

ENVIRONMENTAL IMPACT ASSESSMENT
Final Environmental Impact Assessment Report for
the Proposed Construction, Operation and
Decommissioning of a Seawater Reverse Osmosis
Plant and Associated Infrastructure in
Tongaat, Kwazulu-Natal

**FINAL
EIA
REPORT**



APPENDIX B:

**Amended EIA
Application**



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

APPLICATION FORM FOR ENVIRONMENTAL AUTHORISATION¹

	(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, 1998 (Act No. 107 of 1998), (the Act) and the Environmental Impact Assessment Regulations, 2010 (the Regulations)

PROJECT TITLE

Environmental Impact Assessment for the Construction, Operation and Decommissioning of a 150 Ml/day Sea Water Reverse Osmosis (SWRO) Plant and associated infrastructure proposed by Umgeni Water at Tongaat on the KwaZulu-Natal North Coast.

Kindly note that:

1. This application form is current as of 1 October 2013. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority.
2. The application must be typed within the spaces provided in the form. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. Spaces are provided in tabular format and will extend automatically when each space is filled with typing.
3. Where applicable **black out** the boxes that are not applicable in the form.
4. Incomplete applications will be rejected in terms of Regulation 13(2) of GN R. 543 and returned to the applicant for revision and resubmission.
5. The use of the phrase "not applicable" in the form must be done with circumspection. Should it be done in respect of material information required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the Regulations.
6. This application must be handed in at the offices of the relevant competent authority as determined by the Act and Regulations.
7. No faxed or e-mailed applications will be accepted. Only original signed copies will be accepted.
8. Unless protected by law, all information filled in on this application form will become public information on receipt by the competent authority. Any interested and affected party should and shall be provided with the information contained in this application on request, during any stage of the application process.
9. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report and declaration of interest of the specialist must also be submitted.

¹Version 1, dated 1 October 2013

Queries must be addressed to the contact hereunder:

Departmental Details

Postal address:

Department of Environmental Affairs
Attention: Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Fedsure Forum Building (corner of Pretorius and Lillian Ngoyi Streets)
4th Floor South Tower
315 Pretorius Street
Pretoria
0002

Queries should be directed to the Directorate: Integrated Environmental Authorisation at:

Tel: 012-395-1768
Fax: 012-320-7539
E-mail: EIAAdmin@environment.gov.za

Please note that this form must be copied to the relevant provincial environmental department/s.

View the Department's website at <http://www.environment.gov.za/> for the latest version of the documents.

1. PROJECT DESCRIPTION

Please provide a **detailed** description of the project.

Umgeni Water Amanzi (hereinafter referred to as Umgeni Water) is proposing to construct and operate a 150MI/day Seawater Reverse Osmosis (SWRO) desalination plant at Tongaat, north of Durban, within the eThekweni Municipality in the province of KwaZulu-Natal. The proposed plant will supply fresh water to the eThekweni municipality (50%) and to the Ilembe District (50%). The proposed plant will produce 150 MI/day of freshwater when at final capacity, and will have an average inflow rate of 389 MI/day. To give one an idea of volume and scale, this would equate to providing 187 500 four-person households with water daily assuming a 200 l/person/day scenario. The proposed project requires a Scoping and Environmental Impact Assessment (EIA) in terms of the **2010 NEMA EIA Regulations** (as amended).

The location for the proposed SWRO has been selected based on pre-feasibility and site screening studies. The proposed site for the desalination plant is located within 200 m of the ocean shore. Currently, the land at the proposed site is used mainly for market gardening and residence (including 3 – 5 permanent houses, which would need to be demolished as a result of the proposed project).

Reverse Osmosis (RO) is a membrane filtration process used to reduce the salinity of seawater to potable standards. The process works by applying pressure to overcome the natural osmotic pressure of seawater. This works by forcing pre-treated (filtered) seawater through a semi-permeable membrane, from a region of high salinity (the seawater side) to a region of low salinity (the freshwater side). This process retains the brine (high salinity) on one side and allows freshwater (very low salinity) to be produced as potable water for drinking. The overall output of the SWRO system, from intake structure to finished water, will be a maximum of 40 - 45% desalinated water (i.e. 55-60% of the seawater abstracted will be returned to the sea as brine). Concentrate will exit the RO system at pressure ranging from 0.4 to 0.6 bars, assuming that a pressure exchanger type energy recovery system is used.

An area of approximately 1 ha is required for construction and lay-down of the offshore pipework/tunnels, which will be reinstated.

The proposed project will entail the construction of the following key infrastructural components:

- **Seawater Intake:** On average, 389 MI/day of seawater will be abstracted from the marine environment via an intake structure located approximately 650 m from the shore at a water depth of about 20 m. Water will be drawn in through coarse screens on the intake structure, at a height of between 4 m and 6 m above the seabed, in order to avoid the intake of marine sediment and floating matter. A low inflow velocity of less than 0.15 m/s will reduce the intake of small fish and other marine organisms. Seawater passing through the intake structure will be transported to the proposed desalination plant via a 220 m long seawater intake pipeline laid on the seabed and a 680 m tunnel which will be excavated in rock under the surf zone and under the beach, the coastal forest and the M4 highway to the pump station. Refer to the explanation below regarding the routing of the seawater pipelines.
- **Seawater Pump Station:** A seawater pump station is proposed within the footprint of the desalination plant. It is anticipated that the excavation for the invert of the pump station sump is likely to be at 11 m below Mean Sea Level (MSL). This is based on the requirement that the sump at the pump station be deep enough to allow for gravitational inflow of the seawater into the sump.
- **SWRO Desalination Plant:** The EIA is assessing the siting of the desalination plant at a proposed

site located approximately 200 m from the shore. The footprint area of the proposed desalination plant itself and associated infrastructure would be about 7 ha.

- Brine Discharge Pipeline and Diffuser System:** From the pump station, the brine discharge pipeline will be tunnelled under the M4 highway, the coastal forest and the beach, to a diffuser sited approximately 350 m from the shore at a water depth of approximately 10 to 12 m. The brine discharge pipelines will be shorter than the seawater intake pipelines to ensure adequate dilutions are obtained and to avoid short-circuiting of higher salinity concentrations at the intake system. Brine will be discharged via a number of outlet ports in the diffuser. The diffuser pipeline on the sea bed will extend approximately 60 m in length. Rosette-style diffusers and pipeline-style diffusers (which consist of nozzles) could possibly be utilised. These pipelines will discharge the dense brine upwards into the water column to provide good mixing with the ambient seawater. The “plume” of higher salinity would be distributed in an along-shore direction (i.e. the prevailing current direction), as well as seaward. Refer to the detailed explanation below.
- Potable Water Pipelines:** The integration of the proposed desalination plant requires construction of three potable water pipelines. The first potable water pipeline will lead from the desalination plant in a north-west direction to the La Mercy Reservoir. From there, a second potable water pipeline will continue north-westwards from the La Mercy Reservoir to the Hazelmere Bifurcation pipeline (Tying into the Hazelmere Bifurcation pipeline would allow for water to be delivered to both the north and to the south by reversing the flow in the bifurcation pipeline). The third pipeline will extend from the La Mercy Reservoir in a south-west direction following the direction of the N2 National Road before turning westwards and coming to an end at the Waterloo Reservoir. The potable water pipelines will be developed with a capacity of 150 Ml/day.

Potable Water Pipeline	Length
Tongaat Desalination Plant to La Mercy Reservoir	1.67 km
La Mercy Reservoir to Hazelmere Bifurcation Pipeline	2.66 km
La Mercy Reservoir to Waterloo Reservoir	11.40 km
TOTAL	15.73 km

- Power Supply Infrastructure:** The proposed SWRO desalination plant is anticipated to have a total energy demand of approximately 32 MW (i.e. approximately 4 kWh/m³ of potable water produced, while additional power will be required to pump water to the plant from the sea and to deliver potable water to the bulk supply infrastructure). It is expected that the total electrical connection to the 150 Ml/day plant would be approximately 40 Megavolt Amperes (MVA). The extent of energy required for the proposed desalination plant will be sourced from Eskom’s national electricity grid. Power supplied to the proposed desalination plant would be via a substation with a 132 kVA transmission stepped-down to 11 kVA. A single-circuit 132 kV transmission line is planned to be constructed from the nearest substation located outside the boundary of the proposed desalination plant. The nearest 132 kV point of supply is indicated as La Mercy Major Substation, which is located approximately 5 km from the proposed desalination plant site. The proposed transmission line will consist of lattice towers and pile type foundations. The power supply to the sea water pump station would be extended from the desalination plant site via an 11 kV overhead line.

Specifically in terms of the effluent generation and discharge process, the proposed desalination plant would have facilities for the collection and environmentally safe disposal of waste streams generated

during the water treatment. The proposed plant would generate the following waste streams:

- Concentrate from the RO desalination process (i.e. brine from the proposed SWRO process, which will be discharged to the sea);
- Spent backwash water from the pre-treatment filtration system which will be combined with the brine for discharge at sea;
- Filter-to-waste water which will be combined with the brine for discharge at sea;
- RO and spent (used) membrane cleaning solutions and post-flush water which will be combined with the brine for discharge at sea;
- Sludge liquid (and associated solid) wastes and other water treatment units, which is intended for co-discharge with the return brine; and
- Sanitary wastewater (i.e. on-site sewage which is proposed to be treated on-site in a septic tank or package plant system or directed to the local sewer for further treatment in the nearby municipal wastewater treatment plant).

Spent filter backwash water, filter-to-waste water, sludge from lime saturators and spent RO membrane cleaning water would be collected in a discharge retention tank fitted with mechanical mixers or recirculation pumps to keep its content uniformly mixed at all times. This tank will have a retention time of about 1 hour and would also be equipped with feed lines for sodium hydroxide, hydrochloric acid and sodium bisulphite to adjust the water quality in the tank in order to meet the specified discharge requirements. The retention tank would have at least two compartments to facilitate periodic cleaning. Alternatively, two separate discharge retention tanks could be constructed: one dedicated to the pre-filtration waste stream (spent filter backwash water, and lime sludge), and another tank for separate handling of the RO membrane cleaning chemicals and flush water. These liquid waste streams would then be mixed with the RO plant concentrate (brine) and discharged to the ocean through the offshore outfall. The total volume of all liquid waste streams generated by the proposed desalination plant (excluding the RO brine concentrate) is estimated to be approximately 10% of the total plant intake flow (i.e. 38.9 to 42.8 Ml/day). More than 99% of this volume will be seawater (same quality as the abstracted seawater) and will be disposed of with the brine whilst the balance would have small amounts of chemicals in it.

As mentioned above, approximately 55-60% of the seawater intake will return to sea as brine. The total volume of effluent expected to be discharged at sea therefore amounts to 239 Ml/day on average. The brine will be approximately 1.6 times the salinity of seawater (i.e. approximately 58 psu) and will be approximately 1.5 °C above the average background temperature of seawater. The brine will also contain small amounts of coagulants, neutralised antiscalant, cleaning chemicals and other metals (depending on intake water quality). The antiscalants (returned as part of the brine to the sea) will be bio-degradable. The brine may also contain an organic scale inhibitor which will be an approved chemical for potable water systems and will be bio-degradable.

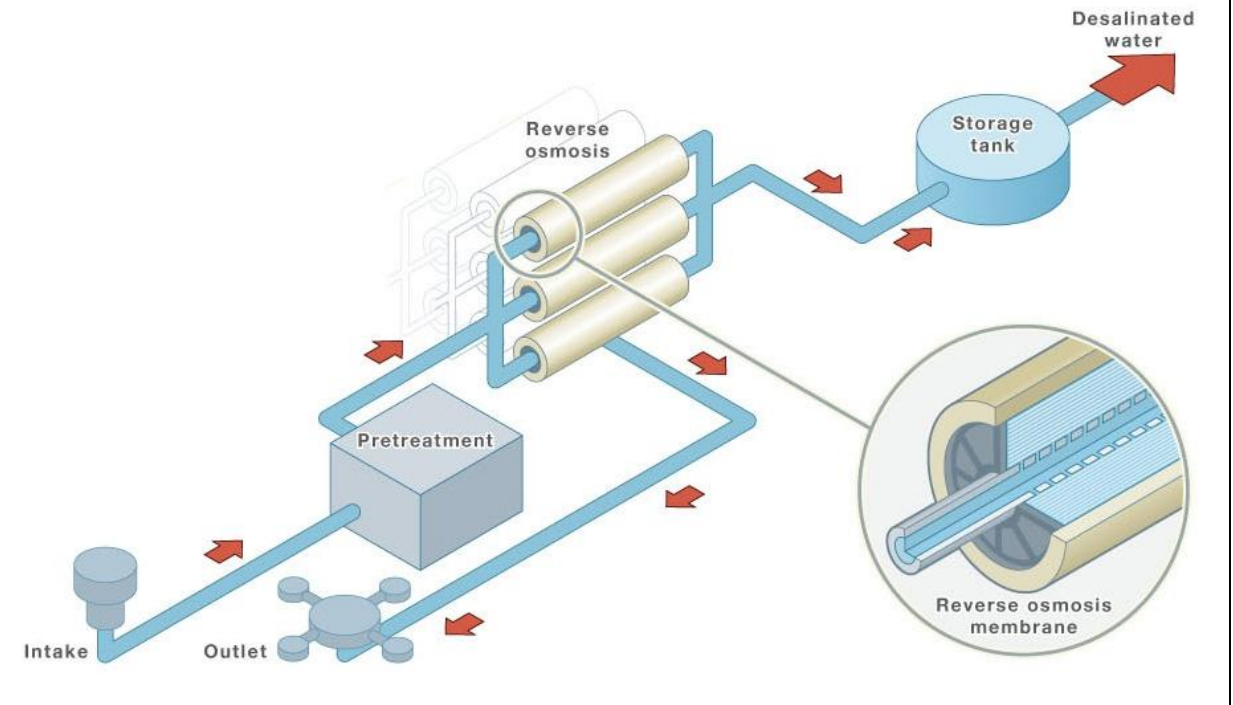
Furthermore, it is likely that the use of a biocide will be required to inhibit biological growth in the pipelines and on the intake coarse screens. If sodium hypochlorite is used, it will be neutralised with sodium metabisulphite (SMBS) before the feed water enters the RO membranes as the chlorine damages the membranes. The brine stream is therefore not anticipated to contain any active biocide.

Brine is negatively buoyant and will generally sink towards the seabed. To ensure optimum dilution in the near-field, it is envisaged that the nozzle would be configured to discharge at an angle of 60° above horizontal, at a depth of approximately 10 to 20 m below MSL. The brine will be dispersed in ambient seawater in a moving current and at a rate which will depend on the diffuser design and the current

velocity.

Between 20 and 100 kg/month of screening material, e.g. large algae retained by the screens, from the fine screens installed at the intake pump station on shore will be collected and disposed of at an appropriate waste landfill facility approximately twice per month. Such screenings are of natural origin and they are biodegradable and can be disposed to a general waste landfill facility.

An effluent flow chart is shown below (Figure 1).



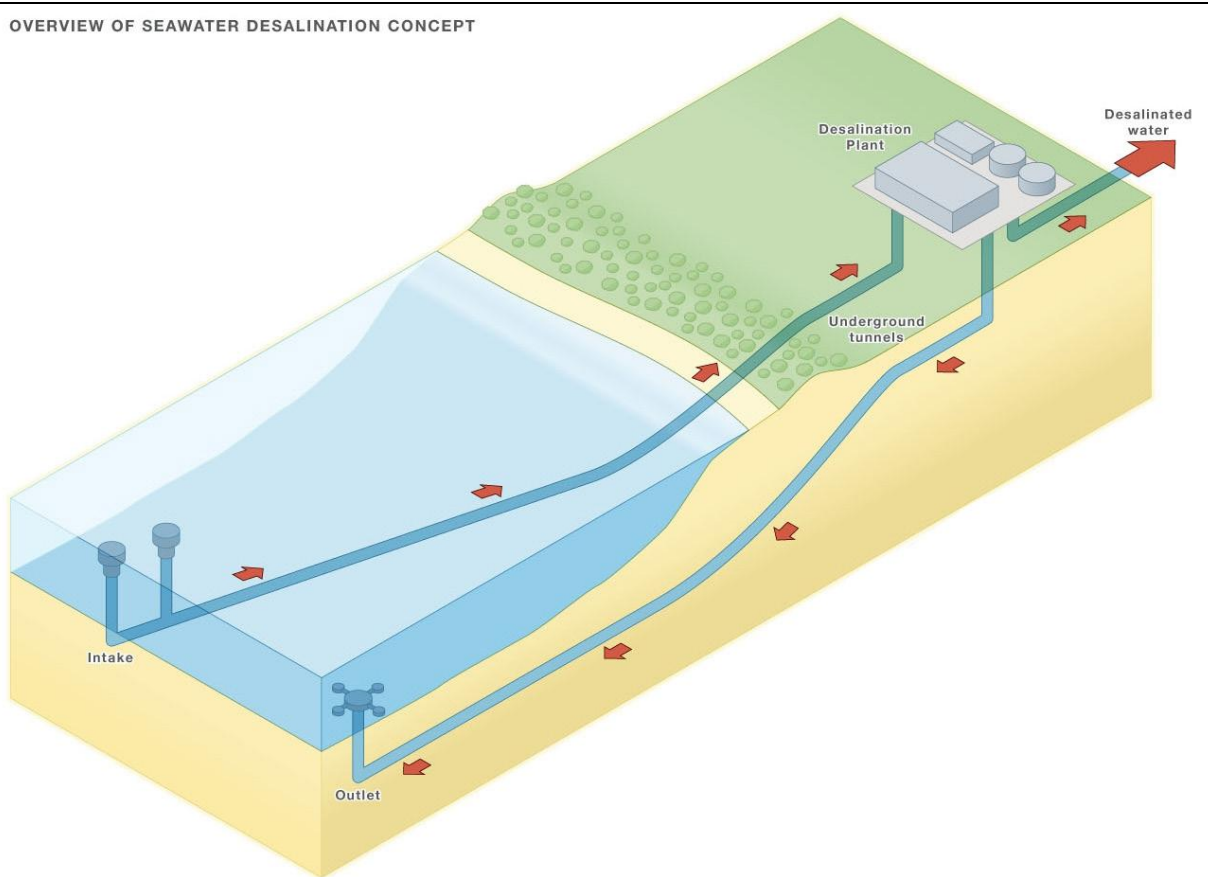


Figure 1: Diagram illustrating how a conventional SWRO operates (Source: <http://lochland.wikispaces.com/>)

