




***ENVIRONMENTAL IMPACT ASSESSMENT FOR THE RENEWAL OF THE ENVIRONMENTAL CLEARANCE FOR THE CLOSURE OF PORTION A OF ERF 2588 (MULDERINE STREET) AS STREET, THE CREATION OF PORTION B OF ERF 2590 AS STREET AND THE CONSTRUCTION OF FACILITIES AND STORAGE AND HANDLING OF PETROLEUM PRODUCTS ON ERVEN 2589 AND 2590, WALVIS BAY***

***October 2023***

***App - 231004002220***

<p><b>Project Name:</b></p>	<p><b><i>ENVIRONMENTAL IMPACT ASSESSMENT FOR THE RENEWAL OF THE ENVIRONMENTAL CLEARANCE FOR THE CLOSURE OF PORTION A OF ERF 2588 (MULDERINE STREET) AS STREET, THE CREATION OF PORTION B OF ERF 2590 AS STREET AND THE CONSTRUCTION OF FACILITIES AND STORAGE AND HANDLING OF PETROLEUM PRODUCTS ON ERVEN 2589 AND 2590, WALVIS BAY</i></b></p>
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## EXECUTIVE SUMMARY

**Green Earth Environmental Consultants** have been appointed by Namibian Petroleum Terminal (Pty) Ltd to attend to and complete an Environmental Impact Assessment (EIA) Renewal and Environmental Management Plan (EMP) Renewal to renew the Environmental Clearance Certificate (ECC) for the construction of facilities and storage and handling of petroleum products on Erven 2589 and 2590, Walvis Bay and the closure and creation of street portions as per the requirements of the Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 in GG 4878 of 6 February 2012).

It is required to renew the Environmental Clearance Certificate (ECC) as the old ECC which was issued on 20 October 2020 will expire on 20 October 2023. The new ECC is required for the existing and ongoing operations of Namibian Petroleum Terminal (Pty) Ltd.

The activities listed below, which forms part of the proposed operations, may not be undertaken without an Environmental Clearance Renewal:

### **ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES**

- *The construction of facilities for the refining of gas, oil and petroleum products;*

### **HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE**

- *The storage and handling of dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.*
- *Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid, petroleum, gas or paraffin.*

### **LAND USE AND DEVELOPMENT ACTIVITIES**

- *The rezoning of land from zoned open space (reserved as street) to any other land use.*

### **INFRASTRUCTURE**

- *The route determination of roads and design of associated physical infrastructure where:*
  - (a) it is a public road;*
  - (b) the road reserve is wider than 30 meters; or*
  - (c) the road caters for more than one lane of traffic in both directions.*

It is the intention of the proponent to use Erven 2589 and 2590, Mulderine Street, Walvis Bay for bulk storage, handling, and distribution facilities for petroleum products. Both erven are zoned industrial. Erf 2589 is 1,1159ha and Erf 2590 is 1,0745ha in extent. To improve the development potential of the site, a portion of Mulderine Street will be closed to be consolidated with Erf 2589. Erf 2590 will be subdivided into PTN/B/2590 and the Remainder of Erf 2590. PTN/B/2590 is  $\pm 258$  and is required to create a new turning circle for Erf 2588 (Mulderine Street) in order to allow trucks and other vehicles to turn in the

newly created cul-de-sac and to access erven Re/2590 and the Consolidated Erf created from the consolidation of Portion A of Erf 2588 and Erf 2589.

The preparation and operation of the proposed facility involves the following activities:

<b>Construction activities:</b>	<b>Operational activities:</b>
Preparation of the site as per civil and geotechnical requirements	Handling (receiving and dispensing) of petroleum products
Relocation of municipal and other services	Storage of petroleum products
Construction of infrastructure like offices, workshops, guard houses, storage tanks, bund walls, pipelines, fuel handling/dispensing facilities, access roads and parking areas and railway access	Loading of rail tankers and road tankers
Installation of water, electrical and sewer networks and facilities	Administrative activities
Installation of fire protection equipment	Safety and security activities
Installation of spill control facilities	Support Services for tanker berth

The land within the immediate vicinity of the proposed project site is predominately characterised by business and industrial activities.

The key characteristics/environmental impacts of the proposed project are as follows:

<b>Impact on environment:</b>	<b>Nature of impact:</b>
Securing continues supply of petroleum products	Positive for both Namibia and neighbouring countries
Creation of employment and transfer of skills	Positive as employment will be created during construction and operations which will also result in the transfer of skills which is important in the current economic climate
More efficient use of harbour facilities and strengthening of Walvis Bay's position as import and storage hub of the Region	Positive as the harbour facilities were recently upgraded to increase its capacity to handle imports and exports
Secondary benefits in the transportation of fuel to neighbouring countries	Positive for the transport industry but negative due to additional pressure on Namibia's roads and rail infrastructure as well as road safety
Impact on utilization of municipal and other infrastructure and facilities	Negative during construction due to municipal infrastructure which must be relocated to accommodate the facilities but positive due to the better utilization of existing municipal infrastructure
Fire hazards associated with storage and handling of products	The unlikely event of a fire from operations or products stored onsite

	will have a serious negative impact on neighbouring properties
Dust	Negative only during construction, once facility is constructed all access roads and parking areas will be paved or tarred to mitigate dust emissions
Impact on traffic	Limited as the site is in a cul-de-sac from which the major arterials in the town can easily be accessed
Noise	Negative during construction but low and on par with the noise levels associated with the uses of an industrial area during operation
Cultural/Heritage	No items of archeologic value or graves were observed during the site visit which means the impact will be low, if however any such items or graves are found during construction the impact will be high and irreversible
Visual impact	Low as the facility will be constructed in an existing industrial area
Impact on groundwater, surface water and soil	The impact will be negative in case of spilling of petroleum products during handling and storage, the risk should be mitigated through the installation of spilling control infrastructure and equipment
Health and safety	Low if mitigated during construction and operation

The type of activities that will be carried out on the site will not negatively affect the amenity of the locality and the activities will not adversely affect the environmental quality of the area. None of the potential impacts identified are regarded as having a significant impact to the extent that the proposed project should not be allowed. However, the operational activities further on need to be controlled and monitored by the assigned managers and the proponent. Mitigation measures will be provided that can control the extent, intensity, and frequency of these named impacts in order not to have substantial negative effects or results. It is believed that the overall cumulative impact on the biophysical environment will be low and there will be a positive impact on the socio-economic environment.

The Environmental Impact Assessment Renewal which follows upon this paragraph was conducted in accordance with the guidelines and stipulations of the Environmental Management Act (No 7 of 2007) meaning that all possible impacts have been considered and the details are presented in the report.

Based upon the conclusions and recommendations of the Renewed Environmental Impact Assessment Report and the Renewed Environmental Management Plan, the

Environmental Commissioner of the Ministry of Environment, Forestry and Tourism is herewith requested to:

1. Accept and approve the Renewed Environmental Impact Assessment.
2. Accept and approve the Renewed Environmental Management Plan.
3. Issue a Renewed Environmental Clearance for the construction of facilities and storage and handling of petroleum products on Erven 2589 and 2590, Walvis Bay and the closure and creation of street portions for Namibian Petroleum Terminal (Pty) Ltd and for the following listed activities:

***ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES***

- *The construction of facilities for the refining of gas, oil and petroleum products;*

***HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE***

- *The storage and handling of dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.*
- *Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid, petroleum, gas or paraffin.*

***LAND USE AND DEVELOPMENT ACTIVITIES***

- *The rezoning of land from zoned open space (reserved as street) to any other land use.*

***INFRASTRUCTURE***

- *The route determination of roads and design of associated physical infrastructure where:*
  - (a) it is a public road;*
  - (b) the road reserve is wider than 30 meters; or*
  - (c) the road caters for more than one lane of traffic in both directions.*

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## **LIST OF ABBREVIATIONS**

EC	Environmental Clearance
ECO	Environment Control Officer
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
I&APs	Interested and Affected Parties
MAWLR	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism

# 1. INTRODUCTION

**Green Earth Environmental Consultants** have been appointed by Namibian Petroleum Terminal (Pty) Ltd to attend to and complete a Renewed Environmental Impact Assessment (EIA) and a Renewed Environmental Management Plan (EMP) **to renew the Environmental Clearance Certificate (ECC) for the construction of facilities and storage and handling of petroleum products on Erven 2589 and 2590, Walvis Bay and the closure and creation of street portions** as per the requirements of the Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 in GG 4878 of 6 February 2012). It is required to renew the Environmental Clearance Certificate (ECC) as the old ECC which was issued on 20 October 2020 as it will expire on 20 October 2023. The new ECC is required for the existing and ongoing operations of Namibian Petroleum Terminal (Pty) Ltd.

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  - (c) the road caters for more than one lane of traffic in both directions.*

The following Environmental Impact Assessment Renewal contains information on the project and the surrounding areas and activities.

# 2. TERMS OF REFERENCE

To be able to implement the project, an Environmental Impact Assessment Renewal and Environmental Clearance Renewal is required. For this environmental impact exercise,

*Green Earth Environmental Consultants* followed the terms of reference as stipulated under the Environmental Management Act.

The aim of the environmental impact assessment is:

- To comply with Namibia's Environmental Management Act (2007) and its regulations (2012).
- To ascertain existing environmental conditions on the site to determine its environmental sensitivity.
- To inform I&APs and relevant authorities of the details of the proposed activities and to provide them with an opportunity to raise issues and concerns.
- To assess the significance of issues and concerns raised.
- To compile a report detailing all identified issues and possible impacts, stipulating the way forward and identify specialist investigations required.
- To adhere to the National Solid Waste Management Strategy of the Ministry of Environment, Forestry and Tourism
- To outline management guidelines in an Environmental Management Plan (EMP) to minimize and/or mitigate potentially negative impacts.

The tasks that will be undertaken for the Environmental Impact Assessment Renewal include the evaluation of the following: climate, water (hydrology), vegetation, geology, soils, social, cultural heritage, groundwater, sedimentation, erosion, biodiversity, sense of place, socio-economic environment, health, safety and traffic.

The renewed EIA and EMP from the assessment will be submitted to the Environmental Commissioner for consideration. A renewed Environmental Clearance will only be obtained (from the DEA) once the renewed EIA and EMP has been examined and approved for the listed activities.

The public consultation process as per the guidelines of the Act has been followed. The methods that were used to assess the environmental issues and alternatives included the collection of data on the project site and area from the proponent and identified stakeholders. All other permits, licenses or certificates that are further on required for the operation of the proposed project still needs to be applied for by the proponent.

### **3. PROJECT DESCRIPTION/SITE INFORMATION**

#### **3.1. LOCALITY OF PROJECT SITE**

Mulderine Street is a cul-de-sac which provide access to both Erven 2589 and 2590. The Street is located to the northwest of Erf 2590 and a turning circle is provided at the end of the street on the corner of Erven 2589 and 2590. Mulderine Street links up with Ben Amathila Street in the south from where the Port of Walvis Bay and other business and residential areas from Walvis Bay can easily be accessed.

The street portion adjacent to Erf 2590 only provides access to Erf 2590 and Erf 2589 as Erf 4984 is accessed from Ben Amathila Street to the west of Erf 4984. Mulderine Street

and Erf 4984 are separated with a high wall and there is a significant difference in the land height between Mulderine Street's level and that of Erf 4984.

