



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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NEAS Reference: DEA/EIA/0002273/2014

DEA Reference: 14/12/16/3/3/2/636

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Mr C.V. Gamede
Umgeni Water
P.O. Box 9
PIETERMARITZBURG
3200

Tel No: (031) 268 7172
E-mail: Phumi.Molefe@umgeni.co.za

PER FACSIMILE / MAIL

Dear Ms Molefe

APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998: GN R. 543/544/545/546: CONSTRUCTION, OPERATION AND DECOMMISSIONING OF A 150ML/DAY SEA WATER REVERSE OSMOSIS PLANT AND ASSOCIATED INFRASTRUCTURE IN LOVU ON THE KWAZULU-NATAL SOUTH COAST, WITHIN ETHEKWINI METROPOLITAN MUNICIPALITY, KWAZULU-NATAL PROVINCE

With reference to the above application, please be advised that the Department has decided to grant authorisation. The environmental authorisation (EA) and reasons for the decision are attached herewith.

In terms of regulation 10(2) of the Environmental Impact Assessment Regulations, 2010 (the Regulations), you are instructed to notify all registered interested and affected parties, in writing and within 12 (twelve) days of the date of the EA, of the Department's decision in respect of your application as well as the provisions regarding the submission of appeals that are contained in the Regulations.

Should any person wish to lodge an appeal against this decision, he/she must submit the appeal to the appeal administrator, and a copy of the appeal to the applicant, any registered interested and affected party, and any organ of state with interest in the matter within 20 days from the date that the notification of the decision was sent to the registered interested and affected parties by the applicant; or the date that the notification of the decision was sent to the applicant by the Department, whichever is applicable.

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Appeals must be submitted in writing in the prescribed form to:

Mr Z Hassam, Director: Appeals and Legal Review of this Department at the below mentioned addresses.

By email: appealsdirector@environment.gov.za;

By hand: Environment House
473 Steve Biko,
Arcadia,
Pretoria, 0083; or

By post: Private Bag X447,
Pretoria, 0001.

Please note that in terms of section 43(7) of the National Environmental Management Act, 1998, the lodging of an appeal will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal is finalised.

To obtain the prescribed appeal form and for guidance on the submission of appeals, please visit the Department's website at https://www.environment.gov.za/documents/forms#legal_authorisations or request a copy of the documents at appealsdirector@environment.gov.za.

Yours sincerely


Mr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Environmental Affairs
Date: 11/08/2017

CC:	Ms A Walsdorff	CSIR	Tel: 021-888-2661	Email: awalsdorff@csir.co.za
	Ms Y Govender	KZN Department of Economic Development, Tourism & Environmental Affairs	Tel: 031-302-2861	Email: yugeshnie.govender@kzndae.gov.za
	Dr D Roberts	eThekweni Metropolitan Municipality	Tel: 031-311-7527	Email: RobertsD@durban.gov.za

APPEALS PROCEDURE IN TERMS OF CHAPTER 7 OF THE NEMA EIA REGULATIONS, 2010 (THE REGULATIONS) AS PER GN R. 543 OF 2010 TO BE FOLLOWED BY THE APPLICANT AND INTERESTED AND AFFECTED PARTIES UPON RECEIPT OF NOTIFICATION OF AN ENVIRONMENTAL AUTHORISATION (EA)

APPLICANT	INTERESTED AND AFFECTED PARTIES (IAPs)
1. Receive EA from the relevant Competent Authority (the Department of Environmental Affairs [DEA]).	1. Receive EA from Applicant/Consultant.
2. Within 12 days of date of the EA notify all IAPs of the EA and draw their attention to their right to appeal against the EA in terms of Chapter 7 of the Regulations.	2. N/A.
3. If you want to appeal against the EA, submit a notice of intention to appeal within 20 days of the date of the EA with the Minister of Water and Environmental Affairs (the Minister).	3. If you want to appeal against the EA, submit a notice of intention to appeal within 20 days of the date of the EA. with the Minister of Water and Environmental Affairs (the Minister).
4. After having submitted your notice of intention to appeal to the Minister, provide each registered IAP with a copy of the notice of intention to appeal within 10 days of lodging the notice.	4. After having submitted your notice of intention to appeal to the Minister, provide the applicant with a copy of the notice of intention to appeal within 10 days of lodging the notice.
5. The Applicant must also serve on each IAP: <ul style="list-style-type: none"> • a notice indicating where and for what period the appeal submission will be available for inspection. 	5. Appellant must also serve on the Applicant within 10 days of lodging the notice, <ul style="list-style-type: none"> • a notice indicating where and for what period the appeal submission will be available for inspection by the applicant.
6. The appeal must be submitted in writing to the Minister within 30 days after the lapsing of the period of 20 days provided for the lodging of the notice of intention to appeal.	6. The appeal must be submitted to the Minister within 30 days after the lapsing of the period of 20 days provided for the lodging of the notice of intention to appeal.
7. Any IAP who received a notice of intention to appeal may submit a responding statement to that appeal to the Minister within 30 days from the date that the appeal submission was lodged with the Minister.	7. An Applicant who received notice of intention to may submit a responding statement to the appeal to the Minister within 30 days from the date that the appeal submission was lodged with the Minister.