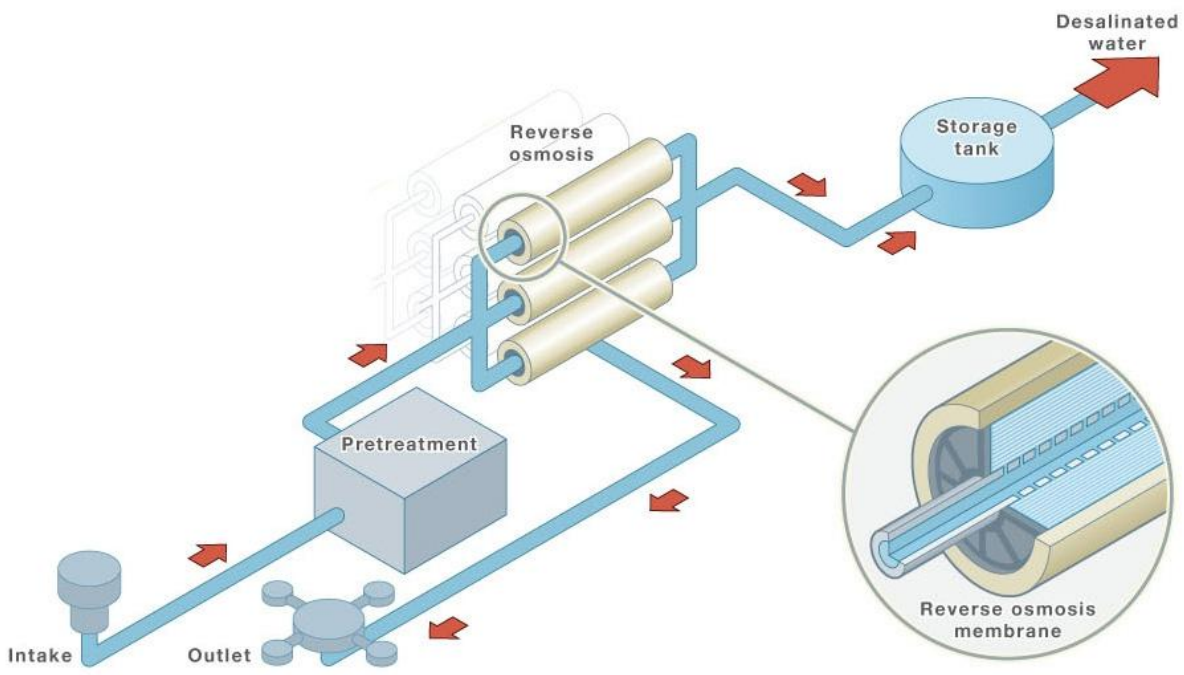


Figure 2: Diagram illustrating how a conventional SWRO operates (Source: <http://lochland.wikispaces.com/>)

Does the project form part of any of the Strategic Infrastructure Projects (SIPs) as described in the National Development Plan, 2011?	YES	
--	-----	--

If YES, please indicate which SIPs are applicable in **Appendix 1**.

Please indicate which sector the project falls under by crossing out the relevant block in the table below:

Table 1

Green economy + "Green" and energy-saving industries		Greenfield transformation to urban or industrial form (including mining)	
Infrastructure – electricity (generation, transmission & distribution)		Biodiversity or sensitive area related activities	
Oil and gas		Mining value chain	
Biofuels		Potential of metal fabrication capital & transport equipment – arising from large public investments	
Nuclear		Boat building	
Basic services (local government) – electricity and electrification		Manufacturing – automotive products and components, and medium and heavy commercial vehicles	
Basic services (local government) – area lighting		Manufacturing – plastics, pharmaceuticals and chemicals	
Infrastructure – transport (ports, rail and road)		Manufacturing – clothing textiles, footwear and leather	
Basic services (local government access roads)		Forestry, paper, pulp and furniture	
Basic services (local government) – public transport		Business process servicing	
Infrastructure – water (bulk and reticulation)	X	Advanced materials	
Basic services (local government) – sanitation		Aerospace	
Basic services (local government) – waste management		Basic services (local government) - education	
Basic services (local government) water	X	Basic services (local government) - health	
Agricultural value chain + agro-processing (linked to food security and food pricing imperatives)		Basic services (local government) - housing	
Infrastructure – information and communication technology		Basic services (local government) security of tenure	
Tourism + strengthening linkages between cultural industries and tourism		Other	
Basic services (local government) – public open spaces and recreational facilities			

Provide details on the anticipated socio-economic values associated with the proposed project

Table 1

Anticipated CAPEX value of the project on completion	R3.5 billion at each site.
What is the expected annual income to be generated by or as a result of the project?	R450 million (dependent on tariff and assuming ultimate demand of 150MI/d).
New skilled employment opportunities created in the construction phase of the project	Unknown at this stage.
New skilled employment opportunities created in the development phase of the project	Unknown at this stage.
New un-skilled employment opportunities created in the construction phase of the project	Anticipated average workforce during the estimated 30 months construction phase is approximately 300 workers (at peak times).
New un-skilled employment opportunities created in the development phase of the project	Approximately 30 employees working over two shifts of 8 hours per day
What is the expected value of the employment opportunities during the development and construction phase?	R 2 870 000.00
What percentage of this value that will accrue to previously disadvantaged individuals?	Unknown at this stage but in line with Umgeni Water policies in place.
What percentage of this value that will accrue to previously disadvantaged individuals?	Unknown at this stage but in line with Umgeni Water policies in place.
The expected current value of the employment opportunities during the first 10 years	Unknown at this stage.
What percentage of this value that will accrue to previously disadvantaged individuals?	Unknown at this stage but in line with Umgeni Water policies in place.

Table 2

Does the listed activity/ies applied for form part of a larger project which is not a listed activity itself e.g. a road that is a listed activity that is needed to access a drilling site where the drilling does not constitute a listed activity.	[REDACTED]	NO
If indicated yes above, please provide a brief description on how the activity/ies relate to the larger project that forms part there of:		

2. GENERAL INFORMATION

Project applicant:	Umgeni Water Amanzi		
Registration no (if any):	4960102673		
Trading name (if any):	Umgeni Water		
Responsible position, e.g. Director, CEO, etc.:	CEO – Mr. C.V. Gamede		
Contact person:	Phumi Ndlovu		
Physical address:	310 Burger Street Pietermaritzburg 3201		
Postal address:	P.O. Box 9 Pietermaritzburg		
Postal code:	3200	Cell:	083 581 1904
Telephone:	(031) 268 7172	Fax:	(033) 341 1349
E-mail:	Phumi.Ndlovu@umgeni.co.za	BBBEE status	N/A – Umgeni Water is a state owned entity

Provincial Authority:	KwaZulu-Natal Department of Agriculture and Environmental Affairs		
Contact person:	Yugeshnie Govender		
Postal address:	357 Dr. Pixley Kaseme Street (Old West Street) 16 th Floor, Murchies Passage Eagle Building Durban		
Postal code:	4001	Cell:	082 921 9340
Telephone:	031 302 2861	Fax:	031 302 2824
E-mail:	Yugeshni.Govender@kznedtea.gov.za		

Local municipality	eThekweni Municipality		
Contact person:	Dr. Debra Roberts		
Postal address:	P.O. Box 680 Durban		
Postal code:	4000	Cell:	
Telephone:	(031) 311 7527	Fax:	(031) 311 7134
E-mail:	RobertsD@durban.gov.za		

In instances where there is more than one local authority involved, please attach a list of those local authorities with their contact details as **Appendix 2**.

Note from CSIR: The eThekweni Municipality is a Metropolitan Municipality and as such constitutes both the Local and District Municipality.

Landowner:			
Contact person:			
Postal address:			
Postal code:		Cell:	
Telephone:		Fax:	
E-mail:			

In instances where there is more than one landowner, please attach a list of those landowners with their contact details as **Appendix 3**. If the applicant is not the owner or person in control of the land, proof of notice to the landowner or person in control of the land on which the activity is to be undertaken must be submitted in **Appendix 3**.

Note from CSIR: Please refer to **Appendix 3** for the full list of landowners and proof of notice to all landowners.

Identified Competent Authority to consider the application:	National Department of Environmental Affairs (DEA)
Reason(s) in terms of Sec 24C of NEMA 1998 as amended	Section 24C of NEMA 1998 as amended states that EIA's pertaining to state owned enterprises should be dealt with by the National DEA. Umgeni Water constitutes a state owned enterprise and therefore the National DEA has been identified as the Competent Authority.

3. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) INFORMATION

EAP:	Paul Lochner		
Professional affiliation/registration:	EAPASA		
Contact person (if different from EAP):	Annick Walsdorff		
Company:	CSIR		
Physical address:	11 Jan Celliers Street, Stellenbosch 7600		
Postal address:	PO Box 320		
Postal code:	7599	Cell:	083 390 9009
Telephone:	021 888 2661/2589	Fax:	021 888 2693
E-mail:	awalsdorff@csir.co.za		

If an EAP has not been appointed please ensure that an independent EAP is appointed as stipulated by Regulation 16 of GN R.543, dated June 2010, prior to the commencement of the process.

The declaration of independence and the Curriculum Vitae (indicating the experience with environmental impact assessment and the relevant application processes) of the EAP must also be submitted to the Department.

Alternatively, exemption may be applied for from the provisions of this regulation.

4. SITE DESCRIPTION

Provide a detailed description of the site involved in the application.

Province	KwaZulu-Natal					
District Municipality	eThekweni Municipality					
Local Municipality	eThekweni Municipality					
Ward number(s)	58					
Nearest town(s)	Tongaat, Desainager, La Mercy					
Farm name(s) and number(s)						
Portion number(s)						
Coordinates of corner points of study area (if there are more than 7 co-ordinates, please attach a list as Appendix 4) For linear developments a list of turning points must be attached	Latitude (S) (DDMMSS)			Longitude (E) (DDMMSS)		

Note from CSIR: The eThekweni Municipality is a Metropolitan Municipality and as such constitutes both the Local and District Municipality. The list of coordinates for the study area is attached in **Appendix 4**.

SG 21 Digit Code(s)

(If there are more than 4, please attach a list with the rest of the codes as **Appendix 4**)

1	2	3	4	5															

Note from CSIR: Refer to **Appendix 4** for the list of SG 21 Digit Codes for the study area.

Please attach a copy of the title deed(s) and SG diagram(s) to the application as **Appendix 5**.

Are there any other applications for Environmental Authorisation on the same property?		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
If YES, please indicate the following:			
Competent Authority			
Reference Number			
Project Name			
Please provide details of the steps taken to ascertain this information:			
<p>As indicated below, the National Department of Environmental Affairs was requested to provide information on any Environmental Authorisations on the properties falling within the proposed project area. Given the fact that no response was provided to date, it is assumed that no other applications for Environmental Authorisations exist on DEA's database for the affected properties. Additionally, where possible, the proponent engaged with landowners during the prefeasibility stage of the project and no such information was provided by affected landowners.</p>			

Please provide copies of Environmental Authorisations obtained for the same property as **Appendix 6**.

5. ACTIVITIES TO BE AUTHORISED

For an application for authorisation that involves more than one listed activity that, together, make up one development proposal, all the listed activities pertaining to this application must be indicated.

It is important to note that this Application for Environmental Authorisation was submitted to the DEA and accepted in terms of the 2010 EIA Regulations (as amended), prior to the promulgation of the new EIA Regulations in GN 982, 983, 984 and 985 on 8 December 2014. However, Section 53 (1) of the Transitional Arrangements, included in Chapter 8 of the 2014 EIA Regulations (i.e. GN R982), states the following:

"53. (1) An application submitted in terms of the previous NEMA regulations and which is pending when these Regulations take effect, including pending applications for auxiliary activities directly related to prospecting or exploration of a mineral or petroleum resource; or extraction and primary processing of a mineral or petroleum resource, must despite the repeal of those Regulations be dispensed with in terms of those previous NEMA regulations as if those previous NEMA regulations were not repealed".

Therefore, in accordance with the Transitional Arrangements included in the 2014 EIA Regulations, i.e. Regulation 53 (1) of the 2014 EIA Regulations, it is understood that the proposed application will be assessed and processed in terms of the 2010 EIA Regulations (as amended). However, for purposes of completeness and relevance, the relevant listed activities of the 2014 EIA Regulations that apply to the proposed project and corresponds to the listed activities included in the original Application for Environmental Authorisation (in accordance with the 2010 EIA Regulations) has been included (as specified in the Transitional Arrangements of the 2014 EIA Regulations). The applicable activities in terms of the 2010 and 2014 EIA Regulations are provided in Table below.

Linked to the above, Section 53 (2) of the Transitional Arrangements of the 2014 EIA Regulations states:

“If a situation arises where an activity or activities, identified under the previous NEMA Notices, no longer requires environmental authorisation in terms of the current activities and competent authorities identified in terms of section 24(2) and 24D of the National Environmental Management Act, 1998 (Act No. 107 of 1998) or in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), and where a decision on an application submitted under the previous NEMA regulations is still pending, the competent authority will consider such application to be withdrawn”.

Therefore, based on the above, it is understood that certain listed activities that were included in the original Application for Environmental Authorisation that was submitted to the DEA on 12 December 2013 may no longer be applicable to the proposed project. An updated list of listed activities is presented in the Table below.

Detailed description of listed activities associated with the project		
Listed activity as described in GN R544, R545 and R546 (EIA Regulations, 2010)	Listed activity as described in GN R983, R984 and R985 (EIA Regulations, 2014)	Description of project activity that triggers listed activity
<p>GN R544 Item 9 (i, ii):</p> <p>The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water -</p> <p>(i) with an internal diameter of 0,36 metres or more; or</p> <p>(ii) with a peak throughput of 120 litres per second or more,</p> <p>excluding where - such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.</p>	<p>GN R983 Item 9 (i, ii):</p> <p>The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water -</p> <p>(i) with an internal diameter of 0,36 metres or more; or</p> <p>(ii) with a peak throughput of 120 litres per second or more;</p> <p>excluding where-</p> <p>(a) such infrastructure is for bulk transportation of water or storm water or storm water drainage inside a road reserve; or</p> <p>(b) where such development will occur within an urban area.</p>	<p>Pipelines will be required to transport raw water abstracted from the sea to the proposed desalination plant, and potable water from the desalination plant to Umgeni Water's bulk water supply systems. These pipelines will cumulatively exceed 1 000 m in length and will be designed with an internal diameter greater than 1.0 m. The rates of peak throughput are anticipated to exceed 120l/s. These will be confirmed during the detailed engineering design phase.</p> <p>Portions of the pipeline routing may occur within existing road reserves, while construction of pipeline infrastructure would occur outside of urban areas. This will be confirmed in the detailed engineering design phase.</p>
<p>GN R544 Item 10 (i):</p> <p>The construction of facilities or infrastructure for the transmission and distribution of electricity, outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts.</p>	<p>GN R983 Item 11 (i):</p> <p>The development of facilities or infrastructure for the transmission and distribution of electricity –</p> <p>(i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts.</p>	<p>Electrical infrastructure will be required to provide power to the proposed development and will most likely be located outside an urban area. The voltage and exact location of such infrastructure will be finalised during the detailed engineering design phase.</p> <p>Based on the detailed feasibility study undertaken in June 2015 by the Applicant and their appointed consulting engineers, the power supply to the proposed 150 Ml/day desalination plant is approximately 32MW, with the following requirements:</p> <ul style="list-style-type: none"> • A 132kV transmission line from the nearest substation located outside the desalination plant boundary. The nearest 132kV point of supply is the La Mercy Major Substation (as shown in Figure 2.16), which is located approximately 5 km from the proposed desalination plant site, on the western side of King Shaka international airport.

Detailed description of listed activities associated with the project		
Listed activity as described in GN R544, R545 and R546 (EIA Regulations, 2010)	Listed activity as described in GN R983, R984 and R985 (EIA Regulations, 2014)	Description of project activity that triggers listed activity
		<ul style="list-style-type: none"> • A 132kV to 11kV step-down substation. • 30 MVA bulk supply point at 11kV. • A 11 kV line from the sub-station to the pump station
<p>GN R544 Item 11 (vi, x, xi):</p> <p>The construction of:</p> <p>(vi) bulk storm water outlet structures;</p> <p>(x) buildings exceeding 50 square metres in size; or</p> <p>(xi) infrastructure or structures covering 50 square metres or more</p> <p>where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</p>	<p>GN R983 Item 12 (vi, x, xii; a and c):</p> <p>The development of-</p> <p>(vi) bulk storm water outlet structures exceeding 100 square metres in size;</p> <p>(x) buildings exceeding 100 square metres in size;</p> <p>(xii) infrastructure or structures with a physical footprint of 100 square metres or more;</p> <p>where such development occurs –</p> <p>(a) within a watercourse;</p> <p>(b) in front of a development setback; or</p> <p>(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; -</p> <p>excluding-</p> <p>(aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;</p> <p>(bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;</p> <p>(cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;</p> <p>(dd) where such development occurs within an urban area; or</p> <p>(ee) where such development occurs within existing roads or road reserves.</p>	<p>Pipeline and powerline infrastructure proposed as part of the desalination project will traverse watercourses in the region. The construction of new buildings and supporting infrastructure exceeding 100 m² will be required within 32 m of a watercourse (at the proposed desalination plant site). Bulk storm water systems and associated outlet structures at the desalination plant will be appropriately designed during the detailed design phase and may be located within 32 m of a watercourse. Further investigation into these aspects of the proposed development will form part of the detailed engineering design phase.</p>