Mulderine Street is a dirt road and the portion servicing Erf 2589 and turning circle has not been constructed. It is characterized by thick sand blown onto this portion of the street as well as sand and building rubble which has been dumped on it. This portion of the street is therefore only accessible with a 4x4 vehicle.

Erf 2589, Walvis Bay is registered in the name of Hammerhead Investments (Proprietary) Limited and is 1,1159ha in extent. The erf is zoned 'heavy industrial' and is currently vacant. The erf is accessed via Mulderine Street and is located just northeast of Erf 2590. See locality maps below:

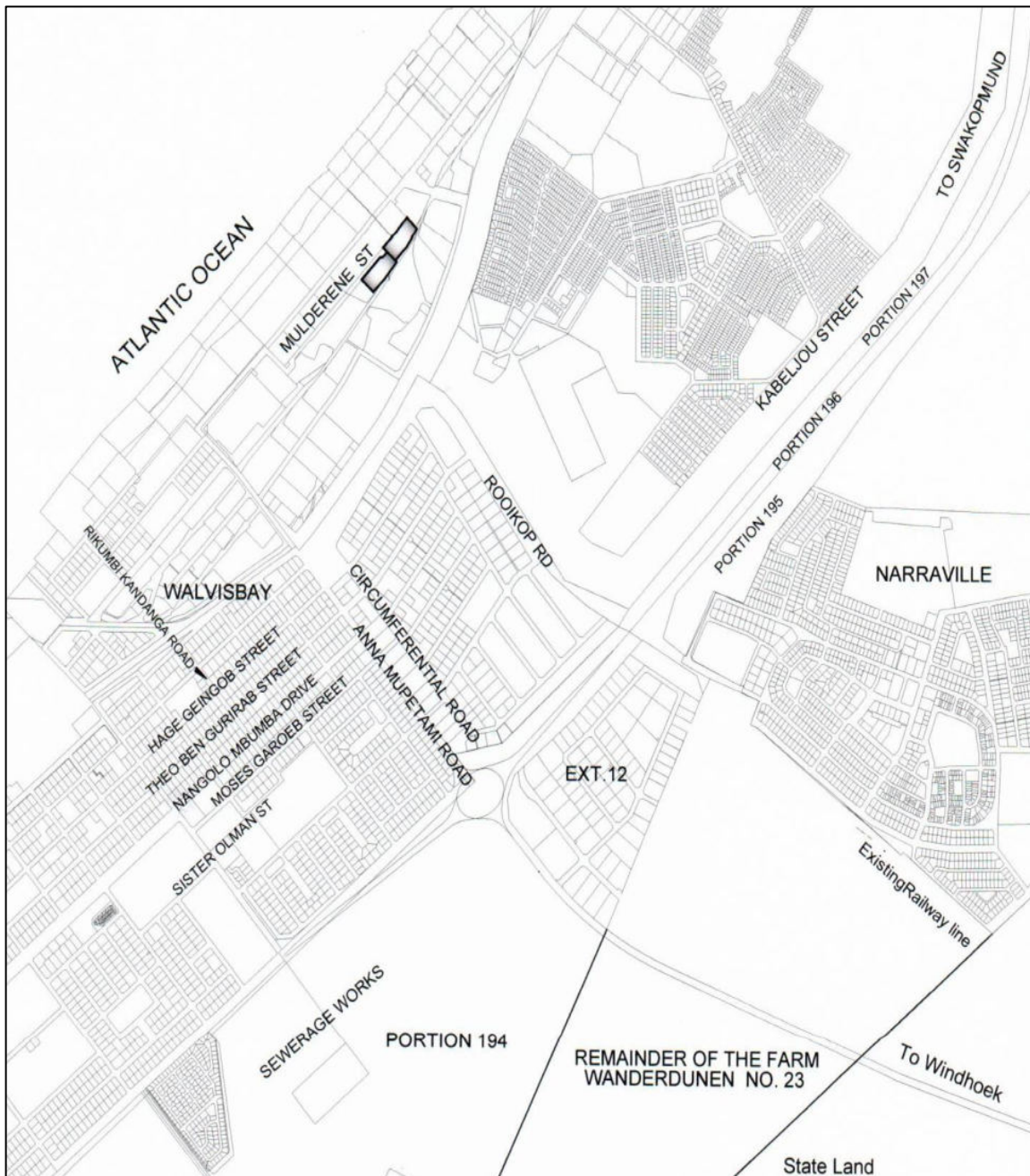


Figure 1: Location of Project Site



Figure 2: Photo with locality of Site



Figure 3: Photo with locality of site zoomed out

The erf is sloping gradually in a north easterly direction towards the rail reserve on its northeastern boundary. The topography of the erf has however been altered due to the dumping of sand and building materials thereon. Reeds are growing on patches of the erf which might be an indication of occasional surface water accumulation or a shallow ground water table.

Although a pipeline servitude is shown on diagram A155/71 and A116/76 along the southwestern boundary of the erf, it was not registered against the title of Erf 2589 (T2894/2009).

Erf 2590, Walvis Bay is 1,0745ha in extent. The erf is zoned 'heavy industrial' and is currently vacant. The erf is accessed via Mulderine Street and is located just southwest of Erf 2589.

The erf is also flat with a slight slope in a northeasterly direction. A lot of sand and building rubble has been dumped on this erf which altered its topography and reeds are also growing on certain portions of it.

Both Erven 2589 and 2590 are situated in the industrial area of Walvis Bay where mostly heavy industries were established. The erven directly adjacent to the Project Site are being used for noxious or heavy industrial uses such as:

- △ Erf Re 2884 – power station – NamPower – noxious industry
- △ Erf 2591 – manufacturing of bricks and pavers – industrial use
- △ Erf 4984 - storage and handling of containers – Gendev and Wesbank Transport – industrial use
- △ Erf 4676 – Walvis Bay Trawl – industrial use
- △ Erf Re/4965 – Erongo Red – industrial use
- △ Erf 4964 (PTN 205) – Quinn Builders – industrial use
- △ Erf 2889 – NSI (Namibian Standards Institution) – Food testing and inspection – industrial use
- △ Erf 2886 – Namibia Press and Tools – manufacturing and repairs of tools and equipment
- △ Erf 3315 – Walvis Bay Abattoir – noxious industry

### **3.2. PROJECT PROPOSAL AND DESCRIPTION**

It is the proponent's intention to construct bulk storage, handling and distribution facilities for petroleum and related products such as gasoline, diesel, kerosene, aviation gas and heavy fuel oil on both erven. In order to accommodate the planned uses, consent is required in terms of the Walvis Bay Town Planning Scheme to operate a noxious industry. The consent is subject to obtaining an ECC. See layout plans below:

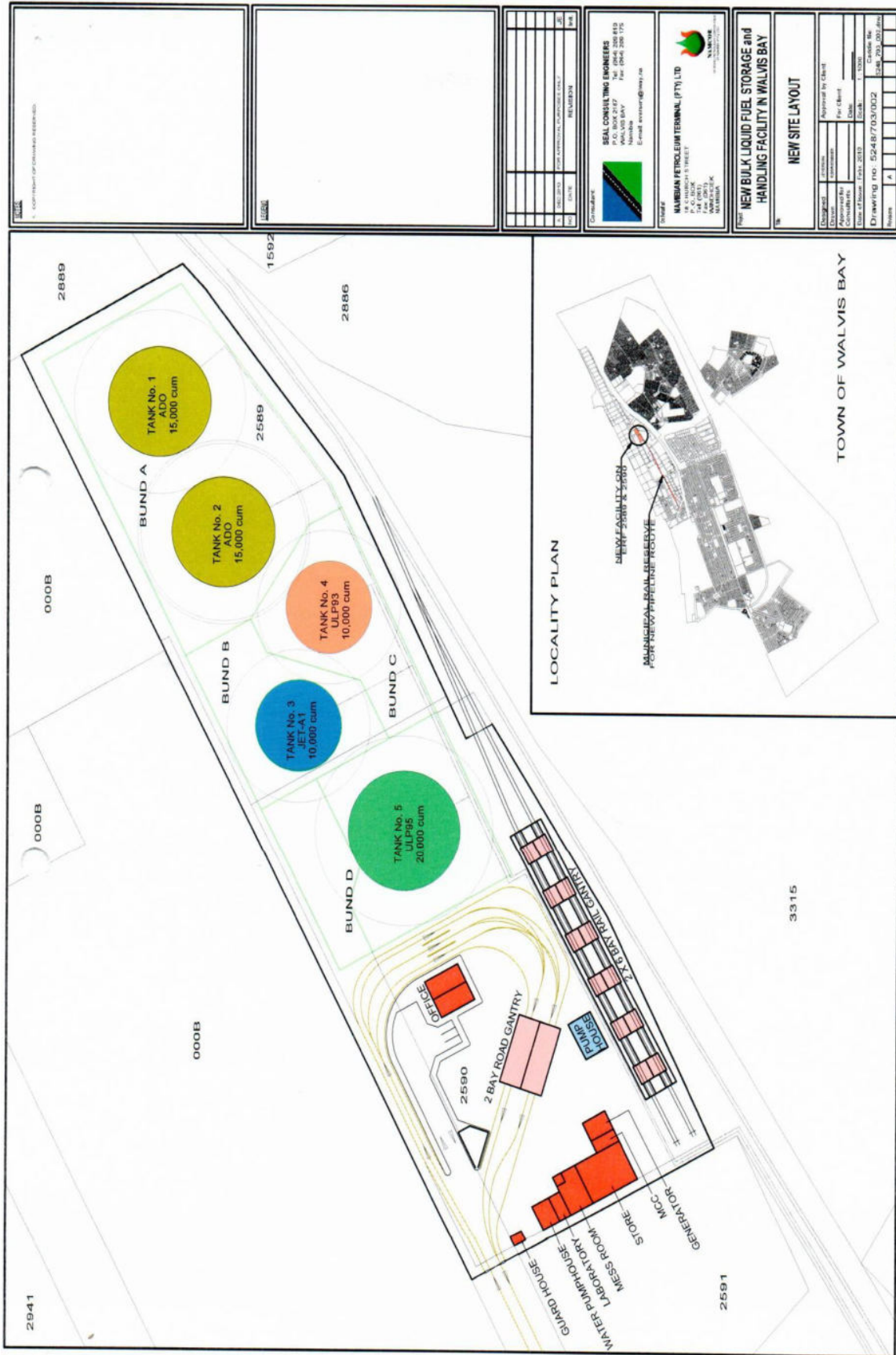


Figure 4: Layout Plan





Figure 5: Example of Tanks (Patronus Laboratories, 2020)

### 3.2.1. CREATION OF THE SITE

In order to create enough erf space to accommodate the bulk facilities and supporting infrastructure, an application was submitted to Walvis Bay Municipality to purchase Portion A of Erf 2588 (Mulderine Street) and to consolidate the portion with Erf 2589. Portion A is  $\pm 2482\text{m}^2$  and the consolidated Erf will be  $\pm 13641\text{m}^2$  in extent which will allow the proponent to construct the bulk facilities as planned and to optimize the use of Erf 2589.