NOTES:

1. **An appeal must be:-**
 - a) submitted in writing;
 - b) accompanied by:
 - a statement setting out the grounds of appeal;
 - supporting documentation which is referred to in the appeal; and
 - a statement that the appellant has complied with regulation 62 (2) or (3) together with copies of the notices referred to in regulation 62.



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Environmental Authorisation

In terms of regulation 36 of the Environmental Impact Assessment Regulations, 2010

Construction, operation and decommissioning of a 150Ml/day sea water reverse osmosis plant
and associated infrastructure in Lovu on the KwaZulu-Natal South Coast, within eThekweni
Metropolitan Municipality, KwaZulu-Natal Province

eThekweni Metropolitan Municipality

Authorisation register number:	<i>14/12/16/3/3/2/636</i>
NEAS reference number:	<i>DEA/EIA/0002273/2014</i>
Last amended:	<i>First issue</i>
Holder of authorisation:	<i>UMGENI WATER</i>
Location of activity:	<i>KWAZULU-NATAL PROVINCE: Within Wards 97 and 98</i>

This authorisation does not negate the holder of the authorisation's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.

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Decision

The Department is satisfied, on the basis of information available to it and subject to compliance with the conditions of this environmental authorisation, that the applicant should be authorised to undertake the activities specified below.

Non-compliance with a condition of this authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the EIA regulations.

Details regarding the basis on which the Department reached this decision are set out in Annexure 1.

Activities authorised

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act 107 of 1998) and the Environmental Impact Assessment Regulations, 2010 the Department hereby authorises –

UMGENI WATER

with the following contact details –

Mr. C.V. Gamede

Umgeni Water

P.O. Box 9

PIETERMARITZBURG

3200

Tel: (031) 268 7172

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E-mail: Phumi.Molefe@umgeni.co.za

to undertake the following activities (hereafter referred to as “the activity”) indicated in Listing Notices 1, 2 and 3 (GN R. 544, 545 & 546):

Listed activities	Activity/Project description
<p><u>GN R. 544 Item 9:</u> <i>The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water –</i> (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more, excluding where: (a) such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or (b) 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>Pipelines will be required to transport raw water abstracted from the sea to the desalination plant, and potable water from the desalination plant to Umgeni Water’s bulk water supply systems. These pipelines will cumulatively exceed 1 000m in length and will be designed with an internal diameter greater than 1.0 m. The rates of peak throughput may exceed 120 litres per second.</p>
<p><u>GN R. 544 Item 10:</u> <i>The construction of facilities or infrastructure for the transmission and distribution of electricity –</i> (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 150 Ml/day desalination plant. The power supply for the project will have the following requirements:</p> <ul style="list-style-type: none"> • A 132kV transmission line from the Kingsburg Major Substation in Illovo - the nearest 132kV point of supply outside the desalination plant boundary - which is approximately 2.5km from the desalination plant site.

Listed activities	Activity/Project description
	<ul style="list-style-type: none"> • A 132kV to 11kV step-down substation. • A 30 MVA bulk supply point at 11kV. • The power supply to the sea water pump station at the beach would be extended from the desalination plant site via an 11kV overhead line, to be installed between the desalination plant and the sea water pump station. <p>A dual supply involving a tee-off from two existing 88kV lines running pass Kingsburgh Major Substation will ensure a continuity of supply in the event of one substation becoming locked out.</p>
<p><u>GN R 544 Item 11:</u> <i>The construction of:</i> <i>(iii) bridges;</i> <i>(vi) bulk storm water outlet structures;</i> <i>(viii) jetties exceeding 50 square metres in size;</i> <i>(x) buildings exceeding 50 square metres in size; or</i> <i>(xi) infrastructure or structures covering 50 square metres or more</i></p> <p><i>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.</i></p>	<p>Pipeline infrastructure will traverse watercourses in the region and will require the construction of a bridge across the estuary near the desalination plant. Bulk storm water systems and associated outlet structures may be located within 32m of a watercourse. The laying down of the marine pipelines on the seabed will require the construction of a temporary</p>

Listed activities	Activity/Project description
	jetty, which will exceed 100 square metres in size. New buildings and supporting infrastructure exceeding 100m ² may be constructed within 32m of a watercourse.
<p><u>GN R544 Item 13:</u></p> <p><i>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.</i></p>	Pre- and post- water treatment chemicals will be required at the desalination plant. The capacity is not expected to exceed 80m ³ , however the exact volumes of dangerous goods to be used during operation of the desalination plant will be confirmed as part of the detailed engineering design phase and will be based on the results of the pilot plant investigations.
<p><u>GN R 544 Item 14:</u></p> <p><i>The construction of structures in the coastal public property where the development footprint is bigger than 50 square metres, excluding</i></p> <ul style="list-style-type: none"> <i>(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;</i> <i>(ii) the construction of a port or harbour, in which case activity 24 of Notice 545 of 2010 applies;</i> <i>(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.</i> 	The intake and discharge marine pipelines will transect the Coastal Public Property and will cover an area exceeding 50 m ² . The laydown of the sea water pipelines will also require the construction of a temporary jetty and supporting structures within the littoral zone.
<p><u>GN R 544 Item 15:</u></p> <p><i>The construction of facilities for the desalination of sea water with a</i></p>	The project constitutes the development of a desalination

