executive Summary of the report for their reference. A copy of the full report was made available on CEN IEM Unit's website at http://www.environmentcen.co.za/projects.aspx

Below is a "comments and response sheet" including all issues raised by Interested and Affected Parties as well as the response by the Environmental Assessment Practitioner. Note that comments submitted during previous public participation efforts done by CEN IEM Unit as part of the first EIA process (i.e. where notices of reactivation of the EIA process were distributed) are included for reference purposes

Notice of Reactivation of the EIA Process (EIA under 2006 and 2010 regulations)		
IAP	**Comment**	**EAP Response**
Jeanne Vorsatz - Aurecon	What type of marine dispersal studies will be done and what is the duration of the studies	Anchor Environmental are doing the marine specialist study and dispersion model. The study will include the following (this is extracted from terms of reference for their study): 1) description of the affected hydrographical and geophysical environment 2) Detailed description of the hydrodynamic processes (i.e. currents, water column stratification, water temperature variability and turbulence) for a range of environmental conditions (i.e. for various tides, waves, winds and air-sea fluxes as experienced in the affected marine environment) 3) Detailed description of the biogeochemical processes (water column and sediment) 4) Modelling: The behaviour of the effluent plumes for discharge points will be evaluated and modelled under various scenarios using a near-field dilution model (most probably with the software program CORMIX, MixZon Inc., USA) and a far-field dispersion model (most probably the Regional Ocean Modelling System, Shchepetkin and McWilliams 2005). Modelling studies will be used to determine the nearshore and farfield ocean circulation patterns under a variety of wind conditions, the main driver of surface currents in the ocean. The dispersion and advection of the effluent will be simulated using a passive tracer approach, which will serve as proxy for the effluent. In addition, the dispersion and advection of temperature and salinity will also be simulated since the effluent will contain fresh water at a temperature different from that of the receiving marine environment. The three dimensional model will include the oceans response to, wind, tides, temperature stratification, salinity as well as heat fluxes to account for air-sea interactions.
	What type of studies are proposed for determining existing marine taxa in the marine environment that are likely to be affected by the servitude	

		It is proposed that the behaviour of the effluent be simulated for a representative range of environmental conditions. Moreover, experiments will be conducted, where the effluent is released at different locations in the model domain, for example closer vs. further away from shore. The model will be validated against available observations deployed in the region, including temperature, salinity and current measurements, as well as historical data and previously documented studies of the area. Twelve scenarios will be simulated: The plume dimensions will be determined based on exceedance of water quality target values pertinent to the effluent to be discharged. These water quality target values will be decided in consultation with the specialists undertaking the ecological assessments. The results of the modelling exercises will inform the best location of the pipeline along the coast and at what depth the effluent would be best discharged. It is also envisaged that this will provide information on dilution rates and the spatial and temporal footprint of the effluent plume. **Note** that since the original terms of reference of was approved, the volumes of effluent to be discharged and abstraction volumes of seawater have increased substantially. A midfield model will also be done to determine possible interactions between the discharge plumes (if more than one servitude is proposed) and also between the plume and abstraction points 5) Marine ecological assessment: a. Desktop study: 1. Production of a geo-referenced map showing the distribution of the various habitat types and the associated biological resources that highlights areas with: i. Biological resources of conservation importance ii. Biological resources targeted for exploitation

		iii. Biological resources that have been lost, or are stressed, as a result of anthropogenic influence iv. Biological resources endemic to that area. 2. A list of dominant species, species of particular conservation importance and species targeted for exploitation, with best estimates of spatial and temporal variability. 3. Likely migration routes and patterns of above mentioned species in relation to estuary mouths in the region (Coega, Sundays, and Swartkops estuaries) 4. List of biological resources that are potentially sensitive to anthropogenic influences already present in the area and/or that may be sensitive to constituents present in the proposed wastewater discharge, and quantification of cause-and-effect relationships as best as possible (i.e. to refine the ecological quality objectives). 5. Assessment of the likely impacts of the proposed discharge on the habitat of the species identified above
	Are there any alternative process treatments that are being investigated instead of marine discharge	At this stage, the idea is that the marine model will set standards that need to be met by investors prior to discharge. It will be up to individual industries to decide what treatment methods to employ to meet standards. However, depending on the outcomes of the midfield model, it may be necessary to implement pre-treatment of effluent prior to discharge. This will be reported on in the EIA phase
	What type of emergency/mitigation measures are being investigated in the event of a discharge pipeline breach	The Scoping Report has identified risks/environmental impacts for further assessment at EIA stage. Emergency/mitigation measures will be listed at EIA stage.
Dan Abraham - Aurecon	Interested in the project, and request to be registered as an IAP	Registered on the IAP database for the project and will be kept updated of the process and all further documentation
Chris Albertyn - LAQS	Request to be registered as an IAP	Registered on the IAP database for the project and will be kept updated of the process and all further documentation

Dave Louw - Cerebos	Our interest in the matter arises in that we currently pump seawater from the immediate vicinity of the proposed abstraction and effluent discharge areas, for purposes of salt manufacture, and wish to ensure the continued quality of such supply, especially with regard to possible pollution concerns of discharging effluent to these areas	Noted, thank you. This information has been sent to the marine specialist for consideration in the dispersion model. The Saltworks will be regarded as an existing 'beneficial user', where water quality of the user cannot be compromised by the proposed discharge servitude
Marisa Bloem - DWS	Requested a hard copy of the Draft Scoping Report for commenting purposes	Noted. A hard copy of the DSR will be delivered to DWS's offices
Huldah Solomon - GMS	General Motors SA has an effluent discharge permit from the NMBM. Request to be registered as an IAP	Noted, thank you. Registered on the IAP database for the project and will be kept updated of the process and all further documentation
Mulalo Tshikotshi – Oceans and Coasts	Requested additional information on the option of positioning the discharge servitude on the Port of Ngqura breakwater. Indicated that as long as the discharge does not compromise water quality for aquaculture or any surrounding sensitive ecosystems, it will be acceptable	A copy of the BID was sent to Oceans and Coasts that identified possible alternative positions of the discharge servitude.
Paul Martin – Environmental Control Officer for the IDZ and Port of Ngqura	Please ensure that I am registered as an I&AP and throughout the EIA process please supply full electronic copies (e.g. including specialist reports) of whatever documents become available	Registered on the IAP database for the project and will be kept updated of the process and all further documentation

	Explain in the EIA why it is being done in terms of the 2006 regulations & whether this results in any practical difference (e.g. in the listed activities) compared with the 2010 EIA regulations. The option to take the pipe along the Eastern Breakwater seems very sensible at first glance - why wasn't it considered during the Scoping Phase? Note that to protect Jahleel Island from land predators the 2002 EIA advocates minimal activity, lighting, etc on the Eastern Breakwater.	Note the application is now being done in terms of the 2014 regulations. Listed activities applied for are given in Chapter 2 of this DSR
	Presumably dispersion modelling will be done to look particularly at the possible effect on Jahleel Island. Note that Stellenbosch University is modelling the currents and sand movements with respect to the sand by-pass at present and there will be synergies with this project (Nomkhitha Kwinana, Enviro Manager at the Port is the contact at TNPA[3]). There seems to be a build-up of sand between Jahleel and the E Breakwater due to the sand by-pass discharge - this may have an influence (e.g. the pipe entrance could get buried in sand eventually).	

[3] Note that the current contact at TNPA is Mandilakhe Mdodana

	You are obviously aware of the Damara Tern breeding colony (South Africa's rarest breeding seabird)	
Paul-Pierre Steyn - NMMU	I am a lecturer in the NMMU Botany Department and a researcher with the NMMU Institute for Coastal & Marine Research. I am involved in marine research in Algoa Bay, Hougham Park, and the inshore islands. I would like to register as an I&AP in order to remain informed of the process and the issues that arise	Registered on the IAP database for the project and will be kept updated of the process and all further documentation
Melinda Labuscagne and R Le Roux – NMBM Waste Management	Request to be registered as an IAP	Registered on the IAP database for the project and will be kept updated of the process and all further documentation
Pre-Application Notice – EIA under the 2014 regulations		
Carmen Barends – Leads 2 Business	Request to be registered as an IAP and a copy of the BID	Registered on the IAP database for the project and will be kept updated of the process and all further documentation. Copy of BID provided
John Geeringh - ESKOM	No comments but request to be registered and kept informed	Registered on the IAP database for the project and will be kept updated of the process and all further documentation
Ronald Smith – Digistics (Zone 1, Coega IDZ)	Request to be registered as an IAP	Registered on the IAP database for the project and will be kept updated of the process and all further documentation
Mandilakhe Mdodana - TNPA	Requested clarity on the date when comments on pre-application notice should be submitted as Pg 11 of the BID stated 7 September	Confirmed that the closing date for comments is 7 October 2016 as indicated in the body of the email notice and the front page of the BID Noted. Impacts of construction of infrastructure related to the proposed discharge and abstraction servitudes, as well as that of discharge of effluent and potential impact on water and sediment quality in the Port will be assessed in this EIA process

	Noted that TNPA is the holder of an environmental authorisation for the Port and may be affected by the proposed servitude. The Port has an obligation of ensuring its activities do not affect the natural environment negatively and all impacts associated with its activities are kept at minimal levels	
Alan Southwood - DEDEAT	Requested to be registered as an IAP for the process, and to receive hard copies of the reports for commenting purposes	Registered on the IAP database for the project and will be kept updated of the process and all further documentation. A hard copy of this DSR has been made available to Mr Southwood
Hugo Badenhorst – PPC Cement SA (Pty) Ltd	PPC provided a map indicating the area north-east of the Port where they have mining rights to mine sand dunes and plan to mine in the future. Potential conflicts between mining and planned infrastructure required as part of the proposed abstraction and discharge servitude were noted and objected to.	The EIA process and planning of infrastructure required for the abstraction and discharge servitude(s) will be taken cognisance of. PPC will be engaged throughout the process to avoid conflicts with their mining areas.
Lesa la Grange - SAHRA	Noted that all official comments are now processed electronically via SAHRA's online platform (http://www.sahra.org.za/sahris/). To ensure a timely response to all correspondence relating to the case, SAHRA requested that any documents pertaining to the proposal be uploaded to an application on SAHRIS as they become available	Thank you, and noted. All future documents will be uploaded to the website for comment An underwater archaeological specialist has been appointed to survey the selected servitude(s) areas.

	Recommended that an archaeological specialist survey the area to assess heritage impacts in full.	
Dr Ane Oosthuizen - SANParks	SANParks note that the Islands and proposed MPA as part of Addo ENP has been identified as sensitive areas. Please keep SANParks on the stakeholder list	Thank you and noted. The islands and proposed MPA have been identified as sensitive areas in the baseline marine ecology report. The marine dispersion model will assess the movement of the discharge plume and water quality at the edge of the required mixing zone from servitude areas in relation to these sensitive habitats.
Dr Paul Martin – ECO for the IDZ and Port of Ngqura	Confirmed that he is still a registered IAP. Noted that he can make recent data on damara terns available. There has been a significant increase in their breeding in the area in January 2016	Confirmed that he is still a registered IAP for the process A copy of the BID was made available. Requested further details on the damara tern and any other relevant data that would be useful in the assessment of impacts related to the project
Peter Myles	Requested clarity on the date when comments on pre-application notice should be submitted as Pg 11 of the BID stated 7 September	Confirmed that the closing date for comments is 7 October 2016 as indicated in the body of the email notice and the front page of the BID
Kwanele Gxoyiya - Commercial Legal Advisor for MTU South Africa (Pty) Ltd	Rolls-Royce Power Systems (the holding company of MTU South Africa) is part of a consortium which seeks to respond to the Gas to Power project in the Coega IDZ. Requested to be registered as an IAP to provide input w.r.t. their technology (reciprocating gas engines) and the possible impact it may have on the environment.	Explained that CEN IEM Unit is handling the EIA process for the marine servitude, which includes possible abstraction and discharge by a CCGT power plant. Registered as IAP and sent a copy of the BID. Advised the IAP to register for the EIA process for the CCGT power plant being handled by SRK Consulting. Contact details for SRK provided. SRK made contact with IAP.
Brian Bouwer	Requested to be registered as an IAP	Registered on the IAP database for the project and will be kept updated of the process and all further documentation. Copy of BID made available.
Draft Scoping Report and Public Meeting – EIA under the 2014 regulations		

DEDEAT – Alan Southwood / D Govender	The Scoping Report adequately addresses issues that require assessment during the EIA process. The Plan of Study is accepted	Noted, thank you
SANParks – Anè Oosthuizen	1. Please note: Notice of intention to declare the Addo Elephant MPA was Gazetted on 3 February 2016 (GN 39646) 2. Why are there now 2 servitudes being investigated? (Recommend the positions of 2 marine-based servitudes in which future industries can establish infrastructure for abstracting seawater i.e. one to service the requirements of the aquaculture development zone and desalination, and another to service the requirements of the proposed CCGT power stations.) 3. Chap 1, Point 1.3.2 , first paragraph, the last two sentences about the collection chamber does not make sense? Will there be sampling to test for quality/standards? Will the effluent be held? How large will this chamber be? What will be the retention time? 4. It is difficult to make recommendations without the completed modelling results, and with the Nearfield model (App 5) and	1. Noted, thank you. The marine specialist study and nearfield dispersion model have taken cognisance of the proposed MPA, and have viewed it as being gazetted. The proposed extent of the MPA is regarded as a critical sensitive environment, and discharge positions and scenarios considered in the nearfield dispersion model did not place any discharges into the MPA. 2. Owing to the diverse nature of the different industries that may abstract seawater from the servitude over time, various quality and volume parameters have to be considered when determining the number and position of the abstraction servitudes, and the type of infrastructure needed in the servitude. At this stage, it is anticipated that industrial seawater requirements will comprise two broad abstraction scenarios – i.e. a high volume, lower quality seawater need for industries such as the planned CCGT power plant for example, and a lower volume better quality seawater need for facilities such as the planned ADZ for example. Depending on the volume of seawater required, different types of abstraction infrastructure will be used which has implications from an engineering design and cost perspective (which is indirectly related to the position of the servitude). Water quality requirements will determine the position and depth/distance from the high water mark into the marine environment of the abstraction servitude. Further, the position of the discharge servitude will also have bearing on the position of the abstraction servitudes, and possible draw-back of effluent into

	Conceptual Engineering design (App 3) not talking to each other in terms of discharge and intakes. However SANParks would still prefer the discharge outlet to be as far away as possible from the Islands and proposed MPA, to give greater chance of dispersal. From the nearfield model it seems that a combined discharge would be best, because of the diluting effect of the cooling water? But yet from Appendix 3: it would seem options 1 or 3 : discharge pipe tunnelled underneath the shore and surf zone would be best?. Option 2, with a standalone breakwater would be unacceptable. It would be unnecessary to put more infrastructure onto the shore. 5. Nothing mentioned about monitoring the quality of the effluent after discharge or environmental impacts? This should certainly be the responsibility of the CDC as developer? Design and implementation should be scientifically rigorous. 6. Water quality in Algoa Bay should not be allowed to decline and impact on the environment, tourism,	the abstraction servitude needs to be considered. Because of these factors, it may be necessary to have two abstraction servitudes. Current thinking is to have an abstraction servitude for cooling water in the Port, and a second abstraction servitude for the ADZ and other industries that need better water quality in the marine environment on the eastern side of the Port closer to Zone 10. This will be finalised once results of the midfield model are available. 3. Apologies, the last sentence is meant to read: 'If it is found that the collective effluent contained in the collection chamber exceeds permit standards prescribed for the ADZ, then further treatment on land will need to be investigated and implemented. This will be managed via the Coastal Water's Discharge Permit and the CDC's monitoring and reporting process to the DEA.' It is envisaged that the collection chamber will be a good area to monitor the 'cocktail' of effluent from various facilities in the ADZ prior to it being discharged via the servitude. This EIA (via the marine dispersion model and marine specialist study) will determine effluent quality standards that various industry types will need to meet before discharging from land – this would include effluent from various facilities in the ADZ that would gravitate to a common collection chamber from where it would be sent to the discharge servitude. Details on the position, size, retention time etc. of the collection chamber will be provided at EIA stage once engineering concept design reports are available. 4. Appendix 3 is a conceptual engineering design report for the ADZ only and was done prior to the nearfield and midfield dispersion models. It was included in the DSR to demonstrate the type of infrastructure that the ADZ would require between

	recreational activities or the fishing industry. 7. SANParks will be able to give more detailed comment once all the modelling studies have been completed	Zone 10 and the abstraction / discharge servitudes, as well as possible abstraction and discharge infrastructure designs; rather than the preferred position of servitudes. The nearfield model considered 12 discharge scenarios from 4 discharge positions, and identified a number of scenarios where water quality standards in the receiving environment at the edge of the Required Mixing Zone are met. It is important to note that the model did not assess any discharges into the proposed MPA boundary, and that of the outfall options that meet water quality requirements at the edge of the RMZ, none of the predicted effluent footprints interact with any of the sensitive areas identified (including the MPA or islands and their buffers). The next step is to do a midfield model which will ultimately determine the preferred position of the abstraction and discharge servitudes. The midfield model is required in addition to the nearfield model for the following reasons: a. To investigate plume interaction between multiple discharges. Water quality guidelines must be met before the point of effluent plume interaction. b. To predict the effect of water abstraction on effluent plume movement. c. To validate the results of nearfield modelling. d. To more accurately estimate dilution values beyond the nearfield 5. Noted and agreed. Monitoring and compliance will be handled via the Coastal Waters Discharge Permit (CWDP) process. The Coega Development Corporation will be accountable for monitoring of effluent at the 'end-of-pipe' at in the marine environment. The EIA and CWDP application will include a monitoring plan

		6. Noted and agreed. The EIA process and marine specialist studies are being designed using the precautionary principle. The sensitivity of the marine environment and location of sensitive habitats and beneficial users are recognised, and have been mapped in the marine dispersion model and impact assessment. The dispersion models look at the movement and extent of the effluent discharge plume in relation to sensitive environments, and consider effluent quality at the edge of the RMZ of the plume in relation to the water quality standards of the receiving environment. 7. Thank you. We will arrange a workshop with SANParks to discuss outcomes of the midfield model.
Aurecon – Margaret Lowies	No major concerns apart from potential impacts on NMBM infrastructure requirements. **Main document**: **1. S 1.3.3 p. 12**, first bullet point, last sentence: "*The EIA will also assess impacts associated with construction of infrastructure required for discharge by various industries in the servitude*." Please consult with Aurecon on the aforementioned to ensure that the EIA gives an accurate representation of possible pipeline infrastructure envisaged for the WwTW marine discharge in order to eliminate the need for an additional EIA at a later stage.	1. Possible alternatives for land-based infrastructure have been sent to Aurecon and others for comment. Workshops will be held with consultants handling the EIA process for the planned Coega WWTW, CCGT plant and ADZ plant once results of the midfield model and land-based specialist studies are available to finalise a way forward for positioning of servitudes and to share information on infrastructure requirements and plans. To note – this EIA will determine the preferred position of land-based servitudes to transfer seawater from the marine abstraction servitude to the Zone boundary of respective industries, and transfer treated effluent from the Zone boundary of respective industries to the marine discharge servitude. Further, it will assess impacts associated with construction of infrastructure within the servitudes. However, the EIA will not include detailed engineering designs of the infrastructure needed by various industries – this will need to be done by each investor as part of their planning processes. With this in mind, this EIA will not be able to assess certain specific impacts where detailed designs are required; but will

	2. **S 1.3.3 p. 12**, third bullet point: "*Recommend the position of a landward servitude for the establishment of infrastructure required to transfer abstracted seawater from the marine servitude to respective industries and to transfer effluent from respective industries to the marine discharge servitude. The servitude and required infrastructure will extend from the Zone boundary in which the respective industries are situated to the marine discharge and abstraction servitudes*." Kindly advise Aurecon at the earliest once the landward servitudes for infrastructure has been identified. The position of the connection point at the zone boundary might have significant cost implications to the NMBM and require the authorisation of additional listed activities under NEMA and NEM: ICMA. 3. **S 1.5.2 p. 18**: Aurecon confirms that the current scope of work for the WwTW includes potential supply of treated effluent to tie into the NMBM return effluent supply scheme.	rather make broad recommendations for future consideration. Further, the CDC will not be responsible for constructing infrastructure from the Zone boundaries of various industries to the marine servitudes. 2. As per Item 1 3. Noted. 4. The nearfield model considered 12 discharge scenarios from 4 discharge positions. A number of scenarios were identified where water quality requirements are met at the edge of the RMZ. The next step is to do a midfield model where the same scenarios will be tested (i.e. there are no preferred options at this stage, only a number of potentially acceptable options). A preferred discharge scenario and position will be identified taking into account impacts on the natural marine environment and beneficial users, costs to construct, engineering designs etc. The concern w.r.t. prohibitive costs of certain discharge scenarios, along with other factors such as maintenance in operational phase is noted. Further we understand that the intention is to construct and operate a WWTW that will meet certain design standards that should ideally not impact on the receiving environment. However, this EIA and the marine dispersion models have to look at worst case scenario to determine where the servitudes must be placed, and what the discharge parameters must be in the event of worst case happening. The nearfield model is based on worst-case scenario effluent, and does not differentiate between different states over time. (e.g. 'expected' effluent parameters were not modelled as the norm in the long-term in operational phase) – a precautious

	4. Appendix 5: The nearfield model refers to a "worst case" scenario with Table 4.2 indicating the discharge infrastructure and depth requirements to meet WQG values at the edge of RMZ. It is currently understood from the nearfield modelling results that an eastern or western breakwater discharge at a 16m depth with 10 diffusers (Options 1a and 4a) is recommended by Anchor. The recommendations have a significant impact on the CAPEX and OPEX implications should the NMBM decide to construct a marine outfall at some stage. It is therefore crucial that the recommendations are backed by solid data or that the limitations of the model and methodology used are clearly indicated. The main concern is that the NMBM will be bound to meeting specific design criteria based on a "worst case" scenario approach which discounts the fact that the WwTW will be discharging effluent at a much better quality for the majority of its operational lifespan.	approach was taken so that the model could inform the position, design etc. of the discharge servitude in the event of the worst-case scenario happening as this is largely an unpredictable event that can only be detected once it has already happened. The midfield model that is currently underway will include a scenario where 'expected' effluent parameters are modelled. The EIA will then compare the outcomes of this scenario with the worst-case option and determine the most feasible and risk-averse alternative going forward. 5. Industries discharging to WWTW would need to meet NMBM by-law standards prior to raw effluent entering the works. The midfield model will determine what standards the WWTW (and other industries) effluent should meet prior to discharge via the marine servitude. The receiving water quality objectives approach was followed in the nearfield model where standards for the Natural Environment as per DWA Guidelines (1995) were used – this dictates quality that the edge of the RMZ must comply with and was selected because they are the most stringent standards

	With reference to the abovementioned, could you kindly confirm the period of discharge at "worst case" concentrations for Ammonia, TSS and *E. coli* was modelled for? I.e. is the model assuming an indefinite malfunctioning of whichever industry's effluent pre-treatment or treatment processes or is the model limited to a certain timeframe of discharge of "raw" or "untreated" effluent? Linked to the aforementioned, if you could kindly confirm whether a dispersion model was done/will be done for long term discharge of different industry effluents under normal operating conditions i.e. meeting the requirements of CMC and CCC under typical conditions on not "worst case" scenarios only. 5. **Section 6, p. 41, first paragraph**: "A prerequisite for industrial effluent is that it may not contain harmful chemicals, trace metals or other substances that exceed GDA standards (personal communication with CEN). This is due to the vast number of pollutants that are likely to occur in this type of combined effluent as well as the uncertainty of industries that will discharge into the servitude. Meeting this requirement	

	will also protect against damage to WWTW bacterial treatment processes should industrial effluent be received and treated by the Coega WWTW." The Coega WwTW will allow for metal and oil removal as part of the Industrial train. It is currently envisaged that industries will have to comply with the current NMBM effluent bylaw standards in order to be allowed to discharge to the WwTW. Effluent quality cannot be dictated by the General and Special limits as per the General Authorisation of 2013 (GN 665 of 2013) as the GA is only applicable to a discharge volume of 2 Mℓ p/d and excludes marine outfalls and complex industrial wastewater. It is therefore critical to quantify the allowed contaminant concentrations (specifically metals) by means of a different set of guidelines (e.g. DWAF 1995 guidelines) or actual data collected from the study area. Due to the complex nature of effluent to be treated at the WwTW it is crucial that the design team is aware of the exact allowable concentrations of inorganic pollutants as it has a	

	significant implication in terms of the process design for the WwTW. **General:** Please inform Aurecon when the mid-field modelling has been completed and provide a copy of the results when available (if permissible)	
Aurecon – Johan van der Mescht	1. The width of the outfall/intake servitude on land; 2. The location of the marine outfall/intake corridor	Noted, thank you. These queries will be addressed and reported on at EIA stage.
MTU South Africa (Pty) Limited – Charl de Jager	Provided a document with a 'needs list' for the planned Gas to Power project.	Details regarding seawater abstraction and discharge requirements were provided to PRDW for consideration in the midfield marine dispersion model.
Discovery Health - Ellian Peterson	1. If the proposed project is approved, what impact will it have on the rest of the IDZ? 2. Will the electrical infrastructure be impacted? 3. Municipality supply affected during and after the project?	The project entails the establishment of a marine-based servitude in which current and future investors in the IDZ can establish infrastructure for the abstraction of seawater as required by their processes (e.g. for cooling, desalination, aquaculture) and/or discharge of treated effluent to the marine environment. Land-based infrastructure will also be needed to transfer treated effluent from the respective industries to the marine discharge servitude and to bring water from the sea to the industries.