The Municipality approved the purchase of the street portion (Portion A) of Erf 2588, the closure of the portion as street and for the street to be subdivided in order to create Portion A and the Remainder of Erf 2588 (Mulderine Street). The Municipality also approved that Portion A may be consolidated with Erf 2589.

Erf 2590 will be subdivided into PTN/B/2590 and the Remainder of Erf 2590. PTN/B/2590 is  $\pm 258$  and is required to create a new turning circle for Erf 2588 (Mulderine Street) in order to allow trucks and other vehicles to turn in the newly created cul-de-sac and to access erven Re/2590 and the Consolidated Erf created from the consolidation of Portion A of Erf 2588 and Erf 2589.

The Proponent appointed Du Toit Town Planning Consultants for the Town Planning Procedures for the subdivision of Mulderine Street, the closure of the street portion, the consolidation of the street portion with Erf 2589 and the subdivision of Erf 2590 to create

a street portion for the proposed turning circle. An application in this regard has already been submitted to Walvis Bay Municipality and is currently under consideration. The proposed subdivision and consolidation plans are shown below:

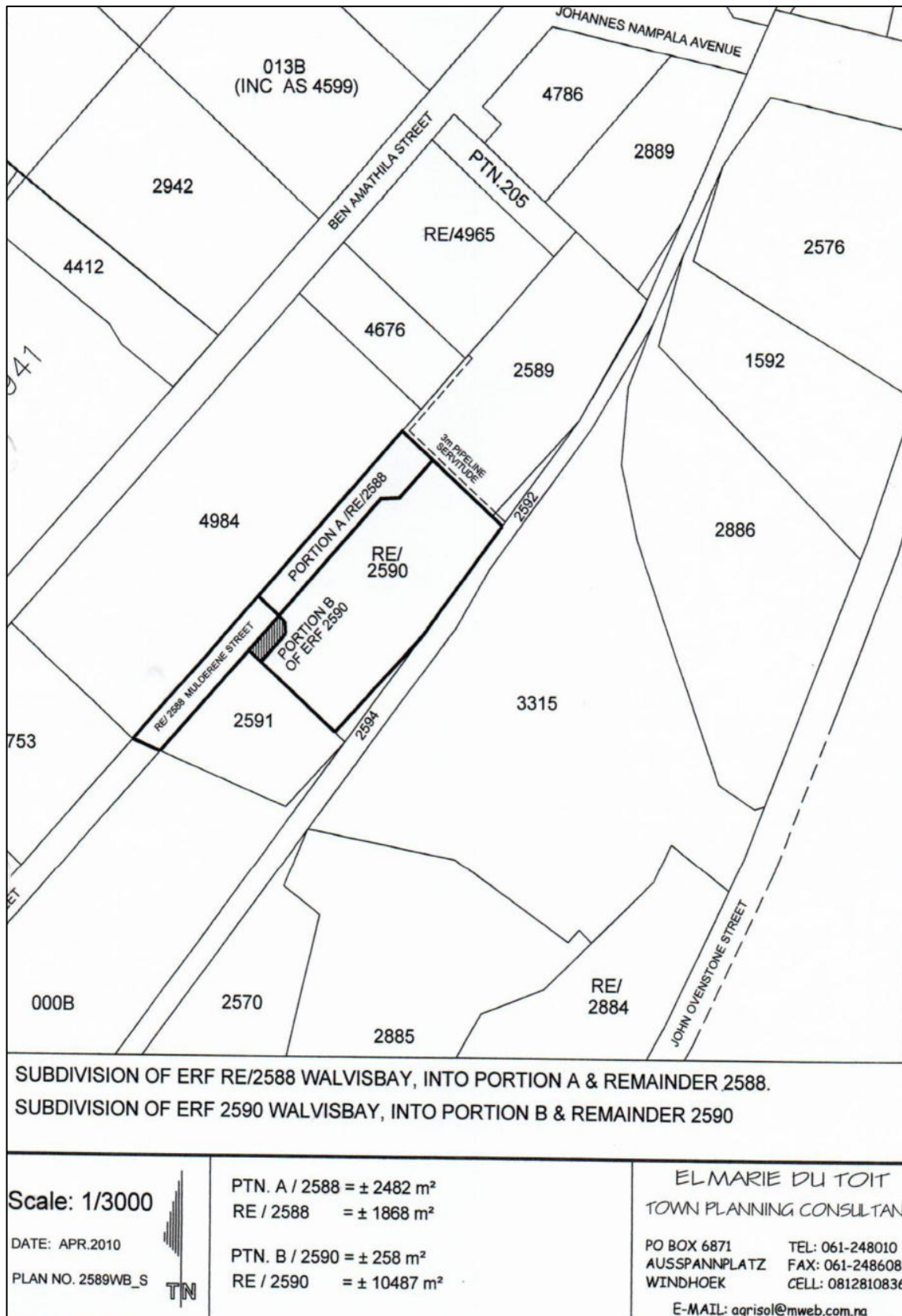


Figure 6: Subdivision Plans

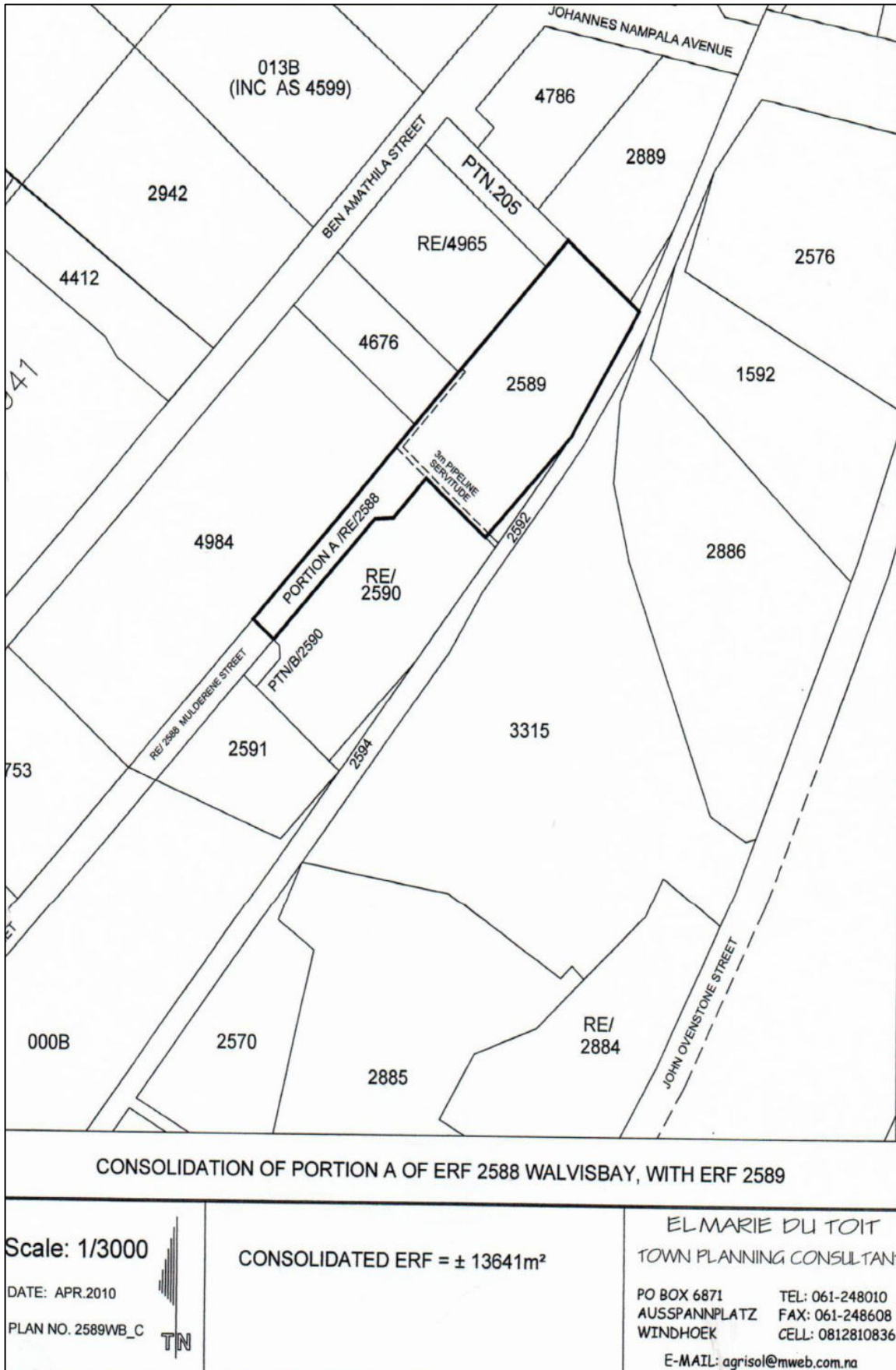


Figure 7: Consolidation Plans

After the intended subdivision and consolidation, Mulderine Street will be shortened although both erven will have a safe access from the street and a turning circle will be provided to allow large interlink trucks to turn.

### 3.2.2. BULK STORAGE AND HANDLING FACILITY

The proposed bulk storage facility will include the following:

- Five steel bulk storage tanks will be constructed for the storage of fuel. All tanks will be aboveground and have floating roofs which will prevent the release of fuel vapours to prevent the deterioration of air quality as well as losses in fuel. Tanks will also have bund areas to mitigate the risk of spillages. See proposed placement of tanks on site plan below. The site plan shows the proposed tank capacity as well as the split in product to be stored and handled.
- A pump house will be constructed (see locality on site plan below).
- Connections will be made to the existing fuel industry bulk supply pipelines bringing fuel from the tanker jetty to the existing bulk fuel storage facilities in the industrial area.
- Other infrastructure to be constructed will include an office for administrative purposes, a guard house, a laboratory (for fuel quality testing), generator room, motor control centre (MCC), a foam hut and firefighting equipment and a store.
- For loading and off-loading of fuel, a 2 x 6 bay rail gantry, as well as a 2 bay road gantry will be constructed. Both gantries will have industry approved spill control infrastructure.
- The site will have a boundary wall with one entrance and a security gate with a guard house.
- A fuel outlet will be constructed on the project site.
- To be able to store and sell fuel from the site, the proponent must install the facilities required for the handling and storage of the fuel.
- The construction of the site will only commence once an environmental clearance is obtained and the necessary permits have been issued by the Ministry of Mines and Energy (MME).