Listed activities	Activity/Project description
<p><i>design capacity to produce more than 100 cubic metres of treated water per day.</i></p>	<p>plant with a design capacity of 150MI (or 150 000m³) of potable water per day when operating at full capacity.</p>
<p><u>GN R 544 Item 16:</u> <i>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 is the greater, in respect of –</i></p> <p><i>(i) fixed or floating jetties and slipways;</i> <i>(v) buildings of 50 square metres or more; or</i> <i>(vi) infrastructure covering 50 square metres or more-</i></p> <p><i>but excluding</i></p> <p><i>(a) if such construction or earth moving activities will occur behind a development setback line; or</i> <i>(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;</i> <i>(c) where such construction or earth moving activities is undertaken for purposes of maintenance of the facilities mentioned in (i)-(vi) above; or</i> <i>(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.</i></p>	<p>Construction and earth moving activities required for the project will occur within the sea (marine intake and discharge pipelines and associated infrastructures, including temporary jetty), in the Lovu estuary (bridge), the littoral active zone (pipelines) and within 100 m inland of the high-water mark of the sea and of the Lovu estuary (the preferred desalination plant site and pipelines from the pump station to the plant, amongst others). Infrastructure and buildings associated with the project will cover an area that exceeds 50 m².</p>
<p><u>GN R 544 Item 17:</u> <i>The planting of vegetation or placing of any material on dunes and exposed sand surfaces, within the littoral active zone for the purpose of preventing the free movement of sand, erosion or accretion, excluding where the planting of vegetation or placement of material relates to restoration and maintenance of indigenous coastal</i></p>	<p>Post-construction activities would involve the planting of vegetation within the littoral active zone as part of the site stabilisation and rehabilitation measures.</p>

Listed activities	Activity/Project description
<p><i>vegetation or where such planting of vegetation or placing of material will occur behind a development setback line.</i></p>	
<p><u>GN R 544 Item 18:</u> <i>The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from:</i> <i>(i) a watercourse;</i> <i>(ii) the sea;</i> <i>(iii) the seashore;</i> <i>(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 –</i> <i>but excluding where such infilling, depositing, dredging, excavation, removal or moving;</i> <i>(a) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority;</i> <i>or</i> <i>(b) occurs behind the development setback line.</i></p>	<p>Construction activities required for the project (such as trench digging and pipe laying) would result in the infilling, depositing, dredging, excavation, removal or moving of more than 5m³ of material from the sea, watercourse, the sea-shore, the littoral active zone, estuary and within a distance of 100m inland of the high-watermark of the sea.</p>
<p><u>GN R 544 Item 22:</u> <i>The construction of a road, outside urban areas,</i> <i>(i) with a reserve wider than 13,5 meters or,</i> <i>(ii) where no reserve exists where the road is wider than 8 metres,</i></p>	<p>Internal roads would need to be constructed as part of the project. These roads would be constructed outside of urban areas and may have a reserve wider than 13,5 meters or may be wider than 8m. The road design will be finalised during the detailed engineering design phase.</p>
<p><u>GN R 544 Item 23:</u> <i>The transformation of undeveloped, vacant or derelict land to –</i> <i>(ii) residential, retail, commercial, recreational, industrial or</i></p>	<p>The desalination plant will cover an area of land approximately 7ha in extent</p>

Listed activities	Activity/Project description
<p><i>institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares; -</i></p> <p><i>except where such transformation takes place –</i></p> <p><i>(i) for linear activities; or</i></p> <p><i>(ii) for purposes of agriculture or afforestation, in which case Activity 16 of Notice No. R. 545 applies.</i></p>	<p>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 used for sugar cane growing. The implementation of the project would therefore result in the transformation of more than 1ha of undeveloped agricultural land to industrial use, outside an urban area.</p>
<p><u>GN R 544 Item 24:</u></p> <p><i>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.</i></p>	<p>The implementation of the project would result in the transformation of approximately 7ha of undeveloped agricultural land to industrial use. Components of the terrestrial pipelines will traverse land zoned as open space.</p>
<p><u>GN R 544 Item 47:</u></p> <p><i>The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre –</i></p> <p><i>(i) where the existing reserve is wider than 13,5 meters; or</i></p> <p><i>(ii) where no reserve exists, where the existing road is wider than 8 metres –</i></p> <p><i>excluding widening or lengthening occurring inside urban areas.</i></p>	<p>The development may require existing roads to be widened by more than 6m, or lengthened by more than 1km. The road design will be finalised during the detailed engineering design phase.</p>
<p><u>GN R 545 Item 5:</u></p> <p><i>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</i></p>	<p>The operation of the desalination plant would require a Coastal Waters Discharge Permit in terms of</p>