Detailed description of listed activities associated with the project		
Listed activity as described in GN R544, R545 and R546 (EIA Regulations, 2010)	Listed activity as described in GN R983, R984 and R985 (EIA Regulations, 2014)	Description of project activity that triggers listed activity
<p>GN R544 Item 13:</p> <p>The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres.</p>	<p>GN R983 Item 14:</p> <p>The development of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres.</p>	<p>Pre- and post- water treatment chemicals will be required at the proposed desalination plant and the capacity of is not expected to exceed 80 m³. However, at this stage it is uncertain exactly what quantities of dangerous goods will be used during operation of the desalination plant. Further investigation into these aspects of the proposed development will form part of the detailed engineering design phase and will be based on the results of the pilot plant. This activity is therefore kept in this EIA application in the event that the results from the pilot plant investigations show that the quantities of chemicals required to be stored exceed the anticipated amounts.</p>
<p>GN R544 Item 14:</p> <p>The construction of structures in the coastal public property where the development footprint is bigger than 50 square metres, excluding</p> <ul style="list-style-type: none"> (i) the construction of structures within existing ports or harbours that will not increase the development footprint or throughput capacity of the port or harbour; (ii) the construction of a port or harbour, in which case activity 24 of Notice 545 of 2010 applies; and (iii) the construction of temporary structures within the beach zone where such structures will be demolished or disassembled after a period not exceeding 6 weeks. 	<p>GN R983 Item 15:</p> <p>The development of structures in the coastal public property where the development footprint is bigger than 50 square metres, excluding –</p> <ul style="list-style-type: none"> (i) the development of structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (ii) the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (iii) the development of temporary structures within the beach zone where such structures will be removed within 6 weeks of the commencement of development and where 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. 	<p>The intake and discharge marine pipelines will transect the Coastal Public Property and will cover an area exceeding 50 m².</p> <p>Permanent structures (Sea water intake and brine discharge pipelines) required for the proposed project will be constructed on/along the sea bed. The pipelines will be tunnelled from the pump station through to a point behind the surf zone and then will be laid on the seabed up to the intake/diffuser.</p>
<p>GN R544 Item 15:</p> <p>The construction of facilities for the desalination of sea water with a design capacity to produce more than 100</p>	<p>GN R983 Item 16:</p> <p>The development and related operation of facilities for the desalination of water with a design capacity to produce more</p>	<p>The proposed project constitutes the development of a desalination plant and is being designed with a generation capacity of 150 MI (or 150 000 m³) of potable water per day when operating at full capacity.</p>

Detailed description of listed activities associated with the project		
Listed activity as described in GN R544, R545 and R546 (EIA Regulations, 2010)	Listed activity as described in GN R983, R984 and R985 (EIA Regulations, 2014)	Description of project activity that triggers listed activity
cubic metres of treated water per day.	than 100 cubic metres of treated water per day.	
<p>GN R544 Item 16 (vi):</p> <p>Construction or earth moving activities in the sea, an estuary, or within the littoral active zone or 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 –</p> <p>(vi) infrastructure covering 50 square metres or more but excluding:</p> <p>(a) if such construction or earth moving activities will occur behind a development setback line; or</p> <p>(b) where such construction or earth moving activities will occur within existing ports or harbours and the construction or earth moving activities will not increase the development footprint or throughput capacity of the port or harbour;</p> <p>(c) where such construction or earth moving activities is undertaken for purposes of maintenance of the facilities mentioned in (i)-(vi) above; or</p> <p>(d) where such construction or earth moving activities is related to the construction of a port or harbour, in which case activity 24 of Notice 545 of 2010 applies.</p>	<p>GN R983 Item 17 (i, ii, v, and a, e, f):</p> <p>Development-</p> <p>(i) in the sea;</p> <p>(ii) in an estuary;</p> <p>(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;</p> <p>in respect of-</p> <p>(f) infrastructure with a development footprint of 50 square metres or more -</p> <p>but excluding-</p> <p>(aa) the development of infrastructure and structures within existing ports or harbours that will not increase the development footprint of the port or harbour;</p> <p>(bb) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;</p> <p>(cc) the development of temporary infrastructure or structures where such structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared; or</p> <p>(dd) where such development occurs within an urban area.</p>	<p>Construction and earth moving activities required for the proposed project will occur within the sea (marine intake and discharge pipelines and associated infrastructures) and within 100 m inland of the Mdloti estuary (e.g. potable water pipelines and powerline). Infrastructure associated with the proposed project will cover an area that exceeds 50 m².</p>
<p>GN R544 Item 18 (i, ii, iv):</p> <p>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</p>	<p>GN R983 Item 19 (i, iii):</p> <p>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</p>	<p>Construction activities required for the proposed project (such as trench digging and pipe laying, construction of desalination plant site) would result in the infilling, depositing, dredging, excavation, removal or moving of more than 5 m³ of material from the sea, watercourse, and within a</p>

Detailed description of listed activities associated with the project		
Listed activity as described in GN R544, R545 and R546 (EIA Regulations, 2010)	Listed activity as described in GN R983, R984 and R985 (EIA Regulations, 2014)	Description of project activity that triggers listed activity
<p>more than 5 cubic metres from:</p> <p>(i) a watercourse; (ii) the sea; (iv) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater, but excluding where such infilling, depositing, dredging, excavation, removal or moving:</p> <p>(a) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or (b) occurs behind the development setback line.</p>	<p>cubic metres from –</p> <p>(i) a watercourse; or (iii) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater but excluding where such infilling, depositing, dredging, excavation, removal or moving-</p> <p>(a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan; or (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies.</p>	<p>distance of 100 m inland of the estuary.</p>
<p>GN R544 Item 22 (i, ii):</p> <p>The construction of a road, outside urban areas, (i) with a reserve wider than 13,5 meters or, (ii) where no reserve exists where the road is wider than 8 metres</p>	<p>GN R983 Item 24 (ii):</p> <p>The development of- (ii) a road with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres;</p> <p>but excluding- (a) roads which are identified and included in activity 27 in Listing Notice 2 of 2014; or (b) roads where the entire road falls within an urban area.</p>	<p>The proponent intends to use existing roads to access the proposed facility (pending approval from relevant authorities). However, if a new access road needs to be constructed, it may have a reserve wider than 13,5 meters or may be wider than 8 m and would be located outside of urban areas.</p> <p>The final road design will however be determined during the detailed engineering design phase.</p>
<p>GN R544 Item 23 (ii):</p> <p>The transformation of undeveloped, vacant or derelict land to (ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares, except where such transformation</p>	<p>GN R983 Item 28 (ii):</p> <p>Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture or afforestation on or after 01 April 1998 and where such development: (ii) will occur outside an urban area, where the total land to be</p>	<p>The proposed desalination plant will cover an area of land approximately 7 Ha in extent and will be constructed on land which is largely undeveloped and has a current land use zoning of "Agriculture". Some portions of the land are currently under cultivation for market gardening crops (e.g. vegetables). The implementation of the proposed project would therefore result in the transformation of more than 1 Ha of undeveloped Agricultural land to industrial use, and this</p>

Detailed description of listed activities associated with the project		
Listed activity as described in GN R544, R545 and R546 (EIA Regulations, 2010)	Listed activity as described in GN R983, R984 and R985 (EIA Regulations, 2014)	Description of project activity that triggers listed activity
takes place - (i) for linear activities.	developed is bigger than 1 hectare; excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.	would occur outside an urban area.
GN R544 Item 24: The transformation of land bigger than 1000 square metres in size, to residential, retail, commercial, industrial or institutional use, where, at the time of the coming into effect of this Schedule or thereafter such land was zoned open space, conservation or had an equivalent zoning.	Not applicable in Listing Notice 1 of the 2014 EIA Regulations.	The implementation of the proposed project would result in the transformation of approximately 7 Ha of undeveloped Agricultural land to industrial use. Components of the terrestrial pipelines and powerline will traverse land zoned as open space. The portion of pipelines and powerline traversing land zoned as opened space are detailed in Chapter 7 Terrestrial ecology study.
GN R544 Item 47 (i, ii): The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre - (i) where the existing reserve is wider than 13,5 meters; or (ii) where no reserve exists, where the existing road is wider than 8 metres, excluding widening or lengthening occurring inside urban areas.	GN R983 Item 56 (i, ii): The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre – (i) where the existing reserve is wider than 13,5 meters; or (ii) where no reserve exists, where the existing road is wider than 8 metres; excluding where widening or lengthening occur inside urban areas.	The proponent intends to use existing roads to access the proposed facility (pending approval from relevant authorities). However, existing roads (such as the S Dune road between the circle and the proposed site) may be required to be widened by more than 6 m. The details will be confirmed as part of the detailed engineering design phase.
GN R545 Item 5: The construction of facilities or infrastructure for any process or activity which requires a permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent and which is not identified in Notice No. 544 of 2010 or 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 that Act will apply.	GN R984 Item 6: The development of facilities or infrastructure for any process or activity which requires a 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	The operation of the proposed desalination plant requires a Coastal Waters Discharge Permit in terms of the National Environmental Management: Integrated Coastal Management Act (Act 24 of 2008) in order to permit the disposal and discharge of effluent to sea.

Detailed description of listed activities associated with the project		
Listed activity as described in GN R544, R545 and R546 (EIA Regulations, 2010)	Listed activity as described in GN R983, R984 and R985 (EIA Regulations, 2014)	Description of project activity that triggers listed activity
	No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; or (iii) the development of facilities or infrastructure for the treatment of effluent, wastewater or sewage where such facilities have a daily throughput capacity of 2000 cubic metres or less.	
GN R545 Item 14: The construction of an island, anchored platform or any other permanent structure on or along the sea bed.	GN R984 Item 14: The development and related operation of- (i) an island; (ii) anchored platform; or (iii) 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 indigenous vegetation will not be cleared.	Permanent structures (Sea water intake and brine discharge pipelines) required for the proposed project will be constructed on/along the sea bed. The pipelines will be tunnelled from the pump station through to a point behind the surf zone and then will be laid on the seabed up to the intake/diffuser.
GN R545 Item 24 (iii, viii, ix): Construction or earth moving activities in the sea, an estuary, or within the littoral active zone or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater, in respect of: (iii) inter- and sub-tidal structures for entrapment of sand; (viii) tunnels; or (ix) underwater channels, but excluding: (a) activities listed in activity 16 in Notice 544 of 2010, (b) construction or earth moving activities if such construction or earth moving activities will occur	GN R984 Item 26 (i, ii and v; and c, g and h): Development- (i) in the sea; (ii) in an estuary; (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 - (c) inter- and sub-tidal structures for entrapment of sand; (g) tunnels; or (h) underwater channels;	Construction and earth moving activities will occur within the sea, and, in and within 100 metres of the estuary (tunnelling of the potable water pipeline, powerline). Depending on design and technical criteria of the desalination plant, structures such as inter- and sub-tidal structures for entrapment of sand and tunnels and/or underwater channels may be used in the construction and operation phase of the proposed development. This will also be subject to further investigation and analysis in the detailed engineering design phase. Permanent structures (Sea water intake and brine discharge pipelines) required for the proposed project will be

Detailed description of listed activities associated with the project		
Listed activity as described in GN R544, R545 and R546 (EIA Regulations, 2010)	Listed activity as described in GN R983, R984 and R985 (EIA Regulations, 2014)	Description of project activity that triggers listed activity
<p>behind a development setback line;</p> <p>(c) where such construction or earth moving activities will occur in existing ports or harbours where there will be no increase of the development footprint or throughput capacity of the port or harbour; or</p> <p>(d) where such construction or earth moving activities takes place for maintenance purposes.</p>	<p>but excluding the development of structures within existing ports or harbours that will not increase the development footprint of the port or harbour.</p>	<p>constructed on/along the sea bed. The pipelines will be tunnelled from the pump station through to a point behind the surf zone and then will be laid on the seabed up to the intake/diffuser.</p>
<p>GN R546 Item 2 (a) (iii) [(dd) (gg)]:</p> <p>The construction of reservoirs for bulk water supply with a capacity of more than 250 cubic metres</p> <p>(a) in the KwaZulu-Natal province</p> <p>(iii) outside urban areas, in:</p> <p>(dd) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.</p> <p>(gg) Areas seawards of the development setback line or within 1 km from the high water mark of the sea if no such development setback line is determined.</p>	<p>GN R985 Item 2 (d) [(viii), (xii) [(bb)]]</p> <p>The development of reservoirs for bulk water supply with a capacity of more than 250 cubic metres.</p> <p>in:</p> <p>(d) In KwaZulu-Natal:</p> <p>viii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>xii. Outside urban areas:</p> <p>(bb) Areas seawards of the development setback line or within 1 km from the high water mark of the sea if no such development setback line is determined.</p>	<p>Two 37.5 Ml freshwater holding reservoirs and a 6Ml reservoir for screened water will be required for the proposed project and will be located at the desalination plant site. These reservoirs will be constructed within an area which has been identified as CBA1 by the EKZNW Terrestrial Systematic Conservation Plan and within 1 km of the high water mark. (Figure 4.1).</p>
<p>GN R546 Item 4 (a) (ii) [(ee) (hh)]:</p> <p>The construction of a road wider than 4 metres with a reserve less than 13,5 metres in the KwaZulu-Natal province</p> <p>(ii) outside urban areas, in</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.</p> <p>(hh) Areas seawards of the development setback line or within 1 km from the high water mark of the</p>	<p>GN R985 Item 4 (d) [(viii) (xii) [(bb)]]:</p> <p>The development of a road wider than 4 metres with a reserve less than 13,5 metres.</p> <p>(d) In KwaZulu-Natal:</p> <p>viii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>xii. Outside urban areas:</p> <p>(bb) Areas seawards of the development setback line or</p>	<p>The proponent intends to use existing roads to access the proposed facility (pending approval from relevant authorities). The proposed project may therefore require the construction of an access road to the proposed desalination plant. If required, this road would be located outside urban areas within an area which has been identified as CBA1 by the EKZNW Terrestrial Systematic Conservation Plan and within 1 km of the high water mark.</p> <p>The details will be confirmed as part of the detailed engineering design phase.</p>

Detailed description of listed activities associated with the project		
Listed activity as described in GN R544, R545 and R546 (EIA Regulations, 2010)	Listed activity as described in GN R983, R984 and R985 (EIA Regulations, 2014)	Description of project activity that triggers listed activity
sea if no such development setback line is determined.	within 1 km from the high water mark of the sea if no such development setback line is determined.	
<p>GN R546 Item 10 (a) (ii) [(ee) (hh) (ii)]:</p> <p>The construction of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres</p> <p>(a) in the KwaZulu-Natal province,</p> <p>(ii) outside urban areas in:</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.</p> <p>(hh) Areas seawards of the development setback line or within 1 km from the high water mark of the sea if no such development setback line is determined</p> <p>(ii) Areas on the watercourse side of the development setback line or within 100 m from the edge of a watercourse where no such setback line has been determined.</p>	<p>GN R985 Item 10 (d) (ix) (xiii) [(bb) (cc)]:</p> <p>The development of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres.</p> <p>d) In KwaZulu-Natal:</p> <p>ix. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>xiii. Outside urban areas:</p> <p>(bb) Areas seawards of the development setback line or within 1 km from the high water mark of the sea if no such development setback line is determined.</p> <p>(cc) Areas within 100 metres from the edge of a watercourse.</p>	<p>The proposed project will require that chemicals such as coagulants, acids, bases, antiscalants and biocides be stored on-site for the pre-treatment/conditioning of the source water, cleaning of the reverse osmosis membrane filters and conditioning of the potable water. It is expected that the combined capacity of these chemicals storage will exceed 30 m³.</p> <p>The exact volumes will be confirmed as part of the detailed engineering design phase and will be based on the results of the pilot plant investigations. These volumes may exceed 80 m³.</p> <p>Construction of such storage facilities will occur in an area which has been identified as CBA1 by the EKZNW Terrestrial Systematic Conservation Plan and in areas within 1km from the high water mark of the sea and within 100m of a watercourse.</p>
<p>GN R.546 Item 12 (a), (b), (c):</p> <p>The clearance of an area of 300 square metres or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation,</p> <p>(a) Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</p>	<p>GN R 985 Item 12 (b) (iv) (v) (vi) (vii) (xi) (xiii):</p> <p>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.</p> <p>b) In KwaZulu-Natal:</p> <p>iv. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been</p>	<p>The proposed desalination plant and supporting infrastructure would require an area greater than 300 m² to be cleared of vegetation, in an area identified as critically endangered by NEMBA (threatened ecosystem – Northern coastal grassland KZN16 and Interior North coast grassland KZN6) and as CBA by the EKZNW Terrestrial Systematic Conservation Plan. Given the fact that the desalination plant and associated infrastructure is to be primarily situated on land which is utilised for agricultural practices, it is not anticipated that 75% of the vegetation to be cleared would constitute indigenous vegetation (refer to Chapter 7). This will however need to be ground truthed.</p>

Detailed description of listed activities associated with the project		
Listed activity as described in GN R544, R545 and R546 (EIA Regulations, 2010)	Listed activity as described in GN R983, R984 and R985 (EIA Regulations, 2014)	Description of project activity that triggers listed activity
<p>(b) Within critical biodiversity areas identified in bioregional plans;</p> <p>(c) within the littoral active zone or 100 metres inland from high water mark of the sea or an estuary, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas.</p>	<p>identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</p> <p>v. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>vi. 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;</p> <p>vii. 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;</p> <p>xi. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>xiii. In an estuarine functional zone.</p>	<p>However, should 75% of the cleared vegetation constitute indigenous vegetation, this may also occur within 100 m of the Mdloti estuary. Portions of the proposed potable water pipeline and powerline would traverse areas identified as DMOSS.</p>
<p>GN R.546 Item 13 (a) (c) [(i) (ii) [(gg)]]: The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation,</p> <p>(a) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans</p> <p>(c) in the KwaZulu-Natal province,</p> <p>(i) in an estuary</p> <p>(ii) outside urban areas in:</p> <p>(gg) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined.</p>	<p>Not applicable in Listing Notice 3 of the 2014 EIA Regulations.</p>	<p>Listed activity not applicable as per Section 53 (2) of the Transitional Arrangements of the 2014.</p>
<p>GN R.546 Item 14 (a) (i): The clearance of an area of 5 hectares or more of vegetation where 75% or more of the</p>	<p>Not applicable in Listing Notice 3 of the 2014 EIA Regulations.</p>	<p>Listed activity not applicable as per Section 53 (2) of the Transitional Arrangements of the 2014.</p>