		The EIA process includes the assessment of impacts of construction of the required land-based infrastructure from the marine servitudes to the boundary of Zones that require these services. To this end, the EIA process will identify an area in the IDZ in which land-based infrastructure can be established. The Scoping Report includes a desk-top sensitivity study of areas that should be avoided. A mid-field dispersion model will be done that will ultimately inform the position of the marine servitudes. Once this has been done, the land-based specialist studies can commence to finalise the position of the land-based servitude. In the process, cognisance will be taken of impacts on existing infrastructure and facilities in the IDZ. Conflicts with existing land uses, roads and infrastructure will be avoided as far as possible. It should be noted that infrastructure for various industries will come on line based on demand – i.e. as and when they develop. Municipal supply should not be affected by the project since use will be made of seawater, and discharge will be to the marine environment.
Mamjoli Marine Enterprise (Pty) Ltd - Mxoleli Nkuhlu	Interested in the project with relevance to the Aquaculture Development Zone (ADZ). Requested to be added to this EIA and the ADZ EIA public participation database.	Noted. Details added to the PPP database for this EIA as well.
SAHRA - Lesa la Grange	Requested that the SAHRIS case ID for the application be sent so that a case officer can be assigned to the project.	Case number sent to SAHRA - the Case ID number is 10174
Matthew Hills – NMBM (query raised at public meeting)	1. Who owns marine land 2. Will measures be considered in the design of the abstraction infrastructure w.r.t. entrainment of	1. Coastal waters/land and the marine environment is owned by citizens. Coastal public property includes several components such as coastal waters and land below coastal waters, islands, the seashore, and other state land (e.g. the Admiralty Reserve). Ownership of coastal public property vests in the

	organisms for example, related to maintenance and clogging	citizens of South Africa, however the State is the trustee on behalf of all citizens. The intention of this zone is to prevent exclusive use of the coast by facilitating access to, and sustainable use of productive coastal resources for the benefit of all South Africans (Celliers *et al.*, 2009) 2. Yes, this will be included under the mitigation of impacts in the EIA report.
Christina Hagen – BirdLife South Africa	I would like to register as an I&AP for this project please. Please can you also let me know where in the process the project is and if there are any commenting opportunities	Registered and details added to the IAP database. Sent copy of Executive Summary of DSR and link to download full report. Noted that the commenting period ended on 1 March, but that comments could still be submitted by 7 March.

Comments and Response Report from initial Scoping Phase

I&AP	Comment	EAP Response
Comments received following the notification of the submission of an Application for EA to all I&APs on the 27th of July 2020		
David Louw Cerebos davel@cerebos.co.za	Hi Nicole Please could you include me as an I&AP for the project involving Coega seawater extraction / effluent return, as a representative of Cerebos. My contact details are in my signature below.	Dear Mr Louw, Thank you for contacting us. Please note that you are now registered as an Interested and Affected Party (I&AP) on the proposed project. As a registered I&AP, you will receive notifications of when the project reports are available for public review and comments as well as how to access these reports.
Schalk Potgieter Director: Strategic Planning and Policy Formulation SPotgiet@mandelametro.gov.za	Morning Please register as I&AP	Dear Mr Potgieter, Thank you for contacting us. Please note that you are now registered as an Interested and Affected Party (I&AP) on the proposed project. As a registered I&AP, you will receive notifications of when the project reports are available for public review and comments as well as how to access these reports.
Comments Received following the notification of the availability of the Draft Scoping Report for public review		
Simon Wijnberg CEO – Impact Free Water simon@impact-freewater.com	Dear Nicole, Thanks for this – please can you add neil@impact-freewater.com to the mailing list. Thank you.	Good morning Simon, Thank you for contacting us. Please note Neil has been added to our I&AP database and is now registered as an Interested and Affected Party (I&AP) on the proposed project.
		The email notification was subsequently forwarded to Neil
Christelle du Plessis Habitat Link (Coega ECO) christelle@habitatlink.co.za	Hi Nicole Kindly register me as an I&AP as CDC's independent ECO for the SEZ.	Good afternoon Christelle, Thank you for contacting us. Please note that you have been included in the database for this project as the CDC's independent ECO.
	Morning Nicole Yes, I did manage to download the document. Thanks very much.	Good afternoon Christelle, I trust you are well. I would just like to confirm whether you have been successful in accessing the Draft Scoping Report for the Coega Marine Intake and Outfall Infrastructure Project?
Ane Oosthuizen National Marine Co-ordinator Park Planning & Development South African National	HI Nicole Thank you for the reminder. Please register me as I&AP for the EIA. Kind regards	Good afternoon Ane, Thank you for your email. Please note that you have been included as an Interested and Affected Party (I&AP) on the database for this project.

Parks Ane.Oosthuizen@sanparks.org		
Patrick Nodwele NMBM pnodwele@mandelametro.gov.za	Hi Nicole, We received your email, for future correspondence kindly copy Ms Buyiswa Deliwe (bhumani@mandelametro.gov.za) and Kobus Slabbert kslabbert@mandelametro.gov.za as well. Regards, Patrick	Good afternoon Patrick, Thank you, noted. * The email notification was subsequently forwarded to Neil
DEFF	The Department noted the use of the word "may" when describing the project activity that triggers the listed activities applied for. The use of the word "may" shows that the EAP/applicant is not confident and/or uncertain as to why the listed activities applied for are being triggered by the proposed activity. You are therefore requested to rephrase all project activity descriptions to refrain from the use of the word "may". The onus is on the applicant and the appointed environmental assessment practitioner to ensure that only the applicable listed activities are included in the application. An amended application form must be submitted.	The listed activities have been amended in both this Final Scoping Report and the application form. An amended application form has been uploaded to the DEFF online system.
DEFF	Please ensure that all relevant listed activities are applied for, are specific and that it can be linked to the development activity or infrastructure as descripbed in the project description. The details such as the capacity of the off-stream storage of water, including dams and/or reservoirs must be included in the project description.	The listed activities have been amended in both this Final Scoping Report and the application form. An amended application form has been uploaded to the DEFF online system. The Listing Notice GNR983 Activity 13 have been removed from the application as the storage of seawater (maximum capacity 7,605,000 ML) has been approved as part of the Aquaculture project (EA 14/12/16/3/3/3/214).
DEFF	The EAP is urged to revisit the applicability of the listed activities as the applicability of some of the listed activities is questioned. The following questions must be addressed as the basis for providing guidance on whether or not the proposed activity is triggered. "Does the proposed development trigger all the below mentioned infrastructure? Does the proposed development increase the proposed footprint of the harbour? Special attention must be given to the exclusion clauses. An example of such an activity is Activity 17 Listing Notice 1 of GNR 983.	The listed activities have been amended in both this Final Scoping Report and the application form. An amended application form has been uploaded to the DEFF online system.
DEFF	If the activities applied for in the application form differ from those mentioned in the Final SR, an amended application form	The listed activities have been amended in both this Final Scoping Report and the application form. An amended application form

	must be submitted. Please note that the Department's application form template has been amended and can be downloaded from the following link https://www.environment.gov.za/ documents/forms.	has been uploaded to the DEFF online system.
DEFF	Please ensure that the final SR includes a legible site layout map; and environmental sensitivity map indicating all environmental sensitive areas and features, a map combining a layout map superimposed (overlain) on the environmental sensitivity map, and a regional map of the area.	The site layout map superimposed on both terrestrial and marine based sensitive sites is included as Figure 2.10. A locality map, including the regional context have been included as Figure 2.1.
DEFF	Google maps will not be accepted.	No google maps have been included in the FSR.
DEFF	The plan of study, page 102 of the DSR indicates that the fundamental alternatives of the development other than the proposed infrastructure are technically not feasible in this instance and that no design/layout, technology and/or operational alternatives will be assessed for the proposed development as all options mentioned in the project description will require authorisation. This is noted, however, this information must be presented in such a way that the reasoning is clear and can be followed in order to enable the decision maker to adequately apply his/her own mind to the considerations and to follow the argument. Gaps, uncertainties and assumptions must be clearly reported and the decision in terms of the preferred alternatives must be appropriate considering the gaps, uncertainties and assumptions and the need for a risk averse and cautious approach.	A revised table comparing all site and layout alternatives have been included in the report as Table 2.2.
DEFF	Please ensure that all issues raised and comments received during the circulation of the DSR from registered I&APs and organs of state which have jurisdiction (including this Department's Biodiversity Section, Oceans and Coasts) in respect of the proposed activity are adequately addressed in the Final SR. Proof of correspondence with the various stakeholders must be included in the Final SR. Should you be unable to obtain comments, proof should be submitted to the Department of the attempts that were made to obtain comments. The public participation process must be conducted in terms of Regulation 39, 40, 41, 42, 43 & 44 of the EIA Regulations 2014, as amended.	Comments on the content of the Draft Scoping Report were only received from DEFF and SANParks. These comments have been addressed in the IRT and amendments to the DSR have been made and included in the FSR accordingly. Additional comments received during the mandatory 30-day Public Review Period were limited to requests to register as I&APs. All I&APs were notified of the availability of the DSR via email and SMS notification. I&APs were also contacted via telephone on the 7th to the 11th of August to confirm the receipt of the DSR for review. Please refer to Appendix A for proof of all correspondence with I&APs.
DEFF	A comments and response trail report (C&R) must be submitted with the final SR. The C&R report must incorporate all historical comments for this development. All comments	A comments and Reponse report has been included in the FSR (this table). Additionally, historical comments received during the previous Scoping phase of this development are included in

	from I&APs must be adequately responded to. Please note that a response such as noted is not regarded as an adequate response to I&AP comments.	Appendix A. Proof of email notification and I&AP comments received are included in Appendix A.
DEFF	The final SR must provide evidence that all identified and relevant competent authorities have been given the opportunity to comment on the proposed development; the Eastern Cape Environmental Department, the District and Local Municipalities.	All I&APs were notified of the availability of the DSR via email and SMS notification. Additionally, I&APs were also contacted via telephone on the 7th to the 11th of August to confirm the receipt of the DSR for review. Please refer to Appendix A for proof of all correspondence with I&APs.
DEFF	Given the background to this application, that the previous application lapsed due to the fact that additional specialist studies were to be undertaken because of the unexpected variance in the results of the draft midfield model in comparison to the nearfield model presented in the DSR, as well as queries raised by the project team and the authorities on the draft midfield modelling results. This necessitated the expansion to the scope of works of the EIA and associated specialist studies which outcome could not have been anticipated prior to undertaking the midfield model. The following additional specialist assessment were to be done aftere the Scoping Phase. These additional studies were the main reason for the delays in the submission of the Draft Environmental Impact Assessment (DEIAR) to the Department, which led to the lapsing of the application. A midfield marine dispersion model to refine the outcome of the near and far field models presented in the FSR and ultimately determine the preferred position of the marine and abstraction servitude(s) A marine Archaeological Study A Terrestrial and Aquatic Specilaist Study of the terrestrial environment A paleontological specialist study of the terrestrial environment	Midfield Marine Dispersion Model: Marine Dispersion modelling was undertaken for the proposed project in July 2017. In addition to this study the CDC has commissioned further marine dispersion modelling in order to address comments raised by stakeholders on the results of this modelling as well as to further refine the location of proposed infrastructure. Preliminary results of this modelling were presented at the ELC meeting held in August 2020 and the final report will be submitted to the department in conjunction with the Draft EIR. The terms of reference of this study is included in the Plan of Study (Section 7.3.6) A Marine Archaeological Study is currently underway. The terms of reference for this study has been included in Section 7.3.1 of the Plan of Study. A terrestrial ecological assessment is currently underway. The terms of reference for this study has been included in Section 7.3.5 of the Plan of Study. The Coega Development Corporation (CDC) appointed Scherman Colloty & Associates (SC&A) to assess and delineate all wetlands located within the Coega SEZ in September 2016. This study identified three wetlands within Zone 10 of the SEZ, none of which are situated within 500 m of the proposed development, except the Coega River/Estuary (port). As per the NFEPA (2011) spatial data set (please see Figure 4.3 under Section 4.2.2: Surface Hydrology), the artificial wetland located along the coast, in the centre of the proposed development, is the now defunct Marine Growers abalone facility. Additonally, it should be noted that no wetlands were observed during the site survey conducted by the Ecological specialist. A section on this (inclusive of mapping) has been included in Section 7.3.7.

		An Archaeological and Cultural Heritage Assessment was conducted for the SEZ in 2010. The CDC also has a Heritage Management Plan, and guidelines from SAHRA in place to ensure that all aspects of heritage are managed. These recommendations are included in the impact assessment included below and will be included in the EIA and EMPr. It should be noted that we are aware that generally specialist studies should not be older than 5 years, however, heritage, archaeological and palaeontological artifacts are sessile and thus the position of these do not change over time, as such it is considered acceptable to utilise the existing study as the status quo would not have changed. A section on this (inclusive of mapping) has been included in Section 7.3.8.
DEFF	The Department is concerned that the Plan of Study does not include all of the "additional" specialist studies mentioned above. The Department still considers these to be relevant to the proposed development.	Please refer to comments included on specialist assessments above.
DEFF	The DSR on page 2 indicates that the "*The position of the discharge servitude, depth of discharge, and design of discharge infrastructure will be determined via a dispersion modelling process and engineering studies".* The Department is of the opinion that these specialist studies were conducted already since these were conducted as part of a previous application. It is quite concerning that these specialist studies were not included in the DSR phase to give I&APs as well as the EAP enough time to address the challenges previously encountered.	Additional dispersion modelling has been conducted based on comments received from previous applications for this project. The preliminary results of this additional modelling was presented at the ELC meeting held in August 2020, however the reports are not yet available (i.e. have not be completed) for inclusion into the DSR and distribution to the I&APs. Based on the preliminary results marine effluent discharge will be conducted as follows: • Cooling and Heating water discharge via a tunnel (to accommodate large flows from once-through cooling) to – 11 m CD, 650 m offshore • Brine discharge via a pipeline to -13.5 m CD, 1000 m offshore • Finfish discharge via a pipeline to -16 m CD, 1500 m offshore • Wastewater from phase 1 of the WWTW via the Coega River into the Port • Wastewater from phase 2 of the WWTW via a pipeline to – 20 m CD, 3000 m offshore • Abalone discharge via pipeline into the surf zone.

		The final marine dispersion modelling reports will be submitted to all I&APs for review with the Draft EIR and the final results will be incorporated into the EIR for review. The relevant edits as outlined above has been made to the text in the project description included in the FSR.
DEFF	Please note tha the specialist studies conducted as part of the previous application may still be submitted as part of this application, provided that the findings are still relevant and less than 5 years old.	The marine dispersion modelling was undertaken in 2017 and the wetland delineation in 2016 as such both of these studies are not older than 5 years. An Archaeological, Palaeontological and Cultural Heritage Assessment was conducted for the SEZ in 2010. The CDC also has a Heritage Management Plan, and guidelines from SAHRA in place to ensure that all aspects of heritage are managed. These recommendations are included in the impact assessment included below and will be included in the EIA and EMPr. It should be noted that we are aware that generally specialist studies should not be older than 5 years, however, heritage, archaeological and paleontological artifacts are sessile and thus the position of these do not change over time, as such it is considered acceptable to utilise the existing study as the status quo would not have changed.
DEFF	Please note that the specialist studies to be conducted must provide a detailed description of their methodology, as well as indicate the locations and descriptions of infrastructure positions, and all other associated infrastructures that they have assessed and are recommending for authorisations.	All specialists have been informed of this requirement.
DEFF	The specialist studies must also provide a detailed description of all limitations to their studies. All specialist studies must be conducted in the right season and providing that as a limitation, will not be accepted.	All specialists have been informed of this requirement.
DEFF	Should the appointed specialists specify contradicting recommendations, the EAP must clearly indicate the most reasonable recommendation and substantiate this with defendable reasons, and where necessary, include further expertise and advice.	Agreed.
DEFF	The positive and negative cumulative social impacts must be adequately addressed in the report bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area.	Two impacts have been included in the impact assessment section:

		• Social Benefits from the project mainly related to short term employment and the purchasing of goods locally rated as LOW + • A cumulative impact related to the functionality of the proposed marine abstraction and discharge servitude which will also enable the development of a number of other industries (e.g. G2P, WWTW and the ADZ), which will in term result in a number of indirect employment opportunities. It should be noted that relevant state departments involved with water resource and coastal management (e.g. DWS and DEA: Oceans and Coasts), have advised the CDC that it would be beneficial for the SEZ to have dedicated servitudes for the placement of infrastructure needed for the abstraction of seawater and discharge of treated effluent to the marine environment rather than each industry establishing their own set of infrastructure. This would make management of the volumes and quality of effluent easier, would streamline the maintenance of infrastructure, and would also result in less physical impacts to the coastal environment by reducing the number of points where hard structures are placed in the dynamic coastal zone. As such no other intake and outfall infrastructure is planned in the vicinity of the project and therefore cumulative impacts are unlikely to occur.
DEFF	Should there be any other similar projects within a 30 km radius of the proposed site, the cumulative impact assessment for all identified and assessed impacts must be refined to indicate the following: • Identified cumulative impacts must be clearly defined and where possible the size of the identified Impact must be quantified and indicated, i.e. hectares of cumulatively transformed lands.	There are currently 2 existing intakes for Cerebos. One in the Port and one near Sundays River. These intakes were taken into account during the marine dispersion modelling to ensure that there will be no impact from the discharge of effluent on the quality of water supplied to Cerebos. Details on this will be provided in the revised marine dispersion modelling report and the Draft EIR.

	• Detailed process flow and proof must be provided, to indicate how the specialist's recommendations, mitigation measures and conclusions from various similar developments in the area were taken into consideration in the assessment of cumulative impacts and when the conclusion and mitigation measures were drafted for this project. • The cumulative impacts significance rating must also inform the need and desirability of the proposed development. • A cumulative impact environmental statement on whether the proposed development must proceed.	
DEFF	You are further reminded to comply with Regulation 21(1) of the NEMA EIA Regulations 2014, as amended, which states: "*If S&EIR must be applied to an application, the applicant must, within 44 days of receipt of the application by the competent authority, submit to the competent authority a scoping report which has been subjected to a public participation process of a least 30 days and which reflects the incorporation of comments received, including any comments of the competent aauthority". In light of the above, it is concerning to note that the Final Scoping Report is due to be submitted to the Department on 31 August 2020, which is the same due date for I&APs to submit their comments on the DSR. The Department has and is still willing to assist where possible, however it remains the responsibility of the EAP and the applicant to properly manage the application and the potential impacts associated with it. The Department's mandate is to ensure that the requirements of the EIA regulations, in this case submission timeframes as well as the minimum requirements of the public participation process are complied with.*	The EAP will ensure that all I&APs have had the mandatory 30 days for the review of reports and that all comments are incorporated and responded to in the FSR.
DEFF	You are further reminded that the final SR to be submitted to this Department must comply with all the requirements in terms of scope of assessment and content of Scoping reports in accordance with Appendix 2 and Regulation 2(1) of the EIA Regulation 2014, as amended.	Please refer to Table 1.2: Requirements for the Scoping Report and content (in accordance with Appendix 2 of the EIA Regulations). This table cross references the legal requirements of the Scoping Report and where these have been addressed in the DSR.

DEFF	Further note that in terms of Regulation 45 of the EIA Regulation 2014, as amended, this application will lapse if the applicant fails to meet any of the timeframes prescribed in terms of these Regulations, unless an extension has been granted in terms of Regulation 3(7).	Noted
DEFF	You are hereby reminded of Section 24F of the National Environmental Management Act, Act No. 107 of 1998, as amended, that no activity may commence prior to an Environmental Authorisation being granted by the Department.	Noted
Dr. Ane Oosthuizen SANParks	Bearing in mind the development borders on the Addo Elephant National Park Marine Protected Area, SANParks will require 24hr access to the coast through the development zone for various reasons including law enforcement, oil spill operations/clean ups and for monitoring purposes. Please make SANParks access a condition of the EIA.	This has been included in the mitigation measures included in the impact assessment for the project.
Dr. Ane Oosthuizen SANParks	A Buffer zone of sufficient distance needs to be between the coastline/coastal zone and developments. Inductions of construction staff and monitoring needs to take place to prevent them poaching/snaring whilst living on site.	As construction will occur within the coastal zone it would not be possible to erect a buffer zone, however only development footprints (i.e. trenches for pipelines) will be disturbed and all other areas will be demarcated as no-go areas. No construction staff will be housed on site. Inductions will be conducted prior to construction. The contractor will be required to adhere to the CDC Project Environmental Specifications (PES), over and above the conditions contained in the EMPr for this project. As part of the PES, Method Statements wil be required for inductions, where content of the inductions can be outlined. All of the above measures will be included in the Draft EMPr which will be circulated for public review.
Dr. Ane Oosthuizen SANParks	It is extremely important that correct processes including EIA's are followed through DEA national office and no short cuts taken.	Noted and agreed

Dr. Ane Oosthuizen SANParks	Cultural Heritage aspects and applicable legislation needs to be taken into account as the area contains cultural historical sites including shell middens.	An Archaeological, Palaeontological and Cultural Heritage Assessment was conducted for the SEZ in 2010. The CDC also has a Heritage Management Plan, and guidelines from SAHRA in place to ensure that all aspects of heritage are managed. These recommendations are included in the impact assessment included below and will be included in the EIA. It should be noted that we are aware that generally specialist studies should not be older than 5 years, however, heritage, archaeological and paleontological artifacts are sessile and thus the position of these do not change over time, as such it is considered acceptable to utilise the existing study as the status quo would not have changed.
Dr. Ane Oosthuizen SANParks	The development area is found in a very sensitive coastal zone area containing a number of vulnerable and endangered species which need to be protected.	The marine ecological assessment that was undertaken for the previous application for this project will be updated and incorporated into the EIR. In addition, a terrestrial ecological assessment is currently being undertaken, the findings of which will also be incorporated into the Draft EIR that will be circulated for public review.
Wayne Hector (DEFF)	What size mixing zones are being recommended? Is it different for each effluent type being discharged?	Allowed dimensions of initial dilution zones vary across jurisdictions: • USEPA and IFC indicate 100 m in all directions from discharge points, or that calculated by a plume model. • Local (DEA 2015) advice is 100 m radius for enclosed water bodies and those classed as being sensitive environments and 300 m radius in open coast settings where water depths exceed 10 m and distance offshore is >500 m. The proposed discharges will be located inan open coast setting characterised by sometimes vigorous winds and turbulent sea conditions. The inner continental shelf ecosystem hosting the discharges is rated as 'vulnerable' in terms of conservation threat by SANBI; however, this is in common with large extents of the inner continental shelf between Cape St Francis in the south and East London in the north. Consequently, although within a declared MPA this commonality and the open coast setting indicates that a 300 m radius for the initial dilution zone is appropriate.
Lyndon Martin (DEDEAT)	Hormones and trace chemicals have not been assessed / discussed in the Lwandle presentation – will the impact of the discharge of these be considered?	This will be considered in the EIR, once the specialist assessments have become available.
Lyndon Martin (DEDEAT)	Advised that the precautionary approach must be considered.	Noted and agreed.

Lyndon Martin (DEDEAT)	Indicated that when it comes to E-coli, there appears to have been no consideration for the Cerebos seawater intake. The hazardous impact of this on the foodstuffs at Cerebos must been minimized. Additionally, there are various organisms within the effluent that may have a negative impact. Advised that the water also be looked at from a public health perspective as well, not just from a recreational perspective.	This will be considered in the EIR, once the specialist assessments have become available.
Dylan Govender (DEDEAT)	Advised that that they must consider the impact of nano-plastics within the marine environment.	It is unlikely that micro-plastics will get into the effluent discharges that have been assessed. This is usually only the case with storm water discharges. The Draft EIR will include measures to ensure that the design of the storm water infrastructure will prohibit any land-derived litter from entering the marine environment via any stormwater channels
Millicent Solomons (DEFF)	DEFF is busy drafting comments on the Draft Scoping Report. Were comments from previous EIA (Scoping Report) considered in the drafting of this DSR? Specifically in relation to the specialist studies that were mentioned. Concerned about the plan of study that was included in the report; suggests that the consultants go back and look at the previous EIA recommendations because not all the recommended studies have been included and no motivation has been given as to why that is.	Based on the IRT for the previous application for this project, DEFF requested the following specialist studies to be completed: A midfield marine dispersion model to refine the outcome of the near and far field models presented in the FSR and ultimately determine the preferred position of the marine and abstraction servitude(s) A marine Archaeological Study A Terrestrial and Aquatic Specilaist Study of the terrestrial environment A paleontological specialist study of the terrestrial environment Economic Assessment All of the above studies with the exception of an aquatic assessment and a palaeontological assessment is currently underway. Motivations as to why an additional aquatic assessment and palaeontological assessment is not required have been included in the Plan of Study of the FSR.
Wayne Hector (DEFF)	Which is the preferred option wrt alternatives? It must be clearly outlined in the Final Scoping Report.	The alternatives section (Section 2.4) has been revised for clarity purposes. The preferred layout is indicated on Figure 2.10 included in this report.