Listed activities	Activity/Project description
<p><i>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.</i></p>	<p>the Integrated Coastal Management Act (No. 24 of 2008).</p>
<p><u>GN R 545 Item 14:</u> <i>The construction of an island, anchored platform or any other permanent structure on or along the sea bed excluding construction of facilities, infrastructure or structures for aquaculture purposes;</i></p>	<p>Sea water intake and brine disposal pipelines required for the project would constitute permanent structures constructed along the sea bed. The pipelines will be buried through the surf zone.</p>
<p><u>GN R 545 Item 24:</u> <i>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:</i></p> <ul style="list-style-type: none"> <i>(iii) inter- and sub-tidal structures for entrapment of sand;</i> <i>(iv) breakwater structures;</i> <i>(viii) tunnels;</i> <i>(ix) underwater channels;</i> <p><i>but excluding –</i></p> <ul style="list-style-type: none"> <i>(a) activities listed in activity 16 in Notice 544 of 2010;</i> <i>(b) construction or earth moving activities if such construction or earth moving activities will occur behind a development setback line;</i> <i>(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;</i> <i>or</i> <i>(d) where such construction or earth moving activities takes place for maintenance purposes.</i> 	<p>Construction and earth moving activities will occur within the sea, the littoral zone and 100 metres inland of the high-watermark of the sea and the estuary. Depending on design and technical criteria of the desalination plant, structures such as inter- and sub-tidal structures for entrapment of sand, breakwater structures and tunnels and/or underwater channels may be used in the construction and operation phase of the development.</p>

Listed activities	Activity/Project description
<p><u>GN R 546 Item 2:</u> <i>The construction of reservoirs for bulk water supply with a capacity of more than 250 cubic metres.</i> (a) In KwaZulu-Natal Province: iii. Outside urban areas, in: (dd) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p>	<p>Two 37.5MI freshwater holding reservoirs and a 6MI reservoir for screened water will be required for the project and will be located at the desalination plant site (estuarine site). These reservoirs will be constructed within an area which has been identified as CBA (OCO) by the EKZNW Terrestrial Systematic Conservation Plan.</p>
<p><u>GN R 546 Item 4:</u> <i>The construction of a road wider than 4 metres with a reserve less than 13,5 metres.</i> (a) In KwaZulu-Natal: ii. Outside urban areas, in: (ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p>	<p>The project may require the construction of an access road to the desalination plant. This road would be located outside urban areas within an area which has been identified as CBA (OCO) by the EKZNW Terrestrial Systematic Conservation Plan. The road design will be finalised during the detailed engineering design phase.</p>
<p><u>GN R 546 Item 10:</u> <i>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.</i> (a) In KwaZulu-Natal; i. In an estuary; ii. Outside urban areas, in:</p>	<p>The 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</p>

Listed activities	Activity/Project description
<p><i>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</i></p> <p><i>(hh) 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;</i></p> <p><i>(jj) Within 500 metres of an estuary.</i></p>	<p>potable water. It is expected that the combined capacity of these chemicals storage will exceed 30m³.</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. Construction of such storage facilities will occur in an area which has been identified as CBA (OCO) by the EKZNW Terrestrial Systematic Conservation Plan, within 100m of a watercourse and within 500m from the Lovu estuary.</p>
<p><u>GN R 546 Item 12:</u></p> <p><i>The clearance of an area of 300 square metres or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation.</i></p> <p><i>(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;</i></p> <p><i>(b) Within critical biodiversity areas identified in bioregional plans;</i></p> <p><i>(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 or erven in urban areas.</i></p>	<p>The desalination plant and supporting infrastructure would require an area greater than 300m² to be cleared of vegetation, in an area identified as critically endangered by NEMBA (threatened ecosystem – Southern Coastal Grassland KZN18) 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</p>

Listed activities	Activity/Project description
	<p>which is utilised for agricultural practices, it is not anticipated that 75% of the vegetation to be cleared would constitute indigenous vegetation. However, should 75% of the cleared vegetation constitute indigenous vegetation (pump station site), this may occur within the littoral active zone or 100m inland from high water mark of the sea within the development setback line.</p>
<p><u>GN R 546 Item 13:</u> <i>The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for:</i> <i>(1) the undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), in which case the activity is regarded to be excluded from this list.</i> <i>(2) the undertaking of a linear activity falling below the thresholds mentioned in Listing Notice 1 in terms of GN No. 544 of 2010.</i> <i>(a) Critical biodiversity areas and ecological support areas as identified in systematic biodiversity plans adopted by the competent authority.</i> <i>(c) In KwaZulu-Natal:</i> <i>i. In an estuary:</i> <i>ii. Outside urban areas, the following:</i> <i>(gg) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development</i></p>	<p>The desalination plant and supporting infrastructure would require an area greater than 1ha to be cleared of vegetation. 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. Should 75% of the cleared vegetation constitute indigenous vegetation this may occur within an estuarine functional zone or outside an urban area in an area which has been</p>