Detailed description of listed activities associated with the project		
Listed activity as described in GN R544, R545 and R546 (EIA Regulations, 2010)	Listed activity as described in GN R983, R984 and R985 (EIA Regulations, 2014)	Description of project activity that triggers listed activity
vegetative cover constitutes indigenous vegetation in all areas outside urban areas in the KwaZulu-Natal province.		
<p>GN R546 Item 16 (iii) (iv), [(a) [(i) (ii) [(ff) (ii)]]]:</p> <p>The construction of:</p> <p>(iii) buildings with a footprint exceeding 10 square metres in size; or</p> <p>(iv) infrastructure covering 10 square metres or more,</p> <p>where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line,</p> <p>(a) in the KwaZulu-Natal province:</p> <p>(i) In an estuary;</p> <p>(ii) Outside urban areas,</p> <p>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the act and as adopted by the competent authority;</p> <p>(ff) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans</p> <p>(ii) in areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined.</p>	<p>GN R 985 Item 14 (vi) (x) (xii) [(a) (c)]; (d) [(i) (vii) (x) [(bb)]]:</p> <p>The development of –</p> <p>(vi) bulk storm water outlet structures exceeding 10 square metres in size;</p> <p>(x) buildings exceeding 10 square metres in size;</p> <p>(xii) infrastructure or structures with a physical footprint of 10 square metres or more;</p> <p>where such development occurs</p> <p>(a) within a watercourse;</p> <p>(c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse;</p> <p>excluding the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour.</p> <p>(d) In KwaZulu-Natal:</p> <p>(i) In an estuarine functional zone;</p> <p>(vii) Critical biodiversity areas or ecological support areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(viii) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the act and as adopted by the competent authority</p> <p>(x). Outside urban areas:</p> <p>(bb) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined.</p>	<p>The construction of new buildings and supporting infrastructure exceeding 10 m² will be required within 32 m of a watercourse. The potable water pipeline towards Waterloo reservoir is proposed to be tunnelled under the Mdloti estuary. Bulk storm water systems and associated outlet structures at the proposed desalination plant site will be appropriately designed during the detailed design phase and may be located within 32 m of a watercourse (wetlands within the development footprint). Further investigation into these aspects of the proposed development will form part of the detailed engineering design phase.</p> <p>Such construction will also occur outside urban areas in areas which have been identified as CBA by the EKZNW Terrestrial Systematic Conservation Plan and within 1 km of the high water mark (Pipelines and proposed desalination plant). Portions of the proposed potable water pipeline and powerline would traverse areas identified as DMOSS. Refer to Figure 4.1.</p>

Detailed description of listed activities associated with the project		
Listed activity as described in GN R544, R545 and R546 (EIA Regulations, 2010)	Listed activity as described in GN R983, R984 and R985 (EIA Regulations, 2014)	Description of project activity that triggers listed activity
<p>GN R546 Item 19 (a) (ii) [(ee) (hh) (ii)]:</p> <p>The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre, (a) in the KwaZulu-Natal province, (ii) outside urban areas, in:</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; (hh) Areas seawards of the development setback line or within 1 km from the high-water mark of the sea if no such development setback line is determined; (ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined.</p>	<p>GN R 984 Item 18 (d) (vii) (ix) (xii) [(aa) (bb)]:</p> <p>The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre.</p> <p>(d) In KwaZulu-Natal:</p> <p>vii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; ix. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; xii. Outside urban areas: (aa) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined. (bb) within 100m of a watercourse</p>	<p>The proponent intends to use existing roads to access the proposed facility (pending approval from relevant authorities). However, existing roads may be required to be widened by more than 4 m.</p> <p>The details will be confirmed as part of the detailed engineering design phase. The proposed project may require the construction of an access road to the proposed desalination plant. If required, this road would be located outside urban areas within an area which has been identified as CBA by the EKZNW Terrestrial Systematic Conservation Plan, within 1 km of the high water mark of the sea and within 100m from a watercourse (presence of a number of wetlands on site). Refer to Figure 4.1.</p> <p>The details will be confirmed as part of the detailed engineering design phase.</p>

Please note that any authorisation that may result from this application will only cover activities specifically applied for. Co-ordinate points indicating the location of each listed activity must be provided with the relevant report (ie. either BAR or EIR).

Should any activities in GN R.546 be applied for, please provide a map indicating the triggering area (e.g. critical biodiversity area, World Heritage Site, etc) overlaid by the study area in **Appendix 7**.

A project schedule, indicating the different phases and timelines of the project, must be attached as **Appendix 8**.

6. EXEMPTIONS (IF APPLICABLE)

Should the applicant wish to apply for exemption from any provision of the Act as it relates to environmental impact assessment or from any provision of GN R. 543, as allowed by GN R543 (50), details of the exemption application must be provided as **Appendix 9** in the form of a table as shown below.

Regulation number	Regulation description	Reason(s) for exemption	Supporting documentation attached	Notification done i.t.o GN R. 543(51)(3)	
				YES	NO
				YES	NO
				YES	NO
				YES	NO

Please note that any exemptions from the Act or GN R.543 must first be approved in writing by the competent authority **before** the implementation of such exemptions.

Supporting documentation and proof of notification to the landowner or person in control of the land and all potential or registered I&APs as required by Regulation 51 of GN R. 543 must be attached as **Appendix 10**.

7. PUBLIC PARTICIPATION

Provide details of the public participation process proposed for the application as required by Regulation 54(2) of GN R. 543, dated June 2010.

In terms of regulation 54 of the EIA Regulations, the public participation process that will be followed is indicated in the table below:

2. (a) fixing a notice board at a place conspicuous to the public at the boundary or on the fence of -	
(i) the site where the activity to which the application relates is or is to be undertaken; and	Yes
(ii) any alternative site mentioned in the application	Yes
(b) giving written notice to –	
(i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;	Yes
(ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;	Yes
(iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;	Yes
(iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;	Yes
(v) the municipality which has jurisdiction in the area;	Yes
(vi) any organ of state having jurisdiction in respect of any aspect of the activity; and	Yes
(vii) any other party as required by the competent authority;	Yes
(c) placing an advertisement in -	
(i) one local newspaper; or	Yes

(ii) any official <i>Gazette</i> that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;	Yes
(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 local 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 <i>Gazette</i> referred to in subregulation (c) (ii); and	Yes
(e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to – (i) illiteracy (ii) disability; or (iii) any other disadvantage.	Not applicable at this stage, but will be complied with as agreed by the competent authority should the need arise as part of the public consultation process.

Should any of the aspect(s) of the Public Participation process be considered unfeasible or unreasonable for this application, please complete Section 9 below.

8. DEVIATIONS FROM PUBLIC PARTICIPATION (IF APPLICABLE)

Should the applicant wish to apply for deviations from the public participation process applied for in terms of Regulation 54(5) of GN R. 543, details of the request for deviation must be provided as **Appendix 11** in the form of a table as shown below.

Regulation number	Regulation	Reason for deviation	Proposed deviation
e.g. GN R. 543 Item 54(2)(b)(iii):	<i>The person conducting a public participation process must take into account any 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 the application which is subjected to public participation by giving written notice to— (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;</i>	<i>The proposed power line stretches over 250 km and it is unfeasible to provide written notification to all land owners and occupiers.</i>	<i>Notices will be placed in all local community newspapers.</i>

Note from CSIR: No deviations from public participation in terms of regulation 54(2) of the EIA Regulations are required at this stage.

Note:

- Any deviations from the public participation process must first be agreed upon in writing by the competent authority **before** such deviations may be put into place.
- Should you not request to deviate from any requirements of regulation 54(2) or if the Department has not agreed to any deviation applied for in writing then the applicant or EAP must comply with the full requirements of regulation 54(2).
- Deviation from public participation is only applicable to regulation 54(2) and does not for example apply to the requirement of regulation 10(2) (d) that requires the applicant to publish a notice of the decision taken by the Department in newspapers. An application for exemption must be applied for should the applicant wish to be exempted from the requirements of regulation 10(2) (d).

9. OTHER AUTHORISATIONS REQUIRED

LEGISLATION	AUTHORISATION REQUIRED		APPLICATION SUBMITTED	
SEMA's				
National Environmental Management: Air Quality Act		NO		NO
National Environmental Management: Biodiversity Act		NO*		NO
National Environmental Management: Integrated Coastal Management Act	YES		YES	
National Environmental Management: Protected Areas Act		NO		NO
National Environmental Management: Waste Act		NO		NO
National legislation				
Mineral Petroleum Development Resources Act		NO		NO
National Water Act	YES			NO
National Heritage Resources Act		NO*		NO
Others: Please specify		NO*		NO

Note from CSIR: *Confirmation of the need for these authorisations will be determined as part of the detailed engineering design.

Please provide proof of submission of applications in **Appendix 12**.

If authorisation is necessary in terms of the National Environmental Management: Waste Act, please contact the Department for guidance on the **Integrated Permitting System**.

10. LIST OF APPENDICES

		SUBMITTED	
Appendix 1	Strategic Infrastructure Projects	YES	
Appendix 2	List of Local Municipalities (with contact details)	YES	
Appendix 3	List of land owners (with contact details) and proof of notification of land owners.	YES	
Appendix 4	List of co-ordinates and/or SGIDs	YES	
Appendix 5	Title deed(s) and SG diagram(s)	YES	
Appendix 6	Copies of Environmental Authorisations obtained for the same property		N/A
Appendix 7	Map indicating triggered areas for GN R.546	YES	

Appendix 8	Project schedule	YES	
Appendix 9	Details of application for exemption		N/A
Appendix 10	Supporting documentation and proof of notification of I&APs for exemption application		NO
Appendix 11	Details of request for deviation		NO
Appendix 12	Proof of submission of additional applications		NO
Appendix 13	Declaration of Applicant	YES	
Appendix 14	Declaration of EAP	YES	

**APPENDIX 1
STRATEGIC INFRASTRUCTURE PROJECTS**

<p>SIP 1: Unlocking the northern mineral belt with Waterberg as the catalyst</p> <ul style="list-style-type: none"> • Unlock mineral resources • Rail, water pipelines, energy generation and transmission infrastructure • Thousands of direct jobs across the areas unlocked • Urban development in Waterberg - first major post-apartheid new urban centre will be a “green” development project • Rail capacity to Mpumalanga and Richards Bay • Shift from road to rail in Mpumalanga • Logistics corridor to connect Mpumalanga and Gauteng. 	
<p>SIP 2: Durban-Free State-Gauteng logistics and industrial corridor</p> <ul style="list-style-type: none"> • Strengthen the logistics and transport corridor between SA’s main industrial hubs • Improve access to Durban’s export and import facilities • Integrate Free State Industrial Strategy activities into the corridor • New port in Durban • Aerotropolis around OR Tambo International Airport. 	
<p>SIP 3: South-Eastern node & corridor development</p> <ul style="list-style-type: none"> • New dam at Mzimvubu with irrigation systems • N2-Wild Coast Highway which improves access into KwaZulu-Natal and national supply chains • Strengthen economic development in Port Elizabeth through a manganese rail capacity from Northern Cape • A manganese sinter (Northern Cape) and smelter (Eastern Cape) • Possible Mthombo refinery (Coega) and transshipment hub at Ngqura and port and rail upgrades to improve industrial capacity and performance of the automotive sector. 	
<p>SIP 4: Unlocking the economic opportunities in North West Province</p> <ul style="list-style-type: none"> • Acceleration of investments in road, rail, bulk water, water treatment and transmission infrastructure • Enabling reliable supply and basic service delivery • Facilitate development of mining, agricultural activities and tourism opportunities • Open up beneficiation opportunities in North West Province. 	
<p>SIP 5: Saldanha-Northern Cape development corridor</p> <ul style="list-style-type: none"> • Integrated rail and port expansion • Back-of-port industrial capacity (including an IDZ) • Strengthening maritime support capacity for oil and gas along African West Coast • Expansion of iron ore mining production and beneficiation. 	
<p>SIP 6: Integrated municipal infrastructure project</p> <p>Develop national capacity to assist the 23 least resourced districts (19 million people) to address all the maintenance backlogs and upgrades required in water, electricity and sanitation bulk infrastructure. The road maintenance programme will enhance service delivery capacity thereby impacting positively on the population.</p>	
<p>SIP 7: Integrated urban space and public transport programme</p> <p>Coordinate planning and implementation of public transport, human settlement, economic and social infrastructure and location decisions into sustainable urban settlements connected by densified transport corridors. This will focus on the 12 largest urban centres of the country, including all the metros in South Africa. Significant work is underway on urban transport integration.</p>	
<p>SIP 8: Green energy in support of the South African economy</p> <p>Support sustainable green energy initiatives on a national scale through a diverse range of clean energy options as envisaged in the Integrated Resource Plan (IRP2010) and support bio-fuel production facilities.</p> <p>Indicate capacity in MW:</p>	

<p>SIP 9: Electricity generation to support socioeconomic development Accelerate the construction of new electricity generation capacity in accordance with the IRP2010 to meet the needs of the economy and address historical imbalances. Monitor implementation of major projects such as new power stations: Medupi, Kusile and Ingula.</p> <p>Indicate capacity in MW:</p>	
<p>SIP 10: Electricity transmission and distribution for all Expand the transmission and distribution network to address historical imbalances, provide access to electricity for all and support economic development. Align the 10-year transmission plan, the services backlog, the national broadband roll-out and the freight rail line development to leverage off regulatory approvals, supply chain and project development capacity.</p>	
<p>SIP 11: Agri-logistics and rural infrastructure Improve investment in agricultural and rural infrastructure that supports expansion of production and employment, small-scale farming and rural development, including facilities for storage (silos, fresh-produce facilities, packing houses); transport links to main networks (rural roads, branch train-line, ports), fencing of farms, irrigation schemes to poor areas, improved R&D on rural issues (including expansion of agricultural colleges), processing facilities (abattoirs, dairy infrastructure), aquaculture incubation schemes and rural tourism infrastructure.</p>	
<p>SIP 12: Revitalisation of public hospitals and other health facilities Build and refurbish hospitals, other public health facilities and revamp 122 nursing colleges. Extensive capital expenditure to prepare the public healthcare system to meet the requirements of the National Health Insurance (NHI) system. The SIP contains major builds for 6 hospitals</p>	
<p>SIP 13: National school build programme A national school build programme driven by uniformity in planning, procurement, contract management and provision of basic services. Replace inappropriate school structures and address basic service backlog and provision of basic services under the Accelerated School Infrastructure Delivery Initiative (ASIDI). In addition, address national backlogs in classrooms, libraries, computer labs and admin buildings. Improving the learning environment will strengthen outcomes especially in rural schools, as well as reduce overcrowding</p>	
<p>SIP 14: Higher education infrastructure Infrastructure development for higher education, focusing on lecture rooms, student accommodation, libraries and laboratories, as well as ICT connectivity. Development of university towns with a combination of facilities from residence, retail to recreation and transport. Potential to ensure shared infrastructure such as libraries by universities, FETs and other educational institutions. Two new universities will be built - in Northern Cape and Mpumalanga.</p>	
<p>SIP 15: Expanding access to communication technology Provide for broadband coverage to all households by 2020 by establishing core Points of Presence (POPs) in district municipalities, extend new Infracore fibre networks across provinces linking districts, establish POPs and fibre connectivity at local level, and further penetrate the network into deep rural areas. While the private sector will invest in ICT infrastructure for urban and corporate networks, government will co-invest for township and rural access, as well as for e-government, school and health connectivity. The school roll-out focus is initially on the 125 Dinaledi (science and maths-focussed) schools and 1525 district schools. Part of digital access to all South Africans includes TV migration nationally from analogue to digital broadcasting.</p>	
<p>SIP 16: SKA & Meerkat SKA is a global mega-science project, building an advanced radio-telescope facility linked to research infrastructure and high-speed ICT capacity and provides an opportunity for Africa and South Africa to contribute towards global advanced science projects.</p>	
<p>SIP 17: Regional integration for African cooperation and development Participate in mutually beneficial infrastructure projects to unlock long-term socio-economic benefits</p>	

<p>by partnering with fast growing African economies with projected growth ranging between 3% and 10%.</p> <p>The projects involving transport, water and energy also provide competitively-priced, diversified, short and medium to long-term options for the South African economy where, for example, electricity transmission in Mozambique (Cesul) could assist in providing cheap, clean power in the short-term whilst Grand Inga in the DRC is long-term.</p> <p>All these projects complement the Free Trade Area (FTA) discussions to create a market of 600 million people in South, Central and East Africa.</p>	
<p>SIP 18: Water and sanitation infrastructure</p> <p>A 10-year plan to address the estimated backlog of adequate water to supply 1.4m households and 2.1m households to basic sanitation.</p> <p>The project will involve provision of sustainable supply of water to meet social needs and support economic growth. Projects will provide for new infrastructure, rehabilitation and upgrading of existing infrastructure, as well as improve management of water infrastructure.</p>	X

**APPENDIX 2 (IF APPLICABLE)
LIST OF LOCAL MUNICIPALITIES**

Local municipality	eThekweni Municipality		
Contact person:	Dr. Debra Roberts		
Postal address:	P.O. Box 680 Durban		
Postal code:	4000	Cell:	
Telephone:	(031) 311 7527	Fax:	(031) 311 7134
E-mail:	RobertsD@durban.gov.za		

Note from CSIR: The eThekweni Municipality is a Metropolitan Municipality and as such constitutes both the Local and District Municipality.

**APPENDIX 3
LIST OF LAND OWNERS
PROOF OF NOTIFICATION OF LAND OWNERS**

(Overleaf)

Table 3.1: List of directly affected land owners for the Proposed Tongaat Desalination Plant and Associated infrastructure.