<b>Storage Tanks</b>					
<b>Tank Number:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Product:</b>	ADO	ADO	JET-A1	ULP 93	ULP 95
<b>Volume:</b>	15,000 m <sup>3</sup>	15,000 m <sup>3</sup>	10,000 m <sup>3</sup>	10,000 m <sup>3</sup>	20,000 m <sup>3</sup>

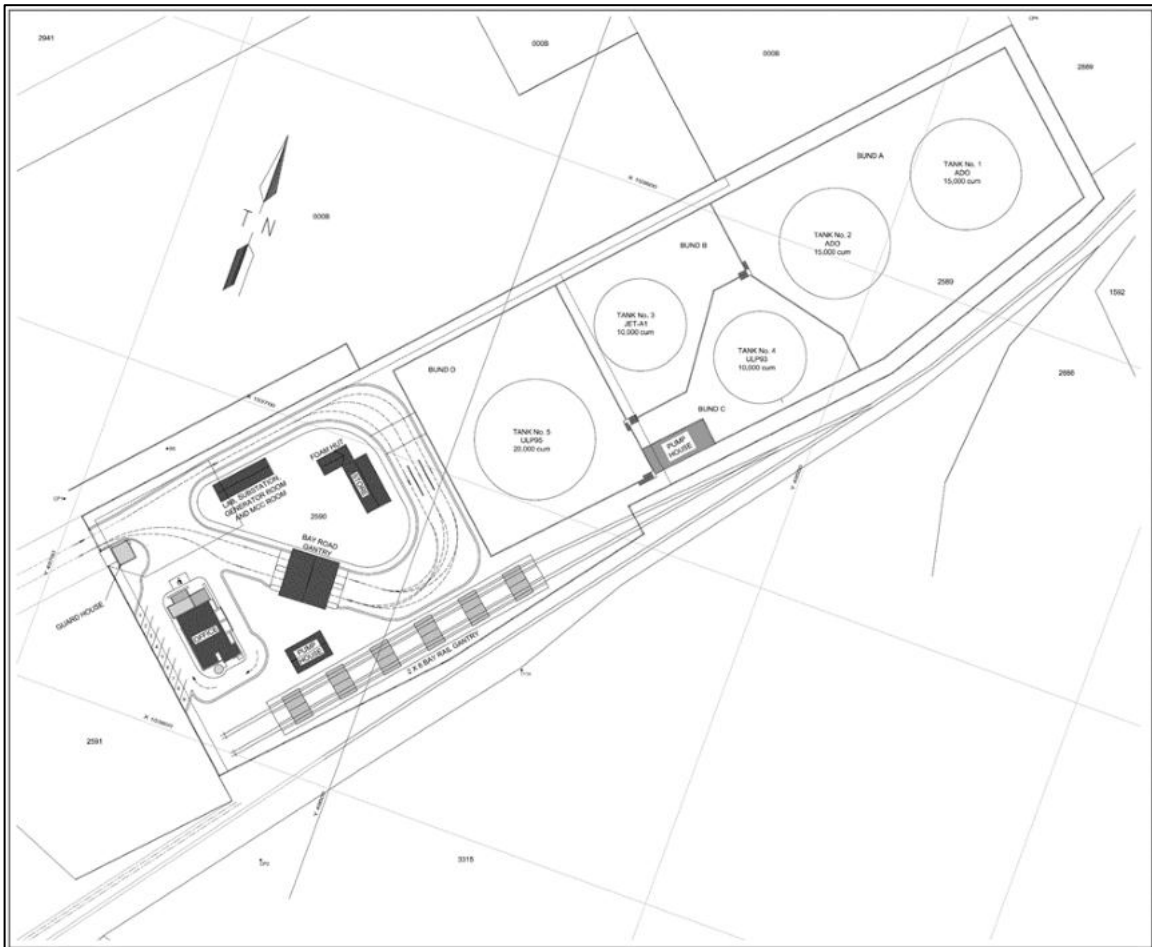


Figure 8: Site layout plan

Below is a summary of the typical operational activities on this site:

- Receiving of fuel from the fuel tanker jetty via the fuel industry pipeline;
- Storage and handling of products in on-site tanks;
- Entrance and exit of heavy and light vehicles to and from the storage facility;
- Loading of products to transportation vehicles (tanker trucks and rail tank cars) and other links (pipelines and ships) for distribution to customers;
- Entrance and exit of heavy and light vehicles to and from the storage facility;
- Circulation and parking of vehicles on the site, at the filling points, yard and offices;
- Movement of people on the site;
- Administrative activities related to the operations of the facility;

#### 4. MOTIVATION

Erven 2589 and 2590, Walvis Bay which will be used for the establishment of the bulk storage, handling and distribution facilities are situated in the industrial area of Walvis Bay.

It is believed that the intended uses (noxious and industrial) will fit in this area, and that it will not have a negative impact on the surroundings. The purchase is required to provide

for more space for the movement of large trucks. Since no-one else can make use of the street portion, the purchase can be supported. The following facts support the intended use:

- △ Due to the fact that Walvis Bay is an important port of Namibia, serving also other landlocked countries in Africa, many heavy industries and factories who depends on imports and exports via sea, set up in Walvis Bay.
- △ Walvis Bay also houses the national strategic bulk storage facilities for petroleum products both for consumption on sea as well as inland.
- △ These facilities need to be close to the harbour in order to allow direct pumping of bulk petroleum products from ships to the facilities. These erven are close to the port area used for pumping of petroleum products and can be easily linked up with existing distribution facilities.
- △ Most of the fuel depot plants are grouped together in the vicinity in John Ovenstone Street, and a concentration of these facilities are found along John Ovenstone Street north of Hanna Mupetami Street where operators like Engen, Total and BP's facilities are located.
- △ The planned facility is a similar facility as those already established and it will thus not have a negative impact on the environment, nor will it change the sky line. Other high rise buildings and storage tanks already exist in close vicinity.
- △ The short distance from the harbour has economic benefits for the transportation of the fuel and other commodities.
- △ Many high industrial and port structures, container stacks, cranes and fuel storage tanks can be observed in this specific area. The planned uses will thus blend in the industrial setting and character.
- △ The erven are not situated directly adjacent to the residential neighbourhoods.
- △ Terrain is flat, which is required for the construction of the large structures.

Due to the fact that other similar industries are already located in the area, it is the opinion that the proposed uses will not have a negative impact on the area.

## **5. CURRENT STATUS OF THE PROJECT**

The project has not been implemented. It is now the intension to proceed with the project implementation as the storage capacity is required to create extra capacity in support of the Namibian oil and gas sector which is now rapidly being established.

## **6. APPROVALS OBTAINED**

The following approvals have been obtained to allow the implementation of this project:

### **6.1. MUNICIPAL APPROVAL FOR SITE CREATION**

Walvis Bay Municipality approved the purchase of the street portion (Portion A) of Erf 2588, the closure of the portion as street and the street to be subdivided in order to create Portion A and the Remainder of Erf 2588 (Mulderine Street). The Municipality also approved that Portion A may be consolidated with Erf 2589.

The Municipality also approved the subdivision of Erf 2590 into PTN/B/2590 and the Remainder of Erf 2590. PTN/B/2590 is required to create a new turning circle for Erf 2588 (Mulderine Street) in order to allow trucks and other vehicles to turn in the newly created cul-de-sac and to access Erven Re/2590 and the Consolidated Erf created from the consolidation of Portion A of Erf 2588 and Erf 2589. See below a copy of the Municipal approval letter and date stamped plans:



## Municipality of Walvis Bay

Civic Centre · Nangolo Mbumba Drive · Private Bag 5017 · Walvis Bay · Namibia  
Phone +264 (0)64 201 3111 · Fax +264 (0)64 204 528 · www.walvisbaycc.org.na

Elmarie Du Toit  
Town planning Consultant  
P O Box 6871  
Ausspannplatz, Windhoek  
Namibia

Enquiries	Ephraim Nambahu
Phone	+264 (0)64 201 3229
Fax	+264 (0)64 206 135
Cell	
E-mail	enambahu@walvisbaycc.org.na
Date	13 June 2011

Dear Sir/Madam

**Subject** Proposed Subdivision of Remainder Erf 2588 Walvis Bay (Street) into New Portion A and Remainder Erf 2588 Walvis Bay; Proposed Subdivision of Erf 2590 Walvis Bay into New Portion B and Remainder Erf 2590 Walvis Bay and Subsequent Consolidation of New Portion A of Remainder Erf 2588 with Erf 2589 Walvis Bay

**Ref. No.** REM 2588/2589/2590 W

I refer to the above.

I have pleasure in advising that the Town Planner has, under delegated authority, approved your application, subject to the conditions contained in **Annexure A** and **Annexure B**.

Your attention is drawn to **Condition B of Annexure A**, of the approval that requires that the application be lodged with the Townships Board. After approval of the application by the Townships Board, necessary survey diagrams need to be prepared, by a land surveyor of your choice, for approval by the Surveyor General. Thereafter, registration of the title deed, by an attorney/conveyancer of your choice, must take place in the Deeds Office. Please note that should the subdivision not be registered in the Deeds Office within two years of the date of this letter, this approval shall lapse.

You are required to advise the Municipal Council of the diagrams by the Surveyor General and of the registration of the title deed in the Deeds Office, and to provide the Municipal Council with relevant documents set out above.

Please note that no building plans, development proposal or site development will be permitted until such time that registration of the diagrams has taken place in the Deeds Office, and you have provided the Municipal Council with the documents set out above.

Yours faithfully

**M Haingura**  
Acting Chief Executive Officer



Please address all correspondence to the Chief Executive Officer



# ANNEXURE A

SUBDIVISION OF REMAINDER ERF 2588 WALVIS BAY (STREET) INTO NEW PORTION A, SUBDIVISION OF ERF 2590 WALVIS BAY INTO NEW PORTION B AND SUBSEQUENT CONSOLIDATION OF NEW PORTION A OF REMAINDER ERF 2588 WALVIS BAY WITH ERF 2589 WALVIS BAY

## SUBDIVISION AND CONSOLIDATION CONDITIONS:

- A. THAT, CONSENT BE GRANTED FOR THE SUBDIVISION OF REMAINDER ERF 2588 WALVIS BAY (STREET) INTO NEW PORTION A, SUBDIVISION OF ERF 2590 WALVIS BAY INTO NEW PORTION B AND CONSOLIDATION OF NEW PORTION A OF REMAINDER ERF 2588 WALVIS BAY WITH ERF 2589 WALVIS BAY AS INDICATED ON DRAWINGS 2589WB\_S AND 2589WB\_C, WHICH BEAR THE MUNICIPAL COUNCIL'S STAMP OF APPROVAL.