Listed activities	Activity/Project description
<p><i>setback line is determined.</i></p>	<p>identified as Critical Southern Coastal Grasslands in terms of the NPAES Threatened Ecosystems (Original extent), areas seaward of the development setback line or within 1km of the high-water mark of the sea.</p>
<p><u>GN R 546 Item 14:</u> <i>The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for:</i> <i>(1) purposes of agriculture or afforestation inside areas identified in spatial instruments adopted by the competent authority for agriculture or afforestation purposes;</i> <i>(2) the undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the activity is regarded to be excluded from this list;</i> <i>(3) the undertaking of a linear activity falling below the thresholds in Notice 544 of 2010.</i> <i>(a) In KwaZulu-Natal:</i> <i>i. All areas outside urban areas.</i></p>	<p>The desalination plant and supporting infrastructure may require an area of land greater than 5ha in total to be cleared of vegetation. 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. Should 75% of the cleared vegetation constitute indigenous vegetation, this would occur outside urban areas.</p>
<p><u>GN R 546 Item 16:</u> <i>The construction of:</i> <i>(i) jetties exceeding 10 square metres in size;</i> <i>(iii) buildings with a footprint exceeding 10 square metres in size; or</i> <i>(iv) infrastructure covering 10 square metres or more</i> <i>where such construction occurs within a watercourse or within 32</i></p>	<p>The construction of new supporting infrastructure exceeding 10m² will be required within 32m of a watercourse to accommodate crossing of the estuary near the desalination plant. Construction</p>

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Listed activities	Activity/Project description
<p><i>metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</i></p> <p><i>(a) In KwaZulu-Natal:</i></p> <p><i>i. In an estuary;</i></p> <p><i>ii. Outside urban areas, in;</i></p> <p><i>(ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</i></p> <p><i>(ii) 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.</i></p>	<p>activities associated with the temporary jetty will occur within 32m of the Lovu estuary mouth.</p> <p>Bulk storm water systems and associated outlet structures will be appropriately designed during the detailed design phase and may be located within 32m of a watercourse.</p> <p>The construction of new buildings and supporting infrastructure exceeding 10m² may be required within 32m of a watercourse. Such construction will 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).</p>
<p><u>GN R 546 Item 19:</u></p> <p><i>The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre.</i></p> <p><i>(a) In KwaZulu-Natal:</i></p> <p><i>ii. Outside urban areas, in;</i></p> <p><i>(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.</i></p>	<p>Existing access roads will be used to access the facility (pending approval from relevant authorities). However, existing roads may be required to be widened by more than 4 m, or lengthened by more than 1km.</p> <p>The construction of an access road to the desalination plant</p>

Listed activities	Activity/Project description
	may also be required. 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. The road design will be finalised during the detailed engineering design phase.

as described in the amended Environmental Impact Assessment report (EIAr) dated March 2017 at:

Preferred Desalination Plant Site:

Preferred Alternative	Latitude	Longitude
First Corner Point	30°05'57.55"S	30°49'27.85"E
Second Corner Point	30°06'01.88"S	30°49'26.35"E
Third Corner Point	30°06'07.38"S	30°49'31.16"E
Fourth Corner Point	30°06'07.68"S	30°49'38.28"E
Fifth Corner Point	30°06'02.57"S	30°49'40.89"E

Preferred Pipeline Route for the sea water intake and brine discharge pipes:

Preferred Pipeline Route Alternative	Latitude	Longitude
Start Point	30°06'00.94"S	30°49'36.65"E
	30°05'50.24"S	30°49'41.78"E
	30°05'56.87"S	30°50'04.85"E
	30°05'56.81"S	30°50'11.74"E
	30°05'58.93"S	30°50'27.94"E
	30°06'00.23"S	30°50'31.97"E
	30°06'04.71"S	30°50'41.53"E
	30°06'09.19"S	30°50'48.65"E
	30°06'13.75"S	30°50'53.02"E

	30°06'14.72"S	30°50'55.70"E
	30°06'14.14"S	30°51'01.92"E
	30°06'14.88"S	30°51'03.80"E
	30°06'16.96"S	30°51'08.07"E
End Point	30°06'19.29"S	30°51'11.89"E

Pump Station and Marine Pipeline Sites:

Pump Station and Marine Pipelines	Latitude	Longitude
Centre of sea water pump station	30° 06' 21.21"S	30° 51' 18.88"E
Marine Pipeline	30° 06' 24.01"S	30° 51' 26.86"E
Brine Discharge point	30° 06' 26.73"S	30° 51' 44.85"E
Intake Pipeline	30° 06' 34.09"S	30° 52' 13.90"E

Power Line Routes:

132 kV Power Line Route	Latitude	Longitude
Start Point	30°05'59.82"S	30°49'36.03"E
	30°05'49.00"S	30°49'39.77"E
	30°05'49.07"S	30°49'50.97"E
	30°05'54.68"S	30°49'58.95"E
	30°05'41.93"S	30°50'04.54"E
	30°05'36.82"S	30°50'12.47" E
End Point	30°05'36.84"S	30°50'26.09"E
11 kV Power Line Route	Latitude	Longitude
Start Point	30°06'01.96"S	30°49'42.47"E
	30°05'48.69"S	30°49'45.07"E
	30°05'49.57"S	30°49'50.97"E
	30°05'54.02"S	30°49'56.72"E
	30°06'56.68"S	30°50'04.07"E
	30°06'56.55"S	30°50'11.34"E
	30°06'58.06"S	30°50'23.39"E
	30°06'59.91"S	30°51'30.66"E
	30°06'04.69"S	30°51'41.52"E