Property Description	Farmtown name	21 Digit Surveyor-General Code	Property Owner
Portion 1 of Erf 3	MOUNT MORELAND	N0FU0218000000300001	Tongaat-Hulett Group LTD
Erf 2	MOUNT MORELAND	N0FU0218000000200000	Tongaat-Hulett Group LTD
Erf 5	MOUNT MORELAND	N0FU0218000000500000	CEDAR POINT TRADING 20 PTY LTD
Rem of Erf 4	MOUNT MORELAND	N0FU0218000000400000	Tongaat-Hulett Group LTD
Portion 1 of Erf 4	MOUNT MORELAND	N0FU0218000000400001	Tongaat-Hulett Group LTD
Erf 6	MOUNT MORELAND	N0FU0218000000600000	Tongaat-Hulett Group LTD
Erf 7	MOUNT MORELAND	N0FU0218000000700000	Tongaat-Hulett Group LTD
Erf 8	MOUNT MORELAND	N0FU0218000000800000	Tongaat-Hulett Group LTD
Erf 12	MOUNT MORELAND	N0FU02180000001200000	Tongaat-Hulett Group LTD
Erf 15	MOUNT MORELAND	N0FU02180000001500000	CEDAR POINT TRADING 20 PTY LTD
Erf 16	MOUNT MORELAND	N0FU02180000001600000	CEDAR POINT TRADING 20 PTY LTD
Erf 17	MOUNT MORELAND	N0FU02180000001700000	Tongaat-Hulett Group LTD
Erf 18	MOUNT MORELAND	N0FU02180000001800000	Tongaat-Hulett Group LTD
Rem of Erf 20	MOUNT MORELAND	N0FU02180000002000000	Tongaat-Hulett Group LTD
Rem of Erf 662	Tongaat	N0FU03350000066200000	RSA (Dept of Public Works)
Portion 3 of Erf 662	Tongaat	N0FU03350000066200003	RSA (Dept of Public Works)
Portion 6 of Erf 662	Tongaat	N0FU03350000066200006	Govender Munsamy, B-E
Portion 11 of Erf 662	Tongaat	N0FU03350000066200011	Meadow Brook Properties 8 CC
Portion 12 of Erf 662	Tongaat	N0FU03350000066200012	Ikhwaan Trust - Trustees
Rem of Portion 13, Erf 662	Tongaat	N0FU03350000066200013	Mr. Nadasen
Portion 14 of Erf 662	Tongaat	N0FU03350000066200014	Govender, Parvathee
Portion 15 of Erf 662	Tongaat	N0FU03350000066200015	Govender, Periyannan Marimuthu
Portion 17 of Erf 662	Tongaat	N0FU03350000066200017	Northern Transitional Metropolitan Substructure Council (Ethekewini Municipality)
Portion 18 of Erf 662	Tongaat	N0FU03350000066200018	Govender, Vijayan
Portion 19 of Erf 662	Tongaat	N0FU03350000066200019	Govender, Vijayan
Portion 34 of Erf 662	Tongaat	N0FU03350000066200034	Govender, Marimuthu
Portion 41 of Erf 662	Tongaat	N0FU03350000066200041	Vadivalu Moodley Family Trust - Trustees
Portion 42 of Erf 662	Tongaat	N0FU03350000066200042	Moodley, Pragalathan
Portion 47 of Erf 662	Tongaat	N0FU03350000066200047	Unregistered – falls under parent property-

Property Description	Farmtown name	21 Digit Surveyor-General Code	Property Owner
			Rem of 662, RSA (Dept of Public Works)
Portion 48 of Erf 662	Tonga	N0FU03350000066200048	Unregistered – falls under parent property- Rem of 662, RSA (Dept of Public Works)
Portion 49 of Erf 662	Tonga	N0FU03350000066200049	Unregistered – falls under parent property- Rem of 662, RSA (Dept of Public Works)
Portion 50 of Erf 662	Tonga	N0FU03350000066200050	Unregistered – falls under parent property- Rem of 662, RSA (Dept of Public Works)
Portion 36 of Erf 776	Tonga	N0FU03350000077600036	Notefull 1257 CC
Portion 48 of Erf 776	Tonga	N0FU03350000077600048	Bala Naidoo
Portion 6 of Erf 922	Tonga	N0FU03350000092200006	RSA
Erf 1000	MOUNT MORELAND	N0FU02180000100000000	DUBE TRADEPORT CORPORATION
Rem of Lot 42 No. 1114	Lot 42	N0FU00000000111400000	Tonga-Hulett Group LTD
Portion 1 of Lot 42 No. 1114	Lot 42	N0FU00000000111400001	Tonga-Hulett Group LTD
Portion 6 of Lot 42 No. 1114	Lot 42	N0FU00000000111400006	Tonga-Hulett Group LTD
Rem of Portion 7 of Lot 42 No. 1114	Lot 42	N0FU00000000111400007	Tonga-Hulett Group LTD
Rem of Portion 13 of Lot 42 No. 1114	Lot 42	N0FU00000000111400013	Tonga-Hulett Group LTD
Portion 30 of Lot 42 No. 1114	Lot 42	N0FU00000000111400030	Unregistered – falls under parent property- Tonga-Hulett Group LTD
Rem of Lot 77 No. 1523	Lot 77	N0FU00000000152300000	Tonga-Hulett/IFA Resort Dev. Joint Venture Partner
Portion 1 of Lot 77 No. 1523	Lot 77	N0FU00000000152300001	Tonga-Hulett Group LTD
Rem of Portion 2 of Lot 77 No. 1523	Lot 77	N0FU00000000152300002	Tonga-Hulett Group LTD
Portion 3 of Lot 77 No. 1523	Lot 77	N0FU00000000152300003	Tonga-Hulett/IFA Resort Dev. Joint Venture Partner
Portion 4 of Lot 77 No. 1523	Lot 77	N0FU00000000152300004	South African National Roads Agency LTD
Portion 9 of Lot 77 No. 1523	Lot 77	N0FU00000000152300009	Unregistered – falls under parent property- Rem of Farm No. 1523 Tonga-Hulett- Zimbali Resorts Pty Ltd
Portion 10 of Lot 77 No. 1523	Lot 77	N0FU00000000152300010	Unregistered – falls under parent property- Rem of Farm No. 1523

Property Description	Farmtown name	21 Digit Surveyor-General Code	Property Owner
			Tongaat-Hulett- Zimbali Resorts Pty Ltd
Portion 14 of Lot 77 No. 1523	Lot 77	N0FU00000000152300014	Unregistered – falls under parent property- Rem of Farm No. 1523 Tongaat-Hulett- Zimbali Resorts Pty Ltd
Portion 17 of Lot 77 No. 1523	Lot 77	N0FU00000000152300017	Unregistered – falls under parent property- Rem of Farm No. 1523 Tongaat-Hulett- Zimbali Resorts Pty Ltd
Rem of La Mercy Reservoir No. 15692	La Mercy Reservoir	N0FU000000001569200000	Umgeni Water
Rem of Portion 1 of Lot 44 No. 1570	Lot 44	N0FU00000000157000001	Unregistered- parent property owned by Byrne Joseph Charles B-E
Rem of Portion 20 of Lot 44 No. 1570	Lot 44	N0FU00000000157000020	Tongaat Hulett LTD
Portion 23 of Lot 44 No. 1570	Lot 44	N0FU00000000157000023	Tongaat-Hulett Group LTD
Portion 236 of Lot 44 No. 1570	Lot 44	N0FU00000000157000236	Tongaat-Hulett Group LTD
Rem of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500000	Unregistered- parent property owned by Byrne Joseph Charles B-E
Rem of Portion 67 and Portion 67 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500067	Tongaat-Hulett Group LTD
Rem of Portion 68 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500068	Tongaat-Hulett Group LTD
Rem of Portion 69 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500189	Tongaat-Hulett Group LTD
Rem of Portion 70 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500070	Tongaat-Hulett Group LTD
Portion 71 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500071	Tongaat-Hulett Group LTD
Portion 72 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500072	Tongaat-Hulett Group LTD
Rem of Portion 167 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500069	Tongaat-Hulett Group LTD
Portion 168 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500168	Tongaat-Hulett Group LTD
Portion 174 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500174	Not available
Portion 175 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500175	Unregistered- parent property owned by Byrne Joseph Charles B-E
Rem of Portion 178 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500178	Tongaat-Hulett Group LTD
Rem of Portion 179 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500179	DIVINE LIFE SOC OF SOUTH AFRICA-TRUSTEES
Rem of Portion 180 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500180	ELLIAH PROP CC
Rem of Portion 189 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500189	Tongaat-Hulett Group LTD
Rem of Portion 192 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500192	Tongaat-Hulett Group LTD
Rem of Portion 196 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500196	Tongaat-Hulett Group LTD

Property Description	Farmtown name	21 Digit Surveyor-General Code	Property Owner
Rem of Portion 199 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500199	Tongaat-Hulett Group LTD
Portion 200 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500200	Tongaat-Hulett Group LTD
Rem of Portion 204 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500204	Tongaat-Hulett Group LTD
Rem of Portion 209 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500209	KALWENI FARM CC/ Mr M. A. Jackson
Rem of Portion 211 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500211	Mr. M.A. Jackson Testamentary Trust- Trustees
Rem of Portion 212 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500212	Tongaat-Hulett Group LTD
Portion 244 of Cotton Lands No 1575	Cotton Lands	N0FU00000000157500244	Tongaat-Hulett Group LTD
Rem of Portion 245 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500245	Tongaat-Hulett Group LTD
Rem of Portion 262 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500262	Tongaat-Hulett Group LTD
Portion 263 of Cotton Lands No 1575	Cotton Lands	N0FU00000000157500263	Tongaat-Hulett Group LTD
Portion 391 of Cotton Lands No 1575	Cotton Lands	N0FU00000000157500391	Tongaat-Hulett Group LTD
Rem of Portion 436 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500436	Tongaat-Hulett Group LTD
Rem of Portion 452 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500452	ELLIAH PROP CC
Portion 463 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157500463	Unregistered- takes on ownership of parent property- owned by Byrne Joseph Charles BE
Rem of Portion 1193 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157501193	Kanniammal, Muthusami, Ponammah, Thanjiammal, MoonsaMy B-E
Portion 1206 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157501206	Govender, Loganathan
Portion 1207 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157501207	Govender, Batma
Portion 1208 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157501208	Genazzano Holdings Pty LTD
Rem of Portion 1779 of Cotton Lands No 1575	Cotton Lands	N0FU00000000157501779	Tongaat-Hulett Group LTD
Portion 1938 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157501938	South African National Roads Agency LTD
Portion 1940 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157501940	South African National Roads Agency LTD
Portion 2456 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157502456	South African National Roads Agency LTD
Portion 2457 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157502457	Unregistered- parent property owned by Byrne Joseph Charles B-E
Portion 2461 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157502461	Not available
Portion 2462 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157502462	South African National Roads Agency LTD
Portion 2463 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157502463	South African National Roads Agency LTD
Portion 2464 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157502464	South African National Roads Agency LTD
Portion 2465 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157502465	South African National Roads Agency LTD

Property Description	Farmtown name	21 Digit Surveyor-General Code	Property Owner
Portion 2466 of Cotton Lands No. 1575	Cotton Lands	N0FU00000000157502466	Not available
Portion 2557 of Cotton Lands No 1575	Cotton Lands	N0FU00000000157502557	South African National Roads Agency LTD
Portion 2558 of Cotton Lands No 1575	Cotton Lands	N0FU00000000157502558	South African National Roads Agency LTD
Portion 2566 of Cotton Lands No 1575	Cotton Lands	N0FU00000000157502566	South African National Roads Agency LTD

PROOF OF NOTIFICATION OF LANDOWNERS

List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE
 (with an insurance option/met 'n versekeringsopsie)



Full tracking and tracing/Volledige volg en spoor

Name and address of sender: CSIR, P.O Box
 Naam en adres van afsender: 17001
CONGELLA, 4013

Enquiries/Navrae
 Toll-free number
 Tolvry nommer
0800 111 502

No	Name and address of addressee Naam en adres van geadresseerde	Insured amount Versekerde bedrag	Insurance fee Versekeringsgeld	Postage Posgeld	Service fee Diensgeld	Affix Track and Trace customer copy Plak Volg-en-Spoorkliëntafskrif
1	TONGAAT-HULLET GROUP LTD P.O. Box 3, TONGAAT, 4400					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 267 909 ZA
2	TONGAAT HULLET / IFA RESORT DEV. JOINT VENTURE, P.O. Box 22319, GLENASHLEY 4022					REGISTERED COPY 301028R REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 268 008 ZA
3	SOUTH AFRICAN ROAD AGENCY LTD SCOTT'S VILLE, 3209					CUSTOMER COPY 301028R REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 268 025 ZA
4	DEPARTMENT OF PUBLIC WORKS 410 ALLIWAAL AVENUE, DURBAN, 4000					REGISTERED COPY 301028R REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 268 144 ZA
5	M. GOVENDER, KARINTHIA ROAD DESAINAGER, 4405					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 268 127 ZA
6	TEN DUNES INV. CC, 50 SOUTH BEACH ROAD, DESAINAGER, 4405					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 268 073 ZA
7	SONAM PROPERTY INV. CC, 72 SOUTH BEACH ROAD, DESAINAGER, 4405					REGISTERED COPY 301028R REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 267 930 ZA
8	LOUVILL PROPERTIES CC, 76 SOUTH BEACH ROAD, DESAINAGER, 4405					REGISTERED COPY 301028R REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 267 957 ZA
9	MEADOW BROOK PROPERTIES 8 CC 60 SOUTH DUNE ROAD, DESAINAGER, 4405					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 268 538 ZA
10	B. NAIDOO, 50 VALLEY ROAD P O Box 1057, TONGAAT, 4400					CUSTOMER COPY 301028R REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 266 024 ZA
		Total Totaal	R	R	R	R

Number of letters posted
 Getal briewe gepos

Signature of client
 Handtekening van kliënt [Signature]

Signature of accepting officer
 Handtekening van aanneembeampte

The value of the contents of these letters is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100,00. No compensation is payable without documentary proof. Optional insurance of up to R200,00 is available and applies to domestic registered letters only.

Die waarde van die inhoud van hierdie briewe is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100,00. Geen vergoeding is sonder dokumentere bewys betaalbaar nie. Opsionele versekering van tot R2 000,00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.



List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE
(with an insurance option/met 'n versekeringsopsie)



Full tracking and tracing/Volledige volg en spoor

Name and address of sender: C SIR
 Naam en adres van afsender:

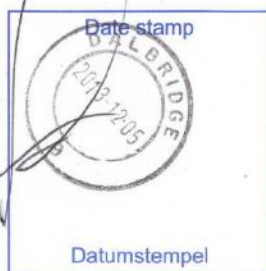
Enquiries/Navrae
 Toll-free number
 Tolvry nommer
0800 111 502

No	Name and address of addressee Naam en adres van geadresseerde	Insured amount Versekerde bedrag	Insurance fee Versekeringsgeld	Postage Posgeld	Service fee Diensgeld	Affix Track and Trace customer copy Plak Volg-en-Spoor-klëntafskrif
1	LKHUMAN TRUST-TRUSTEES, 54 SOUTH DUNE ROAD, DESAINAGER, 4405					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 268 895 ZA CUSTOMER COPY 301028R
2	P. GOVENDER, 42 SOUTH DUNE ROAD DESAINAGER, 4405					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 268 918 ZA CUSTOMER COPY 301028R
3	MR. NADASEU, 46 SOUTH BEACH ROAD, DESAINAGER, 4405					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 268 793 ZA CUSTOMER COPY 301028R
4	P.M. GOVENDER, 38 SOUTH DUNE ROAD, DESAINAGER, 4405					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 268 776 ZA CUSTOMER COPY 301028R
5	NORTHERN TRUST METROPOLITAN SUBSTANT 51 SOUTH BEACH ROAD, DESAINAGER, 4405.					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 268 674 ZA CUSTOMER COPY 301028R
6	V. GOVENDER, 52 SOUTH DUNE ROAD DESAINAGER, 4405					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 268 657 ZA CUSTOMER COPY 301028R
7	R. NAIDOO 46 SOUTH BEACH ROAD, DESAINAGER, 4405					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 269 374 ZA CUSTOMER COPY 301028R
8	F. MEER, 64 SOUTH BEACH ROAD DESAINAGER, 4405					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 269 391 ZA REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 268 379 ZA REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RD 903 268 351 ZA CUSTOMER COPY 301028R
9	A D JEEAWAN, 66 SOUTH DUNE ROAD, DESAINAGER, 4405					
10	NOTEFILL 1257 CC, 103 STAMFORD HILL, DURBAN, 4001					
Total Totaal		R	R	R	R	

Number of letters posted
 Getal briewe gepos
 Signature of client
 Handtekening van kliënt [Signature]
 Signature of accepting officer
 Handtekening van aanneembeampte

The value of the contents of these letters is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100,00. No compensation is payable without documentary proof. Optional insurance of up to R200,00 is available and applies to domestic registered letters only.

Die waarde van die inhoud van hierdie briewe is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100,00. Geen vergoeding is sonder dokumentere bewys betaalbaar nie. Opsionele versekering van tot R2 000,00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.



**CERTIFICATE OF POSTING A COD PARCEL
INLEWERINGSBEWYS VAN 'N KBA-PAKKET**

No

Trade charge
Handelsbedrag R

Addressed as follows/
Geadresseer as volg:

Received by
Ontvang deur

CS 12

10/Jan



No compensation will be paid unless enquiry regarding this postal article is made within one year after the date of posting.
Geen vergoeding word betaal nie tensy navraag word binne een jaar na die postdatum gemaak word.
(Q410641 - 90 - 800 - 200) Leaflets

			201183.1 (P1/183)
2	Dube Tradeport Corporation	Dube Tradeport Corporation	4405 29 South 7 Umsirisi Junction La Mercy, Kwazulu-Natal 4399 REGISTERED LETTER with a plastic guarantee seal ShareCall 0800 771 387 www.sps.co.za RC 088 033 465 Z.A. CUSTOMER COPY 30100
3	Elijah Properties CC	Elijah Properties CC	P O Box 2655 Durban 4000 REGISTERED LETTER with a plastic guarantee seal ShareCall 0800 771 387 www.sps.co.za RC 088 033 496 Z.A. CUSTOMER COPY 30100
4	Genazzano Holdings Pty LTD	Genazzano Holdings Pty LTD	P O Box 2690 Durban 4000 REGISTERED LETTER with a plastic guarantee seal ShareCall 0800 771 387 www.sps.co.za RC 088 033 482 Z.A. CUSTOMER COPY 30100
5	KALWENI FARM CC	KALWENI FARM CC	P O Box 67 Verulam 4340 REGISTERED LETTER with a plastic guarantee seal ShareCall 0800 771 387 www.sps.co.za RC 088 033 519 Z.A. CUSTOMER COPY 30100
6	SANRAL	SANRAL	PO Box 10410 Scottsville 3208 REGISTERED LETTER with a plastic guarantee seal ShareCall 0800 771 387 www.sps.co.za RC 088 033 505 Z.A. CUSTOMER COPY 30100
7	Tongaat-Hulett - Zimbali Resorts Pty Ltd	Tongaat-Hulett - Zimbali Resorts Pty Ltd	P O Box 2231 Glenashley 4022 REGISTERED LETTER with a plastic guarantee seal ShareCall 0800 771 387 www.sps.co.za RC 088 033 536 Z.A. CUSTOMER COPY 30100
8	Tongaat-Hulett Group LTD	Tongaat-Hulett Group LTD	P O Box 3 Tongaat 4400 REGISTERED LETTER with a plastic guarantee seal ShareCall 0800 771 387 www.sps.co.za RC 088 033 522 Z.A. CUSTOMER COPY 30100
9	Cedar Point Trading 20 PTY LTD	Cedar Point Trading 20 PTY LTD	P O Box 401263 Redhill Kwa-Zulu Natal 4071 REGISTERED LETTER with a plastic guarantee seal ShareCall 0800 771 387 www.sps.co.za RC 088 033 553 Z.A. CUSTOMER COPY 30100
10	Department of Public Works	Department of Public Works	C/O-Aliwal & West Street Durban 4000 REGISTERED LETTER with a plastic guarantee seal ShareCall 0800 771 387 www.sps.co.za RC 088 033 548 Z.A. CUSTOMER COPY 30100

10/Jan



Ref: East Coast Desalination Project
Your Ref: East Coast Desalination Project
Enquiries: Miss Phumi Ndlovu
Telephone: 031 268 7172

14 March 2016

**ENVIRONMENTAL IMPACT ASSESSMENT FOR THE CONSTRUCTION OF THE EAST COAST
DESALINATION PROJECT**

BACKGROUND

Umgeni Water proposes the construction of two 150 Ml/day sea water reverse osmosis (SWRO) plants on the KwaZulu-Natal East Coast. The two plants will be located at Tongaat (northern site) and Lovu (southern site) respectively. The proposed desalination plants are being investigated as a means of augmenting Umgeni Water's supply in line with projected future demands to ensure surety of supply. The implementation of the two proposed desalination plants would provide an immediate short term solution to satisfy increasing water demands within the Mgeni Supply Area.