Millicent Solomons (DEFF)	What informed the location of your pipeline?	Location of the pipeline was informed by the dispersion modelling done in 2016, and two new scenarios that were modelled in 2020. Placement of terrestrial infrastructure was informed by where the marine infrastructure was going while making sure that all sensitive areas are avoided.
Millicent Solomons (DEFF)	It is critical that this comes out clearly because we need to look at what mitigation hierarchy you followed to get to your preferred options.	The alternatives section (Section 2.4) has been revised for clarity purposes. The preferred layout is indicated on Figure 2.10 included in this report.
Wayne Hector (DEFF)	Was a palaeontological study or a terrestrial ecological specialist study considered?	Responded that the CDC has conducted a Heritage Impact Assessment, the recommendations of which are included within CDC's construction specifications. The recommendations from that study fully cover the palaeontological aspect and this will be elaborated on more in the EIR.
Lyndon Martin (DEDEAT)	Have the cumulative impacts been modelled and will they be assessed and reported on in the EIA?	The cumulative impacts from the different effluent streams (i.e. brine, finfish, power generation hub, etc.) will be incorporated into both the marine ecological assessment and the EIR.
Lyndon Martin (DEDEAT)	Climate Change must be assessed in the EIA.	The Plan of Study for the EIR makes provision for a climate change chapter to be included in the EIR. In addition, an impact related to climate change has been included in the FSR.
Lyndon Martin (DEDEAT)	Noted that air quality impacts are considered as minor; however, air quality impacts can be significant, especially movement of sand dunes.	Noted, however, please note that construction within the coastal zone will be limited to trenching for the construction of pipelines and as such the removal of vegetation, excavations and grading will be limited. This impact, will however be further refined once specialist reports have been made available.
Lyndon Martin (DEDEAT)	The impact assessment slide indicates that sociological impacts are positive, but very few jobs are likely to be created.	The social impact assessment looked beyond just employment opportunities i.e. buying locally produced construction material, and development of other industries within the SEZ through this project. CDC further indicated that this is largely a construction project so the environmental economic study will also look at the knock-on effect. So, if there is no seawater there cannot be aquaculture nor a power station. The comment was made based on the economic benefits of having access to seawater. The economic impact assessment will assess the impact in detail and this will in turn be incorporated into the EIR.

Lyndon Martin (DEDEAT)	Noise impacts on marine fauna must be assessed. Added that if knock-on impacts of this study are going to be looked at together, then all the environmental impacts associated with all the supporting projects. If that is the principle, then the risk assessment matrix needs to be reconsidered.	The noise impact included in the DSR has been re-assessed to include any potential impact on marine mammals. The specialist study undertaken by TNPA in 2014, will be provided to the marine ecological specialist for incorporation into the marine specialist report. The findings of the marine specialist in regards to noise will be included in the Draft EIR.
Rene de Klerk	Impacts on marine mammals during blasting must be assessed. TNPA conducted a detailed study iro this issue, with onerous conditions that were recommended. This study will be provided to the EAP.	Please refer to response included above. Clarified that the issues discussed in the DSR are preliminary because no specialist reports have been received yet. They will be refined as the specialist reports are received.

DEFF COMMENTS ON THE DRAFT SCOPING REPORT

environment, forestry & fisheries

Department:
Environment, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

Private Bag X 447· PRETORIA 0001· Environment House 473 Steve Biko Road, Arcadia,· PRETORIA

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PER MAIL / E-MAIL

Dear Dr Carter

COMMENTS ON THE DRAFT SCOPING REPORT FOR THE PROPOSED MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE PROJECT, ZONE 10, COEGA SEZ, EASTERN CAPE PROVINCE.

The Application for Environmental Authorisation received by the Department on 16 July 2020, the acknowledgement thereof dated 22 July 2020, the Draft Scoping Report (DSR) received by the Department on 30 July 2020 and the acknowledgement of the DSR by the Department on 06 August 2020, refer.

This letter serves to inform you that the following information must be included to the Final Scoping Report:

(a) Listed Activities

- This Department has noted the use of the word "**may**" when describing the project activity that triggers the listed activities applied for. The use of the word "**may**" shows that the EAP/applicant is not confident and/or is uncertain as to why the listed activities applied for are being triggered by the proposed activity. You are therefore requested to rephrase all project activity descriptions to refrain from the use of the word "may". The onus is on the applicant and the appointed environmental assessment practitioner to ensure that only the applicable listed activities are included in the application. An amended application form must be submitted.
- Please ensure that all relevant listed activities are applied for, are specific and that it can be linked to the development activity or infrastructure as described in the project description. The details such as the capacity of the off-stream storage of water, including dams and/or reservoirs must be included in the project description.
- The EAP is urged to revisit the applicability of the listed activities as the applicability of some of the listed activities is questioned. The following questions must be addressed as the basis for providing guidance on whether or not the proposed activity is triggered. "Does the proposed development trigger all the below mentioned infrastructure? Does the proposed development increase the footprint of the port or harbour? Special attention must be given to the exclusion clauses. An example of such an activity is Activity 17 Listing Notice 1 of GNR. 983:

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;

(c) embankments;

(d) rock revetments or stabilising structures including stabilising walls; or

f) infrastructure or structures with a development footprint of 50 square metres or more —

but excluding

(aa) The development of structures within existing ports and harbours that will not increase the development footprint of the port or harbour;

(bb) The development of a port or harbour, in which case Activity 26 in Listing Notice 2 of 2014 applies;

(cc) 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) Where such development occurs within an urban area

- If the activities applied for in the application form differ from those mentioned in the final SR, an amended application form must be submitted. Please note that the Department's application form template has been amended and can be downloaded from the following link https://www.environment.gov.za/documents/forms.

(b) Layout & Sensitivity Maps

- Please ensure that the final SR includes a legible site layout map; an environmental sensitivity map indicating all environmental sensitive areas and features; a map combining a layout map superimposed (overlain) on the environmental sensitivity map; and a regional map of the area.
- Google maps will not be accepted.

(c) Alternatives

- The Plan of Study, page 102 of the DSR indicates that the fundamental alternatives of the development other than the proposed infrastructure are technically not feasible in this instance and that no design/layout, technology and/or operational alternatives will be assessed for the proposed development as all options mentioned in the project description will require authorisation. This is noted, however, this information must be presented in such a way that the reasoning is clear and can be followed in order to enable the decision-maker to adequately apply his/her own mind to the considerations and to follow the argument. Gaps, uncertainties and assumptions must be clearly reported, and the "decision" in terms of the preferred alternatives must be appropriate considering the gaps, uncertainties and assumptions and the need for a risk averse and cautious approach.

(d) Public Participation Process

- Please ensure that all issues raised and comments received during the circulation of the DSR from registered I&APs and organs of state which have jurisdiction (including this Department's Biodiversity Section, Oceans and Coast) in respect of the proposed activity are adequately addressed in the Final SR. Proof of correspondence with the various stakeholders must be included in the Final SR. Should you be unable to obtain comments, proof should be submitted to the Department of the attempts that were made to obtain comments. The Public Participation Process must be conducted in terms of Regulation 39, 40 41, 42, 43 & 44 of the EIA Regulations 2014, as amended.
- A comments and response trail report (C&R) must be submitted with the final SR. The C&R report must incorporate all historical comments for this development. All comments from I&APs must be adequately responded to. Please note that a response such as "Noted" is not regarded as an adequate response to I&AP's comments.
- The final SR must provide evidence that all identified and relevant competent authorities have been given an opportunity to comment on the proposed development; the Eastern Cape Environmental Department, the District and Local Municipalities.

(e) Specialist Assessments

- Given the background to this application, that the previous application lapsed due to the fact that additional specialist studies were to be undertaken because of the unexpected variance in results of the draft midfield model in comparison to the nearfield model presented in the DSR, as well as queries raised by the project team and the authorities on the draft midfield model results. This necessitated the expansion to the scope of works of the EIA and associated specialist studies which outcome could not have been anticipated prior to undertaking the midfield model. The following additional specialist assessment were to be done after the Scoping Phase. These additional studies were the main reason for the delays in the submission of the Draft Environmental Impact Assessment (DEIAR) to the Department, which led to the lapsing of the application.

  - A midfield marine dispersion model to refine the outcome of the near and far field models presented in the FSR and ultimately determine the preferred position of the marine and abstraction servitude (s)
  - A Marine Archaeological Study
  - A Terrestrial and Aquatic Specialist Study of the terrestrial environment
  - A Paleontological Specialist Study of the terrestrial environment

- The Department is concerned that the Plan of Study does not include all of the "additional" specialist studies mentioned above. The Department still considers these to be relevant to the proposed development.
- The DSR on page 2 indicates that the "*The position of the discharge servitude, depth of discharge, and design of discharge infrastructure will be determined via a dispersion modelling process and engineering studies*". The Department is of the opinion that these specialist studies were concluded already since these were conducted as part of the previous application. It is quite concerning that these specialist studies were not included in the DSR phase to give I&APs as well as the EAP enough time to address the challenges previously encountered.
- Please note that the specialist studies conducted as part of the previous application may still be submitted as part of this application, provided that the findings are still relevant and less than 5 years old.

- Please note that the specialist studies to be conducted must provide a detailed description of their methodology, as well as indicate the locations and descriptions of infrastructure positions, and all other associated infrastructures that they have assessed and are recommending for authorisations.
- The specialist studies must also provide a detailed description of all limitations to their studies. All specialist studies must be conducted in the right season and providing that as a limitation, will not be accepted.
- Should the appointed specialists specify contradicting recommendations, the EAP must clearly indicate the most reasonable recommendation and substantiate this with defendable reasons; and where necessary, include further expertise advice.

(f) Cumulative Assessment

- The positive and negative cumulative social impacts must be adequately addressed in the report bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area
- Should there be any other similar projects within a 30km radius of the proposed development site, the cumulative impact assessment for all identified and assessed impacts must be refined to indicate the following:
  - Identified cumulative impacts must be clearly defined, and where possible the size of the identified impact must be quantified and indicated, i.e. hectares of cumulatively transformed land.
  - Detailed process flow and proof must be provided, to indicate how the specialist's recommendations, mitigation measures and conclusions from the various similar developments in the area were taken into consideration in the assessment of cumulative impacts and when the conclusion and mitigation measures were drafted for this project.
  - The cumulative impacts significance rating must also inform the need and desirability of the proposed development.
  - A cumulative impact environmental statement on whether the proposed development must proceed.

General

You are further reminded to comply with Regulation 21(1) of the NEMA EIA Regulations 2014, as amended, which states that:

"If S&EIR must be applied to an application, the applicant must, within 44 days of receipt of the application by the competent authority, submit to the competent authority a scoping report which has been subjected to a public participation process of at least 30 days and which reflects the incorporation of comments received, including any comments of the competent authority"

In light of the above, it is concerning to note that the Final Scoping Report is due to be submitted to the Department on 31 August 2020, which is the same due date for I&APs to submit their comments on the DSR. The Department has and is still willing to assist where possible, however it remains the responsibility of the EAP and the applicant to properly manage the application and the potential impacts associated with it. The Department's mandate is to ensure that the requirements of the EIA regulations, in this case submission timeframes as well as the minimum requirements of the public participation process are complied with.

You are further reminded that the final SR to be submitted to this Department must comply with all the requirements in terms of the scope of assessment and content of Scoping reports in accordance with Appendix 2 and Regulation 21(1) of the EIA Regulations 2014, as amended.

Further note that in terms of Regulation 45 of the EIA Regulations 2014, as amended, this application will lapse if the applicant fails to meet any of the timeframes prescribed in terms of these Regulations, unless an extension has been granted in terms of Regulation 3(7).

You are hereby reminded of Section 24F of the National Environmental Management Act, Act No. 107 of 1998, as amended, that no activity may commence prior to an Environmental Authorisation being granted by the Department.

Yours sincerely

Mr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Environment, Forestry and Fisheries
Letter signed by: Ms Milicent Solomons
Designation: Director: Priority Infrastructure Projects
Date: 25/08/2020.

cc:	Ms Andrea.Shirley	The Coega Development Corporation (CDC)	Email: Andrea.Shirley@coega.co.za
	Mr A. Struwig	Eastern Cape Department of Economic Development, Environmental Affairs and Tourism (DEDEAT)	Email: andries.struwig@dedea.gov.za

DEFF REFUSAL OF ENVIRONMENTAL AUTHORISATION

environment, forestry & fisheries

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PER EMAIL / MAIL

Dear Ms Shirley

REFUSAL OF ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, ACT NO. 107 OF 1998, AS AMENDED: FOR THE PROPOSED MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE PROJECT, ZONE 10, COEGA SEZ, EASTERN CAPE PROVINCE.

With reference to the above application, please be advised that the Department has decided to refuse authorisation. The Environmental Authorisation (EA) and reasons for the decision are attached herewith.

In terms of Regulation 4(2) of the Environmental Impact Assessment Regulations, 2014, as amended (the EIA Regulations), you are instructed to notify all registered interested and affected parties, in writing and within 14 (fourteen) days of the date of the decision as well as the provisions regarding the submission of appeals that are contained in the Regulations.

In terms of the Promotion of Administrative Justice Act, Act No. 3 of 2000, you are entitled to the right to fair, lawful and reasonable administrative action; and to written reasons for administrative action that affects you negatively. Further your attention is drawn to the provisions of the Protection of Personal Information Act, Act No. 4 of 2013 which stipulates that the Department should conduct itself in a responsible manner when collecting, processing, storing and sharing an individual or another entity's personal information by holding the Department accountable should the Department abuses or compromises your personal information in any way.

Your attention is drawn to Chapter 2 of National Environmental Management Act, Act No. 107 of 1998 National Appeal Regulations published under Government Notice R993 in Government Gazette No. 38303 dated 08 December 2014 (National Appeal Regulations, 2014), which prescribe the appeal procedure to be followed. Kindly include a copy of this document (National Appeal Regulations, 2014) with the letter of notification to interested and affected parties in this matter.

Should any person wish to lodge an appeal against this decision, he/she must submit the appeal to the appeal administrator, and a copy of the appeal to the applicant, any registered interested and affected party, and any organ of state with interest in the matter within 20 days from the date that the notification of the decision was

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sent to the registered interested and affected parties by the applicant; or the date that the notification of the decision was sent to the applicant by the Department, whichever is applicable.

Appeals must be submitted in writing in the prescribed form to:

The Director: Appeals and Legal Review of this Department at the below mentioned addresses.

By email: appeals@environment.gov.za:

By hand: Environment House
473 Steve Biko Road
Arcadia
PRETORIA
0083; or

By post: Private Bag X447
PRETORIA
0001

Please note that in terms of Section 43(7) of the National Environmental Management Act, Act No. 107 of 1998, as amended, the lodging of an appeal will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal is finalised.

To obtain the prescribed appeal form and for guidance on the submission of appeals, please visit the Department's website at https://www.environment.gov.za/documents/forms#legal_authorisations or request a copy of the documents at appeals@environment.gov.za .

Yours faithfully

Mr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Environment, Forestry and Fisheries
Date: 12/10/2020

cc:	Mr A. Struwig	DEDEAT	Email: andries.struwig@dedea.gov.za
	Johan Mettler	Nelson Mandela Bay Municipality	Email: mm@nelsonmandelametro.gov.za
	Dr Alan Carter	Coastal and Environmental Services	Email: a.carter@cesnet.co.za

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environment, forestry & fisheries

Department:
Environment, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

Refusal of Environmental Authorisation

In terms of Regulation 22(b)(ii) of the Environmental Impact Assessment Regulations, 2014, as amended

PROPOSED MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE PROJECT, ZONE 10, COEGA SEZ, EASTERN CAPE PROVINCE.

Nelson Mandela Bay Municipality

Authorisation register number:	*14/12/16/3/3/2/2001*
Last amended:	*First issue*
Holder of authorisation:	*Coega Development Corporation (CDC)*
Location of activity:	*NELSON MANDELA BAY MUNICIPALITY: EASTERN CAPE PROVINCE*

This environmental authorisation does not negate the holder of the authorisation's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.

Decision

The Department is satisfied, on the basis of information available to it that the applicant should not be authorised to undertake the activities specified below.

Details regarding the basis on which the Department reached this decision are set out in Annexure 1 to this refusal of Environmental Authorisation.

Activities refused

By virtue of the powers conferred on it by the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment Regulations, 2014, as amended, the Department hereby refuses Environmental Authorisation –

THE COEGA DEVELOPMENT CORPORATION (CDC)

with the following contact details –

Ms Andrea Shirley
The Coega Development Corporation
Private Bag X6009
PORT ELIZABETH,
6000

Telephone number: (041) 403 0400
Cell phone number: (082) 657 4648
Email address: Andrea.Shirley@coega.co.za

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not to undertake the following activities (hereafter referred to as "the activity"):

Activity number	Activity description
Listing Notice 1, Item 1: *The development of facilities or infrastructure for the generation of electricity from a renewable resource where –* *(i) The electricity output is more than 10 MW but less than 20MW; or* *(ii) The output is 10 MW or less but the total extent of the facility covers an area in excess of 1 ha.* *Excluding where such development of facilities or infrastructure is for photovoltaic installations and occurs –* *(a) Within an urban area; or* *(b) On existing infrastructure.*	The proposed development entails the construction and installation of one or more wave pumps. This technology makes use of wave energy for a variety of benefits including desalination, aquaculture and low levels of electricity production, without consuming any electricity in the process, and will be utilised for the pumping of smaller volumes of seawater. The development does not relate to photovoltaic installations and as such the exclusion does not apply.
Listing Notice 1, Item 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) Two 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.*	Construction of infrastructure to transfer electricity from the Sonop Substation to pump stations at the headworks. The infrastructure proposed does not consist of bypass infrastructure and as such the exclusion does not apply.

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Department of Environment, Forestry and Fisheries
Environmental Authorisation Reg. No. 14/12/16/3/3/2/2001

Listing Notice 1, *Item 18:* *The planting of vegetation or placing of any material on dunes or exposed sand surfaces of more than 10 square metres, within the littoral active zone, for the purpose of preventing the free movement of sand, erosion or accretion, excluding where –* *(i) The planting of vegetation or placement of any material relates to restoration and maintenance of indigenous coastal vegetation undertaken in accordance with a maintenance management plan; or* *(ii) Such planting of vegetation or placing of material will occur behind a development setback.*	Stabilisation of areas in the littoral active zone post-construction. This application does not relate to maintenance or restoration and as such this exclusion does not apply.
Listing Notice 1, *Item 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.*	Construction of associated infrastructure (e.g. pump station, headworks, distribution chamber, access roads, electrical distribution) will result in the clearing of more than 1 ha of vegetation. Although the servitude(s) are considered to be a linear activity the associated infrastructure listed above are not and as such this exclusion does not apply.
Listing Notice 2, *Item 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 generation or release of emissions, pollution or effluent, excluding –* *(i) Activities which are identified and included in Listing Notice 1 of 2014;* *(ii) Activities which are included in the list of waste management activities published in terms of Section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies.*	The discharge of effluent to the marine environment via the marine servitude will require a Coastal Waters Discharge Permit in terms of Section 69 of the NEM:ICMA

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(iii) The development of facilities or infrastructure for the treatment of effluent, polluted water, wastewater or sewage where such facilities have a daily throughput capacity of 2,000 m3 or less; or (iv) Where the development is directly related to aquaculture facilities or infrastructure where the wastewater discharge capacity will not exceed 50 m3 per day.	
Listing Notice 2 *Item 14:* *The development and related operation of —* *(i) An anchored platform; or* *(ii) Any other structure or infrastructure on, below or along the sea bed.* *Excluding –* *(a) Development of facilities, infrastructure or structures for aquaculture purposes; or* *(b) The development of temporary structures or infrastructure where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared.*	Construction of pipelines/channels/tunnels/wave pumps etc. in the marine servitude for abstracting seawater and/or discharging effluent.
Listing Notice 2 Item 26: *Development —* *(i) In the sea;* *(iii) Within the littoral active zone;* *(iv) 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—* *(g) Tunnels;* *But excluding the development of structures within existing ports and harbours that will not increase the development footprint of the port or harbour.*	Development of infrastructure associated with the marine abstraction/discharge servitude in the coastal environment. The proposed development will occur on the eastern side of the eastern breakwater and as such will occur outside of the port boundary. As such the exclusion to this listed activity does not apply.

Department of Environment, Forestry and Fisheries
Environmental Authorisation Reg. No. 14/12/16/3/3/2/2001

Listing Notice 3 Item 12: *The clearance of an area of 300 m2 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.* *(a) Eastern Cape* *(ii) Within critical biodiversity areas identified in bioregional plans* *(iii) Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; or* (iv) *On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.*	Constructing associated infrastructure for the marine and land based servitude will result in the clearance of more than 300 m2 of indigenous vegetation. The area is within a CBA in the metro's current Bioregional Plan. Alternatives will be assessed in this EIA process for the placement of infrastructure, however some structures/infrastructure will occur in the littoral active zone and/or within 100 m of the high water mark of the sea

as described in the final Scoping Report dated September 2020 at:

SG 21 Code

C	0	7	6	0	0	2	3	0	0	0	0	0	2	5	5	0	0	0	0	0
C	0	7	6	0	0	2	3	0	0	0	0	0	2	5	1	0	0	0	0	0
C	0	7	6	0	0	2	3	0	0	0	0	0	2	2	0	0	0	0	0	0
C	0	7	6	0	0	2	3	0	0	0	0	0	2	2	1	0	0	0	0	0
C	0	7	6	0	0	2	3	0	0	0	0	0	3	0	2	0	0	0	0	0
C	0	7	6	0	0	2	3	0	0	0	0	0	2	5	2	0	0	0	0	0

PROPERTIES	SG 21 Code	Area (HA)	Longitude	Latitude
Erf 220	C07600230000022000000	100 ha	25°42'35.11"E	33°47'1.69"S
Erf 255	C07600230000025500000	53 ha	25°41'56.87"E	33°47'31.34"S
Erf 251	C07600230000025100000	233 ha	25°40'51.84"E	33°47'13.72"S
Erf 221	C07600230000022100000	601 ha	25°43'24.09"E	33°46'7.29"S
Erf 302	C07600230000030200000	7.9 ha	25°43'6.79"E	33°46'51.76"S
Erf 252	C07600230000025200000	264 ha	25°42'1.61"E	33°46'21.27"S

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- for the proposed marine intake and outfall infrastructure servitude project at Zone 10, Coega SEZ, within the Eastern Cape Province, hereafter referred to as "the property".

The proposed development entails the development of a common user servitude in which a number of possible industries can establish infrastructure required to abstract seawater from the marine environment. The types of industries that will require seawater can be grouped as follows:

Intake Infrastructure

- Finfish: 0.94 m3/s
- Abalone: 5 m3/s
- Seawater for desalination: 2.03 m3/s
- Intake for Power stations: 14.74 m3/s (worst-case)
- Intake for LNG Gas hub: 4m3/s (worst-case)

There will be two seawater abstraction servitudes with associated infrastructure; one inside the Port of Ngqura for the power station's cooling water requirements, and the other for the requirements of the aquaculture industries and for desalination. Within each servitude, a number of different seawater abstraction technologies could be utilised, depending on industry requirements. The types of abstraction technologies to be utilised include the following:

- Seawater Abstraction Pipeline;
- Vertical Beach Wells;
- Onshore Pump Station and Screening Facility; and
- WEROP Wave Pump

Outfall infrastructure

The rationale for developing an integrated marine discharge servitude is to have a common user servitude in which a number of possible industries can establish infrastructure required to discharge effluent into the marine environment. The types of industries that may require discharge of effluent can be grouped as follows:

- Finfish: 0.94 m3/s
- Abalone: 5 m3/s
- Brine: 1.22 m3/s
- Discharge for Power stations: 14.6 m3/s (worst-case)
- Discharge for LNG Gas hub: 4 m3/s (worst-case)
- Waste water: 0.93 + 0.46 m3/s

- Stormwater Discharge

A servitude(s) in which various industries can establish infrastructure to discharge treated effluent to the marine environment will be constructed. Depending on the volume and nature of the effluent, different types of discharge infrastructure may be built in the servitude(s) (e.g. pipelines, beach discharge and/or tunnels).

The time of construction of the various discharge structures within the servitude will be dictated by the demand and timing of the implementation of these various industries. The modelling results indicate the following regarding position, depth and design of discharge infrastructure:

- Cooling and Heating water discharge via a tunnel (to accommodate large flows from once through cooling) to – 11 m CD, 650 m offshore
- Brine discharge via a pipeline to -13.5 m CD, 1000 m offshore
- Finfish discharge via a pipeline to -16 m CD, 1500 m offshore
- Wastewater from phase 1 of the WWTW via the Coega River into the Port
- Wastewater from phase 2 of the WWTW via a pipeline to – 20 m CD, 3000 m offshore
- Abalone discharge via pipeline into the surf zone.