	30°06'08.98"S	30°51'48.09"E
	30°06'14.57"S	30°51'54.65"E
	30°06'14.10"S	30°51'56.92"E
	30°06'11.79"S	30°51'58.52"E
	30°06'13.11"S	30°51'01.31"E
	30°06'19.80"S	30°51'11.46"E
	30°06'20.79"S	30°51'17.09"E
End Point	30°06'21.21"S	30°51'18.25"E

- for the 150ML/day sea water reverse osmosis plant and associated infrastructure in Lovu on the South Coast of KwaZulu-Natal, within Wards 97 and 98 of the eThekweni Metropolitan Municipality in the KwaZulu-Natal Province, hereafter referred to as "the property".

The infrastructure associated with this facility includes:

Linear infrastructure:

- Sea water (source water) intake with screens, sea-bed pipeline buried under the coast to the sea water pump station located a short distance inland;
- Brine outfall constructed from the sea water pump station under the coast to a sea-bed pipeline and diffuser;
- Terrestrial pipelines comprising a sea water pipeline between the sea water pump station and the desalination plant;
- A brine pipeline from the desalination plant back to the sea water pump station;
- A short potable water pipeline to the existing South Coast System pipeline; and
- Electrical power lines (132kV and 11kV) and transformer yard infrastructure.

On-site infrastructure:

- A sea water pump station located within the littoral zone;
- Pre-treatment facilities including flocculation, Dissolved Air Flotation if required (DAF) and pre-treatment membrane filtration (Ultrafiltration);
- SWRO system (with energy recovery equipment) including cartridge filtration and RO membranes;
- Pre-treatment and RO buildings and other smaller water treatment related infrastructure;
- The extension and/or upgrading of existing access roads;
- The development of an access road and internal access roads;

- All chemical infrastructure for conditioning of the pre and post-filtered water;
- Two freshwater holding reservoirs each of 37.5 Ml capacity;
- Domestic sewerage treatment facility;
- Stormwater handling facility;
- Primary electricity building to be connected to 132/11kV substation;
- Desalination plant waste streams handling and treatment facilities;
- Solid wastes (i.e. screenings) handling and storage facilities; and
- A total operational site including all on-site infrastructure enclosed by an approximately 3m high security fence.

The footprint area of the desalination plant, including the pipeline route, the sea water pump station, the electrical power supply infrastructure and the access roads, will be approximately 7ha.

Conditions of this Environmental Authorisation

Scope of authorisation

1. The preferred Site Alternative for the Desalination Plant and the Pipeline Route for the sea water intake and brine discharge pipes for the construction and operation of the 150ML/day sea water reverse osmosis plant and associated infrastructure in Lovu on the South Coast of KwaZulu-Natal, within the eThekweni Metropolitan Municipality in the KwaZulu-Natal Province are approved as per the geographic coordinates cited in the tables above.
2. Authorisation of the activity is subject to the conditions contained in this authorisation, which form part of the environmental authorisation and are binding on the holder of the authorisation.
3. The holder of the authorisation is responsible for ensuring compliance with the conditions contained in this environmental authorisation. This includes any person acting on the holder's behalf, including but not limited to, an agent, servant, contractor, sub-contractor, employee, consultant or person rendering a service to the holder of the authorisation.
4. The activities authorised may only be carried out at the property as described above.
5. Any changes to, or deviations from, the project description set out in this authorisation must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further authorisation in terms of the regulations.
6. This activity must commence within a period of five (05) years from the date of issue of this authorisation. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.
7. Commencement with one activity listed in terms of this authorisation constitutes commencement of all authorised activities.
8. The holder of an environmental authorisation must apply for an amendment of environmental authorisation with the competent authority for any alienation, transfer or change of ownership rights in the property on which the activity is to take place.

Notification of authorisation and right to appeal

9. The holder of the authorisation must notify every registered interested and affected party, in writing and within 12 (twelve) calendar days of the date of this environmental authorisation, of the decision to authorise the activity.
10. The notification referred to must –
 - 10.1. specify the date on which the authorisation was issued;
 - 10.2. inform the interested and affected party of the appeal procedure provided for in Chapter 7 of the Environmental Impact Assessment Regulations, 2010;
 - 10.3. advise the interested and affected party that a copy of the authorisation will be furnished on request; and
 - 10.4. give the reasons of the competent authority for the decision.
11. The holder of the authorisation must publish a notice –
 - 11.1. informing interested and affected parties of the decision;
 - 11.2. informing interested and affected parties where the decision can be accessed; and
 - 11.3. drawing the attention of interested and affected parties to the fact that an appeal may be lodged against this decision in the newspaper(s) contemplated and used in terms of regulation 54(2)(c) and (d) and which newspaper was used for the placing of advertisements as part of the public participation process.