Umgeni Water has appointed the CSIR as the independent Environmental Assessment Practitioner (EAP) responsible for conducting the Environmental Impact Assessments (EIAs) required for the proposed projects. The EIA process will be conducted in accordance with the EIA Regulations of 2010 (as amended) promulgated in terms of Chapter 5 of the National Environmental Management Act (NEMA) (Act No. 107 of 1998) and published in Government Notices No. R543, R544, R545 and R546. As part of this application process, all interested and affected parties need to be notified of the proposed project so as to all for the public participation process. In addition, directly affected landowners where the proposed infrastructure affects their land need to be notified of the proposed project before an environmental authorisation application is submitted to the Department of Environmental Affairs (DEA).

LANDOWNER INFORMATION SEARCH FOR TONGAAT

In order to facilitate the process of notifying landowners that will be affected by the proposed project, the organization has undertaken the following measures to search for property ownership and contact details:

- Deeds search to retrieve property ownership details;
- Facilitation by eThekweni Municipality to retrieve landowner contact details and further deeds search for missing property ownership;
- Google search for landowner contact details that could not be retrieved from eThekweni Municipality.

After conducting all these searches, the following landowner details could still not be obtained:

- Rem of Portion 211 of Cotton Lands No. 1575 belonging to Mr M A Jackson Testamentary Trust- Trustees
- Rem of Portion 1193 of Cotton Lands No. 1575 belonging to Kanniammal, Muthusami, Ponammah, Thanjiammal, MoonsaMy B-E

UMGENI WATER

HEAD OFFICE • P.O.Box 9 • Pietermaritzburg 3200
310 Burger Street • Pietermaritzburg 3201 • Republic of South Africa
Telephone (033) 341-1111 • Fax (033) 341-1084
E-mail: info@umgeni.co.za
Internet: <http://www.umgeni.co.za>


Chief Executive: C V Gamede

Non-Executive Directors: A Mahlalutye (Chairman) • V Gounden • N Afolayan • T Nkhalahle • T Shezi • N Chamane • G Atkinson • Z Mthenjwa • I Vally • V Reddy • T Dube • T Zulu •

In addition, the following sites were deemed to be vacant and the landowner notification letters are therefore returned as only the physical addresses are available:

- Portion 17 of Erf 862 belonging to Northern Transitional Metropolitan Substructure Council – eThekweni Municipality;
- Portion 11 of Erf 862 belonging to Meadow Brook Properties 8 CC;
- Portion 12 of Erf 862 belong to Ikhwaan Trust – Trustees; and
- Rem of Portion 13 of Erf 862 belong to Mr Nadasen.

Yours sincerely



Miss P Ndlovu
Scientist: Water and Environmental Services

UMGENI WATER

HEAD OFFICE • P.O.Box 9 • Pietermaritzburg 3200
310 Burger Street • Pietermaritzburg 3201 • Republic of South Africa
Telephone (033) 341-1111 • Fax (033) 341-1084
E-mail: info@umgeni.co.za
Internet: <http://www.umgeni.co.za>

Chief Executive: C V Gamede

Non-Executive Directors: A Mahlalutye (Chairman) • V Gounden • N Afolayan • T Nkhahle • T Shezi • N Chamane • G Atkinson • Z Matherjwa • I Vally • V Reddy • T Dube • T Zulu •

**APPENDIX 4 (IF APPLICABLE)
LIST OF CO-ORDINATES AND/OR SGIDS**

(List of co-ordinates is attached overleaf – Refer to Appendix 3 for SG codes)

Notes -

- 1. Micro-siting based on detailed site studies and specific aspects such as geotechnical conditions and foundation designs may lead to minor adjustments in these coordinates of the project location.**
- 2. When referring to the potable water pipeline route, a 50 m corridor (25 m each side of the proposed route) is identified to allow for variation in the final engineering survey and design.**
- 3. The “transmission line/powerline route” is defined as a 200 m corridor (i.e. 100 m each side of the proposed alignment), with the exception of the section of transmission line along the N2 which is a 50m wide corridor given the presence of a number of drainage lines, to allow for variation in the final engineering survey and design.**

Therefore, the coordinates given for the pipeline route and transmission route, in the tables below, represent the centerline of the proposed corridors.

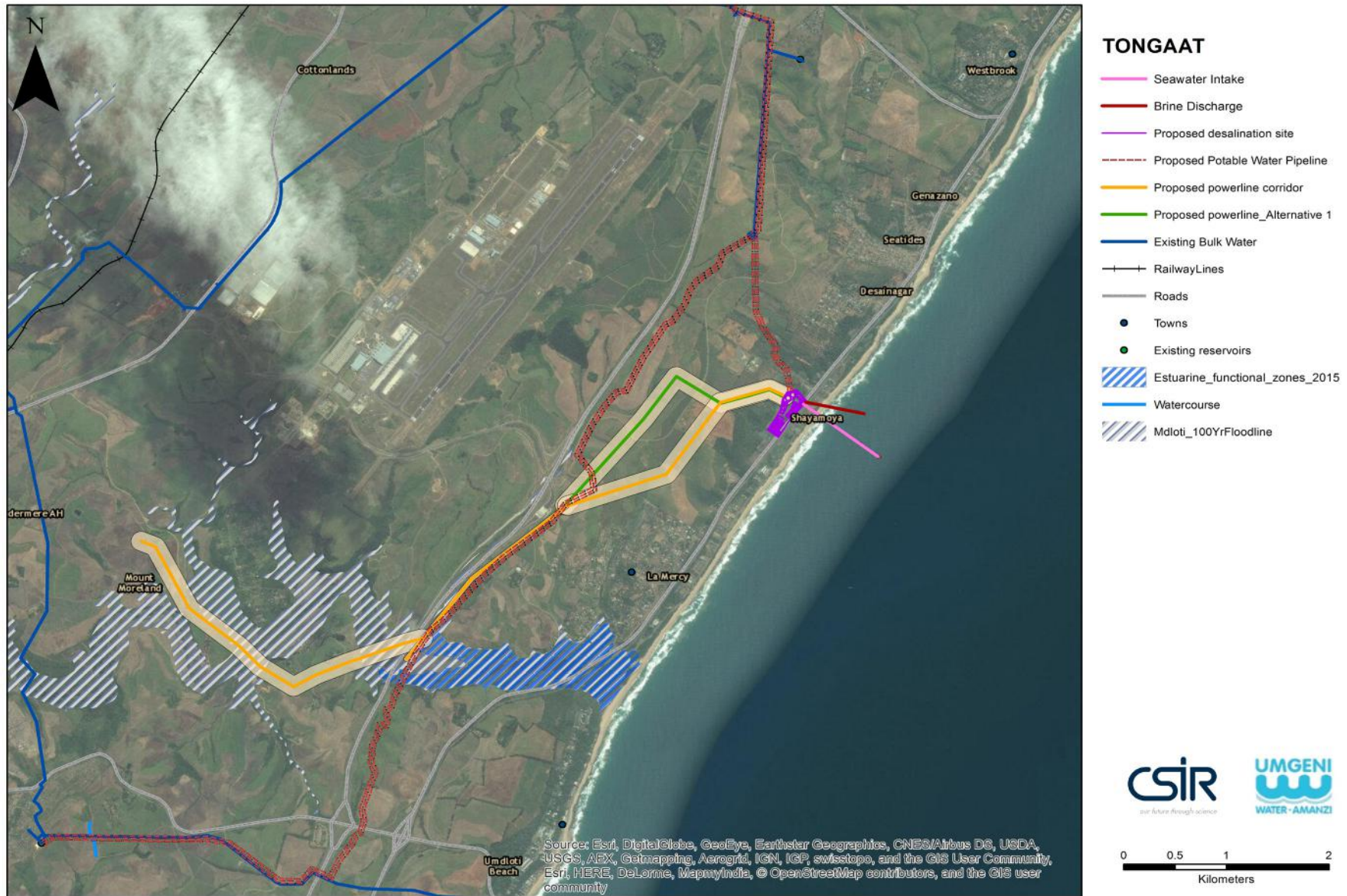


Figure 4.1a: Locality Map for the Proposed Tongaat Desalination Plant and Associated Infrastructure.

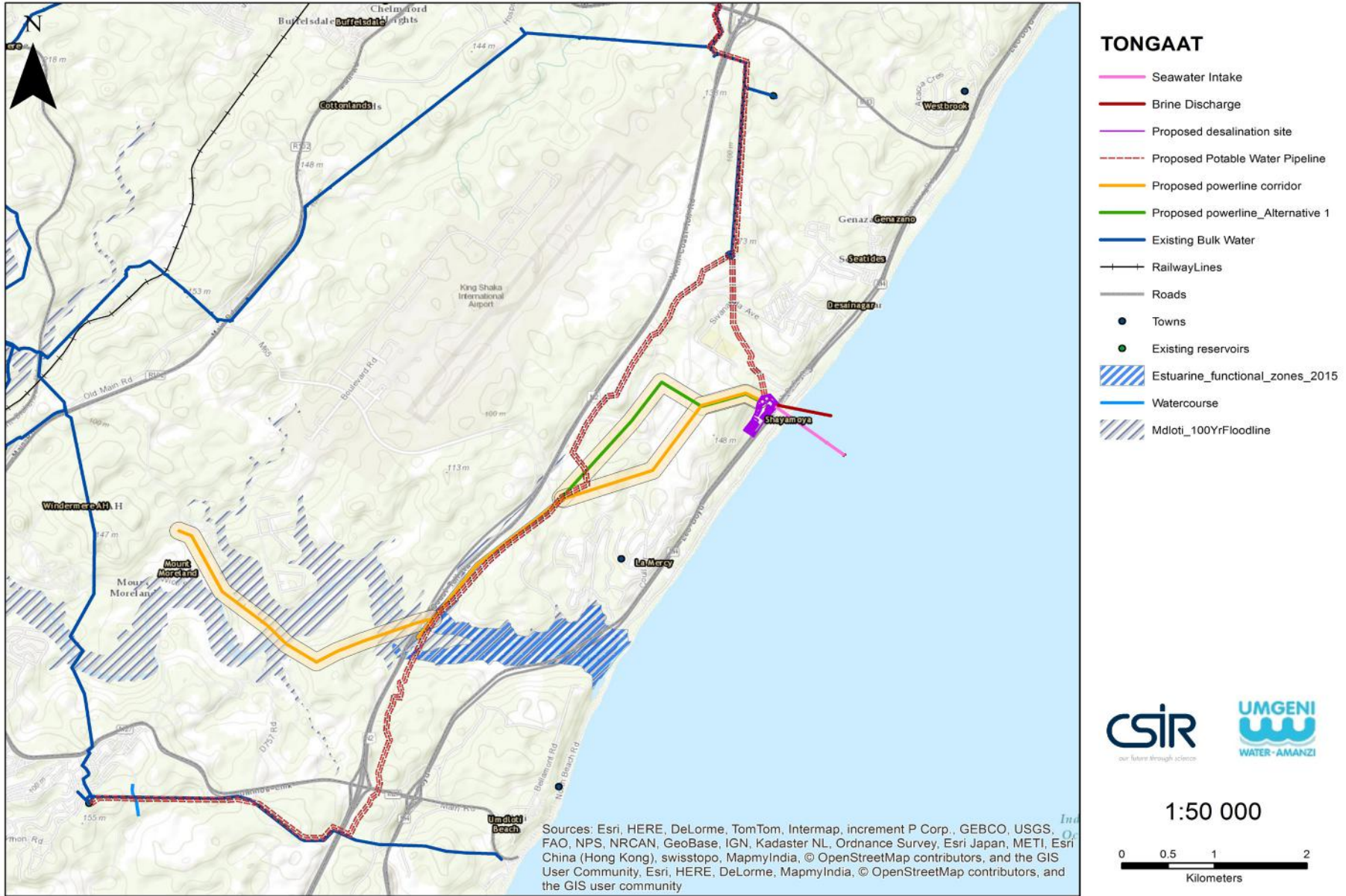


Figure 4.1b: Locality Map for the Proposed Tongaat Desalination Plant and Associated Infrastructure.

1. Proposed Desalination plant and marine pipeline



Point	Location	LAT (d:m:s)	LONG (d:m:s)
1	Desalination Plant Footprint Area	S29° 37' 30.24"	E31° 08' 44.33"
2	Desalination Plant Footprint Area	S29° 37' 35.48"	E31° 08' 40.55"
3	Desalination Plant Footprint Area	S29° 37' 33.00"	E31° 08' 36.54"
4	Desalination Plant Footprint Area	S29° 37' 29.25"	E31° 08' 39.65"
5	Desalination Plant Footprint Area	S29° 37' 26.27"	E31° 08' 41.35"
6	Desalination Plant Footprint Area	S29° 37' 22.92"	E31° 08' 42.05"
7	Desalination Plant Footprint Area	S29° 37' 20.41"	E31° 08' 43.65"
8	Desalination Plant Footprint Area	S29° 37' 19.63"	E31° 08' 47.22"
9	Desalination Plant Footprint Area	S29° 37' 23.42"	E31° 08' 50.75"
10	Start of Brine Discharge Tunnel	S29° 37' 23.78"	E31° 08' 50.43"
11	Mid Point of Brine Discharge Tunnel	S29° 37' 24.95"	E31° 08' 56.87"
12	End of Brine Discharge Tunnel	S29° 37' 27.60"	E31° 09' 11.52"
13	End of Sea Water Intake Tunnel	S29° 37' 24.49"	E31° 08' 49.74"
14	Mid Point of Sea Water Intake Tunnel	S29° 37' 31.06"	E31° 08' 59.84"
15	Start of Sea Water Intake Tunnel	S29° 37' 41.91"	E31° 09' 16.54"

2. Proposed powerline

1a & 1b – Start point of corridor

2a & 2b – Middle point of corridor

3a & 3b – End point of corridor

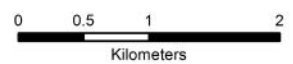
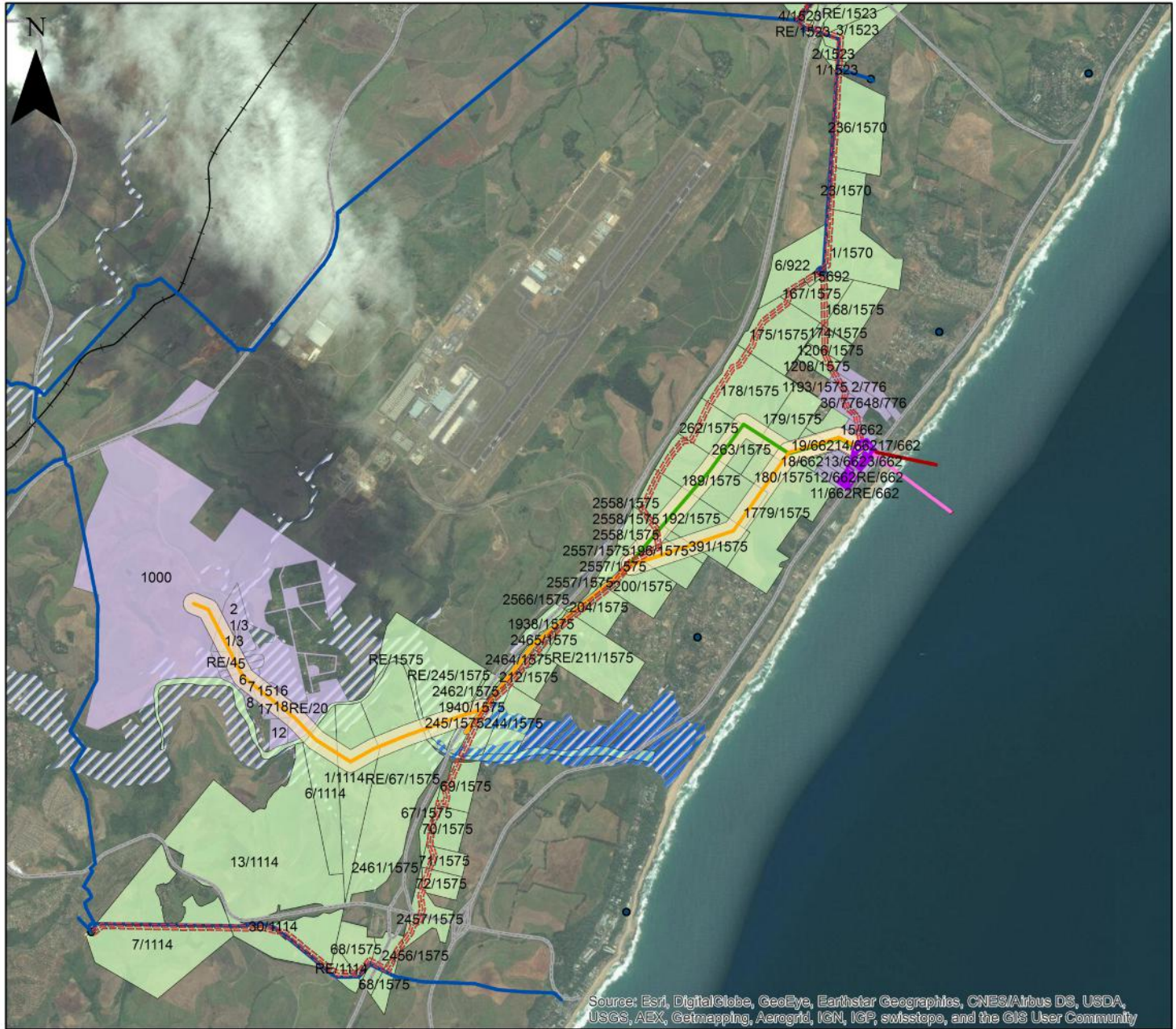
<i>Desalination Plant to Mount Moreland</i>						
	Latitude			Longitude		
	Deg	Min	Sec	Deg	Min	Sec
1a	29	37	18.531145	31	8	44.433515693
1b	29	37	24.344512	31	8	41.117166592
2a	29	38	12.804640	31	7	0.986689859
2b	29	38	16.401121	31	7	4.763674041
3a	29	38	7.335331	31	4	50.924971142
3b	29	38	13.492196	31	4	48.555678821