Seawater from the abalone farms will be discharged directly to the marine environment via a surf zone pipeline and/or have the option of diverting some of the seawater to a desalination facility. Finfish effluent from various users will be treated on site by each investor before being discharged via a pipeline to the marine environment.

Legislative Requirements

Scope of authorisation

1. Authorisation is refused for the construction of proposed marine intake and outfall infrastructure servitude project at Zone 10, Coega SEZ, within the Eastern Cape Province, as described above.

Notification of refusal of authorisation and right to appeal

2. The holder of the authorisation must notify every registered interested and affected party, in writing and within 14 (fourteen) calendar days of the date of this refusal Environmental Authorisation, of the decision to refuse the activity.

3. The notification referred to must –

3.1. specify the date on which the authorisation was issued;

3.2. inform the interested and affected party of the appeal procedure provided for in the National Appeal Regulations, 2014;

3.3. advise the interested and affected party that a copy of the refusal of authorisation will be furnished on request; and

3.4. give the reasons of the Competent Authority for the decision.

Date of refusal of environmental authorisation: 12/10/2020

Mr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Environment, Forestry and Fisheries

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Annexure 1: Reasons for Decision

1. Information considered in making the decision

In reaching its decision, the Department took, *inter alia*, the following into consideration -

a) The listed activities as applied for in the application form received on 16 July 2020.
b) The information contained in the final Scoping Report dated September 2020.
c) The comments received from the Interested and Affected Parties during the Draft Scoping commenting phase.
d) The background information to this application with regards to the previously lapsed application DEA Ref: 14/12/16/3/3/2/997.
e) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act 107 of 1998).

2. Key factors considered in making the decision

All information presented to the Department was taken into account in the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

a) The comments made by this Department in a letter dated 25 August 2020.
b) The requirements of the National Environmental Management Act and the Environmental Impact Assessment Regulations, 2014, as amended, (Regulation 22(b)(ii)).

3. Findings

After consideration of the information and factors listed above, the Department made the following findings -

a) The final Scoping Report does not comply with Appendix 2 Regulation 2 (d) (i) (ii). The listed activities are applied for, are not specific and they cannot be linked to the development activity. The final Scoping Report fails to provide an adequate description of the activities to be undertaken, including associated structures and infrastructure.

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b) The minimum requirements of public participation process were not met. Regulation 44 of the NEMA EIA Regulations 2014, as amended, was not complied with. Some of the written comments were not attached to the final Scoping Report.

c) The final Scoping Report fails to comply with Appendix 2, Regulation 2 (1) which states that "*A scoping report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives*". The Regulations specifically requires that a preferred alternative be identified during the final Scoping Report. The final Scoping Report fails to identify and confirm preferred alternatives. The final Scoping Report confirms this on page 31, stating that that the "*Alignments and preferred positions will be finalised at EIA stage with input from design engineers to advise on aspects such as topography, pumping requirements, costs, flow rates etc*".

d) The Plan of Study fails to comply with Appendix 2, Regulation 2 (1) (h) (i), which states that "*a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity*". The Regulations specifically requires that a preferred site be identified and that a description of alternatives to be considered and assessed be provided. The Plan of Study does not provide a description of the alternatives to be considered and assessed within the preferred site, as required in Appendix 2, Regulation 2 (1) (h) (i).

e) Furthermore, the information provided in the Plan of Study in comparison to the information in the final Scoping Report is confusing and conflicting. The Plan of Study indicates that "*no fundamental activity alternatives will be considered in the EIR*" and that "*no design/layout, technology and/or operational alternatives will be assessed for the proposed development as all options mentioned in the project description will require authorisation*" (refer to page 131). The final Scoping Report on page 31, however, indicates that the "*Alignments and preferred positions will be finalised at EIA stage with input from design engineers to advise on aspects such as topography, pumping requirements, costs, flow rates etc*". This is confusing.

f) The EAP failed to present information in the final Scoping Report in a way that the reasoning is clear and that it can be followed in order to enable the decision-maker to adequately apply his/her own mind to the considerations and to follow the argument.

g) The final Scoping Report in its current form is not adequate to make an informed decision on the abovementioned application.

In view of the above, the competent authority is of the opinion that the proposed listed activities will conflict with the general objectives of integrated environmental management stipulated in Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and that any potentially detrimental

environmental impacts resulting from the listed activities may not be mitigated to acceptable levels and should therefore be prevented altogether. Environmental Authorisation is accordingly refused.

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APPENDIX 1B: PUBLIC PARTICIPATION PROCESS ON THE RESUBMISSION OF THE DRAFT AND FINAL SCOPING REPORT

APPENDIX 1.2-1: REVISED BACKGROUND INFORMATION DOCUMENT

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

BACKGROUND INFORMATION DOCUMENT (BID) & INVITATION TO COMMENT

NOTIFICATION OF APPLICATIONS FOR ENVIRONMENTAL AUTHORISATION, COASTAL WATERS DISCHARGE PERMIT, AND COASTAL LEASE FOR THE PROPOSED DEVELOPMENT OF MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE(S) IN ZONE 8 & 10 OF THE COEGA SPECIAL ECONOMIC ZONE, WITHIN THE EASTERN CAPE PROVINCE.

AIM OF THIS DOCUMENT

The purpose of this document is to ensure that people that are interested in, or affected by, the proposed development are provided with the information about the project, the process being followed and provided with an opportunity to be involved in the Scoping and Environmental Impact Assessment (EIA) process for the proposed marine intake and outfall infrastructure servitudes project in Zone 8 and 10 of the Coega Special Economic Zone (SEZ), within the Eastern Cape Province.

If you have previously registered as an Interested and/or Affected Party (I&AP) you will have received notification that the previous Scoping Report was rejected by the Competent Authority, the National Department of Environment, Forestry and Fisheries (DEFF), formerly referred to as the Department of Environmental Affairs (DEA). Consequently, the EIA process has been re-initiated.

Registering as an I&AP allows individuals or groups the opportunity to contribute ideas, issues and concerns relating to the project. I&APs also have an opportunity to review all the reports and submit their comments on those reports. All the comments which are received during this process will be included in the final reports, which are then submitted to the relevant Competent Authority (DEFF).

THE SCOPING AND ENVIRONMENTAL IMPACT REPORTING PROCESS

According to the National Environmental Management Act (NEMA) (Act No. 107 of 1998 and subsequent amendments) Environmental Impact Assessment (EIA) Regulations (2014 and subsequent 2017 amendments), the potential impacts on the environment will have to be assessed in terms of the listed activities. These environmental listed activities, initially published on the 21st of April 2006, were amended in 2010, 2014 and again on the 7th of April 2017, as Government Notice (GN) Numbers R. 983 (GN R. 327), R. 984 (GN R. 325), and R. 985 (GN R. 324) which define the activities which require, respectively, a Basic Assessment (GN R. 983 and GN R. 985 listed activities which apply to activities with limited environmental impacts), or a Scoping and EIA process (GN R. 984 listed activities which apply to activities which are significant in extent and duration).

The proposed development triggers activities contained in Listing Notice 2 (GN R. 984, as amended by GN R. 325) of the NEMA EIA Regulations (2014 and subsequent 2017 amendments) and therefore

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requires a full Scoping and EIA Process. As part of the Scoping and EIA Process, as well as Regulation 41 of the NEMA EIA Regulations (2014 and subsequent 2017 amendments), CES (on behalf of the Applicant) must consult with the landowners, occupiers, abutting landowners and the public and submit the results of such consultation to the Competent Authority.

Table 1: NEMA Listed Activities triggered by the proposed development.

Listing Notice	Activity No(s):	Provide the relevant **Scoping and EIR 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.
Listing Notice 1 (GN R. 983/ GN R.327)	10	The development and related operation of infrastructure exceeding 1,000 metres in length for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharges or slimes: (ii) With a peak throughput of 120 litres per second or more.	The proposed development includes the construction of three effluent discharge pipelines into the sea at a distance exceeding 1,000 metres offshore in pipelines with a diameter of about 3.0 metres, for the following discharges: • Brine discharge to a distance of 1,000 m offshore at a throughput of 1,220 litres per second. • Finfish return seawater discharge to a distance of 1,500 m offshore at a throughput of 940 litres per second. • Wastewater from phase two wastewater treatment works (WWTW's) to a distance of 3,000 m offshore at a throughput of 1,390 litres per second. No exclusions apply.
	15	The development of structures in the coastal public property where the development footprint is bigger than 50 square metres.	The proposed development entails the construction of infrastructure (e.g. effluent discharge tunnels and pipelines) with a physical footprint of 414 391 square meters (41.1 Ha) within coastal public property. No exclusions apply.
	17	Development: (i) In the sea; (iii) Within the littoral active zone; (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 (d) Rock revetments or stabilising structures including stabilising walls;	The proposed development includes the construction of seawater intake and effluent discharge infrastructure (e.g. effluent discharge tunnel and pipelines, intake basin, pipeline and jetty, headworks, pump station, vertical beach wells, distribution chamber) in the sea, within the littoral active zone and within a distance of 100 metres inland of the high-water mark from the sea. The total footprint of infrastructure will

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		(e) Infrastructure or structures with a development footprint of 50 square metres or more.	be approximately 47 Ha and is larger than the area presented in Listed Activity 16 above as it also includes 100 meters inland of the high-water mark. No exclusions apply.
	18	The planting of vegetation or placing of any material on dunes or exposed sand surfaces of more than 10 square metres, within the littoral active zone, for the purpose of preventing the free movement of sand, erosion or accretion.	The proposed development will include the stabilization of disturbed areas of more than 10 square metres, within the littoral active zone after construction has been completed. No exclusions apply.
	19 A	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 is the greater; or (iii) The sea.	The development will require the excavation and infilling of material exceeding 5 cubic metres in the coastal environment for the construction of infrastructure (e.g. effluent discharge tunnel and pipelines, intake basin, pipelines and jetty, headworks, pump station, vertical beach wells, distribution chamber) that will occur within 100 metres inland of the high-water mark, within the seashore and in the sea. No exclusions apply.
Listing Notice 2 (GN R. 984/ GN R. 325)	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 generation or release of emissions, pollution or effluent.	The proposed development includes the construction of effluent discharge infrastructure (e.g. effluent discharge tunnel and pipelines) to discharge various effluent streams (cooling water, brine, aquaculture effluent and wastewater) totalling 23.55 m^3/sec into the marine environment, which will require a Coastal Waters Discharge Permit in terms of Section 69 of the NEM:ICMA. No exclusions apply.
	14	The development and related operation of — (i) An anchored platform; or (ii) Any other structure or infrastructure on, below or along the seabed.	The proposed development includes the construction of a tunnel, pipelines and jetty for abstracting seawater from and discharging effluent into the sea, and wave pressure pumps, where the infrastructure will be located on, below and along the seabed. No exclusions apply.

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	26	Development — (i) In the sea; (iii) Within the littoral active zone; (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— (g) Tunnels	The development will include the construction of a tunnel for the discharge of cooling water into the sea where the tunnel will be located in the sea, within the littoral zone and within a distance of 100 metres inland of the high-water mark. No exclusions apply.
Listing Notice 3 (GN R. 985/ GN R. 324)	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. (a) Eastern Cape (ii) Within critical biodiversity areas identified in bioregional plans; (iii) Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; or (v) On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.	The development will include the construction of land-based infrastructure (e.g. pipelines and pump stations) that will require the clearance of a maximum of 22 Ha of indigenous vegetation. This area includes all indigenous vegetation within the land-based servitudes. The area to be cleared is within a CBA in terms of the Metro's current Bioregional Plan, within the littoral active zone and open space No exclusions apply.

In addition, Section 65(1) of the Integrated Coastal Management Act (ICMA) (Act 24 of 2008) states that no person may occupy any part of, or site on, or construct or erect any building, road, barrier or structure on or in coastal public property except under and in accordance with a coastal lease awarded by the Minister in terms of this chapter. Moreover, Section 69(1) of the ICMA states that no person may discharge effluent that originates from a source on land into coastal waters except in terms of a general discharge permit or a coastal waters discharge permit issued under this section by the Minister. As such an application for a Coastal Waters Discharge Permit and Coastal Lease will be submitted to DEA: Oceans and Coasts.

PROJECT DESCRIPTION

The Coega Special Economic Zone (SEZ) is situated on the northern side of Port Elizabeth within the Nelson Mandela Bay Metropolitan Municipality (NMB Metro), Eastern Cape Province. The integrated SEZ and Port of Ngqura is approximately 11,500 ha in extent and comprises of 14 zones designated for various light, medium and heavy industrial land uses. The purpose of the marine intake and outfall infrastructure and servitudes project is the provision of seawater for various industries (aquaculture, power provision and desalination) via a number of seawater intakes and the discharge of treated effluent into the marine environment. As such, infrastructure related to this project needs to be constructed along the coast. The Port of Ngqura and Zone 10 within the SEZ have been proposed.

INTAKE INFRASTRUCTURE

The need for the marine seawater abstraction servitudes is driven by the water requirements for the following proposed Coega SEZ industries:

- Cooling water for two 1000 MW LNG power stations for which the EIA is currently in progress.
- Land based abalone and finfish aquaculture (42,370 tonnes / year). Environmental Authorization received on the 7th of February 2018.
- The Coega Aquaculture Development Zone includes the development of a desalination plant with a maximum capacity of 60 Ml / day. Environmental Authorization received as part of the authorisation for the aquaculture development zone on the 7th of February 2018.

The following maximum (worse case) seawater intake requirements are projected:

Purpose	Worse case intake flow rates
Cooling Water: Once Through Cooling	14.70 m^3/sec
Cooling Water: Wet Mechanical Draft Cooling	0.42 m^3/sec
Aquaculture flow through system for abalone	5.00 m^3/sec
Aquaculture recirculation system for finfish	0.94 m^3/sec
Desalination	2.03 m^3/sec
Total	**23.09 m^3/sec**

There will be two seawater abstraction servitudes with associated infrastructure:

1. Inside the Port of Ngqura for a Once Through and Wet Mechanical power station cooling water requirements; and
2. East of the Port of Ngqura to meet the more specific water quality requirements of the aquaculture industries and for desalination.

Within each servitude, a number of different seawater abstraction technologies will be utilised, depending on industry requirements. Therefore, ALL the following types of abstraction technologies may be implemented:

- Abstraction basin with concrete intake channels (within the Port);
- Seawater abstraction pipelines;
- Vertical beach wells;
- Onshore pump stations and screening facility; and
- WEROP wave pumps.

Detailed descriptions of these technologies will be provided in the Scoping Report as well as the Environmental Impact Assessment Report.

OUTFALL INFRASTRUCTURE

The need for the marine effluent discharge servitudes is mostly driven by a corresponding need by the respective Coega SEZ industries to return abstracted seawater back into the offshore marine environment. Other discharges will include wastewater treatment effluent and stormwater.

The following maximum (worse case) effluent discharge requirements are projected.

Purpose	Type of effluent	Worse case discharge flow rates
Cooling water: once through cooling	Seawater at 28°C and salinity of 35 ppt	14.70 m^3/sec
Cooling water: wet mechanical draft cooling	Seawater at 23°C and salinity of 53 ppt	0.30 m^3/sec
Aquaculture flow through system for abalone	Seawater with projected concentrations of ammonia, nitrate, nitrite, TSS, COD.	5.00 m^3/sec
Aquaculture recirculation system for finfish	Seawater with projected concentrations of ammonia, nitrate, nitrite, TSS, COD.	0.94 m^3/sec
Desalination brine	Brine at 60 ppt	1.22 m^3/sec
Wastewater	Treated domestic and industrial wastewater with projected concentrations of ammonia, nitrate, nitrite, TSS, COD, salinity heavy metals and E.coli	0.93 + 0.46 m^3/sec
Stormwater	Rainwater	Uncertain
TOTAL		**23.55 m^3/sec**

ALL the following technologies may be implemented to discharge the various effluent streams from the various proposed land-based uses into the sea.

- Tunnel discharge;
- Pipeline discharge;
- Surf zone discharge; and
- Beach discharge (for storm water).

Detailed descriptions of these technologies will be provided in the Scoping Report as well as the Environmental Impact Assessment Report.

The map below provides a high-levelled conceptual location of the proposed servitudes.

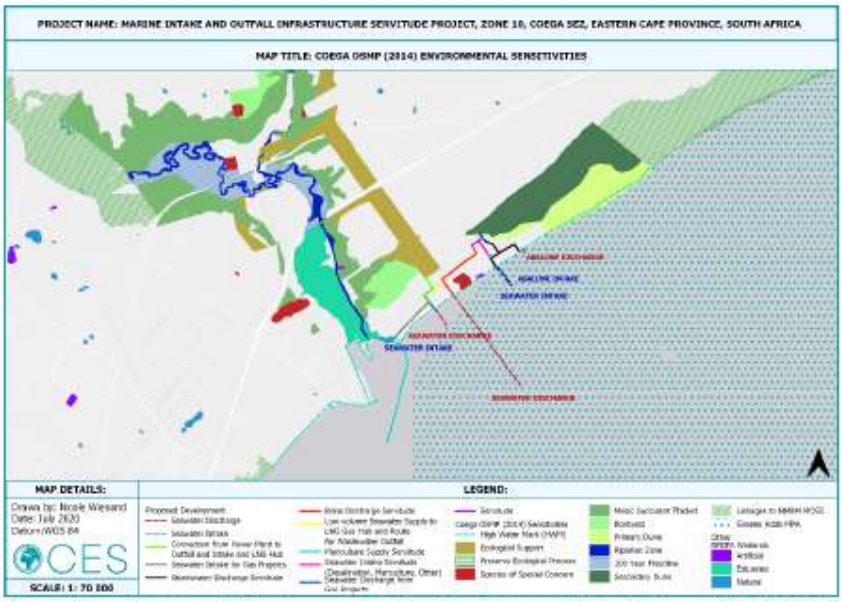

Figure 1: Locality Map of the Proposed Marine Servitudes overlaid with Coega (2014) OSMP Environmental Sensitivities.

APPROACH TO THE SCOPING AND EIR PROCESS

The proposed project triggers activities contained in Listing Notice 2 (GN R. 984, as amended by GN R. 325) of the of the NEMA EIA Regulations (2014 and subsequent 2017 amendments) and therefore requires a **full Scoping and EIA Process**. The relevant Competent Authority is the DEFF. The relevant Competent Authority for the Coastal Waters Discharge Permit and Coastal Lease is DEA: Oceans and Coasts.

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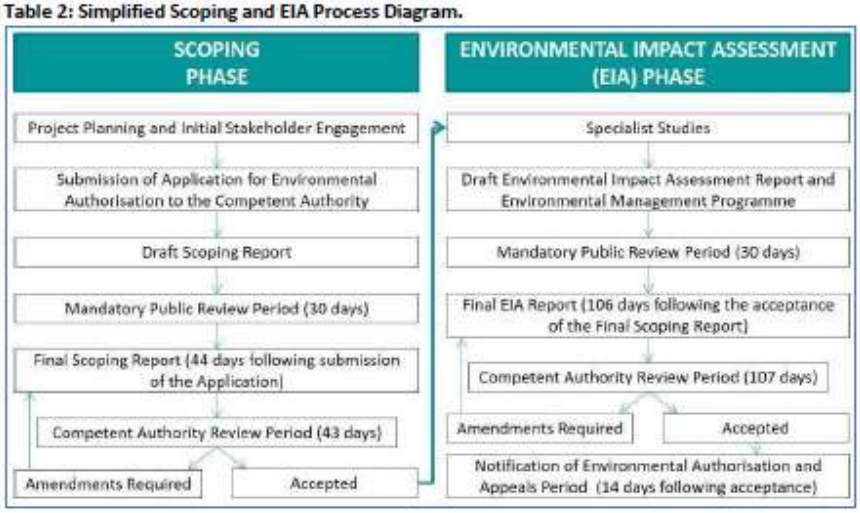
Table 2: Simplified Scoping and EIA Process Diagram.



POTENTIAL IMPACTS AND BENEFITS

The potential impacts will be assessed during the Scoping and EIA process and include, *but are not limited to*:

- → Impacts on topography and bathymetry;
- → Impacts on seawater quality;
- → Change in marine sediment dynamics and wave action;
- → Impacts on the heritage, including marine archaeology;
- → Disturbance to terrestrial ecosystems;
- → Increased investment in the Coega SEZ;
- → Increased employment opportunities; and
- → Local economic growth and development.

HOW CAN YOU BE INVOLVED?

A Public Participation Process (PPP) is being conducted as part of the Scoping and EIA process for the above proposed development. The aim of the PPP is to allow everyone who is interested in, or likely to be affected by the proposed development, to provide input into the process. The PPP includes, but is not limited to, the placement of advertisements, onsite signage, and circulation of the BID (this document) to all registered I&APs, comment periods, and the review of the Draft Scoping and Environmental Impact report (EIR), as well as the Environmental Management Programme (EMPr) by all registered I&APs. Due to the current COVID19 restrictions in force by the government no public meeting will be held at this stage. However, virtual meetings will be held with key stakeholders upon request. In addition, at least two (2) Environmental Liaison Committee (ELC) meetings will be conducted.

If you consider yourself an interested and/or affected person/party, it is important that you become and remain involved in the PPP. To do so, please follow the steps below:

1. **STEP 1**: Please register by responding to our notification and invitation, with your name and contact details (details provided below). As a registered I&AP, you will be informed of all report review

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periods and project developments throughout the Scoping and EIR process of the proposed development.

2. **STEP 2:** Register by contacting Ms Nicole Wienand with your name and contact details via post, phone or e-mail.

CES is required to engage with all private and public parties that could be interested and/or affected by the proposed development in order to distribute information for review and comment in a transparent manner.

In the same light, it is important for I&APs to note the following:

1. For CES to continue engaging with you, please ENSURE that you register on our database by contacting Ms Nicole Wienand.
2. As the Scoping and EIR process is regulated by specific review and comment timeframes, it is your responsibility to submit your comments within these timeframes.