Management of the activity

12. The Environmental Management Programme (EMPr) submitted as part of the Application for EA is not approved and must be amended and submitted to the Department for written approval prior to commencement of the activity. Once approved, the EMPr must be implemented and adhered to. The approved EMPr must be included in all contract documentation for all phases of the development. The EMPr must be amended to include:
 - 12.1. All recommendations and mitigation measures recorded in the amended EIAr and the specialist reports as included in the final amended EIAr dated March 2017; and
 - 12.2. A final development layout plan with micro-siting of the desalination plant infrastructure as informed by the detailed engineering design, and all mitigation measures as dictated by the final development layout plan.
13. The final development layout plan with to be included in the EMPr must indicate the following:

- 13.1. The final positions of the sea water intake and brine discharge pipelines within the approved 50m corridor;
- 13.2. The specific position of the Sea Water Reverse Osmosis Plant and associated infrastructure as listed on pages 17 and 18 of this EA, including the electrical power supply infrastructure, access roads, pump station and chemical storage infrastructure (with confirmed volumes);
- 13.3. All existing infrastructure associated with the development particularly along the pipeline route;
- 13.4. All sensitive features e.g. estuary, dunes, wetlands, and drainage channels that will be affected by the desalination plant and pipelines; and
- 13.5. All "no-go" and buffer areas.

Monitoring

14. The applicant must appoint a suitably experienced Environmental Control Officer (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation/rehabilitation measures and recommendations referred to in this authorisation are implemented and to ensure compliance with the provisions of the EMPr.
 - 14.1. The ECO shall be appointed before commencement of any authorised activities.
 - 14.2. Once appointed, the name and contact details of the ECO must be submitted to the *Director: Compliance Monitoring* of the Department at Directorcompliance@environment.gov.za.
 - 14.3. The ECO shall keep record of all activities on site, problems identified, transgressions noted and a schedule of tasks undertaken by the ECO.
 - 14.4. The ECO shall remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation.
 - 14.5. Records relating to monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.

Recording and reporting to the Department

15. All documentation e.g. audit/monitoring/compliance reports and notifications, required to be submitted to the Department in terms of this authorisation, must be submitted to the *Director: Compliance Monitoring* of the Department at Directorcompliance@environment.gov.za.
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16. The holder of the authorisation must submit an environmental audit report to the Department within 30 days of completion of the construction phase (i.e. within 30 days of site handover) and within 30 days of completion of rehabilitation activities.
17. The environmental audit report must indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the environmental authorisation conditions as well as the requirements of the EMPr.
18. Records relating to monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.

Commencement of the activity

19. The authorised activity shall not commence within twenty (20) days of the date of signature of the authorisation.
20. In terms of section 43(7), an appeal under section 43 of the National Environmental Management Act, 1998 will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged you may not commence with the activity until such time that the appeal has been finalised.

Notification to authorities

21. A written notification of commencement must be given to the Department no later than fourteen (14) days prior to the commencement of the activity. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence, as well as a reference number. This notification period may coincide with the notice of intent to appeal period.

Operation of the activity

22. A written notification of operation must be given to the Department no later than fourteen (14) days prior to the commencement of the activity operational phase.

Site closure and decommissioning

23. Should the activity ever cease or become redundant, the applicant shall undertake the required actions as prescribed by legislation at the time and comply with all relevant legal requirements administered by any relevant and competent authority at that time.

Specific conditions

24. A qualified estuarine or wetland specialist or ecologist must be commissioned to perform a final walk through of the pipeline route for the sea water intake and brine discharge pipes to identify all sensitive features including the estuary, wetlands, drainage lines and all other watercourses, and dune forests that may be affected by the construction of the pipeline. This must inform the determination of the final position of the pipelines within the assessed corridor, as well as the final development layout plan that is to be submitted to the Department for approval as per conditions 12 and 13 above.
25. An ecologist must be involved in the detailed engineering design, to confirm the entry and exit location of the pipeline under the dune cordon and the micro-siting of the pump station.
26. No activities will be allowed to encroach into a water resource without a water use authorisation being in place from the Department of Water and Sanitation.
27. A setback distance of 25m for the preferred site must be maintained to increase the ecological corridor between the development and the estuary channel.
28. The ecological setbacks / buffer areas, such as the 25m minimum setback from the estuary channel / riparian area for the desalination plant site, must be managed as ecological corridors, with no hardening of surfaces or countenance of any activities that would be likely to add to impacts into the estuary. Thus areas for the treatment of stormwater must be allocated outside of the stipulated buffer areas.
29. Cane field wetland areas must be demarcated as no go areas to all construction vehicles and workers.
30. Ablution facilities must be placed outside of the 1:100 year floodline of a watercourse.
31. Visual observation must be undertaken prior to blasting to ensure there are no marine mammals and turtles present in the immediate vicinity (approximately 2km radius). Blasting must only commence once the species have moved out of the impact zone.
32. A landscape architect must be consulted about the best way to screen the desalination plant from public views. The design of the plant must incorporate screening of industrial type structures from
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- public views, particularly from residents of the orphanage next door, residents of Illovo Village, residents and viewpoints on surrounding farms, residents of Illovo Beach and Winkelspruit.
33. No exotic plants may be used for rehabilitation purposes. Only indigenous plants occurring within a ten (10) kilometre radius of the development site must be utilised.
34. Vegetation clearing must be kept to an absolute minimum. Mitigation measures must be implemented to reduce the risk of erosion and the invasion of alien species.
35. An agreement must be reached with the Mother of Peace Illovo Orphanage for the replacement of the affected orphanage sports fields. The replacement fields must be of a similar size and quality, with similar facilities as at present, and must be established before the existing sports fields are built on.
36. Construction must include design measures that allow surface and subsurface movement of water along drainage lines so as not to impede natural surface and subsurface flows. Drainage measures must promote the dissipation of storm water run-off.
37. An integrated waste management approach must be implemented that is based on waste minimisation and must incorporate reduction, recycling, re-use and disposal where appropriate.
38. Any solid waste, which will not be recycled, must be disposed of at a landfill licensed in terms of section 20 (b) of the National Environment Management Waste Act, 2008 (Act No.59 of 2008). No waste material may be left on site after construction.
39. If any evidence of archaeological sites or remains (e.g., remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, marine shell and charcoal/ash concentrations), unmarked human burials, fossils or other categories of heritage resources are found during construction, Amafa/Heritage KwaZulu-Natal must be alerted immediately, and a professional archaeologist or palaeontologist, must be contacted as soon as possible to inspect the findings.