3. Proposed potable water pipeline

- 1a & 1b – Start point of corridor
- 2a & 2b – Middle point of corridor
- 3a & 3b – End point of corridor

<i>Desalination Plant to La Mercy Reservoir</i>						
	Latitude			Longitude		
	<i>Deg</i>	<i>Min</i>	<i>Sec</i>	<i>Deg</i>	<i>Min</i>	<i>Sec</i>
1a	29	37	20.262650	31	8	44.109979424
1b	29	37	19.961655	31	8	45.936320941
2a	29	36	53.543308	31	8	31.397638239
2b	29	36	53.210609	31	8	33.250788770
3a	29	36	29.295822	31	8	30.396230473
3b	29	36	28.295797	31	8	31.860479228
<i>La Mercy Reservoir to Bifurcation Offtake</i>						
	Latitude			Longitude		
	<i>Deg</i>	<i>Min</i>	<i>Sec</i>	<i>Deg</i>	<i>Min</i>	<i>Sec</i>
1a	29	36	27.655597	31	8	29.893125168
1b	29	36	28.862543	31	8	31.189388179
2a	29	35	51.400880	31	8	34.436779238
2b	29	35	51.207222	31	8	36.310522339
3a	29	35	10.660013	31	8	21.722579917
3b	29	35	10.598059	31	8	24.086904238
<i>La Mercy Reservoir to Waterloo Reservoir</i>						
	Latitude			Longitude		
	<i>Deg</i>	<i>Min</i>	<i>Sec</i>	<i>Deg</i>	<i>Min</i>	<i>Sec</i>
1a	29	36	27.655597	31	8	29.893125168
1b	29	36	28.862543	31	8	31.189388179
2a	29	38	21.010503	31	6	53.619536088
2b	29	38	22.129000	31	6	54.971115899
3a	29	39	51.051500	31	4	13.785686934
3b	29	39	52.498961	31	4	14.628481185
<i>Bifurcation Offtake to Avondale Reservoir</i>						
	Latitude			Longitude		
	<i>Deg</i>	<i>Min</i>	<i>Sec</i>	<i>Deg</i>	<i>Min</i>	<i>Sec</i>
1a	29	35	10.660013	31	8	21.722579917
1b	29	35	10.598059	31	8	24.086904238
2a	29	33	35.098814	31	9	49.198017134
2b	29	33	36.146791	31	9	50.616860365
3a	29	31	43.349517	31	12	13.805415552
3b	29	31	44.914578	31	12	14.300683143

APPENDIX 5
SG DIAGRAM(S)
(Overleaf)



**APPENDIX 6 (IF APPLICABLE)
COPIES OF ENVIRONMENTAL AUTHORISATIONS OBTAINED ON THE SAME PROPERTY**

Note from CSIR: This section is currently not applicable to the proposed project.

**APPENDIX 7 (IF APPLICABLE)
MAP INDICATING TRIGGERING AREAS FOR GN R.546**

(Overleaf)

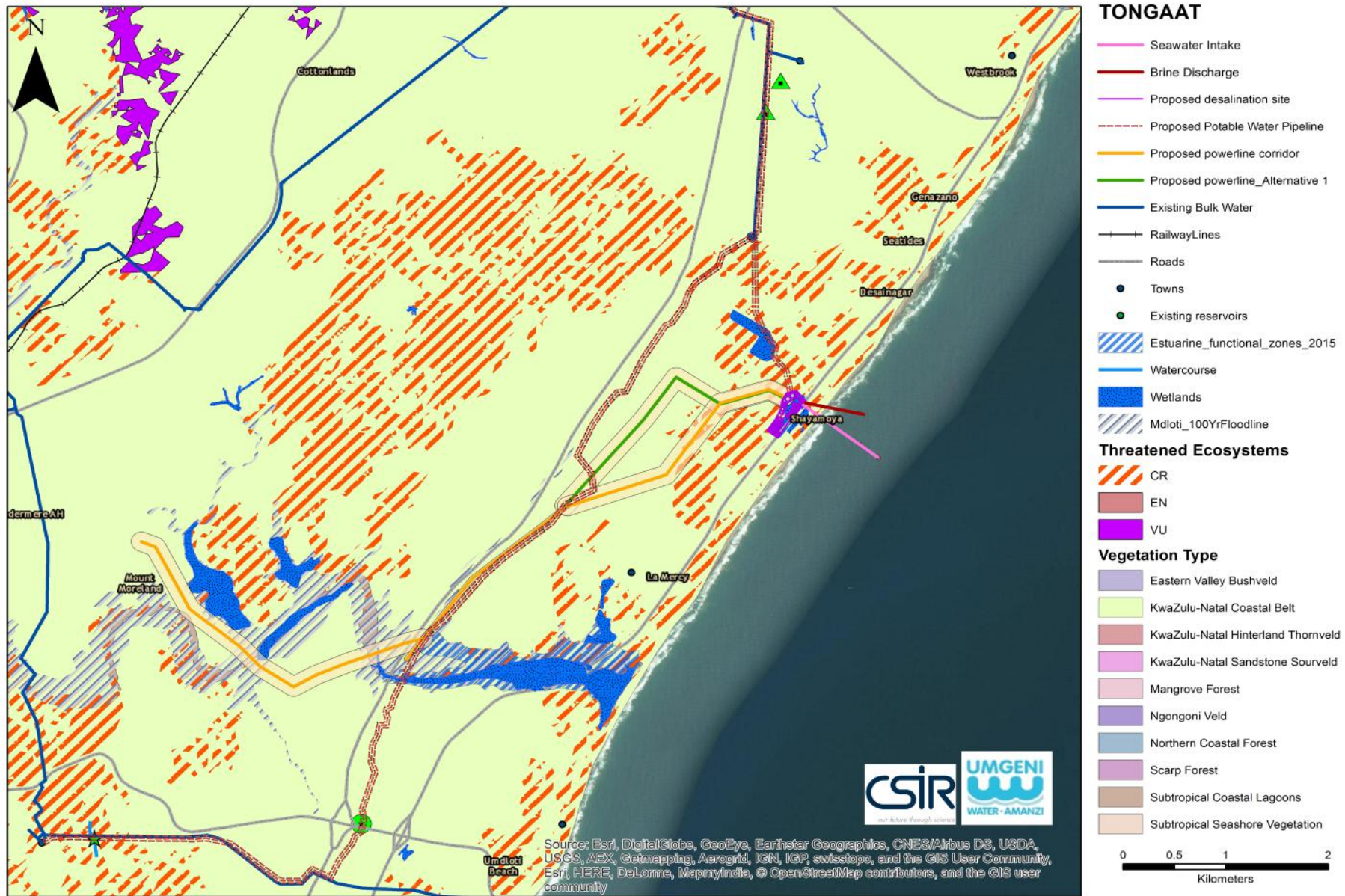


Figure 7.1: Locality Map for the Proposed Tongaat Desalination Plant and Associated Infrastructure in relation to Vegetation Type and Threatened Ecosystems.

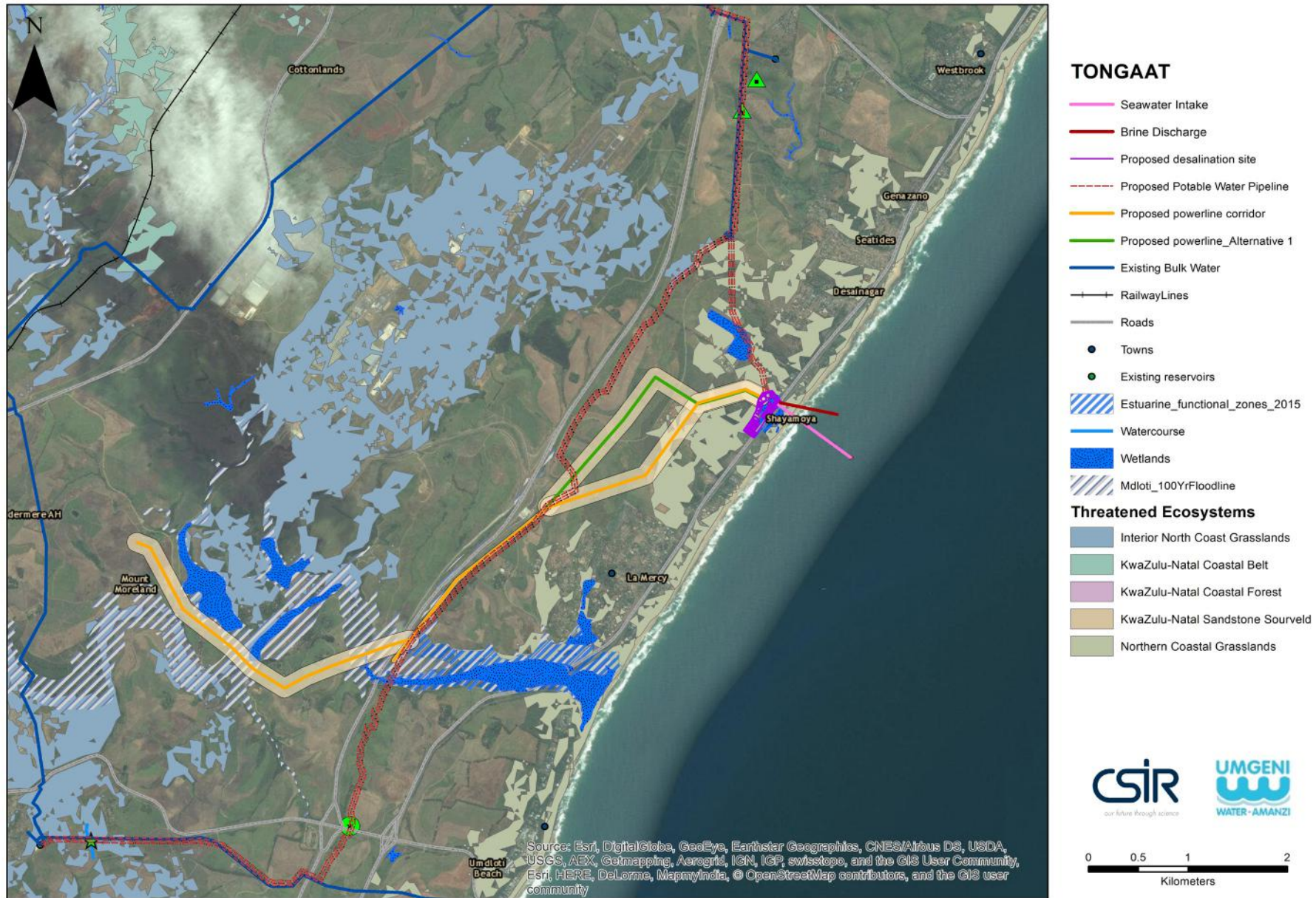


Figure 7.2: Locality Map for the Proposed Tongaat Desalination Plant and Associated Infrastructure in relation to NEMBA Threatened Ecosystems.

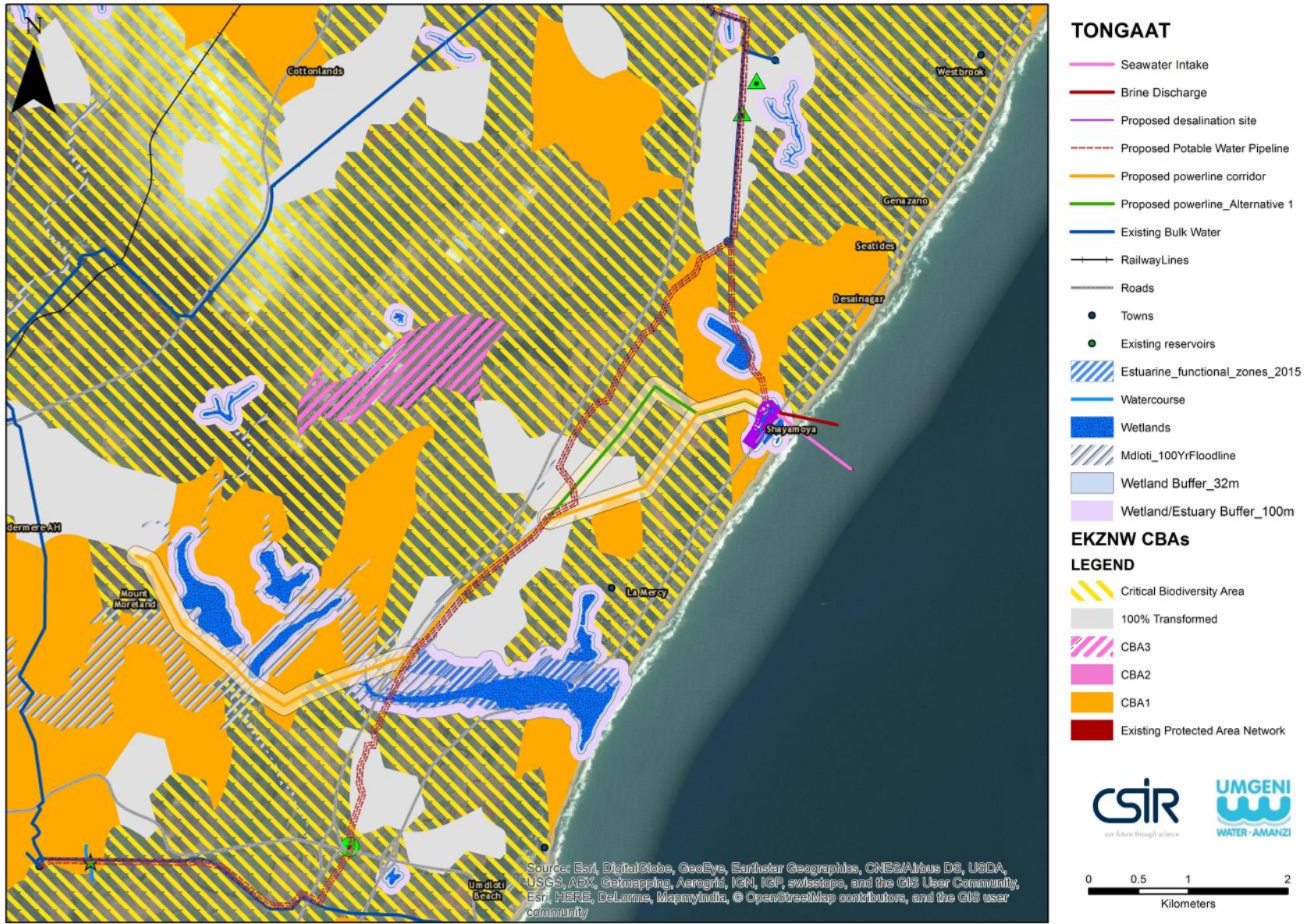


Figure 7.3: Locality Map for the Proposed Tongaat Desalination Plant and Associated Infrastructure in relation to watercourses and critical biodiversity areas as identified by the EKZNW Terrestrial Systematic Conservation Plan.

**APPENDIX 8
PROJECT SCHEDULE**

(Overleaf)

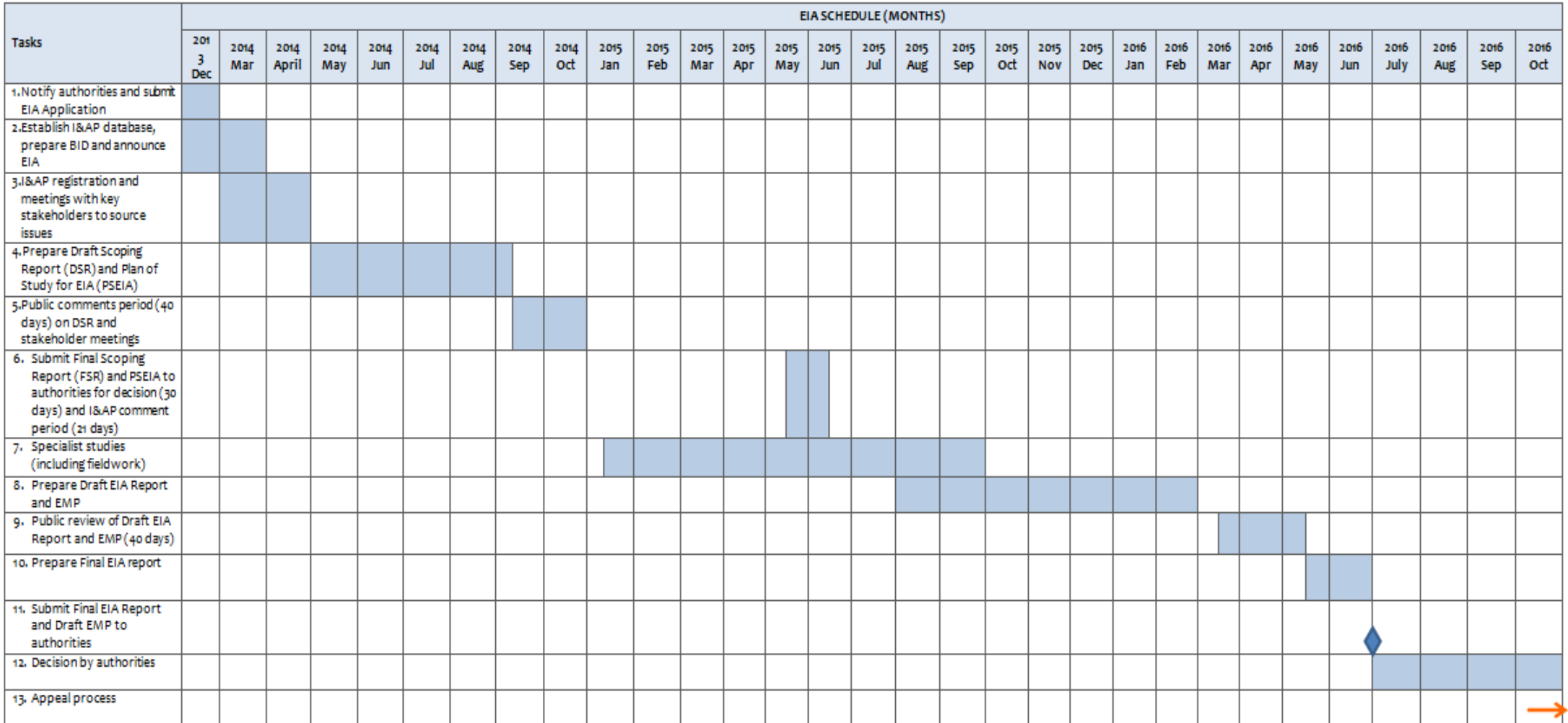


Figure 8.1: Project Schedule for the Proposed Tongaat Desalination Plant EIA.