Please contact **Ms Nicole Wienand** to register as an I&AP for the proposed Coega Marine Intake and Outfall Servitude(s) Project, for enquiries and/or for the submission of your written comments:

CONTACT DETAILS	
Environmental Company:	Coastal and Environmental Service (CES)
Project Manager:	Ms Nicole Wienand
Address:	36 Pickering Street, Newton Park, Port Elizabeth
Telephone Number:	+27 (0)46 622 2364
E-mail Address:	n.wienand@cesnet.co.za
Website:	www.cesnet.co.za

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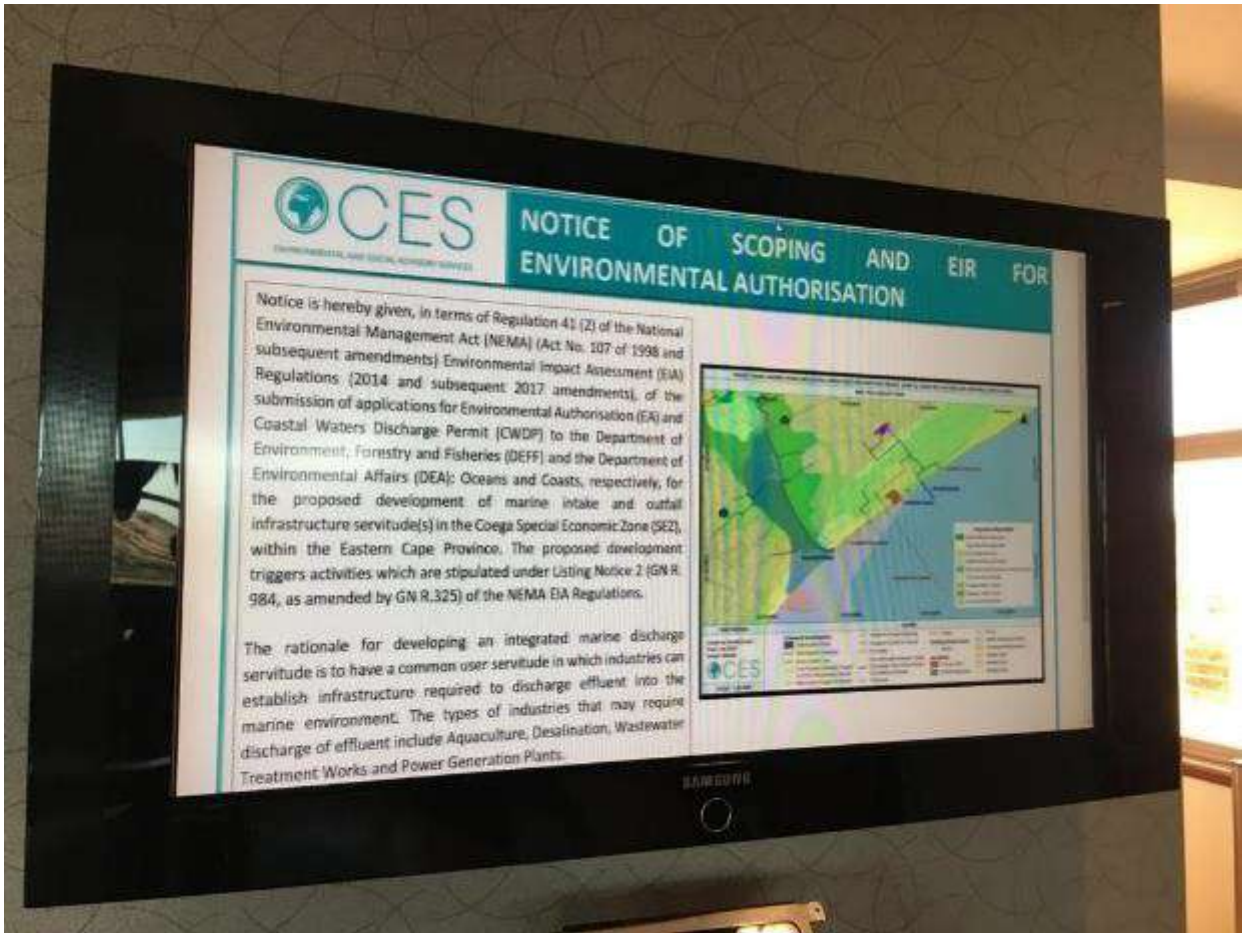
APPENDIX 1.2-2: THE SITE NOTICE



*** Please note that the original site notice is still on display on the CDC's electronic notice board and has not been removed since the commencement of this project.**

APPENDIX 1.2-3: UPDATED INTERESTED AND AFFECTED PARTIES LIST

Contact	Affected Landowners/Lessees	Email address	Contact No	Postal address
Themba Koza	Coega Development Corporation	themba.koza@coega.co.za	041 403 0400	Private Bag X6009, Port Elizabeth, 6000
Mpatisi Pantsi	TNPA	Mpatisi.pantsi@transnet.net	041 507 8449/ 0832948783	PO Box 612054, Bluewater Bay, 6212
Contact	**Surrounding Landowners/Lessees**	**Email address**	**Contact No**	**Postal address**
Danie Gerber (Branch Manager)	Zone 1 – DSV	danie.gerber@za.dsv.com	041 517 1182	Not available
Sheree Harmse		sheree.harmse@za.dsv.com	041 517 1182	Not available
Jackson Tutu (Manager)		jacksont@digistics.co.za	041 405 0300	Suez Road, Zone 1, Coega SEZ
Allistair Stallenberg (General Manager)		AllistairS@digistics.co.za	083 6296868	Suez Road, Zone 1, Coega SEZ
Guthrie Robertson (Managing Executive)	Zone 1 – Famous Brands	guthrie.robertson@Famousbrands.co.za	041 492 0220	13 Intsimbi Road, Zone 1, Coega SEZ
Arnold Barnard (Operations Manager)		arnold.barnard@famousbrands.co.za	041 492 0203/ 060 988 4114	13 Intsimbi Road, Zone 1, Coega SEZ
Gloria January		gloria.january@Famousbrands.co.za	082 333 2069	
Beth Hurr (PDC Warehouse Manager)	Zone 1 – Isuzu Motors	beth.hurr@isuzu.co.za	041 407 0200/ 0845487000	62 Umlambo Street, Zone 1, Coega SEZ
Mbongeni Mbiko		mbiko.mbongeni@isuzu.co.za	041 403 3322/ 0722761982	62 Umlambo Street, Zone 1, Coega SEZ
Craig Vaughan (General Manager)	Zone 1 – PE Cold Storage	craig@pecoldstorage.co.za	041 405 0800	Corner of Bridgewater Street and Alcyon Road, Zone 1, Coega SEZ
Charl de Lange		charl@pecoldstorage.co.za	083 320 6222	
George Efstrapiou (CEO)		george@pecoldstorage.co.za	041 581 0907	Corner of Bridgewater Street and Alcyon Road, Zone 1, Coega SEZ
Karl McLachlan (site manager)	Zone 1 – Vector Logistics	karl.mclachlan@apmterminals.com	041 486 3021/ 066 474 3114	129 Amatye Street, Zone 1, Coega SEZ
Rudo Stoltenkamp (Operations Manager)		RudoS@vectorlog.com	041 402 1500/ 084 506 0642	Amatye Street, Zone 1, Coega SEZ
Jurie Schoeman (Operations EM)		JurieS@vectorlog.com	082 326 0816	Amatye Street, Zone 1, Coega SEZ
George Charalambous	Zone 1 – National Ship Chandlers	GeorgeC@natship.net	041 484 7633	29 Kiel Street, Zone 1, Coega SEZ
Adro Stylianou Business Development Manager)		andros@natship.net	031 205 4221/ 082 802 9108	29 Kiel Street, Zone 1, Coega SEZ

Rhyan Webb (General Manager)	Zone 1 – Apli /Coega Fruit Terminals	Rhyanw@apliafrica.com	083 321 2205	Not available
Lynette Barnard (Area Logistics Manager)	Zone 1 - Parmalat	lynette.barnard@za.lactalis.com	083 386 6160	Corner of Amatye and Ocean View, Zone 1, Coega SEZ
Aaron Lench (Branch Manager)	Zone 1 – The Courier Guy	aaron@thecourierguy.co.za	041 408 6832/ 067 426 6387	
Shaldon Chetty (Depot Manager)	Zone 1 - MSC	shaldon.chetty@msc.com	083 214 2145	
Ben Fouche	Zone 1 – BAIC SA	ben.fouche@baicsa.co.za	082 940 0425	
Len Cowley (Depot Manager)	Zone 2 – Zacpack / CFR	LCowley@zacpak.co.za	041 405 0600/ 082 296 3984	87 Nurburgring Street, Zone 2, Coega SEZ
Liu Shijie (Deputy Director)	Zone 2 - FAW	liushijie@faw.co.za	087 700 8006	Not available
Nadine Forlee (Assistant to CEO & Plant Manager)		nadine@faw.co.za	087 700 2949	30 Nurburgring Street, Zone 2, Coega SEZ
Haiyang Yao (Admin Manager)		yaohaiyang@faw.co.za	074 663 8388	30 Nurburgring Street, Zone 2, Coega SEZ
Theo Theuner (Managing Director)	Zone 2 – HELLA	theo.theuner@hella.com	041 996 5704/ 071 852 1990	
Adrian Vardy (CEO)	Zone 3 – Dynamic Commodities	adrian@dynamicfood.com	082 873 2214	13 Intsimbi Road, Zone 3, Coega SEZ
Marc Later (Director)		marc@dynamicfood.com	082 495 7796	13 Intsimbi Road, Zone 3, Coega SEZ
Heinrich Vosloo (Operations Manager)		heinrich@dynamicfood.com	078 746 6570	13 Intsimbi Road, Zone 3, Coega SEZ
Phillip Nieman (CEO)	Zone 3 – Coega Dairy	philip@coegadairy.com	041 405 0000/ 082 498 8491	142 Cable Road, Zone 3, Coega SEZ
Mark Harris (Managing Executive)		Mark@Coegadairy.com	041 405 0000	142 Cable Road, Zone 3, Coega SEZ
Vincent Ntuli	Zone 3 – Air Products	Vincent.Ntuli@Airproducts.co.za	072 3168745	Not Available
Satish Brugwathypersad (Project Manager – Project Execution)	Zone 3 - Afrox	satish.bhugwathypersad@afrox.linde.com	011 456 3794	197 Hamile Road, Zone 3, Coega SEZ
Rene Naidu (General and Regional Manager)		rene.naidu@afrox.linde.com	011 456 3794	197 Hamile Road, Zone 3, Coega SEZ
Andile Qwase (Plant Manager)		Andile.Qwase@afrox.linde.com	041 405 9643/ 071 477 9363	197 Hamile Road, Zone 3, Coega SEZ
Martin Foster (Managing Director)	Zone 3 – Himoin SA	mfoster@himoinsa.com	081 485 5679	A6 Multi User Facility, Zone 3, Coega SEZ
Mapkgole Johannes	Zone 3 – Enel Green Power	(johannes.mapokgole@enel.com)	010 344 0200	Not available
Eugene Erasmus (SHEQ Manager)	Zone 3 - Corruseal	eugene@corruseal.co.za	041 405 0140	Cnr. Bumba and Anvil Street, Zone 3, Coega SEZ

Herbert		herbert@corruseal.co.za		
Charles Lumsden (CEO)	Zone 3 – Ocean Legacy Marine Engineering (OLME)	charles.lumsden@oftgroup.co.za	041 586 1400/ 083 413 4002	A6 Multi User Facility, Zone 3, Coega SEZ
Pieter van Heerden (Managing Director)		pieter.vanheerden@oftgroup.co.za	041 463 2959	A6 Multi User Facility, Zone 3, Coega SEZ
Len Mulders (Logistics Manager)	Zone 3 – Bacarac Foods	info@bacaracfoods.co.za	083 226 5927	Not Available
Ellian Peterson (Facilities Manager)	Zone 4 – Discovery Health	ellianp@discovery.co.za	041 409 7300/ 062 295 2167	BPO Building, Corner of Zibuko Street and Laleyon Road, Zone 4, Coega SEZ
Hennie van Staden (Service executive)		henniev@discovery.co.za	041 409 7132	BPO Building, Corner of Zibuko Street and Laleyon Road, Zone 4, Coega SEZ
Brian Windsor (General Manager)	Zone 4 - WNS	Brian.Windsor@wns.com	074 122 0665	Not available
Ashwin Langeveldt (HR Manager)	Zone 5 – Bosun Bricks	ops01.bbpe@bosun.co.za	041 405 0100	Corner Neptune Drive and MR 435, Zone 5, Coega SEZ
Joy du Plessis (Branch Manager)	Zone 5 – Sanitech	joyd@sanitech.co.za	041 453 8996	Alumina Road, Zone 5, Coega SEZ
Jerome Perils (Managing Director)	Zone 5 – Ke Nako Concrete	jerome@kenakoconcrete.co.za	041 405 0151/ 082 390 7639	Not available
Hendrik du Preez (Site Manager)	Zone 5 – Osho Cement / CEMZA	hendrickm@cemza.co	041 461 1105/ 072 446 1406	Not available
Hassan Khan (Director)	Zone 6 & 11 - Coega Steels	hassan@agnisa.co.za	041 450 1331/ 082 805 6500	Corner of Furnace Close and Ring Road, Zone 6, Coega SEZ
John Drinkwater (Managing Director)	Zone 7 – Cerebos	johnd@cerebos.co.za	041 403 6700/ 082 654 9507	Not available
Sinawo Mtongana		sinawom@cerebos.co.za		Not available
James Classen (Facility Manager)	Zone 13 – DEDISA Peaking Power	James.Classen@peakersoperations.co.za	041 405 0511/ 076 810 9090	Not available
Contact	**Organ of State – National & Provincial**	**Email**	**Contact No**	**Postal**
Milicent Solomons	Department of Environment, Forestry and Fisheries (DEFF)	MSolomons@environment.gov.za	012 399 9382	
Luyanda Veto		LVeto@environment.gov.za	Not Available	Not Available
Wayne Hector (Deputy Director)	DEFF: Strategic Infrastructure Development	whector@environment.gov.za	086 111 2468	Pvt Bag X447, Pretoria, 0001
Constance Musemburi	DEFF: Case Officer	cmusemburi@environment.gov.za	012 399 9416	Pvt Bag X447, Pretoria, 0001
Masina Litsoane	DEFF	mlitsoane@environment.gov.za	012 399 937	Pvt Bag X447, Pretoria, 0001
Rose Masela		rmasela@environment.gov.za	012 399 9511	

Stanley Tshitwamulomoni (Acting Director)	Department of Environmental Affairs (DEA) - Biodiversity	stanleyt@environment.gov.za	012 399 9573	Department of Environmental Affairs, A2-2-14, 473 Steve Biko Rd, Environmental House, Pretoria
Yazeed Peterson	DEA: Oceans and Coasts (Coastal Pollution Management Division)	ypeterson@environment.gov.za	021 819 2409/ 082 211 0544	PO Box 52126, Cape Town, 8002
Reuben Molale		rmolale@environment.gov.za	021 819 2493	
Tandiwe Njajula		TNjajula@environment.gov.za	021 819 2442	Not Available
Mulalo Tshikotshi		Mtshikot@environment.gov.za	Not Available	Not Available
Mpho Ligudu		MLigudu@environment.gov.za	Not Available	Not Available
Thabo Nokoyo	Department of Agriculture, Forestry and Fisheries (DAFF) – Eastern Cape	NokoyoD@daff.gov.za	043 604 5446	Private Bag X 3917, North End, 6056
Dorothy Jagers		DorothyJ@daff.gov.za		
John Geeringh	Eskom	john.geeringh@eskom.co.za GeerinJH@eskom.co.za	012 332 5305	P O Box 1091, Johannesburg, 2000.
Vusi Kubheka	Department of Mineral Resources (DMR): Mineral Regulation	vusi.kubheka@dmr.gov.za vincentvusi02@gmail.com	041 403 6600 / 060 550 4673	Bag X6076, Port Elizabeth, 6001
Veliswa Baduza (Chief executive officer)	South African Heritage Resource Agency (SAHRA)	vbaduza@sahra.org.za	021 462 4502	PO Box 4637, Cape Town, 8000
Phillip Hine		phine@sahra.org.za	021 462 4502	
Andries Struwig	Eastern Cape Department of Economic Development, Environmental Affairs and Tourism (DEDEAT)	andries.Struwig@dedea.gov.za	041 508 5808/ 0795031762	Private Bag X5001, Greenacres, Port Elizabeth, 6057
Charmaine Struwig		Charmaine.Mostert@dedea.gov.za	041 508 800/39	
Dayalan Govender (Regional manager)		Dayalan.Govender@dedea.gov.za	041 508 5893/ 0828545395	
Lyndon Mardon (Provincial Air Quality Officer)		lyndon.mardon@dedea.gov.za	043 605 7128/ 0718653914	
Marisa Bloem	Eastern Cape Department of Water and Sanitation (DWS)	bloemm@dws.gov.za	041 501 0717	Private Bag X6041, Port Elizabeth, 6000
Thandi Mmachaka	DWS – Water Quality Management	mmachakat@dws.gov.za	041 501 0704/ 082-9533532	Pvt Bag X6041, Port Elizabeth, 6000
Ncumisa Heymann		HeymannN@dws.gov.za	041-5010709 / 0839533057	Pvt Bag X6041, Port Elizabeth, 6000
Randall Moore	EC Department of Roads and Public Works	Randall.Moore@dpw.ecape.gov.za	041 403 6001	PO Box 1110, Algoa Park, Port Elizabeth
Sello Mokhanya	Eastern Cape Provincial Heritage Resources Authority (ECPHRA)	smokhanya@ecphra.org.za/ info@ecphra.org.za	043 642 2811/ 043 745 0888	P.O. Box 16208, Amathole Valley, 5616
Malaika Koali-Lebona	Eastern Cape Parks and Tourism Agency	Malaika.Koali-Lebona@ecpta.co.za	043 705 4400/ 079 496 7931	PO Box 11235, Southernwood, East London, 5213

(Manager: Biodiversity Stewardship Programme)				
Kagiso Mangwale		Kagiso.mangwale@ecpta.co.za	082 416 2532	
Bongi Stofile	South African Maritime Safety Authority (SAMSA)	bstofile@samsa.org.za	021 366 2600/ 0833849563	Not available
Sizule Silinta	Department of Agriculture and Land Affairs – Eastern Cape	sizulesilinta@gmail.com / Sivuyile.silinga@gmail.com	040 653 1153	Not available
Jenny Gon	WESSA	j-gon@intekom.co.za		Not available
Rob Milne	SANParks	rob.milne@sanparks.org	082 483 2477	Not available
Dr Ane Oosthuizen	SANParks	Ane.Oosthuizen@sanparks.org	071 400 0371	Not available
Nick Degoede (Park Manager – Addo Elephant National Park)	SANParks	nick.degoede@sanparks.org	042 233 8670	R335, Addo, 6105
Contact	**Organ of State - Municipal**	**Email**	**Contact No**	**Postal**
Thsonono Buyeye (Acting Executive Mayor)	Nelson Mandela Bay Municipality (NMBM)	pamayor@mandelametro.gov.za tcsbuyeye13@gmail.com	041 506 3267/8 041-505 4401 063 242 9084	Not available
Mandla George (City Manager)		cm@mandelametro.gov.za cooadmin@mandelametro.gov.za zrossouw@mandelametro.gov.za rgoosen@mandelametro.gov.za	041 506 3209 041 505 4524 076 210 9472	Not available
Cllr Nomazulu Mthi (Cllr Ward 53)		nomazulu.mthi29@gmail.com	073 430 5967	17 Kalushe Street, Kamvelihle, Motherwell, Port Elizabeth, 6211
Cllr Mvuzo Ernest Mbelekane (Cllr Ward 60)		mvuzomm@gmail.com	041 461 2749/ 073 416 3046	33 Nxuba Street, Wells Estate, Motherwell, Port Elizabeth, 6211
Ms Pakama Dyani (Deputy Director: Beaches and Resorts)		pdyani@mandelametro.gov.za	041 506 1429/ 079 490 0494	PO Box 12435, Central, Port Elizabeth, 6000
Darryl Bailey (Principal: Environmental Health)		dbailey@mandelametro.gov.za	041 994 1239	PO Box 12435, Central, Port Elizabeth, 6000
MS. Kithi Ngesi (Director: Beaches, Resorts & Events Management)		kngesi@mandelametro.gov.za	041 506 2740/ 082 782 0408	PO Box 12435, Central, Port Elizabeth, 6000
Rosa Blaauw (Environmental Manager)		rblaauw@mandelametro.gov.za; phowes@mandelametro.gov.za	041 506 5206/ 0827989604	PO Box 11, Port Elizabeth, 6000

Patrick Nodwele (Air Pollution and Noise Control)		kslabbert@mandelametro.gov.za; pnodwele@mandelametro.gov.za; gmhlonyane@mandelametro.gov.za	041 506 5216/ 0794900361	PO Box 11, Port Elizabeth, 6000
Ms Buyiswa Deliwe		bhumani@mandelametro.gov.za		
Mr Kobus Slabbert		kslabbert@mandelametro.gov.za		
Joram Mkosana		jmkosana@mandelametro.gov.za	041 506 5464	PO Box 11, Port Elizabeth, 6000
Gill Miller			041 506 1332	
Contact	**Other Stakeholders**	**Email**	**Contact No**	**Postal**
Kobus Gerber (Chairman)	Nelson Mandela Bay Rate Payers Association	kobusgerber2@gmail.com	072 233 4823	Not available
Mike Bridgeford	Eden to Addo Corridor Initiative	mikebridgeford@telkomsa.net	+27 (0)44 533 1623	Not available
Andrea Shirley	Coega Development Corporation (CDC)	Andrea.Shirley@coega.co.za	082 657 4648	Private Bag X6009, Port Elizabeth, 6000
Keith du Plessis		Keith.DuPlessis@coega.co.za	082 740 7654	Private Bag X6009, Port Elizabeth, 6000
Khuthala Somdaka		Khuthala.Somdaka@coega.co.za	082 314 3853	Private Bag X6009, Port Elizabeth, 6000
Lunga Tungu		Lunga.Tungu@coega.co.za	041 403 0400/ 0826509674	Private Bag X6009, Port Elizabeth, 6000
Viwe Biyana		Viwe.Biyana@coega.co.za	0781347381	Private Bag X6009, Port Elizabeth, 6000
Graham Taylor		Graham.Taylor@coega.co.za	041 403 0454/ 0832283055	Pvt Bag X6009, Port Elizabeth, 6000
Christelle du Plessis		christelle@habitatlink.co.za	0741485583	PO Box 63879, Greenacres, 6057
Renee de Klerk	Transnet Capital Projects	renee.deklerk@transnet.net	041 507 8657 / 0833004342	Not available
Johan Schutte	Cbm Africa	Johan@cbmafrica.co.za	071 470 5374	Not available
Richard Clark	Wild Coast Abalone	richard@wcabalone.co.za	043 841 1999/ 083 232 9010	Not available
Chris Carnegie	Carnegie Energie	chris@carnegieenergie.co.za	082 605 1366	Not available
Contact	**I&APs Registered in previous processes**	**Email**	**Contact No**	**Postal**
Chris Albertyn	Registered I&AP	chris@lags.co.za	Not available	Not available

Sandy Wren	Registered I&AP	sandy@publicprocess.co.za	Not available	Not available
Dave Louw (Cerebos)	Registered I&AP	davel@cerebos.co.za	Not available	Not available
Huldah Solomon (GM SA)	Registered I&AP	Huldah.solomon@gm.com	Not available	Not available
Paul Martin	Registered I&AP	pmartin@axxess.co.za	Not available	Not available
Paul-Pierre Steyn (NMMU)	Registered I&AP	Paul.steyn@nmmu.ac.za	Not available	Not available
Simon Wijnberg	Registered I&AP	simon@impact-freewater.com	Not available	Not available
Neil	Registered I&AP	neil@impact-freewater.com	Not available	Not available
Tim Foxen	Registered I&AP	tfoxen@monetgas.com	Not available	Not available
Contact	**Newly Registered I&APs**	**Email**	**Contact No**	**Postal**
Schalk Potgieter (Director: Strategic Planning and Policy Formulation)	Human Settlements Directorate	SPotgiet@mandelametro.gov.za	+27 (0)41 506 2168/ +27 (0)82 374 1233	
Ivan Jacobs		ivan.jacobs@murrob.com		
Mzuzu Ncedisa	Registered I&AP - Isuzu	ncedisa.mzuzu@isuzu.co.za		