General

40. A copy of this authorisation and the approved EMPr must be kept at the property where the activity/ will be undertaken. The authorisation and approved EMPr must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.
41. The holder of the authorisation must notify both the *Director: Integrated Environmental Authorisations* and the *Director: Compliance Monitoring* of the Department at Directorcompliance@environment.gov.za, in writing and within 48 (forty eight) hours, if any
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condition of this authorisation cannot be or is not adhered to. Any notification in terms of this condition must be accompanied by reasons for the non-compliance.

42. National government, provincial government, local authorities or committees appointed in terms of the conditions of this authorisation or any other public authority shall not be held responsible for any damages or losses suffered by the applicant or his successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the applicant with the conditions of authorisation as set out in this document or any other subsequent document emanating from these conditions of authorisation.

Date of environmental authorisation: 11/09/2017



Mr Sabelo Malaza

Chief Director: Integrated Environmental Authorisations

Department of Environmental Affairs

Annexure 1: Reasons for Decision

1. Information considered in making the decision

In reaching its decision, the Department took, *inter alia*, the following into consideration -

- a) The information contained in the amended EIAr dated March 2017;
- b) The comments received from the Department of Agriculture, Forestry & Fisheries, KZN Department of Transport, eThekweni Metropolitan Municipality, ESKOM, PRASA, Transnet, and interested and affected parties as included in the amended EIAr dated March 2017;
- c) Mitigation measures as proposed in the amended EIAr dated March 2017 and the EMPr;
- d) The information contained in the specialist studies contained within Chapters 6-12 of the amended EIAr;
- e) Findings of the site visit conducted on 14 July 2016; and
- f) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act 107 of 1998).

2. Key factors considered in making the decision

All information presented to the Department was taken into account in the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

- a) The findings of all the specialist studies conducted and their recommended mitigation measures.
- b) The need for the project was adequately indicated. The Umgeni Water desalination plant will aim to ensure the promotion of sustainable economic development by serving the interests of a growing population as well as other commercial interests in the region. It is recognised that the future of the South Coast region of KZN is greatly dependent on an alternative water source to augment water supply of which desalination is one option.
- c) The amended EIAr dated March 2017 identified all relevant environmental legislation and guidelines that have been considered in the preparation of the amended EIAr dated March 2017.

- d) The methodology used in assessing the potential impacts identified in the amended EIAr dated March 2017 and the specialist studies have been adequately indicated.
- e) A sufficient public participation process was undertaken and the applicant has satisfied the minimum requirements as prescribed in the EIA Regulations, 2010 for public involvement.

3. Findings

After consideration of the information and factors listed above, the Department made the following findings -

- a) The identification and assessment of impacts are detailed in the amended EIAr dated March 2017 and sufficient assessment of the key identified issues and impacts have been completed.
- b) The procedure followed for impact assessment is adequate for the decision-making process.
- c) The proposed mitigation of impacts identified and assessed adequately curtails the identified impacts.
- d) According to the independent Environmental Assessment Practitioner, the information contained in the amended EIAr dated March 2017 is accurate and credible.
- e) EMPr measures for the pre-construction, construction and rehabilitation phases of the development were proposed and included in the amended EIAr and will be implemented to manage the identified environmental impacts during the construction process.

In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the authorised activity will not conflict with the general objectives of integrated environmental management laid down in Chapter 5 of the National Environmental Management Act, 1998 and that any potentially detrimental environmental impacts resulting from the authorised activity can be mitigated to acceptable levels. The environmental authorisation is accordingly granted.