THE SUBDIVISION OF REMAINDER ERF 2588 WALVIS BAY (STREET) INTO NEW PORTION A AND REMAINDER WILL BE AS FOLLOWS:

REMAINDER ERF 2588 WALVIS BAY (STREET)	±	4 350 m <sup>2</sup>
NEW PORTION A OF REMAINDER ERF 2588 WALVIS BAY (STREET)	±	2 482 m <sup>2</sup>
REMAINDER ERF 2588 WALVIS BAY (STREET)	±	1 868 m <sup>2</sup>

THE SUBDIVISION OF ERF 2590 WALVIS BAY INTO NEW PORTION B AND REMAINDER WILL BE AS FOLLOWS:

ERF 2590 WALVIS BAY	±	10 745 m <sup>2</sup>
NEW PORTION B	±	258 m <sup>2</sup>
REMAINDER ERF 2590 WALVIS BAY	±	10 487 m <sup>2</sup>

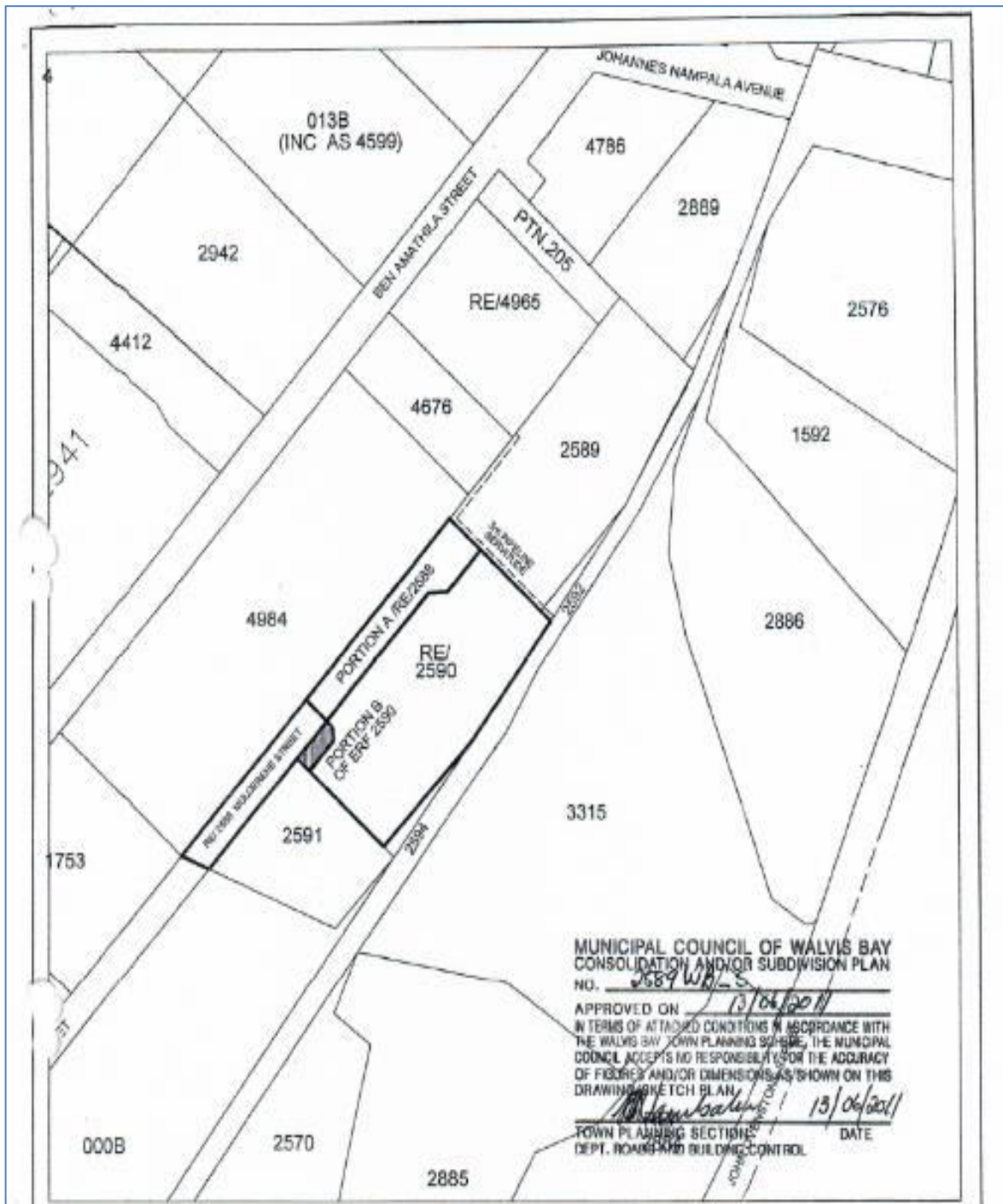
THE SUBSEQUENT CONSOLIDATION OF NEW PORTION A OF REMAINDER ERF 2588 WALVIS BAY (STREET) WITH ERF 2589 WALVIS BAY INTO NEW CONSOLIDATED PORTION C WILL BE AS FOLLOWS:

ERF 2589 WALVIS BAY	±	11 159 m <sup>2</sup>
NEW PORTION A OF REMAINDER ERF 2588 WALVIS BAY (STREET)	±	258 m <sup>2</sup>
NEW CONSOLIDATED PORTION C	±	13 841 m <sup>2</sup>

THE SUBDIVISION AND CONSOLIDATION WILL FURTHER BE SUBJECT TO THE FOLLOWING CONDITIONS:

- i. THAT THE CONDITIONS PRESENTLY REGISTERED AGAINST THE ERVEN BE CANCELLED, AND BE REPLACED BY THE USUAL "SHORT" CONDITIONS (**ANNEXURE B**).
- ii. THAT NO CONDITIONS BE REGISTERED AGAINST REMAINDER ERF 2588 WALVIS BAY (MULDERENE STREET).
- iii. THAT NO CONDITIONS BE REGISTERED AGAINST THE NEW STREET PORTION.
- iv. THAT THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT AND CLEARANCE CERTIFICATE BE SUBMITTED BY NAMCOR OR ITS REPRESENTATIVE DIRECTLY TO THE MUNICIPALITY PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORK.
- v. THAT THE WATERPIPE ALONG THE SOUTHWESTERN BOUNDARY OF ERF 2589 WALVIS BAY BE RELOCATED TO THE SOUTHWESTERN BOUNDARY OF ERF 2590 WALVIS BAY, AND THAT THE SERVITUDE OVER ERF 2589 WALVIS BAY BE CANCELLED.
- vi. THAT A NEW SERVITUDE BE REGISTERED ALONG THE SOUTHWESTERN BOUNDARY OF ERF 2590 WALVIS BAY TO PROTECT THE WATERPIPE.
- vii. THAT THE NEWLY CREATED PORTION BE PROVIDED WITH ONE ELECTRICITY, WATER AND SEWERAGE CONNECTION ONLY.
- viii. THAT THE APPLICANT BE RESPONSIBLE FOR NEW ENTRANCES.

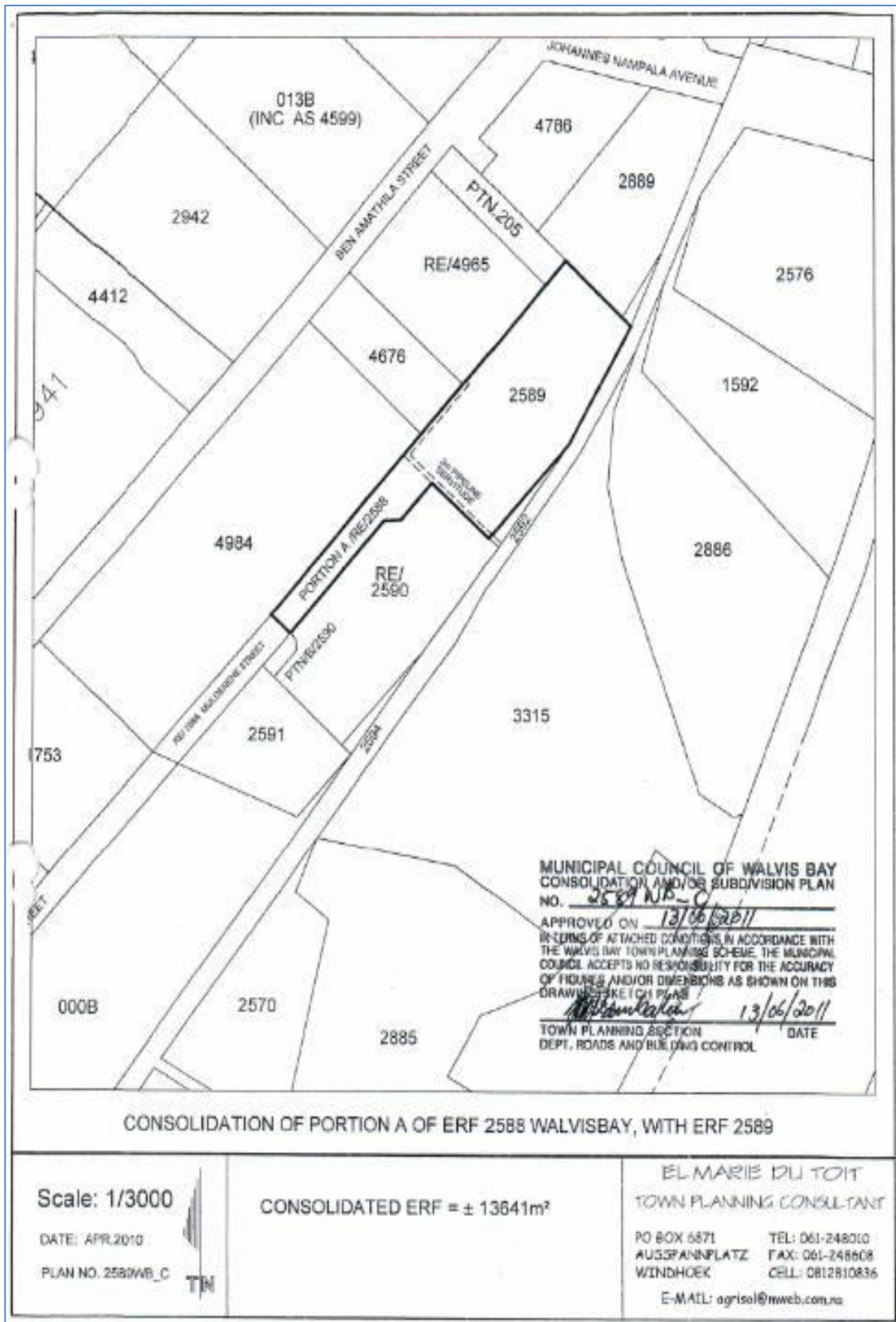




MUNICIPAL COUNCIL OF WALVIS BAY  
 CONSOLIDATION AND/OR SUBDIVISION PLAN  
 NO. 2589 WB/S  
 APPROVED ON 13/06/2011  
 IN TERMS OF ATTACHED CONDITIONS IN ACCORDANCE WITH  
 THE WALVIS BAY TOWN PLANNING SCHEME, THE MUNICIPAL  
 COUNCIL ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY  
 OF FIGURES AND/OR DIMENSIONS AS SHOWN ON THIS  
 DRAWING SKETCH PLAN.  
 TOWN PLANNING SECTION DATE  
 DEPT. ROADS AND BUILDING CONTROL

SUBDIVISION OF ERF RE/2588 WALVISBAY, INTO PORTION A & REMAINDER 2588.  
 SUBDIVISION OF ERF 2590 WALVISBAY, INTO PORTION B & REMAINDER 2590

<p>Scale: 1/3000</p> <p>DATE: APR.2010</p> <p>PLAN NO. 2589WB/S</p>	<p>PTN. A / 2588 = ± 2482 m<sup>2</sup></p> <p>RE / 2588 = ± 1868 m<sup>2</sup></p> <p>PTN. B / 2590 = ± 258 m<sup>2</sup></p> <p>RE / 2590 = ± 10467 m<sup>2</sup></p>	<p>EL-MARIE DU TOIT        TOWN PLANNING CONSULTANT</p> <p>PO BOX 6871 TEL: 061-248010        AUSSPANPLATZ FAX: 061-248608        WINDHOEK CELL: 0812810836</p> <p>E-MAIL: agriso1@web.com.na</p>
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The above documentation confirms the Walvis Bay Municipality's support of the project.