NOTIFICATION OF REFUSAL OF ENVIRONMENTAL AUTHORISATION SUBMITTED TO ALL I&APS ON THE 16TH OF OCTOBER 2020

From: Nicole Wienand
Sent: Friday, 16 October 2020 14:14
To: 'Andrea.Shirley@coega.co.za' <Andrea.Shirley@coega.co.za>; 'Mpatisi.pantsi@transnet.net' <Mpatisi.pantsi@transnet.net>; 'danie.gerber@za.dsv.com' <danie.gerber@za.dsv.com>; 'sheree.harmse@za.dsv.com' <sheree.harmse@za.dsv.com>; 'jacksont@digistics.co.za' <jacksont@digistics.co.za>; 'kens@digistics.co.za' <kens@digistics.co.za>; 'AllistairS@digistics.co.za' <AllistairS@digistics.co.za>; 'guthrie.robertson@Famousbrands.co.za' <guthrie.robertson@Famousbrands.co.za>; 'arnold.barnard@famousbrands.co.za' <arnold.barnard@famousbrands.co.za>; 'beth.hurr@isuzu.co.za' <beth.hurr@isuzu.co.za>; 'mbiko.mbongeni@isuzu.co.za' <mbiko.mbongeni@isuzu.co.za>; 'craig@pecoldstorage.co.za' <craig@pecoldstorage.co.za>; 'george@pecoldstorage.co.za' <george@pecoldstorage.co.za>; 'karl.mclachlan@apmterminals.com' <karl.mclachlan@apmterminals.com>; 'schoeman.marinus@apmterminals.com' <schoeman.marinus@apmterminals.com>; 'RudoS@vectorlog.com' <RudoS@vectorlog.com>; 'JurieS@vectorlog.com' <JurieS@vectorlog.com>; 'GeorgeC@natship.net' <GeorgeC@natship.net>; 'DavidB@natship.net' <DavidB@natship.net>; 'andros@natship.net' <andros@natship.net>; 'Rhyanw@apliafrica.com' <Rhyanw@apliafrica.com>; 'lynette.barnard@parmalat.co.za' <lynette.barnard@parmalat.co.za>; 'aaron@thecourierguy.co.za' <aaron@thecourierguy.co.za>; 'shaldon.chetty@msc.com' <shaldon.chetty@msc.com>; 'ben.fouche@baicsa.co.za' <ben.fouche@baicsa.co.za>; 'LCowley@zacpak.co.za' <LCowley@zacpak.co.za>; 'liushijie@faw.co.za' <liushijie@faw.co.za>; 'nadine@faw.co.za' <nadine@faw.co.za>; 'yaohaiyang@faw.co.za' <yaohaiyang@faw.co.za>; 'theo.theuner@hella.com' <theo.theuner@hella.com>; 'adrian@dynamicfood.com' <adrian@dynamicfood.com>; 'marc@dynamicfood.com' <marc@dynamicfood.com>; 'heinrich@dynamicfood.com' <heinrich@dynamicfood.com>; 'philip@coegadairy.com' <philip@coegadairy.com>; 'johann@coegadairy.com' <johann@coegadairy.com>; 'Mark@Coegadairy.com' <Mark@Coegadairy.com>; 'vincentn@apsap.co.za' <vincentn@apsap.co.za>; 'satish.bhugwathypersad@afrox.linde.com' <satish.bhugwathypersad@afrox.linde.com>; 'rene.naidu@afrox.linde.com' <rene.naidu@afrox.linde.com>; 'Andile.Qwase@afrox.linde.com' <Andile.Qwase@afrox.linde.com>; 'mfoster@himoinsa.com' <mfoster@himoinsa.com>; 'johannes.mapokgole@enel.com' <johannes.mapokgole@enel.com>; 'herbert@corromaster.co.za' <herbert@corromaster.co.za>; 'charles.lumsden@oftgroup.co.za' <charles.lumsden@oftgroup.co.za>; 'pieter.vanheerden@oftgroup.co.za' <pieter.vanheerden@oftgroup.co.za>; 'info@bacaracfoods.co.za' <info@bacaracfoods.co.za>; 'ellianp@discovery.co.za' <ellianp@discovery.co.za>; 'henniev@discovery.co.za' <henniev@discovery.co.za>; 'Brian.Windsor@wns.com' <Brian.Windsor@wns.com>; 'ops01.bbpe@bosun.co.za' <ops01.bbpe@bosun.co.za>; 'joyd@sanitech.co.za' <joyd@sanitech.co.za>; 'jerome@kenakoconcrete.co.za' <jerome@kenakoconcrete.co.za>; 'hendrickm@cemza.co' <hendrickm@cemza.co>; 'hassan@agnisa.co.za' <hassan@agnisa.co.za>; 'johnd@cerebos.co.za' <johnd@cerebos.co.za>; 'sinawom@cerebos.co.za' <sinawom@cerebos.co.za>; 'James.Classen@peakersoperations.co.za' <James.Classen@peakersoperations.co.za>; 'MSolomons@environment.gov.za' <MSolomons@environment.gov.za>; 'LVeto@environment.gov.za' <LVeto@environment.gov.za>; 'whector@environment.gov.za' <whector@environment.gov.za>; 'cmusemburi@environment.gov.za' <cmusemburi@environment.gov.za>; 'mlitsoane@environment.gov.za' <mlitsoane@environment.gov.za>; 'rmasela@environment.gov.za' <rmasela@environment.gov.za>; 'stanleyt@environment.gov.za' <stanleyt@environment.gov.za>; 'ypeterson@environment.gov.za' <ypeterson@environment.gov.za>; 'rmolale@enviornment.gov.za' <rmolale@enviornment.gov.za>; 'TNjajula@environment.gov.za' <TNjajula@environment.gov.za>; 'Mtshikot@environment.gov.za' <Mtshikot@environment.gov.za>; 'MLigudu@environment.gov.za' <MLigudu@environment.gov.za>; 'NokoyoD@daff.gov.za' <NokoyoD@daff.gov.za>; 'DorothyJ@daff.gov.za' <DorothyJ@daff.gov.za>; 'john.geeringh@eskom.co.za' <john.geeringh@eskom.co.za>; 'GeerinJH@eskom.co.za' <GeerinJH@eskom.co.za>; 'vusi.kubheka@dmr.gov.za' <vusi.kubheka@dmr.gov.za>; 'vbaduza@sahra.org.za' <vbaduza@sahra.org.za>; 'phine@sahra.org.za' <phine@sahra.org.za>; 'andries.Struwig@dedea.gov.za' <andries.Struwig@dedea.gov.za>; 'Charmaine.Mostert@dedea.gov.za' <Charmaine.Mostert@dedea.gov.za>; 'Dayalan.Govender@dedea.gov.za' <Dayalan.Govender@dedea.gov.za>; 'lyndon.mardon@dedea.gov.za' <lyndon.mardon@dedea.gov.za>; 'bloemm@dws.gov.za' <bloemm@dws.gov.za>; 'mmachakat@dws.gov.za' <mmachakat@dws.gov.za>; 'mnotozaN@dws.gov.za' <mnotozaN@dws.gov.za>; 'HeymannN@dws.gov.za' <HeymannN@dws.gov.za>; 'Randall.Moore@dpw.ecape.gov.za' <Randall.Moore@dpw.ecape.gov.za>; 'smokhanya@ecphra.org.za' <smokhanya@ecphra.org.za>; 'info@ecphra.org.za' <info@ecphra.org.za>; 'Malaika.Koali-Lebona@ecpta.co.za' <Malaika.Koali-Lebona@ecpta.co.za>; 'bstofile@samsa.org.za' <bstofile@samsa.org.za>; 'sizulesilinta@gmail.com' <sizulesilinta@gmail.com>; 'j-gon@intekom.co.za' <j-gon@intekom.co.za>; 'rob.milne@sanparks.org' <rob.milne@sanparks.org>; 'Ane.Oosthuizen@sanparks.org' <Ane.Oosthuizen@sanparks.org>; 'nick.degoede@sanparks.org' <nick.degoede@sanparks.org>; 'pamayor@mandelametro.gov.za' <pamayor@mandelametro.gov.za>; 'cm@mandelametro.gov.za' <cm@mandelametro.gov.za>; 'nomazulu.mthi29@gmail.com' <nomazulu.mthi29@gmail.com>; 'mvuzomm@gmail.com' <mvuzomm@gmail.com>; 'pdyani@mandelametro.gov.za' <pdyani@mandelametro.gov.za>; 'dbailey@mandelametro.gov.za' <dbailey@mandelametro.gov.za>;

'kngesi@mandelametro.gvo.za' <kngesi@mandelametro.gvo.za>; 'rblaauw@mandelametro.gov.za' <rblaauw@mandelametro.gov.za>; 'phowes@mandelametro.gov.za' <phowes@mandelametro.gov.za>; 'kslabbert@mandelametro.gov.za' <kslabbert@mandelametro.gov.za>; 'pnodwele@mandelametro.gov.za' <pnodwele@mandelametro.gov.za>; 'gmhlonyane@mandelametro.gov.za' <gmhlonyane@mandelametro.gov.za>; 'jmkosana@mandelametro.gov.za' <jmkosana@mandelametro.gov.za>; 'kobusgerber2@gmail.com' <kobusgerber2@gmail.com>; 'mikebridgeford@telkomsa.net' <mikebridgeford@telkomsa.net>; 'Andrea.Shirley@coega.co.za' <Andrea.Shirley@coega.co.za>; 'Keith.DuPlessis@coega.co.za' <Keith.DuPlessis@coega.co.za>; 'Khuthala.Somdaka@coega.co.za' <Khuthala.Somdaka@coega.co.za>; 'Lunga.Tungu@coega.co.za' <Lunga.Tungu@coega.co.za>; 'Viwe.Biyana@coega.co.za' <Viwe.Biyana@coega.co.za>; 'Graham.Taylor@coega.co.za' <Graham.Taylor@coega.co.za>; 'christelle@habitatlink.co.za' <christelle@habitatlink.co.za>; 'renee.deklerk@transnet.net' <renee.deklerk@transnet.net>; 'Johan@cbmafrica.co.za' <Johan@cbmafrica.co.za>; 'richard@wcabalone.co.za' <richard@wcabalone.co.za>; 'chris@carnegieenergie.co.za' <chris@carnegieenergie.co.za>; 'chris@laqs.co.za' <chris@laqs.co.za>; 'sandy@publicprocess.co.za' <sandy@publicprocess.co.za>; 'davel@cerebos.co.za' <davel@cerebos.co.za>; 'Huldah.solomon@gm.com' <Huldah.solomon@gm.com>; 'pmartin@axxess.co.za' <pmartin@axxess.co.za>; 'Paul.steyn@nmmu.ac.za' <Paul.steyn@nmmu.ac.za>; 'simon@impact-freewater.com' <simon@impact-freewater.com>; 'tfoxen@monetgas.com' <tfoxen@monetgas.com>; 'Davel@cerebos.co.za' <Davel@cerebos.co.za>; 'Johnd@cerebos.co.za' <Johnd@cerebos.co.za>; 'SPotgiet@mandelametro.gov.za' <SPotgiet@mandelametro.gov.za>; 'neil@impact-freewater.com' <neil@impact-freewater.com>; 'Kagiso.mangwale@ecpta.co.za' <Kagiso.mangwale@ecpta.co.za>; 'bhumani@mandelametro.gov.za' <bhumani@mandelametro.gov.za>; 'kslabbert@mandelametro.gov.za' <kslabbert@mandelametro.gov.za>; 'lynette.barnard@za.lactalis.com' <lynette.barnard@za.lactalis.com>; 'ivan.jacobs@murrob.com' <ivan.jacobs@murrob.com>

Cc: Chantel Bezuidenhout <c.bezuidenhout@cesnet.co.za>; Alan Carter <a.carter@cesnet.co.za>

Subject: NOTIFICATION OF REFUSAL OF ENVIRONMENTAL AUTHORISATION: MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE PROJECT, ZONE 10, COEGA SEZ

Dear Stakeholders and Interested and/or Affected Parties (I&APs),

NOTIFICATION OF REFUSAL OF ENVIRONMENTAL AUTHORISATION: THE PROPOSED MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE PROJECT, ZONE 10, COEGA SEZ, EASTERN CAPE PROVINCE (DEFF REFERENCE NUMBER: 14/12/16/3/3/2/2001)

Notice is hereby given in terms of Regulation 4(2)(a) published in Government Notice No. R. 982 under Chapter 2 of the National Environmental Management Act (NEMA, Act No. 107 of 1998 and subsequent amendments) Environmental Impact Assessment (EIA) Regulations (2014 and subsequent 2017 amendments) that the application for Environmental Authorisation (EA) for the abovementioned project was refused on the 12th of October 2020 and received by the EAP on the 12th of October 2020 by the National Department of Environment, Forestry and Fisheries (DEFF). Please refer to Annexure 1, of the attached copy of the refusal, for the detailed reasons for the decision.

Notice of Appeals Process:

In accordance with sub-regulation 4(2)(b) of the EIA Regulations as well as Section 44 of the NEMA Appeal Regulations, GN R. 993 dated December 2014 (attached), read together with Section 43 of NEMA as amended, an appeal against the DEFF's decision to refuse the EA may be lodged in terms of Regulation 4 (1) of the NEMA Appeal Regulations (attached). Appeals must be lodged with the Director of Appeals and Legal Review (DEFF), and a copy of the appeal submitted to the Applicant, any registered Interested and/or Affected Party (I&AP), and any Organ of State with interest, within twenty (20) days of the date of notification of this decision (16th of October 2020 to 5th of November 2020). The contact details for the Director of Appeals and Legal Review, as well as the Applicant, is included in the box below. Please also submit a copy of the lodged appeal to the Environmental Consultant representative (Ms Nicole Wienand at CES: n.wienand@cesnet.co.za).

Appeal to the DEFF:

Attention:	Directorate Appeals and Legal Review
Email:	appeals@environment.gov.za
By Post:	Private Bag X 447, Pretoria, 001
By Hand:	Environmental House, 473 Steve Biko Road, Arcadia, Pretoria, 0083

Copy of Appeal to Applicant:

Responsible person:	Ms Andrea Shirley
Postal address:	Coega Development Corporation, PO Box X6009, Port Elizabeth, 6001
Contact Number:	041 403 0400
Email address:	Andrea.Shirley@coega.co.za

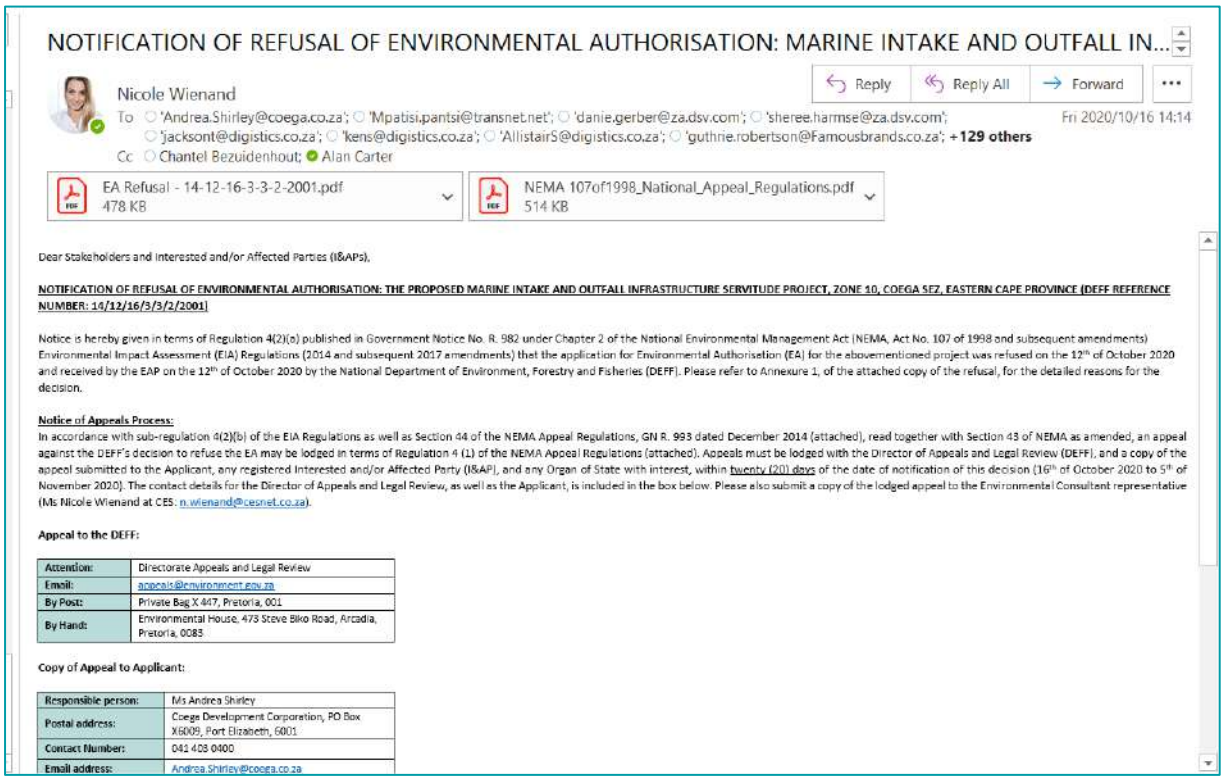
For further information please do not hesitate to contact the Environmental Consultant:
Ms Nicole Wienand
Tel.: +27 (0)46 622 2364
E-mail: n.wienand@cesnet.co.za

Kind regards,
Nicole

Nicole Wienand
Environmental Consultant
CES - Environmental and Social Advisory Services
Port Elizabeth | Eastern Cape | South Africa
Contact: +27 (0)46 622 2364
n.wienand@cesnet.co.za | www.cesnet.co.za

Operations during lockdown: CES is able to work remotely and we have implemented numerous procedures that enable us to continue providing our advisory services to you.

Email Screenshot of Notification of Refusal of EA submitted to all I&APs



NOTIFICATION OF REFUSAL OF ENVIRONMENTAL AUTHORISATION: MARINE INTAKE AND OUTFALL IN...

Nicole Wienand

Reply | Reply All | Forward

To 'Andrea.Shirley@coega.co.za'; 'Mpatisi.pantsi@transnet.net'; 'danie.gerber@za.dsv.com'; 'sheree.harmse@za.dsv.com'; 'jacksont@digistics.co.za'; 'kens@digistics.co.za'; 'AllistairS@digistics.co.za'; 'guthrie.robertson@Famousbrands.co.za'; +129 others

Fri 2020/10/16 14:14

Cc Chantel Bezuidenhout; Alan Carter

EA Refusal - 14-12-16-3-3-2-2001.pdf 478 KB

NEMA 107of1998_National_Appeal_Regulations.pdf 514 KB

Dear Stakeholders and Interested and/or Affected Parties (I&APs),

NOTIFICATION OF REFUSAL OF ENVIRONMENTAL AUTHORISATION: THE PROPOSED MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE PROJECT, ZONE 10, COEGA SEZ, EASTERN CAPE PROVINCE (DEFF REFERENCE NUMBER: 14/12/16/3/3/2/2001)

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Email:	appeals@environment.gov.za
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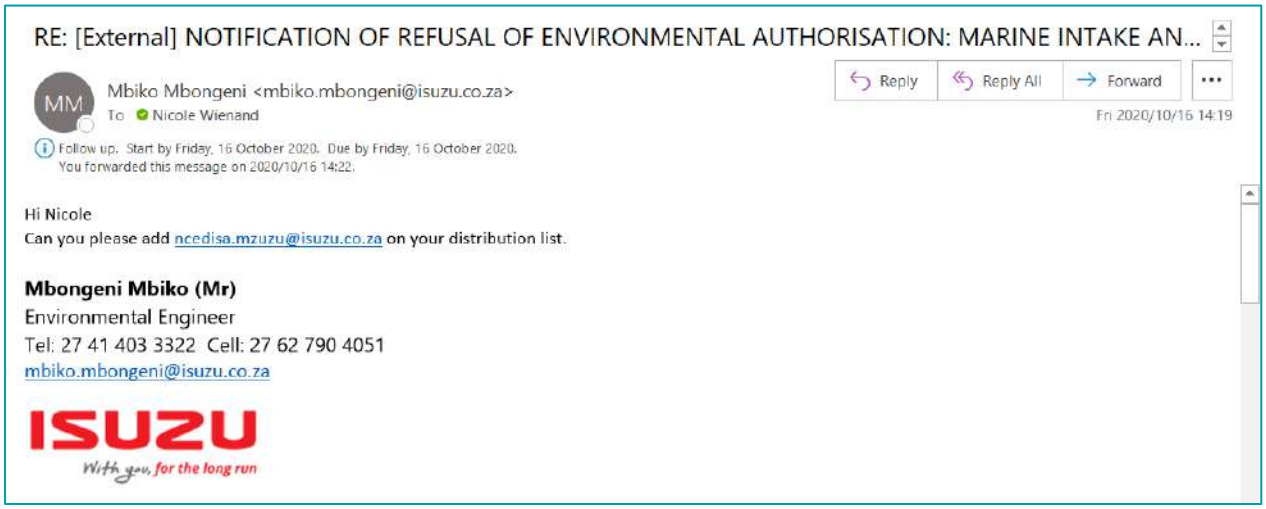
Copy of Appeal to Applicant:

Responsible person:	Ms Andrea Shirley
Postal address:	Coega Development Corporation, PO Box X6009, Port Elizabeth, 6001
Contact Number:	041 403 0400
Email address:	Andrea.Shirley@coega.co.za

I&AP Comment, Mbongeni Mbiko (Isuzu), 16 October 2020



RE: [External] NOTIFICATION OF REFUSAL OF ENVIRONMENTAL AUTHORISATION: MARINE INTAKE AN...

Reply | Reply All | Forward

MM Mbiko Mbongeni <mbiko.mbongeni@isuzu.co.za>
To Nicole Wienand
Fri 2020/10/16 14:19

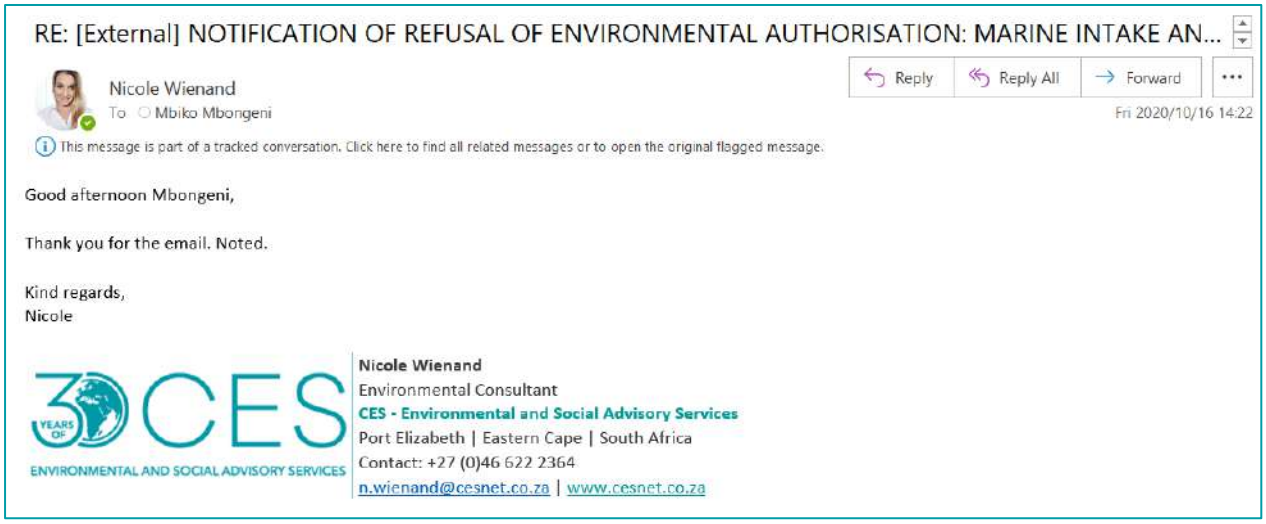
Follow up. Start by Friday, 16 October 2020. Due by Friday, 16 October 2020.
You forwarded this message on 2020/10/16 14:22.

Hi Nicole
Can you please add ncedisa.mzuzu@isuzu.co.za on your distribution list.

Mbongeni Mbiko (Mr)
Environmental Engineer
Tel: 27 41 403 3322 Cell: 27 62 790 4051
mbiko.mbongeni@isuzu.co.za

ISUZU
With you, for the long run

EAP Response, 16 October 2020



RE: [External] NOTIFICATION OF REFUSAL OF ENVIRONMENTAL AUTHORISATION: MARINE INTAKE AN...

Reply | Reply All | Forward

Nicole Wienand
To Mbiko Mbongeni
Fri 2020/10/16 14:22

This message is part of a tracked conversation. Click here to find all related messages or to open the original flagged message.

Good afternoon Mbongeni,

Thank you for the email. Noted.

Kind regards,
Nicole

30 YEARS OF CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

Nicole Wienand
Environmental Consultant
CES - Environmental and Social Advisory Services
Port Elizabeth | Eastern Cape | South Africa
Contact: +27 (0)46 622 2364
n.wienand@cesnet.co.za | www.cesnet.co.za

Email sent to Mzuzu Ncedisa on the 16th of October 2020 as requested above

FW: [External] NOTIFICATION OF REFUSAL OF ENVIRONMENTAL AUTHORISATION: MARINE INTAKE AN...

Reply | Reply All | Forward

Nicole Wienand
To ncedisa.mzuzu@isuzu.co.z
Fri 2020/10/16 14:22

This message is part of a tracked conversation. Click here to find all related messages or to open the original flagged message.

Dear Stakeholders and Interested and/or Affected Parties (I&APs),

NOTIFICATION OF REFUSAL OF ENVIRONMENTAL AUTHORISATION: THE PROPOSED MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE PROJECT, ZONE 10, COEGA SEZ, EASTERN CAPE PROVINCE (DEFF REFERENCE NUMBER: 14/12/16/3/3/2/2001)

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Appeal to the DEFF:

Attention:	Directorate Appeals and Legal Review
Email:	appeals@environment.gov.za
By Post:	Private Bag X 447, Pretoria, 001

Preapplication notification sent to all I&APs on the 06th of November 2020 inclusive of updated BID

Dear Stakeholders and Interested and/or Affected Parties (I&APs),

COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT, COEGA SPECIAL ECONOMIC ZONE (SEZ), PORT ELIZABETH, EASTERN CAPE: NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION, COASTAL WATERS DISCHARGE PERMIT, AND COASTAL LEASE

Coastal and Environmental Services (CES) has been appointed by the Coega Development Corporation (CDC) to conduct the application for Environmental Authorisation (EA) for the abovementioned project.

Notice is hereby given in terms of the National Environmental Management Act (NEMA) (Act No. 107 of 1998 and subsequent amendments) Environmental Impact Assessment (EIA) Regulations (2014 and subsequent 2017 amendments), in regards to the re-submission of an application for EA to the national Department of Environment, Forestry and Fisheries (DEFF) , as well as a Coastal Waters Discharge Permit and Coastal Lease to DEA: Oceans and Coasts. The proposed Coega Marine Intake and Outfall Infrastructure Project triggers a Scoping and EIA Process in terms of the NEMA EIA Regulations (2014 and subsequent 2017 amendments).

Please find the project Background Information Document (BID) attached for your perusal and comment.