**APPENDIX 9 (IF APPLICABLE)
DETAILS OF EXEMPTION APPLICATION**

Note from CSIR: This section is currently not applicable to the proposed project.

**APPENDIX 10 (IF APPLICABLE)
SUPPORTING DOCUMENTATION FOR EXEMPTION APPLICATION
PROOF OF NOTIFICATION OF I&APS OF EXEMPTION APPLICATION**

Note from CSIR: This section is currently not applicable to the proposed project.

**APPENDIX 11 (IF APPLICABLE)
DETAILS OF REQUEST FOR DEVIATION**

Note from CSIR: This section is currently not applicable to the proposed project.

APPENDIX 12 (IF APPLICABLE)
PROOF OF SUBMISSION OF ASSOCIATED APPLICATIONS

Note from CSIR: Such documents are currently not available for the proposed project. Proof of submission of all associated applications will be provided to the Department during the course of the EIA.

**APPENDIX 13
DECLARATION OF THE APPLICANT**

I, PHUMI NDLOVU , declare that I -

- am, or represent², the applicant in this application;
- have appointed / will appoint (delete that which is not applicable) an environmental assessment practitioner to act as the independent environmental assessment practitioner for this application / will obtain exemption from the requirement to obtain an environmental assessment practitioner³;
- will provide the environmental assessment practitioner and the competent authority with access to all information at my disposal that is relevant to the application;
- will be responsible for the costs incurred in complying with the Regulations, including but not limited to –
 - costs incurred in connection with the appointment of the environmental assessment practitioner or any person contracted by the environmental assessment practitioner;
 - costs incurred in respect of the undertaking of any process required in terms of the Regulations;
 - costs in respect of any fee prescribed by the Minister or MEC in respect of the Regulations;
 - costs in respect of specialist reviews, if the competent authority decides to recover costs; and
 - the provision of security to ensure compliance with conditions attached to an environmental authorisation, should it be required by the competent authority;
- will ensure that the environmental assessment practitioner is competent to comply with the requirements of the Regulations and will take reasonable steps to verify that the EAP
 - know the Act and the regulations, and how they apply to the proposed development
 - know any applicable guidelines
 - perform the work objectively, even if the findings do not favour the applicant
 - disclose all information which is important to the application and the proposed development
 - have expertise in conducting environmental impact assessments
 - complies with the Regulations
- will inform all registered interested and affected parties of any suspension of the application as well as of any decisions taken by the competent authority in this regard;
- am responsible for complying with the conditions of any environmental authorisation issued by the competent authority;
- hereby indemnify the Government of the Republic, the competent authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action which the applicant or environmental assessment practitioner is responsible for in terms of these Regulations;
- will not hold the competent authority responsible for any costs that may be incurred by the applicant in proceeding with an activity prior to obtaining an environmental authorisation or prior to an appeal being decided in terms of these Regulations;
- will perform all other obligations as expected from an applicant in terms of the Regulations;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 71 and is punishable in terms of section 24F of the Act.

² If this is signed on behalf of the applicant, proof of such authority from the applicant must be attached.

³ If exemption is obtained from appointing an EAP, the responsibilities of an EAP will automatically apply to the person conducting the environmental impact assessment in terms of the Regulations.



Signature⁴ of the applicant⁵/ Signature on behalf of the applicant:

Umicore WATER

Name of company (if applicable):

26/05/2016

Date:

⁴ Only original signatures will be accepted. No scanned, copied or faxed signatures will be accepted.

⁵ If the applicant is a juristic person, a signature on behalf of the applicant is required as well as proof of such authority. An EAP may not sign on behalf of an applicant.

APPENDIX 14 DECLARATION OF THE EAP

I, PAUL LOCHNER , declare that –

General declaration:

- I act as the independent environmental practitioner in this application
- 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 declare that there are no circumstances that may compromise my objectivity in performing such work;
- 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 take into account, to the extent possible, the matters listed in regulation 8 of the Regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- 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;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence in terms of regulation 71 of the Regulations and is punishable in terms of section 24F 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:

CSIR

Name of company:

13 June 2016

Date:

EAP – PAUL LOCHNER

CSIR
Jan Cilliers Street
PO Box 320
Stellenbosch 7600
South Africa

Phone: +27 21 888 2400
Fax: +27 21 888 2693
Email: plochner@csir.co.za



Curriculum Vitae

Paul Lochner

Name of firm	CSIR
Name of staff	Paul Andrew Lochner
Profession	Environmental Assessment and Management
Position in firm	Project Leader in Environmental Assessment & Management
Date of birth	13 June 1969
Years with firm	21 years
Nationality	South African

Biographical sketch Paul Lochner commenced work at CSIR in 1992, after completing a degree in Civil Engineering and a Masters in Environmental Science, both at the University of Cape Town. His initial work at CSIR focused on sediment dynamics and soft engineering applications in the coastal zone, in particular, beach and dune management. He conducted several shoreline erosion analyses and prepared coastal zone management plans for beaches. He also prepared wetland management plans.

As the market for environmental assessment work grew, he led Environmental Impact Assessments (EIAs), in particular for coastal resort developments and large-scale industrial developments located on the coast; and Environmental Management Plans (EMPs), in particular for wetlands, estuaries and coastal developments. He has also been involved in researching and applying higher-level approaches to environmental assessment and management, such as Strategic Environmental Assessment (SEA). In 1998 and 1999, he coordinated the SEA research programme within the CSIR, and was a lead author of the Guideline Document for SEA in South Africa, published jointly by CSIR and the national Department of Environmental Affairs and Tourism in February 2000.

In 1999 and 2000, he was the project manager for the legal, institutional,

policy, financial and socio-economic component of the Cape Action Plan for the Environment (“CAPE”), a large-scale multi-disciplinary study to ensure the sustainable conservation of the Cape Floral Kingdom. This was funded by the Global Environmental Fund (GEF) and prepared for WWF-South Africa. The study required extensive stakeholder interaction, in particular with government institutions, leading to the development of a Strategy and Action Plan for regional conservation.

In July 2003, he was certified as an Environmental Assessment Practitioner by the Interim Certification Board for Environmental Assessment Practitioners of South Africa. In 2004 he was lead author of the *Overview of IEM* document in the updated Integrated Environmental Management (IEM) Information Series published by national Department of Environmental Affairs and Tourism (DEAT). In 2004-2005 he was project manager for an Environmental and Social Impact Assessment (ESIA) conducted for a bauxite mine and alumina refinery in the Komi Republic (Russia), prepared in accordance with World Bank and EU policies, guidelines and standards.

In 2004-2005, he was part of the CSIR team that coordinated the preparation of the series of *Guidelines for involving specialists in EIA processes* prepared for the Western Cape Department of Environmental Affairs and Development Planning (DEADP); and authored the *Guideline for Environmental Management Plans* published by the Western Cape government in 2005.

In 2009, he led the EIA for a desalination plant in Namibia, as well as several EIAs for wind energy facilities in South Africa.

Over the past 14 years has been closely involved with several environmental studies for industrial and port-related projects in Coega Industrial Development Zone (IDZ), near Port Elizabeth. This included the SEA for the establishment of the Coega IDZ in 1996/7, an EIA and EMP for a proposed aluminium smelter in 2002/3, and assistance with environmental permit applications for air, water and waste. At the Coega IDZ and port, he has also conducted environmental assessments for port development, LNG storage and a combined cycle gas turbine power plant, manganese export, rail development, and wind energy projects.

Education	1990	B.Sc. Civil Engineering (awarded with Honours)	University of Cape Town
	1992	M. Phil. Environmental Science	University of Cape Town

Employment record *January 1992 to June 1992:* Completed Masters thesis, working in conjunction with the Environmental Evaluation Unit at the University of Cape Town. The thesis investigated the potential future ecological and socio-economic impacts resulting from the closure of a large diamond mining operation, and developed actions to mitigate these impacts.

October 1992 to present: Employed by the CSIR in Stellenbosch. Involved in coastal engineering studies; and various forms of environmental assessment and management studies. (A track record of experience is listed below).

PROFESSIONAL INVOLVEMENT IN COMMITTEES:

<i>1996/97:</i>	Committee Member of the Western Cape Branch of the International Association for Impact Assessment (IAIA)
<i>1997/98:</i>	Chairperson of the Western Cape Branch of IAIA and member of the national IAIA committee
<i>1998/99:</i>	Committee Member of the Western Cape Branch of IAIA
<i>1996 to present:</i>	Chairperson of the Blouville Environmental Committee at Century City, Cape Town (This committee is tasked with overseeing the restoration and management of a wetland in the midst of a new mixed-use urban development)

Experience record

The following table presents an abridged list of projects that Paul Lochner has been involved in, indicating his role in each project:

Completion Date	Project description	Role	Client
2012-in progress	SEA for the placement of wind energy projects in SA	Project Leader	National Department of Environmental Affairs
2012-in progress	SEA for the placement of solar energy projects in SA	Project Leader	National Department of Environmental Affairs
2011 - 2012	EIA for the 100 MW solar photovoltaic project proposed by Mainstream Renewable Power at Blocuso, near Keimoes in the Northern Cape	Project Leader	Mainstream Renewable Power
2011 – 2012	EIA for the 100 MW solar photovoltaic project proposed by Mainstream Renewable Power at Roode Kop Farm, near Douglas, in the Northern Cape	Project Leader	Mainstream Renewable Power
2011 – 2012	EIA for the 75 MW solar photovoltaic project proposed by Solaire Direct at GlenThorne , near Bloemfontein in the Free State	Project Leader	Solaire Direct
2011 – 2012	EIA for the 75 MW solar photovoltaic project proposed by SolaireDirect at Valleydora , near Springfontein in the Free State	Project Leader	Solaire Direct
2012 (in progress)	EIA for the 80 MW solar photovoltaic project by CAMAC on Farm O’Poort near postmasburg.	Project Leader	CAMAC International
2010-2011	More than 10 Basic Assessments (BAs) for solar photovoltaic projects in the western	Project Leader	Various clients including Dutch, German, French and

Completion Date	Project description	Role	Client
	cape, Northern Cape, Eastern Cape and Free State		South African companies
2010/2011 <i>(in progress)</i>	EIA for the Langerfontein wind project near Darling, Western Cape.	Project Leader	Mr Herman Oelsner, Khwe Khoa
2012-2013	EIA for a 100 MW wind project at Zuurbron and a 50 MW wind project Broadlands in the Eastern Cape	Project Leader	WindCurrent SA (German-based company)
2011	EIA for the proposed 143 MW Biotherm wind energy project near Swellendam , Western Cape, South Africa	Project Leader	Biotherm South Africa (Pty) Ltd
2010-2013 <i>(final report completed)</i>	EIA for the proposed InnoWind wind energy projects near Swellendam, Heidelberg, Albertinia and Mossel Bay (totalling approx 210 MW) , Western Cape, South Africa	Project Leader	InnoWind South Africa (Pty) Ltd
2009/2010 <i>(authorisation granted by DEA in Aug 2011)</i>	EIA for the proposed Electrawinds wind energy facility of 45-75 MW capacity in the Coega IDZ, Eastern Cape	Project Leader	Electrawinds N.V. (Belgium)
2009/2010 <i>(authorisation granted by DEA in April 2011)</i>	EIA for proposed 180 MW Jeffreys Bay wind energy project , Eastern Cape	Project Leader and co-author	Mainstream Renewable Power South Africa
2009/2010 <i>(authorisation granted by DEA)</i>	Basic Assessment for the national wind Atlas for South Africa	Project Leader	SANERI and SA Wind Energy Programme, Dept of Energy
2009/2010 <i>(on hold)</i>	EIA for the proposed Gecko soda plant , Otjivalunda and Arandis, Namibia	Project Leader	Gecko, Namibia
2009	EIA for the proposed desalination plant at Swakopmund, Namibia	Project Leader	NamWater, Namibia
2009	EMP for the Operational Phase of the Berg River Dam , Franschoek, South Africa	Project Leader and report co-author	TCTA, South Africa
2009/2010 <i>(in progress)</i>	EIA for the proposed crude oil refinery at Coega, South Africa	Project Leader and lead author	PetroSA, South Africa
2008	Environmental Risk Review for proposed LNG/CNG import to Mossel Bay, South Africa	Project Leader and lead author	PetroSA, South Africa
2008	Review of the Business Plan for catchment management for the Berg Water Dam Project, Franschoek, South Africa	Project reviewer and co-author	TCTA, South Africa
2007 – 2010	EIA for proposed Jacobsbaai Tortoise Reserve eco-development , Saldanha, Western Cape	Project Leader and co-author	Jacobsbaai Tortoise Reserve (Pty) Ltd
2007 – 2010	Independent reviewer for the EIA proposed Amanzi lifestyle development, Port Elizabeth	Independent reviewer appointed to advise EAP	Public Process Consultants and Pam Golding
2007 – 2008	EIA for proposed 18 MW Kouga wind energy project , Eastern Cape	Project Leader and co-author	Mulilo Eco-Energy (Approved by DEDEA in March 2009)
2007	Review of EIA for the proposed Hanglip Eco-Development , Plettenberg Bay, Western Cape	Co-author of review of EIA, undertaken on behalf of DEADP	Dept of Environmental Affairs & Development Planning, Western Cape

Completion Date	Project description	Role	Client
2006-2007	Scoping phase for the EIA for the proposed Coega LNG-to-Power Project at the Port of Ngqura, Coega IDZ	Project Leader and co-author	Eskom and iGas
2006-2007	Guideline for Scoping, Environmental Impact Assessment and Environmental Management Plans for mining in South Africa	Project Leader and co-author	Dept of Minerals and Energy (DME), South Africa
2006	Environmental Impact Assessment (EIA) for the extension of the Port of Ngqura, Eastern Cape	Project Leader and co-author	Transnet
2006	Integrating Sustainability Into Strategy: Handbook (Version 1)	Project Leader and co-author	CSIR (STEP research report)
2005	Technology Review for the proposed aluminium smelter at Coega, South Africa	Project Leader and lead author	Alcan, Canada
2005	Environmental and Social Impact Assessment (ESIA) report for the proposed alumina refinery near Sosnogorsk, Komi Republic, Russia	Project manager and co-author	Komi Aluminium, Russia, IFC, EBRD
2005	Guideline for Environmental Management Plans (EMPs) for the Western Cape province, including conducting a training course for provincial government	Author	Dept of Environmental Affairs & Development Planning, Western Cape
2005	Guideline for the review of specialist studies undertaken as part of environmental assessments	Member of Steering Committee and project facilitator	Dept of Environmental Affairs & Development Planning, Western Cape
2004	Review of Strategic Management Plan for Table Mountain National Park (2001-2004)	Reviewer and co-author	South African National Parks
2004	Strategic Needs Assessment Process for Muliloing sustainable development into business operations	Researcher and co-author	CSIR (internal research)
2004	Environmental Monitoring Committees booklet in the IEM Information Series for DEAT	Contributing author	Department of Environmental Affairs and Tourism (DEAT)
2004	Overview of Integrated Environmental Management (IEM) booklet in the IEM Information Series	Lead author and researcher	DEAT
2003	Environmental Screening Study for gas power station, South Africa	Project Manager and lead author	Eskom, iGas and Shell
2003	Environmental Management Programme (EMP) Framework for the proposed Coega Aluminium Smelter; and assistance with preparing permit and licence applications	Project Manager and lead author	Pechiney, France
2003	Environmental Management Plan for the Operational Phase of the wetlands and canals at Century City, Cape Town	Project Leader and lead author	Century City Property Owners' Association
2002	Environmental Impact Assessment for the proposed Pechiney aluminium smelter at Coega, South Africa	Project Manager and lead author	Pechiney, France
2002	Environmental Management Plan for the Eskom Wind Energy Demonstration	Co-author	Eskom

Completion Date	Project description	Role	Client
	Facility in the Western Cape		
2001-2002	Environmental Impact Assessment for the Eskom Wind Energy Demonstration Facility in the Western Cape	Quality control & co-author	Eskom
2001	Environmental Due Diligence study of four strategic oil storage facilities in South Africa	Project manager and co-author	SFF Association
2000	Cape Action Plan for the Environment: a biodiversity Strategy and Action Plan for the Cape Floral Kingdom - legal, institutional, policy, financial and socio-economic component	Project manager and contributing writer	World Wide Fund for Nature (WWF): South Africa
1999	Environmental Management Plan for the establishment phase of the wetlands and canals at Century City, Cape Town	Project manager and lead author	Monex Development Company
1999	Environmental Management Programme for the Thesen Islands development, Knysna	Process design and Co-author	Chris Mulder Associates Inc; Thesen and Co.
1999	<i>Management Plan for the coastal zone between the Eerste and Lourens River, False Bay, South Africa</i>	Project manager and lead author	Heartland Properties and Somchem (a Division of Denel)
1998	Environmental Assessment of the Mozal Matola Terminal Development proposed for the Port of Matola, Maputo, Mozambique	Project manager and author.	<i>SNC-Lavalin-EMS</i>
1998	Strategic Environmental Assessment (SEA) for the Somchem industrial complex at Krantzkop, South Africa	Project manager and co-author	Somchem, a Division of Denel
1997	Strategic Environmental Assessment (SEA) for the proposed Industrial Development Zone and Harbour at Coega, Port Elizabeth, South Africa	SEA project manager and report writer	Coega IDZ Initiative Section 21 Company
1996	Environmental Impact Assessment of Development Scenarios for Thesen Island, Knysna, South Africa	Project manager and report writer	Thesen and Co.
1996	Environmental Impact Assessment of the Management Options for the Blouvllei wetlands, Cape Town	Project manager and report writer	Ilco Homes Ltd (now Monex Ltd)
1995	Environmental Impact Assessment for the Saldanha Steel Project, South Africa	Report writing and management of specialist studies	Saldanha Steel Project
1994	Environmental Impact Assessment for the upgrading of resort facilities on Frégate Island, Seychelles	Member of the project management team, co-author, process facilitator	Schneid Israelite and Partners
1994	Environmental Impact Assessment for exploration drilling in offshore Area 2815, Namibia	Project manager and co-author	Chevron Overseas (Namibia) Limited
1994	Management Plan for the Rietvlei Wetland Reserve, Cape Town	Project manager and lead author	Southern African Nature Foundation (now WWF-SA)

**Language
capability**

	<i>Speaking</i>	<i>Reading</i>	<i>Writing</i>
English	Excellent	Excellent	Excellent
IsiXhosa	Average	Average	Average