## 6.2. ENVIRONMENTAL CLEARANCE CERTIFICATE

The current Environmental Clearance Certificate was issued by the Ministry of Environment, Forestry and Tourism on 20 October 2020 which expired on 20 October 2023. See below a copy of the current Certificate:

ECC – 01030 Serial: IblcJN1030



**REPUBLIC OF NAMIBIA**  
**MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM**  
OFFICE OF THE ENVIRONMENTAL COMMISSIONER

**ENVIRONMENTAL CLEARANCE CERTIFICATE**  
ISSUED

In accordance with Section 37(2) of the Environmental Management Act (Act No. 7 of 2007)

TO

**Namibian Petroleum Terminal (Pty) Ltd**  
P O Box 11073, Windhoek

TO UNDERTAKE THE FOLLOWING LISTED ACTIVITY

**CLOSURE OF PORTION A OF ERF 2588 (MULDERINE STREET) AS STREET, THE CREATION OF PORTION B OF ERF 2590 AS STREET AND THE CONSTRUCTION OF FACILITIES AND STORAGE AND HANDLING OF PETROLEUM PRODUCTS ON ERVEN 2589 AND 2590, WALVIS BAY, ERONGO REGION**

Issued on the date: **2020-10-20**  
Expires on this date: **2023-10-20**

*(See conditions printed over leaf)*

This certificate is printed without erasures or alterations



Figure 9: Clearance Certificate

The purpose of this submission is to renew the Environmental Clearance for a further 3 (three) years to allow the Proponent to continue with the implementation of the project.

## **7. BULK SERVICES AND INFRASTRUCTURE PROVISION**

The site has the following bulk services:

### **7.1. ACCESS AND INTERNAL ROADS**

The main access to the proposed project site will be obtained from Mulderine Street.

### **7.2. WATER SUPPLY**

Water will be supplied directly from the municipality's water reticulation system.

### **7.3. ELECTRICITY RETICULATION**

Electricity will be supplied by the municipality's electrical distribution network.

### **7.4. SEWAGE TREATMENT AND DISPOSAL**

The sewage will be connected to the sewer system of the municipality.

### **7.5. SOLID WASTE DISPOSAL/REFUSE REMOVAL**

Solid waste disposal will be done in accordance with the regulations of the municipality.

### **7.6. STORMWATER MANAGEMENT**

The stormwater management system will be accommodated in the building plans.

### **7.7. FIRE PROTECTION**

The Proponent will put in the necessary fire protection infrastructure / extinguishers as per requirements. It is advised that a specialist Fire Protection Specialist is contracted to introduce a proper fire protection plan with the required infrastructure and to oversee the annual auditing and maintenance of the infrastructure.

## **8. ASSUMPTIONS AND LIMITATIONS**

It is assumed that the information provided by the proponent (Namibian Petroleum Terminal (Pty) Ltd), Du Toit Town Planning Consultants and other relevant parties are

accurate. Alternative sites were not evaluated as the proposed site is the site owned by the proponent. The site was visited several times and any happenings after this are not mentioned in this report. (The assessment was based on the prevailing environmental conditions and not on future happenings on the site.) However, it is assumed that there will be no significant changes to the proposed project, and the environment will not adversely be affected between the compilation of the assessment and the implementation of the proposed activities.

## **9. ADMINISTRATIVE, LEGAL AND POLICY REQUIREMENTS**

To protect the environment and achieve sustainable development, all projects, plans, programs and policies deemed to have adverse impacts on the environment require an EIA according to Namibian legislation. The administrative, legal and policy requirements to be considered during the Environmental Assessment for the proposed project are the following:

- THE NAMIBIAN CONSTITUTION
- THE ENVIRONMENTAL MANAGEMENT ACT (NO. 7 OF 2007)
- THE WALVIS BAY TOWN PLANNING SCHEME
- OTHER LAWS, ACTS, REGULATIONS AND POLICIES

### **THE NAMIBIAN CONSTITUTION**

Article 95 of Namibia's constitution provides that:

"The State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the following:

Management of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future; in particular, the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory." This article recommends that a relatively high level of environmental protection is called for in respect of pollution control and waste management.

Article 144 of the Namibian Constitution deals with environmental law and it states:

"Unless otherwise provided by this Constitution or Act of Parliament, the general rules of public international agreements binding upon Namibia under this Constitution shall form part of the law of Namibia". This article incorporates international law, if it conforms to the Constitution, automatically as "law of the land". These include international agreements, conventions, protocols, covenants, charters, statutes, acts, declarations, concords, exchanges of notes, agreed minutes, memoranda of understanding, and agreements (*Ruppel & Ruppel-Schlichting, 2013*).

## **CONCLUSION AND IMPACT**

In considering the environmental rights, Namibian Petroleum Terminal (Pty) Ltd should consider the following in devising an action plan in response to the articles:

- Implement a “zero-harm” policy that would guide decisions.
- Ensure that no management practice or decision result in the degradation of future natural resources.
- Take a decision on how this part of the Constitution will be implemented as part of Namibian Petroleum Terminal (Pty) Ltd’s Environmental Control System (ECS).

## **ENVIRONMENTAL MANAGEMENT ACT (NO. 7 OF 2007)**

The Environmental Impact Assessment Regulations (GN 30 in GG 4878 of 6 February 2012) of the Environmental Management Act (No. 7 of 2007) that came into effect in 2012 requires/recommends that an Environmental Impact Assessment Renewal and an Environmental Management Plan Renewal be conducted for the following listed activities in order to obtain an Environmental Clearance Certificate:

### ***ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES***

- *The construction of facilities for the refining of gas, oil and petroleum products;*

### ***HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE***

- *The storage and handling of dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.*
- *Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid, petroleum, gas or paraffin.*

### ***LAND USE AND DEVELOPMENT ACTIVITIES***

- *The rezoning of land from zoned open space (reserved as street) to any other land use.*

### ***INFRASTRUCTURE***

- *The route determination of roads and design of associated physical infrastructure where:*
  - (a) it is a public road;*
  - (b) the road reserve is wider than 30 meters; or*
  - (c) the road caters for more than one lane of traffic in both directions.*

Cumulative impacts associated with the development must be included as well as public consultation. The Act further requires all major industries to prepare waste management plans and present these to the local authorities for approval.

The Act, Regulations, Procedures and Guidelines have integrated the following sustainability principles. They need to be given due consideration, particularly to achieve proper waste management and pollution control:

### **Cradle to Grave Responsibility**

This principle provides that those who handle or manufacture potentially harmful products must be liable for their safe production, use and disposal and that those who initiate potentially polluting activities must be liable for their commissioning, operation and decommissioning.

### **Precautionary Principle**

If there is any doubt about the effects of a potentially polluting activity, a cautious approach must be adopted.

### **The Polluter Pays Principle**

A person who generates waste or causes pollution must, in theory, pay the full costs of its treatment or of the harm, which it causes to the environment.

### **Public Participation and Access to Information**

The intention to use the erven for a 'noxious industry' was advertised. Notices appeared in the Namib Times and the Namibian of 7 and 13 April 2017. Letters were also sent per registered post to the surrounding erf owners. None of the adjacent neighbours had any comments/objections on the advertisement.

Notices were also placed on the erf. Notices were also handed to the Municipality for placing on their notice board at the Municipal Building.

In the context of environmental management, citizens must have access to information and the right to participate in decisions making.

### **CONCLUSION AND IMPACT**

The proposed project site has been assessed in terms of the Environmental Management Act (No. 7 of 2007) and the Regulations (2012). From the assessment, it can be concluded that the activities will have impacts on the prevailing environment but that the negative impacts can be sufficiently mitigated and managed by following the Environmental Management Plan which is part of this document.

### **THE WALVIS BAY TOWN PLANNING SCHEME**

Walvis Bay Town Planning Amendment Scheme No. 35 (7 December 2015) applies to the area as indicated on the scheme maps and corresponds with the Townlands Diagram for



Walvis Bay Town and Townlands. Erven 2589 and 2590, Walvis Bay falls within the area of the Scheme.

The general purpose of this Scheme is the coordinated and harmonious development of the area of Walvis Bay (including, where necessary, the reconstruction and redevelopment of any part which has already been subdivided whether there are buildings on it or not) in such a way as will most effectively tend to promote health, safety, order, amenity, convenience and general welfare as well as efficiency and economy in the process of development and improvement of communications, and where it is expedient in order to promote proper planning or development, may provide for the suspending the operation of any provision of law or any bylaw or regulation made under such law, in so far as such provision is similar to or inconsistent with any of the provisions so the Scheme.

According to the Town Planning Scheme, Erven 2589 and 2590 is zoned 'heavy industrial'. Clause 20 of the Town Planning Scheme allows the primary uses as stipulated below on an erf which is zoned 'heavy industrial':

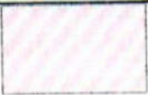
COLUMN (1) Zone	COLUMN (2) Map Reference	COLUMN (3) Purposes for which the land may be used and buildings may be erected and used	COLUMN (4) Purposes for which land may be used and buildings may be erected and used with the Consent of Council
Heavy Industrial		<ul style="list-style-type: none"> <li>. Noxious Industry</li> <li>. Industrial Building</li> <li>. Panel Beating</li> <li>. Scrap Yard</li> <li>. Warehouse</li> <li>. Storage Premises</li> <li>. Building Yard</li> </ul>	<ul style="list-style-type: none"> <li>. Light Industry</li> <li>. Service Industry</li> <li>. Service Station</li> <li>. Office Premises</li> <li>. Truck Port</li> <li>. Business Premises</li> <li>. Retail</li> <li>. Caretaker Unit</li> </ul>

Figure 10: Town Planning Scheme

<b>CONCLUSION AND IMPACT</b>
<p>The Town Planning Scheme confirms that Erven 2589 and 2590, Walvis Bay may be used for a noxious storage premises as it is included as a 'primary use' as per Clause 20.1 of the Scheme.</p>

Table 1: Other laws, acts, regulations and policies

<b>Laws, Acts, Regulations &amp; Policies consulted:</b>		
<b>Electricity Act (No. 4 of 2007)</b>	In accordance with the Electricity Act (No. 4 of 2007) which provides for the establishment of the Electricity Control Board and provide for its powers and functions; to provide for the requirements and conditions for obtaining licenses for the provision of electricity; to provide for the	The Proponent must abide to the Electricity Act.

	powers and obligations of licenses; and to provide for incidental matters: the necessary permits and licenses will be obtained.	
<b>Pollution Control and Waste Management Bill (guideline only)</b>	The <b>Pollution Control and Waste Management Bill</b> is currently in preparation and is therefore included as a guideline only. Of reference to the mining, Parts 2, 7 and 8 apply. Part 2 provides that no person shall discharge or cause to be discharged, any pollutant to the air from a process except under and in accordance with the provisions of an air pollution license issued under section 23. Part 2 also further provides for procedures to be followed in license application, fees to be paid and required terms of conditions for air pollution licenses. Part 7 states that any person who sells, stores, transports or uses any hazardous substances or products containing hazardous substances shall notify the competent authority, in accordance with subsection (2), of the presence and quantity of those substances. The competent authority for the purposes of section 74 shall maintain a register of substances notified in accordance with that section and the register shall be maintained in accordance with the provisions. Part 8 provides for emergency preparedness by the person handling hazardous substances, through emergency response plans.	The Proponent must adhere to the Pollution Control and Waste Management Bill.
<b>Water Resources Management Act</b>	The <b>Water Resources Management Act (No. 11 of 2013)</b> stipulates conditions that ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to	The Act must be consulted. Fresh water abstraction and waste-water discharge permits should be obtained when required.

	ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner.	
<b>Solid and Hazardous Waste Management Regulations: Local Authorities 1992</b>	Provides for management and handling of industrial, business and domestic waste.	The Proponent must abide to the solid waste management provisions.
<b>Hazardous Substances Ordinance (No. 14 of 1974)</b>	The <b>Ordinance</b> applies to the manufacture, sale, use, disposal and dumping of hazardous substances, as well as their import and export and is administered by the Minister of Health and Social Welfare. Its primary purpose is to prevent hazardous substances from causing injury, ill-health or the death of human beings.	The Proponent must abide to the Ordinance's provisions.
<b>Atmospheric Pollution Prevention Ordinance of Namibia (No. 11 of 1976)</b>	Part 2 of the <b>Ordinance</b> governs the control of noxious or offensive gases. The Ordinance prohibits anyone from carrying on a scheduled process without a registration certificate in a controlled area. The registration certificate must be issued if it can be demonstrated that the best practical means are being adopted for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process.	The proponent should adhere to the stipulations of the Atmospheric Pollution Prevention Ordinance.
<b>Nature Conservation Ordinance</b>	The <b>Nature Conservation Ordinance (No. 4 of 1975)</b> covers game parks and nature reserves, the hunting and protection of wild animals, problem animals, fish and indigenous plant species. The Ministry of Environment, Forestry and Tourism (MEFT) administer it and provides for the establishment of the Nature Conservation Board.	The proposed project implementation is not located in a demarcated conservation area, national park or unique environments.

<b>Forestry Act</b>	The <b>Forestry Act (No. 12 of 2001)</b> specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license.	No removal of protected tree species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should be consulted when required.
<b>EU Timber Regulation: FSC (2013)</b>	Forest Stewardship Council (FSC) came into effect in March 2013, with the aim of preventing sales of illegal timber and timber products in the EU market. Now, any actor who places timber or timber products on the market for the first time must ensure that the timber used has been legally harvested and, where applicable, exported legally from the country of harvest.	The Proponent is advised to adhere to the regulation.
<b>Labour Act</b>	The <b>Labour Act (No. 11 of 2007)</b> contains regulations relating to the Health, Safety and Welfare of employees at work. These regulations are prescribed for among others safety relating to hazardous substances, exposure limits and physical hazards. Regulations relating to the Health and Safety of Employees at Work are promulgated in terms of the Labour Act 6 of 1992 (GN156, GG1617 of 1 August 1997).	The proponent and contractor should adhere to the Labour Act.
<b>Communal Land Rights</b>	Communal land is land that belongs to the State and is held in trust for the benefit of the traditional communities living in those areas. Communal land cannot be bought or sold, but one can be given a customary land right or right of leasehold to a part of communal land in accordance with the provisions of the <b>Communal Land Reform Act (No. 5 of 2002)</b> and <b>Communal</b>	Consent should be obtained from Traditional Authorities, Communal Boards, Chiefs, Kings, Queens etc. if required.

	<p><b>Land Reform Amendment Act (No. 13 of 2013).</b> The Communal Land Reform Act provide for the allocation of rights in respect of communal land to establish Communal Land Boards to provide for the powers of Chiefs and Traditional Authorities and boards in relation to communal land and to make provision for incidental matters. Consent and access to land for the proposed project should be requested from the relevant traditional authority through the Regional Council and Regional Communal Land Boards.</p>	
<p><b>Traditional Authorities Act (No. 17 of 1995)</b></p>	<p>The <b>Traditional Authorities Act (No. 17 of 1995)</b> provide for the establishment of traditional authorities, the designation and recognition of traditional leaders; to define their functions, duties and powers; and to provide for matters incidental thereto.</p>	<p>Traditional Authorities should be consulted when required.</p>
<p><b>Public and Environmental Health Act</b></p>	<p>The Public and Environmental Health Act (No. 1 of 2015) provides with respect to matters of public health in Namibia. The objects of this Act are to: (a) promote public health and wellbeing; (b) prevent injuries, diseases and disabilities; (c) protect individuals and communities from public health risks; (d) encourage community participation in order to create a healthy environment; and (e) provide for early detection of diseases and public health risks.</p>	<p>The proponent and contractor should adhere to the Public and Environmental Health Act.</p>
<p><b>National Heritage Act (No. 27 of 2004)</b></p>	<p>All protected heritage resources discovered need to be reported immediately to the National Heritage Council (NHC) and require a permit from the NHC before it may be relocated. This should be applied from the NHC.</p>	<p>The National Heritage Council should be consulted when required.</p>
<p><b>National Monuments Act of</b></p>	<p>No person shall destroy, damage, excavate, alter, remove from its</p>	<p>The proposed site for development is not within any known monument site both</p>

<p><b>Namibia (No. 28 of 1969) as amended until 1979</b></p>	<p>original site or export from Namibia:  (a) any meteorite or fossil; or  (b) any drawing or painting on stone or a petroglyph known or commonly believed to have been executed by any people who inhabited or visited Namibia before the year 1900 AD; or  (c) any implement, ornament or structure known or commonly believed to have been used as a mace, used or erected by people referred to in paragraph; or  (d) the anthropological or archaeological contents of graves, caves, rock shelters, middens, shell mounds or other sites used by such people; or  (e) any other archaeological or palaeontological finds, material or object; except under the authority of and in accordance with a permit issued under this section.</p>	<p>movable or immovable as specified in the Act, however in such an instance that any material or sites or archeologic importance are identified, it will be the responsibility of the developer to take the required route and notify the relevant commission.</p>
<p><b>Public Health Act (No. 36 of 1919)</b></p>	<p>Under this act, in section 119: “No person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.”</p>	<p>The proponent will ensure that all legal requirements of the project in relation to protection of the health of their employees and surrounding residents is protected and will be included in the EMP. Relevant protective equipment shall be provided for employees in construction. The development shall follow requirements and specifications in relation to water supply and sewerage handling and solid waste management so as not to threaten public health of future residents on this piece of land.</p>
<p><b>Soil Conservation Act (No. 76 of 1969)</b></p>	<p>The objectives of this Act are to: Make provisions for the combating and prevention of soil erosion; Promote the conservation, protection and improvement of the</p>	<p>Only the area required for the operations should be cleared from vegetation to ensure the minimum impact on the soil through clearance for construction.</p>

	soil, vegetation, sources and resources of the Republic;	
<b>Air Quality Act (NO. 39 of 2004)</b>	The <b>Air Quality Act (No. 39 of 2004)</b> intends to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and for matters incidental thereto.	The proponent and contractor should adhere to the Air Quality Act.
<b>Vision 2030 and National Development Plans</b>	Namibia's overall development ambitions are articulated in the Nation's Vision 2030. At the operational level, five-yearly national development plans (NDP's) are prepared in extensive consultations led by the National Planning Commission in the Office of the President. Currently the Government has so far launched a 4th NDP which pursues three overarching goals for the Namibian nation: high and sustained economic growth; increased income equality; and employment creation.	The proposed project is an important element in employment creation.

## **CONCLUSION AND IMPACT**

It is believed the above administrative, legal and policy requirements which specifically guide and governs development will be followed and complied with in the planning, implementation and operations of the activity.

A flowchart indicating the entire EIA process is shown in the *Figure* below:

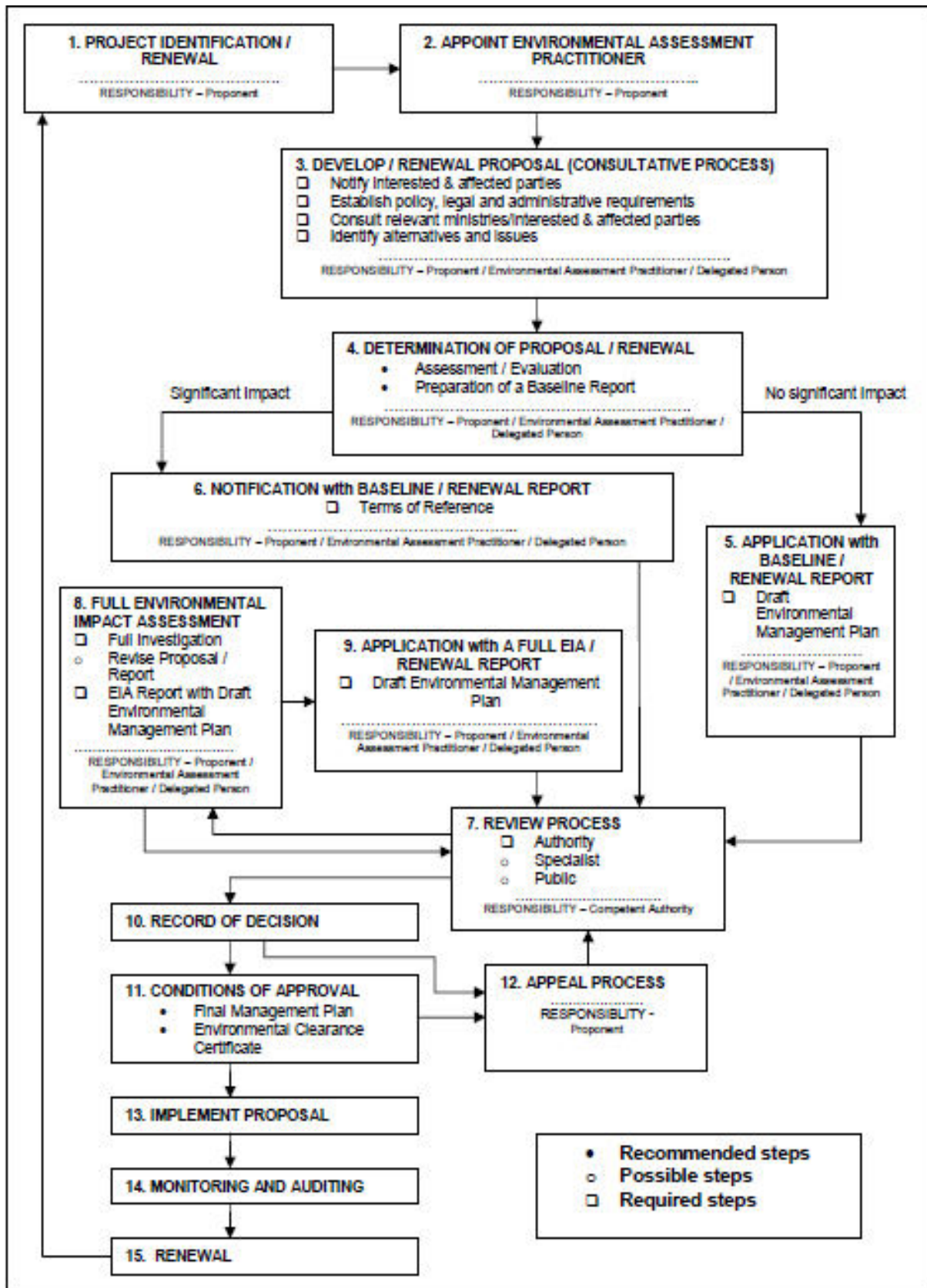


Figure 11: Flowchart of the assessment Process



## 10. AFFECTED NATURAL AND SOCIAL ENVIRONMENT

### 10.1. CLIMATE

A summary of climate conditions is presented below:

*Table 2: Climate Data*

<b>Classification of climate</b>	Desert
<b>Precipitation</b>	0-50
<b>Variation in annual rainfall (%)</b>	<100
<b>Average annual evaporation (mm/a)</b>	2400-2600
<b>Water deficit (mm/a)</b>	1701-1900
<b>Fog</b>	Approximately 900 hours of fog per year
<b>Temperature</b>	Average maximum: Between 24°C in March/April and 19.3°C in September Average minimum: Between 16.5°C in February and 9°C in August Average annual >16°C

Strong winds in the coastal areas may aggravate dust impacts during the construction phase. The fuel storage and handling facilities as well as the supporting structures to be constructed must meet all prescribed Municipal requirements and therefore should not pose any environmental threat due to Walvis Bay's climatic conditions. See map below showing temperatures:

#### **CONCLUSION AND IMPACT**

The project will not have an impact on the climate.