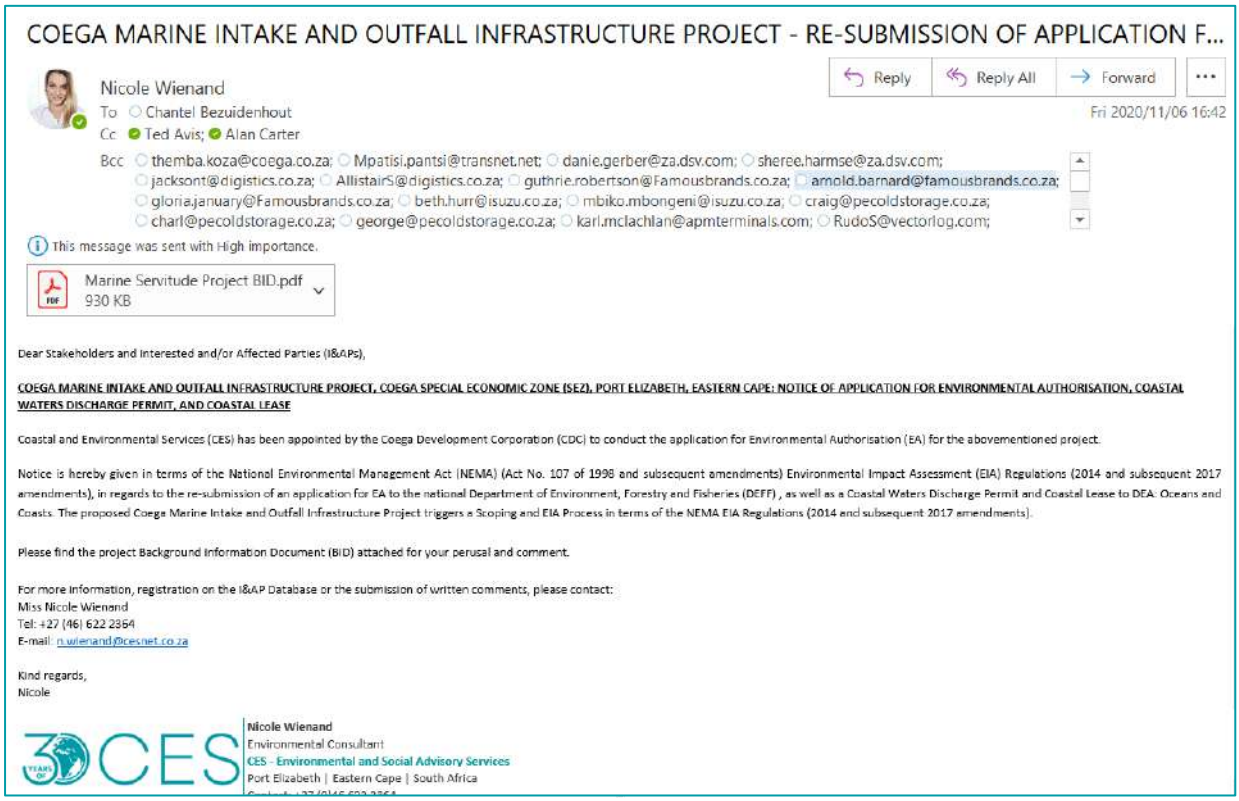
For more information, registration on the I&AP Database or the submission of written comments, please contact:
Miss Nicole Wienand
Tel: +27 (46) 622 2364
E-mail: n.wienand@cesnet.co.za

Kind regards,
Nicole

Nicole Wienand
Environmental Consultant
CES - Environmental and Social Advisory Services
Port Elizabeth | Eastern Cape | South Africa
Contact: +27 (0)46 622 2364
n.wienand@cesnet.co.za | www.cesnet.co.za

Operations during lockdown: CES is able to work remotely and we have implemented numerous procedures that enable us to continue providing our advisory services to you.

EmailScreen Shot of the Pre-application Notifciation sent to all I&APs inlcudive of updated BID



COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT - RE-SUBMISSION OF APPLICATION F...

Reply | Reply All | Forward | ...

Nicole Wienand

To: Chantel Bezuidenhout

Cc: Ted Avis; Alan Carter

Fri 2020/11/06 16:42

Bcc: themba.koza@coega.co.za; Mpatisi.pantsi@transnet.net; danie.gerber@za.dsv.com; sheree.harmse@za.dsv.com; jacksont@digistics.co.za; AllistairS@digistics.co.za; guthrie.robertson@Famousbrands.co.za; arnold.barnard@famousbrands.co.za; gloria.january@Famousbrands.co.za; beth.hurr@isuzu.co.za; mbiko.mbongeni@isuzu.co.za; craig@pecoldstorage.co.za; charl@pecoldstorage.co.za; george@pecoldstorage.co.za; karl.mclachlan@apmterminals.com; RudoS@vectorlog.com;

This message was sent with High importance.

Marine Servitude Project BID.pdf
930 KB

Dear Stakeholders and Interested and/or Affected Parties (I&APs),

COEGA MARINE INTAKE AND OUTFALL INFRASTRUCTURE PROJECT, COEGA SPECIAL ECONOMIC ZONE (SEZ), PORT ELIZABETH, EASTERN CAPE: NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION, COASTAL WATERS DISCHARGE PERMIT, AND COASTAL LEASE

Coastal and Environmental Services (CES) has been appointed by the Coega Development Corporation (CDC) to conduct the application for Environmental Authorisation (EA) for the abovementioned project.

Notice is hereby given in terms of the National Environmental Management Act (NEMA) (Act No. 107 of 1998 and subsequent amendments) Environmental Impact Assessment (EIA) Regulations (2014 and subsequent 2017 amendments), in regards to the re-submission of an application for EA to the national Department of Environment, Forestry and Fisheries (DEFF) , as well as a Coastal Waters Discharge Permit and Coastal Lease to DEA: Oceans and Coasts. The proposed Coega Marine Intake and Outfall Infrastructure Project triggers a Scoping and EIA Process in terms of the NEMA EIA Regulations (2014 and subsequent 2017 amendments).

Please find the project Background Information Document (BID) attached for your perusal and comment.

For more information, registration on the I&AP Database or the submission of written comments, please contact:
Miss Nicole Wienand
Tel: +27 (46) 622 2364
E-mail: n.wienand@cesnet.co.za

Kind regards,
Nicole

Nicole Wienand
Environmental Consultant
CES - Environmental and Social Advisory Services
Port Elizabeth | Eastern Cape | South Africa

NEWSPAPER ADVERTISEMENT PLACED IN THE HERALD ON THE 13TH OF NOVEMBER 2020

NOTIFICATION OF APPLICATIONS FOR ENVIRONMENTAL AUTHORISATION, COASTAL WATERS DISCHARGE PERMIT, AND COASTAL LEASE FOR THE PROPOSED DEVELOPMENT OF MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE(S) IN ZONE 8 & 10 OF THE COEGA SPECIAL ECONOMIC ZONE, EASTERN CAPE PROVINCE.

Notice is hereby given, in terms of Regulation 41 (2) of the National Environmental Management Act (NEMA) (Act No. 107 of 1998 and subsequent amendments) Environmental Impact Assessment (EIA) Regulations (2014 and subsequent 2017 amendments), of the submission of an application for Environmental Authorisation (EA) to the Department of Environment, Forestry and Fisheries (DEFF), as well as a Coastal Waters Discharge Permit (CWDP) and Coastal Lease to the Department of Environmental Affairs (DEA): Oceans and Coasts, for the proposed development of marine intake and outfall infrastructure servitudes in the Coega Special Economic Zone (SEZ). The purpose of the servitudes is the provision of seawater for various industrial processes via a number of seawater intakes, and the discharge of treated effluent into the marine environment. The proposed development triggers activities which are stipulated under Listing Notice 2 (GN R. 984, as amended by GN R. 325) of the NEMA EIA Regulations. CES has been appointed by the Coega Development Corporation (CDC) (the "Applicant") to undertake the required Scoping and EIA Process.

The Draft Scoping Report (DSR) is available for public review from the 13th of November until the 14th of December 2020. Copies of the DSR can be accessed and/or downloaded via the following websites:

- CES Website: www.cesnet.co.za – Public Documents; or the
- CDC Website: www.coega.co.za

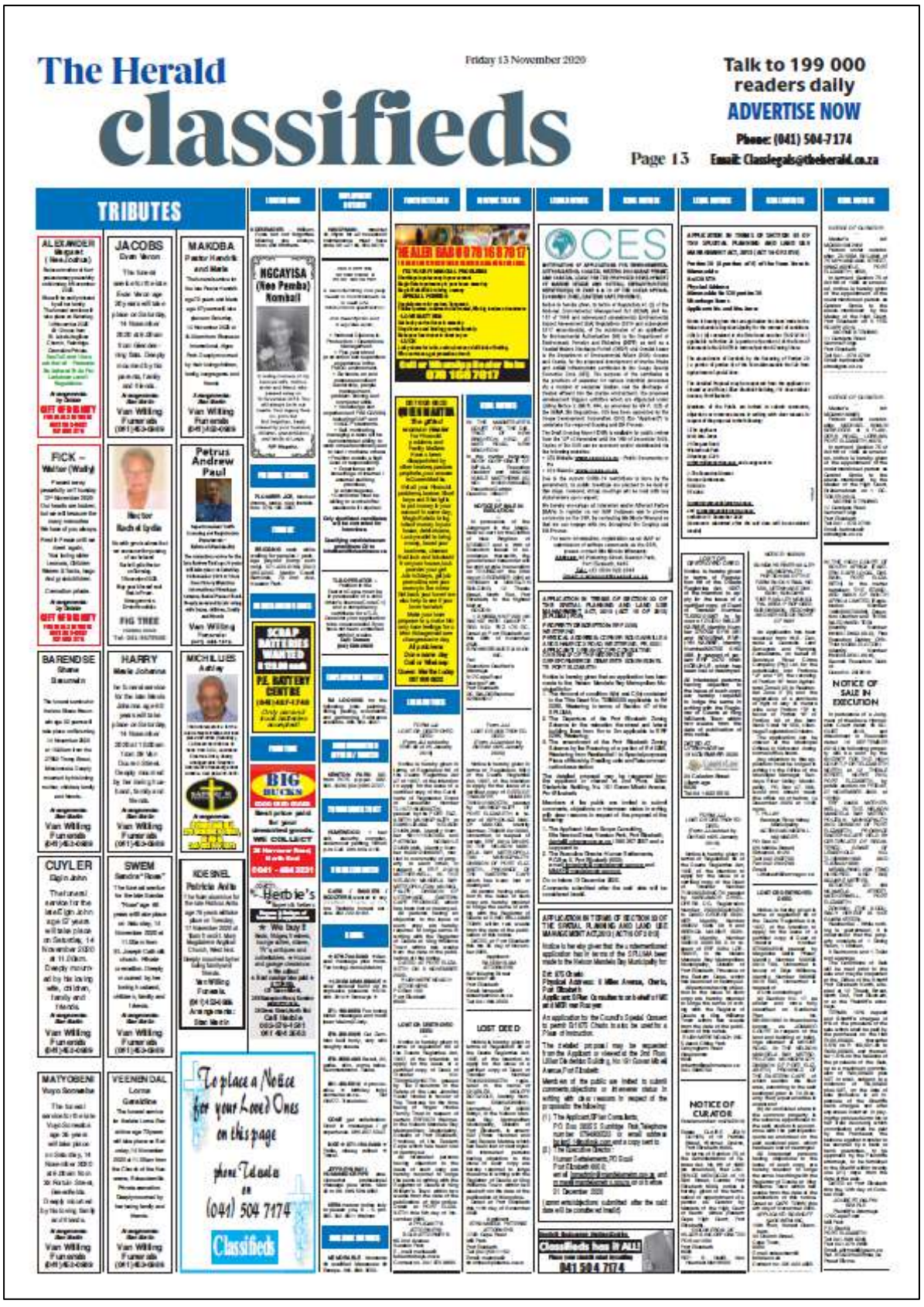
Due to the current COVID-19 restrictions in force by the government, no public meetings are planned to be held at this stage. However, virtual meetings will be held with key stakeholders upon request.

We hereby encourage all Interested and/or Affected Parties (I&APs) to register on our I&AP Database and to provide comments on the DSR, by contacting Ms Nicole Wienand so that we can engage with you throughout the Scoping and EIA Process.

For more information, registration as an I&AP or submission of written comments on the DSR, please contact **Ms Nicole Wienand**:

Address: 36 Pickering Street, Newton Park, Port Elizabeth, 6045

Tel.: +27 (0)46 622 2364 | Email: n.wienand@cesnet.co.za



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TRIBUTES

ALEXANDER Abigail (Nee Joshua)
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Rector Rachel Lydia
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MATYOBENI Vuyo Sonwabe
VEENENDAL Lorna Geraldine

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NOTICE OF SALE IN EXECUTION

NOTICE OF CURATOR

APPENDIX 2: CURRICULUM VITAE – EAP – DR ALAN CARTER

ALAN ROBERT CARTER
Curriculum Vitae

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

CONTACT DETAILS

Name of Company	**CES – Environmental and Social Advisory Services**
Designation	Executive East London and Port Elizabeth Branches
Profession	Environmental consultant and financial accountant
Years with firm	18 (eighteen) Years
E-mail	a.carter@cesnet.co.za
Office number	+27 (0)43 7267809 / 8313
Nationality	South African
Professional Body	➢ SACNASP: South African Council for Natural Scientific Profession ➢ EAPASA: Environmental Assessment Practitioners Association of South Africa ➢ IWMSA: Institute Waste Management Southern Africa ➢ TSBPA: Texas State Board of Public Accountancy (USA) ➢ AICPA: American Institute of Public Accountants (USA) ➢ Exemplar Global: Environmental Auditor
Key areas of expertise	➢ Marine Ecology ➢ Environmental and coastal management ➢ Waste management ➢ Financial accounting and project feasibility studies ➢ Environmental management systems, auditing and due-diligence

PROFILE

Alan has extensive training and experience in both financial accounting and environmental science disciplines with international accounting firms in South Africa and the USA. He is a member of the American Institute of Certified Public Accountants (licensed in Texas) and holds a PhD in Plant Sciences. He is also a certified ISO14001 EMS auditor with Exemplar Global (formerly the American National Standards Institute). Alan has been responsible for leading and managing numerous and varied environmental and financial consulting projects over the past 30 years.

EMPLOYMENT EXPERIENCE

- October 2013 – Present: Executive (EOH Coastal & Environmental Services, East London, South Africa)
- January 2002 – September 2013: Director (Coastal & Environmental Services, East London, South Africa)
- January 1999 – December 2001: Manager (Arthur Andersen LLP, Public Accounting Firm, Chicago, Illinois USA)
- December 1996 – December 1998: Senior Accountant/Auditor (Ernst & Young LLP, Public Accounting Firm, Austin, Texas, USA).)
- January 1994 – December 1996: Senior Accountant/Auditor (Ernst & Young, Charteris & Barnes, Chartered Accountants, East London, South Africa)
- July 1991 – December 1994: Associate Consultant (Coastal & Environmental Services, East London, South Africa)
- March 1989 – June 1990: Data Investigator (London Stock Exchange, London, England, United Kingdom)

ACADEMIC QUALIFICATIONS

- Ph.D. Plant Science (Marine) Rhodes University 1987
- B. Compt. Hons. Accounting Science University of South Africa 1997
- B. Com. Financial Accounting Rhodes University 1995
- B.Sc. Hons. Plant Science Rhodes University 1983
- B.Sc. Plant Science & Zoology Rhodes University 1982

COURSES

- *Environmental Management Systems Lead Auditor Training Course - American National Standards Institute and British Standards Institute (2000)*
- *ISO 14001:2015 Implementing Changes - British Standards Institute (2015)*
- *Numerous other workshops and training courses*

CONSULTING EXPERIENCE

Environmental Impact Assessment

- Managed numerous environmental impact assessment (EIA) projects (estimated at over 200 EIAs) and prepared EIA reports in terms of relevant EIA legislation and regulations (including World Bank and IFC Standards) for development proposals including: bulk water and waste water, roads, electrical, mining, ports, aquaculture, renewable energy (solar and wind), industrial processes, housing developments, golf estates and resorts, etc. (2002 – present).
- Projects have also included preparation of applications in terms of other statutory requirements, such as water-use and mining licence /permit applications.
- Assisted City of Johannesburg in the process to proclaim four nature reserves in terms of relevant legislation (2015-2016).

Feasibility and Pre-feasibility Assessments

- Managed projects to develop pre-feasibility and feasibility assessments for various projects, including various tourism developments, aquaculture, infrastructure projects, etc.
- Managed project for the East London Industrial Development Zone (ELIDZ) to develop a Conceptual Framework for a Mariculture Zone within the ELIDZ (2009).
- Managed the following aquaculture feasibility studies:

- Mariculture Zone at Qoloha on the South African Wild Coast (2013).
- Mariculture Zone within the Coega Industrial Development Zone (2014).
- Aquaponics Zone within the Coega Industrial Development Zone (2017).
- Finfish cage farming within the Port of Richards Bay (2019).
- Multispecies aquaculture hatchery and demonstration facility in the Eastern Cape Province (2019).

- Managed project to determine the financial feasibility of various proposed tourism developments for the Kouga Development Agency in the Eastern Cape Province (2006)
- Contributed significantly to a study to determine the financial and environmental feasibility of three proposed tourism development projects at Coffee Bay on the Wild Coast (2004).

Strategic Environmental Assessment

- Managed Strategic Environmental Assessment (SEA) project toward the development of a Biofuel Industry in the Eastern Cape Province of South Africa (2014-2016)
- Managed Strategic Environmental Assessment (SEA) projects for two South African ports (2006 – 2007).
- Managed Strategic Environmental Assessment (SEA) projects for five (5) local municipalities in the Eastern Cape as part of the municipal Spatial Development Framework plans (2004 – 2005).
- Involved in the financial assessment of various land-use options and carbon credit potential as part of a larger Strategic Environmental Assessment (SEA) for assessing forestry potential in Water Catchment Area 12 in the Eastern Cape of South Africa (2006).

Climate change, emissions trading and renewable energy

- Provided specialist peer review services for National Department of Environmental Affairs relating to climate change impact assessments for large infrastructure projects (2017-2018).
- Conducted climate change impact assessment for a proposed coal-fired power station in Africa (2017-2018).
- Participated in the development of a web-based Monitoring & Evaluation (M&E) system for climate change Mitigation and Adaptation in South Africa for National Department of Environmental Affairs (DEA) (2015-2016.
- Managed project to develop a Climate Change Strategy for Buffalo City Metro Municipality (2013).
- Managed projects to develop climate change strategies for two district municipalities in the Eastern Cape Province (2011).
- Conducted specialist carbon stock and greenhouse gas emissions impact and life cycle assessment as part of the Environmental, Social and Health Impact Assessment for a proposed sugarcane to ethanol project in Sierra Leone (2009 - 2010) and a proposed Jatropha bio-diesel project in Mozambique (2009 - 2010).
- Managed project to develop the Eastern Cape Province Climate Change Strategy (2010).
- Managed project to develop a Transnet National Ports Authority Climate

Change Risk Strategy (2009)

- Participated in a project to develop a Renewable Energy roadmap for the East London Industrial Development Zone (ELIDZ) (2013).
- Participated in a project for the East London Industrial Development Zone (ELIDZ) and Eastern Cape Government to prepare a Renewable Energy Strategy (2009).
- Contributed to the development of Arthur Andersen LLP's International Climate Change and Emissions Trading Services (2001).
- Conducted carbon credit (Clean Development Mechanism - CDM) feasibility assessment for a variety of renewable energy projects ranging from biogas to solar PV.
- Participated in the preparation of CDM applications for two solar PV projects in the Eastern Cape.

Waste Management

- Managed project to develop Integrated Waste Management Plans for six local municipalities on behalf of the Sarah Baartman District Municipality in the Eastern Cape Province (2016).
- Managed project to develop Integrated Waste Management Plans for four local municipalities on behalf of Alfred Nzo District Municipality in the Eastern Cape Province (2015).
- Managed project to develop Integrated Waste Management Plans for eight local municipalities on behalf of Chris Hani District Municipality in the Eastern Cape Province (2011).
- Managed a project to develop a zero-waste strategy for a community development in the Eastern Cape Province (2010).
- Managed waste management status quo analysis for a District Municipality in the Eastern Cape Province (2003).
- For three consecutive years, managed elements of the evaluation of the environmental financial reserves of the three largest solid waste companies (Waste Management, Inc., Republic Services, Inc., Allied Waste, Inc.) and number of smaller waste companies in the USA as part of the annual financial audit process for SEC reporting purposes. Ensured compliance with RCRA and CERCLA environmental regulations.
- Managed elements of the evaluation of the environmental financial reserves of the largest hazardous waste company in the USA (Safety-Kleen, Inc.), as part of the audit process for SEC reporting purposes. Ensured compliance with RCRA and CERCLA environmental regulations.

Environmental auditing and compliance

- Conducted environmental legal compliance audit for various large Transnet Freight Rail facilities (2018).
- Lead auditor for numerous Environmental Control Officer (ECO) projects, including construction of wind and solar farms, road infrastructure, bulk water and sewage infrastructure, port infrastructure, cemeteries, etc.
- Participated in numerous ISO14001 Environmental Management System (EMS) audits for large South African corporations including SAPPI, BHP Billiton, SAB Miller, Western Platinum Refinery, Dorbyl Group and others (2002 – present).
- Reviewed the SHE data reporting system of International Paper, Inc. (IP) for

three successive years as part of the verification of the IP SHE Annual Report, which included environmental assessments of 12 IP pulp and paper mills located throughout the USA.

Environmental Due Diligence and Business Risk

- Conducted environmental due diligence projects on behalf of the German Development Bank for a forestry pulp and paper operation in Swaziland (2010) and for a large diversified South African agricultural/agro-processing company (2011)
- Managed project for the Transnet National Ports Authority to identify the environmental risks and liabilities associated with the operations of the Port of Durban as part of a broader National initiative to assess business and financial risks relating to environmental management (2006).
- Conducted sustainability and cost/benefit analysis of various waste water treatment options (including a marine pipeline at Hood Point) for the West Bank of East London (2004).
- Conducted analysis of permit fees and application processing costs for off-road vehicle use on the South African coastline for the Department of Environmental Affairs and Tourism, Marine & Coastal Management (2003).
- Involved in the determination of the historical cost element of environmental remediation insurance claims for a number of multinational companies, including Dow Chemicals, Inc. and International Paper, Inc.
- Evaluated the environmental budgeting process of the US Army and provided best practice guidance for improving the process.

Policy and Guidelines

- Development of Administration / Application Fee Structure for the Reclamation of Land, Coastal Use Permits, Coastal Waters Discharge Permits, Dumping Of Waste at Sea, Off-Road Vehicle Regulations Promulgated in Terms of the National Environmental Management Act: Integrated Coastal Management Act (Act No. 24 Of 2008) (2017).
- Managed project to develop an Estuarine Management Plan for the Buffalo River Estuary for the National Department of Environmental Affairs (2017).
- Managed project to develop a Coastal Management Programme for Amathole District Municipality, Eastern Cape (2015 – 2016).
- Managed project to develop a sustainability diagnostic report as part of the development of the Eastern Cape Development Plan and Vision 2030 (2013).
- Managed project for the Department of Environmental Affairs and Tourism, Marine & Coastal Management to determine the cost implications associated with the implementation of the Integrated Coastal Management Act (2007).
- Managed project to develop a Conservation Plan and Municipal Open Space System (MOSS) for Buffalo City Municipality (2007)
- Managed project to develop a Sanitation Policy and Strategy for Buffalo City Municipality, Eastern Cape (2004 – 2006).
- Managed project to develop an Integrated Environmental Management Plan and Integrated Coastal Zone Management Plan for Buffalo City Municipality, Eastern Cape (2004 – 2005).
- Managed projects to develop and implement an Environmental Management System (EMS) for the Chris Hani and Joe Gqabi (formerly

PUBLICATIONS

Ukhahlamba) District Municipalities in the Eastern Cape generally in line with ISO14001 EMS standards (2004 – 2005).

- Managed project to develop a State of the Environment Report and Environmental Implementation Plans for Amathole, Chris Hani, OR Tambo and Joe Gqabi District Municipalities in the Eastern Cape Province (2005 – 20010).
- Conducted analysis of permit fees and application processing costs for off-road vehicle use on the South African coastline for the Department of Environmental Affairs and Tourism, Marine & Coastal Management (2003).

Environmental Management Systems

- Managed projects to develop Environmental Management Systems (EMS) in line with ISO14001 EMS Standard for a South African water utility (2019).
- Managed projects to develop Environmental & Social Management Systems (ESMS) in line with IFC Performance Standards for four (4) wind farms in South Africa (2015-2018).
- Managed project to develop an Environmental & Social Management System (ESMS) in line with IFC Performance Standards for a telecoms company in Zimbabwe on behalf of the German Development Bank (2013).
- Conducted Environmental Management System (EMS) reviews for a number of large US corporations, including Gulfstream Aerospace Corporation.

Public financial accounting

- While with Ernst & Young LLP, (USA), functioned as lead financial auditor for various public and private companies, mostly in the technology business segment of up to $200 million in annual sales. Client experience included assistance in a $100 million debt offering, a $100 million IPO and SEC annual and quarterly reporting requirements.
- Completed three years of articles (training contract) in fulfilment of the certification requirements of the South African Institute of Chartered Accountants which included auditing, accounting and preparation of tax returns for many small to medium sized commercial entities.

Refereed Publications

- Carter, A.R. 1985. Reproductive morphology and phenology, and culture studies of Gelidium pristoides (Rhodophyta) from Port Alfred in South Africa. Botanica Marina 28: 303-311.
- Carter, A.R. 1993. Chromosome observations relating to bispore production in Gelidium pristoides (Gelidiales, Rhodophyta). Botanica Marina 36: 253-256.
- Carter, A.R. and R.J. Anderson. 1985. Regrowth after experimental harvesting of the agarophyte Gelidium pristoides (Gelidiales: Rhodophyta) in the eastern Cape Province. South African Journal of Marine Science 3: 111-118.
- Carter, A.R. and R.J. Anderson. 1986. Seasonal growth and agar contents in Gelidium pristoides (Gelidiales, Rhodophyta) from Port Alfred, South Africa. Botanica Marina 29: 117-123.
- Carter, A.R. and R.H. Simons.1987. Regrowth and production capacity of Gelidium pristoides (Gelidiales, Rhodophyta) under various harvesting

regimes at Port Alfred, South Africa. Botanica Marina 30: 227-231.
- Carter, A.R. and R.J. Anderson. 1991. Biological and physical factors controlling the spatial distribution of the intertidal alga Gelidium pristoides in the eastern Cape Province, South Africa. Journal of the Marine Biological Association of the United Kingdom 71: 555-568.

Published reports

- Water Research Commission. 2006. Profiling Estuary Management in Integrated Development Planning in South Africa with Particular Reference to the Eastern Cape. Project No. K5/1485.
- Turpie J., N. Sihlophe, A. Carter, T, Maswime and S. Hosking. 2006. Maximising the socio-economic benefits of estuaries through integrated planning and management: A rationale and protocol for incorporating and enhancing estuary values in planning and management. Un-published Water Research Commission Report No. K5/1485

Conference Proceedings

- Carter, A.R. 2002. Climate change and emission inventories in South Africa. Invited plenary paper at the 5th International System Auditors Convention, Pretoria. Held under the auspices of the South African Auditor & Training Certification Association Conference (SAATCA).
- Carter, A.R. 2003. Accounting for environmental closure costs and remediation liabilities in the South African mining industry. Proceedings of the Mining and Sustainable Development Conference. Chamber of Mines of South Africa, Vol. 2: 6B1-5
- Carter, A.R. and S. Fergus. 2004. Sustainability analysis of wastewater treatment options on the West Bank of East London, Buffalo City. Proceedings of the Annual National Conference of the International Association for Impact Assessment, South African Affiliate: Pages 295-301.
- Carter, A., L. Greyling, M. Parramon and K. Whittington-Jones. 2007. A methodology for assessing the risk of incurring environmental costs associated with port activities. Proceedings of the 1st Global Conference of the Environmental Management Accounting Network.
- Hawley, GL, McMaster AR and Carter AR. 2009, Carbon, carbon stock and life-cycle assessment in assessing cumulative climate change impacts in the environmental impact process. Proceedings of the Annual National Conference of the International Association for Impact Assessment, South African Affiliate.
- Hawley, GL, McMaster AR and Carter AR. 2010. The Environmental and Social Impact Assessment and associated issues and challenges. African, Caribbean and Pacific Group of States (ACP), Science and Technology Programme, Sustainable Crop Biofuels in Africa.
- Carter, A.R. 2011. A case study in the use of Life Cycle Assessment (LCA) in the assessment of greenhouse gas impacts and emissions in biofuel projects. 2nd Environmental Management Accounting Network- Africa Conference on Sustainability Accounting for Emerging Economies. Abstracts: Pages 69-70.

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.

ALAN ROBERT CARTER Date: January 2020

APPENDIX 3: EAP DECLARATION

environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

	(For official use only)
File Reference Number:	
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE PROJECT, ZONE 10, COEGA SEZ, EASTERN CAPE PROVINCE, SOUTH AFRICA

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.environment.gov.za/documents/forms.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:
Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:
Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

Details of EAP, Declaration and Undertaking Under Oath

Page 1 of 4

1. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) INFORMATION

EAP Company Name:	Coastal and Environmental Services (Pty) Ltd. t/a CES			
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	Level 1	Percentage Procurement recognition	135%
EAP name:	Alan, Robert Carter			
EAP Qualifications:	Phd. Plant Science			
Professional affiliation/registration:	Ph.D. Plant Science (Marine) Rhodes University 1987 B. Compt. Hons. Accounting Science University of South Africa 1997 B. Com. Financial Accounting Rhodes University 1995 B.Sc. Hons. Plant Science Rhodes University 1983 B.Sc. Plant Science & Zoology Rhodes University 1982			
Physical address:	36 Pickering Street, Newton Park, Port Elizabeth			
Postal address:	36 Pickering Street, Newton Park, Port Elizabeth, 6045			
Postal code:	6045	Cell:	083 379 9861	
Telephone:	043 726 7809	Fax:	086 410 7822	
E-mail:	a.carter@cesnet.co.za			

The appointed EAP must meet the requirements of Regulation 13 of GN R982 of 04 December 2014, as amended.

2. DECLARATION BY THE EAP

I, ALAN CARTER, declare that –

- I act as the independent environmental assessment practitioner in this application;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- 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;
- I will take into account, to the extent possible, the matters listed in Regulation 13 of the Regulations when preparing the application and any report relating to the application;
- 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 will perform all obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- 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.

Disclosure of Vested Interest (delete whichever is not applicable)

- 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 Regulations;
- ~~I have a vested interest in the proposed activity proceeding, such vested interest being:~~

Signature of the Environmental Assessment Practitioner

COASTAL AND ENVIRONMENTAL SERVICES (PTY) LTD. t/a CES
Name of Company:

13TH NOVEMBER 2020
Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, ALAN CARTER, 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 Environmental Assessment Practitioner

COASTAL AND ENVIRONMENTAL SERVICES (PTY) LTD. t/a CES
Name of Company

13TH NOVEMBER 2020
Date

Signature of the Commissioner of Oaths

13TH NOVEMBER 2020
Date

LYNN SMIT
COMMISSIONER OF OATHS
REFERENCE NUMBER: 9/1/8/2 EAST LONDON
25 TECOMA STREET, BEREA
EAST LONDON, 5214

APPENDIX 4: INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

APPENDIX 4.1: DEFF PRE-APPLICATION MEETING MINUTES INCLUDING ACTION ITEMS

MEETING WITH THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS (DEA) FOR THE MARINE PIPELINE SERVITUDE ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

Notes from the meeting held at the Coega Development Corporation (CDC) Office, Port Elizabeth, on the 15th of August 2019, at 12:30pm

ATTENDEES	• Dr Chantel Bezuidenhout (CES), EAP Representative • Mr Roberto Almanza (CES), EAP Representative • Ms Andrea Shirley (CDC), Client Representative • Ms Sikelelwa Mtyetu (CDC), Client Representative (Intern) • Dr Keith du Plessis (CDC), Client Representative • Ms Sandi Ncemane (CDC), Client Representative • Ms Milicent Solomons (DEA), Authority Representative • Ms Constance Musemburi (DEA), Authority Representative • Mr Wayne Hector (DEA), Authority Representative

Noted Item	Action
WELCOME / INTRODUCTION	
Ms Shirley welcomed the attendees to the meeting and the representatives at the meeting introduced themselves	-
ATTENDANCE REGISTER	
The attendance register was circulated (please refer to Appendix A).	-
ADOPTION OF THE AGENDA	
The agenda for the meeting, as circulated by Ms Andrea Shirley on the 8th of August 2019, was adopted.	-
PURPOSE OF MEETING	
Ms Solomons indicated that the meeting would be adopted as the pre-application meeting for the proposed application for the Environmental Authorisation (EA).	-
Ms Solomons confirmed that the Case Officer for the project would be Ms Constance Musemburi.	-
Ms Shirley proceeded to present the project and the following important points were noted: - The project will enable various other projects (e.g. the Gas to Power project and the Aquaculture Development Zone); - The CDC confirmed that that the Gas to Power project's application for EA has not yet been submitted by SRK Consulting (the EAP appointed to that particular project). - A single marine infrastructure/pipeline servitude would not be possible for various reasons; - The DEA previously recommended that the area west of the Port of Ngqura must be included in the study area; - The project will involve the abstraction of seawater and the discharge of treated effluent from various industrial processes; - The marine dispersion modelling has been undertaken and has considered discharge of various combined effluent types; - A range of technologies will be required for the project;	-

Noted Item	Action
- The CDC advised that certain discharge options can be ruled out based on their cost; and - The Scope of the EIA would be to assess the environmental impacts, on the marine and terrestrial environments, associated with the proposed development.	
DEA advised that the applications for EA for the Gas to Power project and the Marine Pipeline Servitude EIA should not be mutually exclusive and must be aligned in terms of the specialist reports in order to provide a cumulative assessment and wholistic understanding of both projects.	-
The CDC enquired as to the requirement of a Waste License for the proposed development. DEA requested that a written enquiry is sent to Mr Lucas Mahlanguto and the DEA representatives present in the meeting.	**CES**: Submit query to the DEA. **DEA**: Confirm the requirement of a Waste License.
The DEA advised that confirmation must be obtained from the DEA Oceans and Coasts as to whether a Coastal Waters Discharge Permit (CWDP) would be required for each individual discharge or if one CWDP can be obtained for the discharge servitudes as a whole. The DEA also requested the CWDP reference number.	**CES**: Submit query to the DEA Oceans and Coasts. Provide the DEA with the CWDP reference number.
The DEA advised that project alternatives must be included in the assessment however, the preferred alternative must include the entire range of technologies that are proposed for the development.	-
CES suggested amending the project title to 'Marine Intake and Outflow Infrastructure Servitude.'	-
The DEA enquired as to whether the end-users have been confirmed. The CDC advised that various technologies would be linked to various types of end-users however, the exact end-users cannot be confirmed.	-
CURRENT STATUS OF MPS EIA & PROJECTED TIMELINES	
CES provided a brief update of the current progress of the EIA and the projected timeframes.	**-**
CES advised that comments made by the previous EAP regarding the marine dispersion modelling need to be addressed by the engineers (PRDW). The DEA advised that the marine dispersion modelling must be made available for public participation.	**CDC**: Request that PRDW address the comments made on the marine dispersion modelling.
CDC requested CES to forward the correspondence received from the DEA Oceans and Coasts that confirms that the previous CWDP application remains valid.	**CES**: Forward the DEA Oceans and Coasts correspondence to the CDC.
CES enquired about the DEA's assistance in terms of reducing the timeframes on the public participation process and the decision-making periods. The DEA confirmed that a minimum of 30-days must be allocated for the public participation, as legislated, and that CES must include a project schedule in the EA application. DEA will assist with the decision-making timeframes provided that the EIA process complies with the regulations.	**CES**: Include timeframe in the application.
DISCUSSIONS	

Noted Item	Action
The DEA advised that the Draft Scoping Report is submitted alongside the application for EA and that the Draft Scoping Report is sent to the correct person at the DEA Oceans and Coasts branch.	**CES**: Submit Draft Scoping Report alongside EA Application. Ensure that the correct person at the DEA Oceans and Coasts is provided with the reports.
The CDC enquired as to whether discharge of treated effluent would be permitted into the Marine Protected Area as per the current legislation. The DEA advised that the legislation must be confirmed in terms of discharge. The DEA advised that the query must be submitted to Ms Radia Razak (DEA legal services).	**DEA**: Provide contact details for Ms Radia Razak.
WAY FORWARD	
CES will commence with the drafting of the detailed project description.	**CES**
CDC will engage with PRDW regarding the comments on the marine dispersion modelling.	**CDC**
CLOSURE	
The meeting was closed at 14:00	-

ATTENDANCE REGISTER FOR: DEA: Marine Pipeline Servitude EIA
MEETING TO BE HELD AT CDC Offices
15 August 2019 COMMENCING AT 12:00

NAME	ORGANISATION	CONTACT DETAILS	SIGNATURE
Andrea Shirley	CDC	082 657 4648	
Sikelelwa Mtyetu	CDC	083 717 4620	
Constance Musemburi	DEA	012 399 9416 cmusemburi@environment.gov.za	
Vincent Sonoroms	DEA	076 940 5751 (Vsolomons@environment.gov.za)	
Keith du Plessis	CDC	082 740 7654	
Wayne Hector	DEA	0826781607	
Sandi Ncemane	CDC	082 314 5853	
Roberto Abranza	CES	082 830 8711	
Arnold Begemberhout	CES	0833202074	

APPENDIX 4.2: DEFF SCREENING TOOL

SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION OR FOR A PART TWO AMENDMENT OF AN ENVIRONMENTAL AUTHORISATION AS REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE ENVIRONMENTAL SENSITIVITY

EIA Reference number: TBA

Project name: MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE PROJECT, ZONE 10, COEGA SEZ, EASTERN CAPE PROVINCE, SOUTH AFRICA

Project title: MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE PROJECT, ZONE 10, COEGA SEZ, EASTERN CAPE PROVINCE, SOUTH AFRICA

Date screening report generated: 10/11/2020 11:18:54

Applicant: Coega Development Corporation (Pty) Ltd.

Compiler: CES

Compiler signature: .....

Disclaimer applies
10/11/2020

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Proposed Project Location

Orientation map 1: General location

General Orientation: MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE PROJECT, ZONE 10, COEGA SEZ, EASTERN CAPE PROVINCE, SOUTH AFRICA

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	COEGA	351	0	33°45'35.125	25°42'47.18E	Erven
2	COEGA	255	0	33°47'29.265	25°41'58.21E	Erven
3	COEGA	251	0	33°47'5.595	25°40'46.77E	Erven

Development footprint[1] vertices:
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	12/12/20/2449	Solar PV	Approved	8.1

Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

[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.

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|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-Eastern corridor	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/GN113 16 February 2018.pdf
South African Protected Areas	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/SAPAD_OR_2020_Q1_Metadata.pdf

Map indicating proposed development footprint within applicable development incentive, restriction, exclusion or prohibition zones

Project Location: MARINE INTAKE AND OUTFALL INFRASTRUCTURE SERVITUDE PROJECT, ZONE 10, COEGA SEZ, EASTERN CAPE PROVINCE, SOUTH AFRICA

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	
Plant Species Theme			X	
Terrestrial Biodiversity Theme	X			

Specialist assessments identified

Based on the selected classification, and the environmental sensitivities of the proposed development footprint, 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.

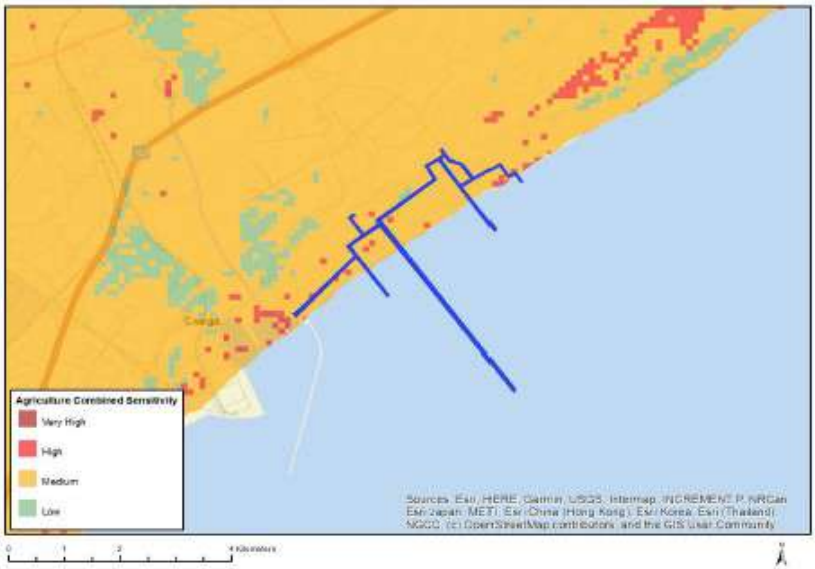
No	Specialist assessment	Assessment Protocol
1	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
2	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_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	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols

	Assessment	/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/AssessmentProtocols/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

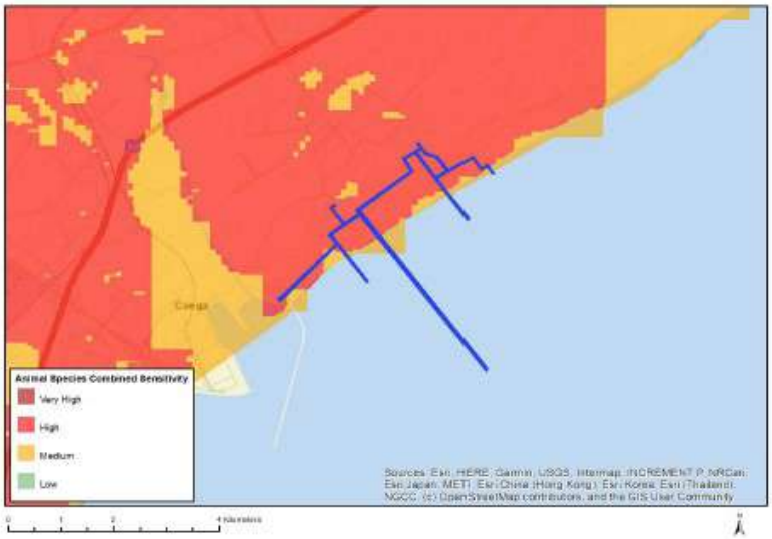


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Land capability;09. Moderate-High/10. Moderate-High
Low	Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low
Medium	Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Aves-Circus ranivorus
High	Aves-Circus maurus
High	Aves-Campethera notata
Low	Low sensitivity
Medium	Invertebrate-Aneuryphymus montanus
Medium	Sensitive species 5
Medium	Mammalia-Chlorotalpa duthieae
Medium	Aves-Bradypterus sylvaticus
Medium	Aves-Neotis denhami

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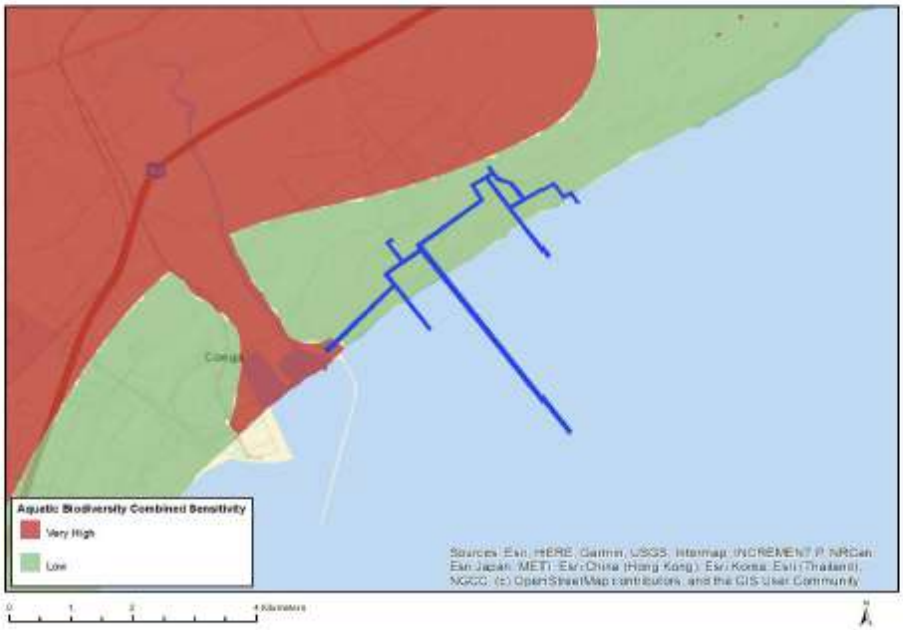
MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity
Very High	Wetlands and Estuaries

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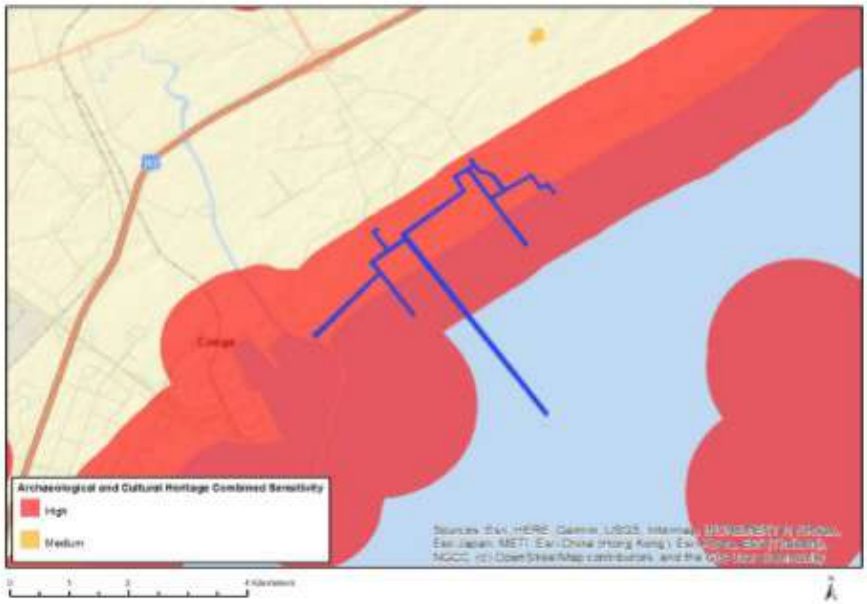
MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

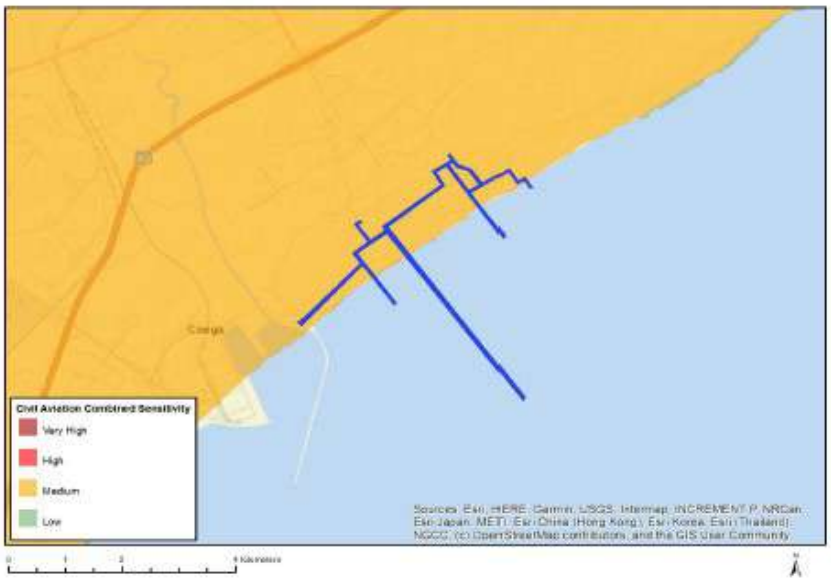


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Within coastal belt
High	Within 1 km of a protected area

MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY

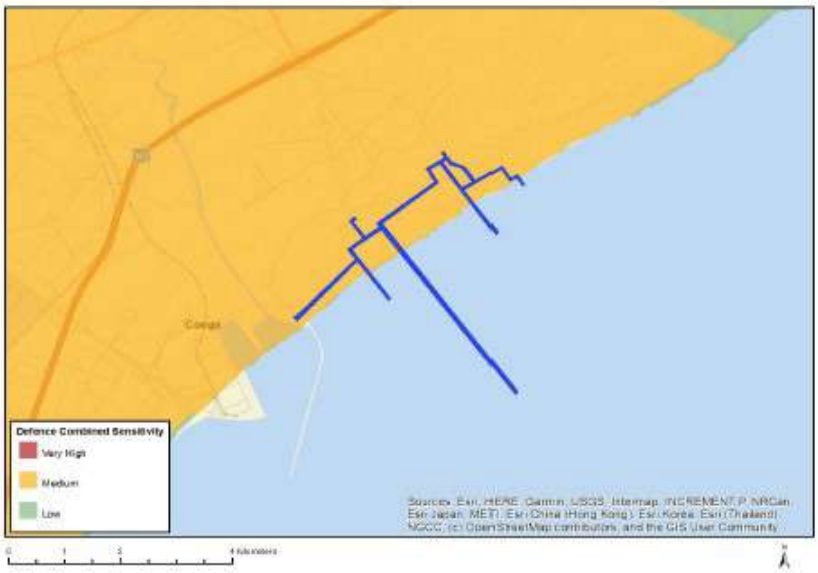


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity
Medium	Between 15 and 35 km from a civil aviation radar
Medium	Between 15 and 35 km from a major civil aviation aerodrome

MAP OF RELATIVE DEFENCE THEME SENSITIVITY

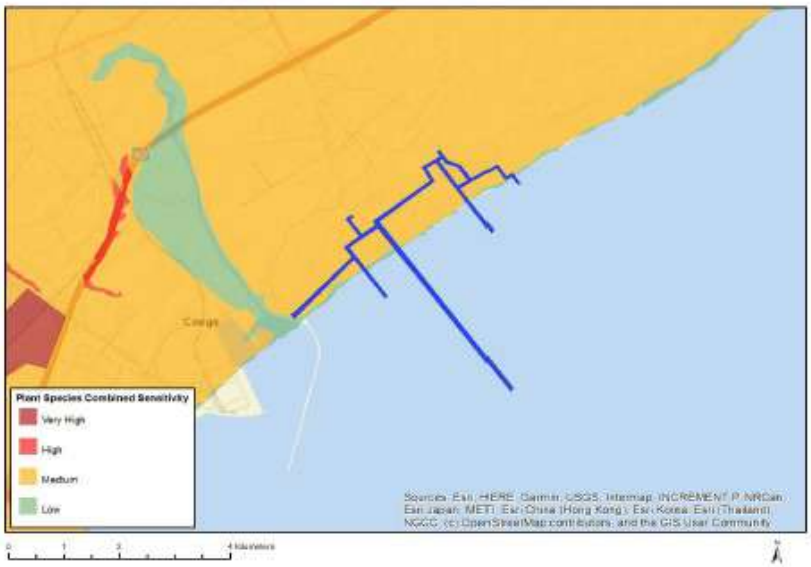


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity
Medium	Defence Site

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity
Medium	Erica chloroloma
Medium	Erica glumiflora
Medium	Gymnosporia elliptica
Medium	Sensitive species 236
Medium	Rapanea gilliana
Medium	Sensitive species 294
Medium	Sensitive species 672
Medium	Cotyledon adscendens

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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	Ecological Support Area 1
Very High	Forest
Very High	Focus Areas for land-based protected areas expansion
Very High	South African Protected Areas

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