### 10.2. GEOLOGY, SOILS AND GEOHYDROLOGY

Groundwater is not abstracted for human consumption in Walvis Bay. The Municipality of Walvis Bay currently purchases fresh/potable water from NamWater, which source water from the Kuiseb Water Supply Scheme. See geology map below:

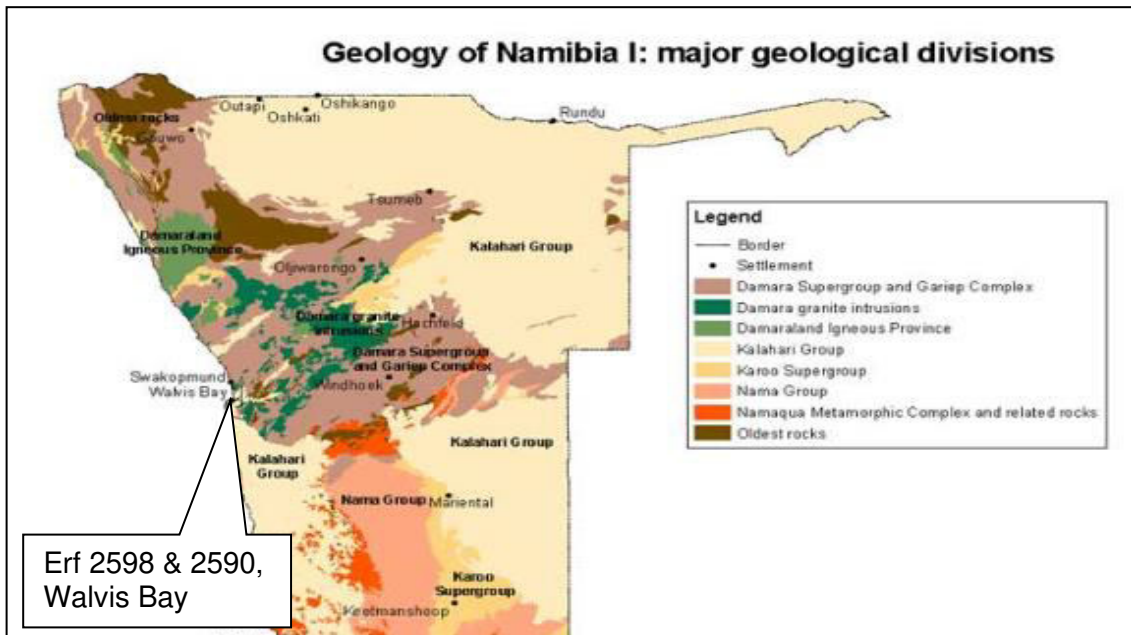


Figure 12: Geological Divisions (Atlas of Namibia)

**CONCLUSION AND IMPACT**

The development will not impact on the geology, soils and geohydrology of the area. The surface drainage canals will be kept open in order that water can flow through.

### 10.3. BIODIVERSITY AND VEGETATION

Erven 2589 and 2590, Walvis Bay are located within the already established industrial area. The habitat for fauna is therefore fragmented. There is no noteworthy fauna or flora present at the site. See biome map below:

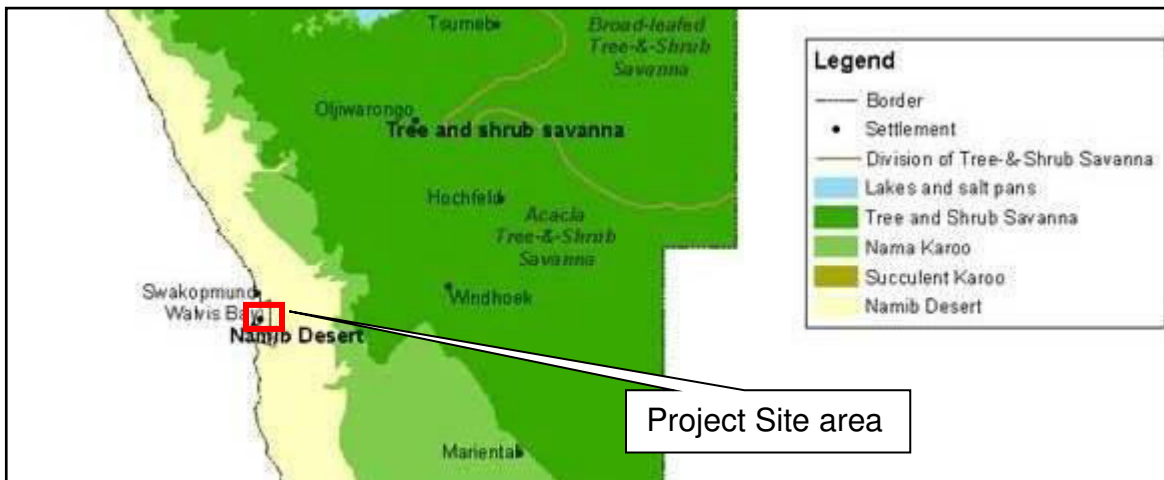


Figure 13: Biomes of Namibia (Atlas of Namibia)

The proposed service station development will be constructed in an area where limited fauna or flora has been observed. No lichen fields were observed in the area. The project site has already been levelled and used as a fuel depot for some time. No impact on local fauna and flora is expected and the proposed location of the service station development is located far enough from the Ramsar site (Wetland of International Importance) not to have an impact on it.

The project site is in a transformed state showing evidence of human interference. The site was previously cleared. No protected plant species or protected vegetation was observed on the site. Topographically there are no special features to be taken into account with the development.

#### **CONCLUSION AND IMPACT**

The development will have a low impact on vegetation, shrubs and trees.

### **10.4. SOCIAL-ECONOMIC COMPONENT**

The proposed development falls within the Erongo Region with a population of 150,400 and a density of 2.4 people/km<sup>2</sup> (*National Planning Commission, 2012*). The Erongo Region shows promise in terms of socio-economic factors. It has one of the lowest unemployment rates of all regions in Namibia (22.6%), and only 5.1% of households in the Erongo Region are considered poor. Furthermore, 97% of the population is considered literate and 72%, the highest for any Namibian region, has some form of education at secondary level.

From figures provided by the Municipality, it is projected that the population of Walvis Bay will grow from the current 79 500 (2014) to 180 000 by 2030. The population will thus more than double in 16 years' time. The current growth rate is 4.7%.

The largest part of Walvis Bay's population resides in the Kuisebmond area ( $\pm$ 33 790) and secondly in Narraville ( $\pm$ 6668) (2012 figures). This high growth is anticipated to expected high influx of people due to the expansion of port, establishment of many industries etc.

The National unemployment rate is 34% although the Erongo Region has an unemployment rate of 23%. The fishing industry is the major employer of low skilled workers on a permanent and seasonal basis. The total employment of this sector is estimated at 2.2% of the total Namibian workforce (*Namibia Statistics Agency, 2009/2010*). The major constraints of industrial development are the lack of sufficient water supply, the lack of a large enough local market and the excessive focus on the fishing industry. Most industries that exist at the coast are either secondary or tertiary suppliers to the fishing industry or linked to port-related activities.

HIV/AIDS has a strong and adverse socio-economic impact on livelihoods of people in Namibia and the region. The incidence of HIV/AIDS in Namibia displays a declining trend.

It is important that the proponent and subcontractors educate and inform the workforce on the risk, impact as well as consequence of contracting HIV.

Walvis Bay will benefit from more employment opportunities, skills and technology transfer during construction and operations of the development. The spending power of locals is likely to increase because of employment during the construction and operational phase.

The site where Erven 2589 and 2590 is located is surrounded by land that is zoned for 'business' and 'industrial' uses. This area has already been developed and is fully serviced with municipal bulk services. The buildings erected in this area are mainly used for warehousing, bulk storage of fuel, manufacturing and retail purposes. The proposed development will not have a negative impact on the social environment as it is in line with the current uses in this area. It will thus have a positive impact on the social environment. The socio-economic characteristics of the area are continuously changing as more economic activities are established within the area.

#### **CONCLUSION AND IMPACT**

The activities will have a positive impact on the community since employment will be created.

### **10.5. ACCESS, TRAFFIC AND SAFETY**

Access to Erven 2598 and 2590 is currently from Mulderine Street located directly northwest of the erven. The upgrading and use of the site will result in a significant increase in traffic which if not managed properly will have a negative impact on the flow of traffic and safety of the users of the road.

The fuel depot will be mainly used for the refuelling of large interlinks (35m long) of which some of them will overnight at the site. The flow of traffic through the site should be designed as such as not to allow the parking of trucks in the streets nearby even if it is temporarily while awaiting their turn to be filled up. Enough parking should be created on site for trucks using the overnight facilities in order to prevent the blocking of traffic in the streets which will cause congestion of the street, have an impact on traffic flow and endanger the safety of other street users.

#### **CONCLUSION AND IMPACT**

The activities will not have a negative impact on the traffic if mitigated.

### **10.6. CULTURAL HERITAGE**

The proposed project site is not known to have any historical significance prior to or after Independence in 1990. The specific area does not have any National Monuments and the

specific site has no record of any cultural or historical importance or on-site resemblance of any nature. No graveyard or related article was found in the area. However, the Namibian National Heritage Act (No. 27 of 2004) provides for the protection and conservation of places and objects of heritage significance and the registration of such places and objects and to provide for incidental matters.

## CONCLUSION AND IMPACT

No heritage resources or graveyards were observed on the site and in the area.

## 10.7. SENSE OF PLACE

Erven 2598 and 2590, Walvis Bay is situated in reaching distance to bulk infrastructural networks consisting of roads and electricity. The proposed activities will not have a large/negative impact on the sense of place in the area. An untidy or badly managed site can detract from the ecological well-being and individuality of the area. Unnecessary disturbance to the surroundings could be caused by poorly planned or poorly managed operational activities. The project site should be kept neat and clean where possible. Vegetation should not be removed or harmed if not necessary since it covers topsoil which prevents erosion. Noise and dust should be limited in the construction phase because of the neighbouring activities. See image below:

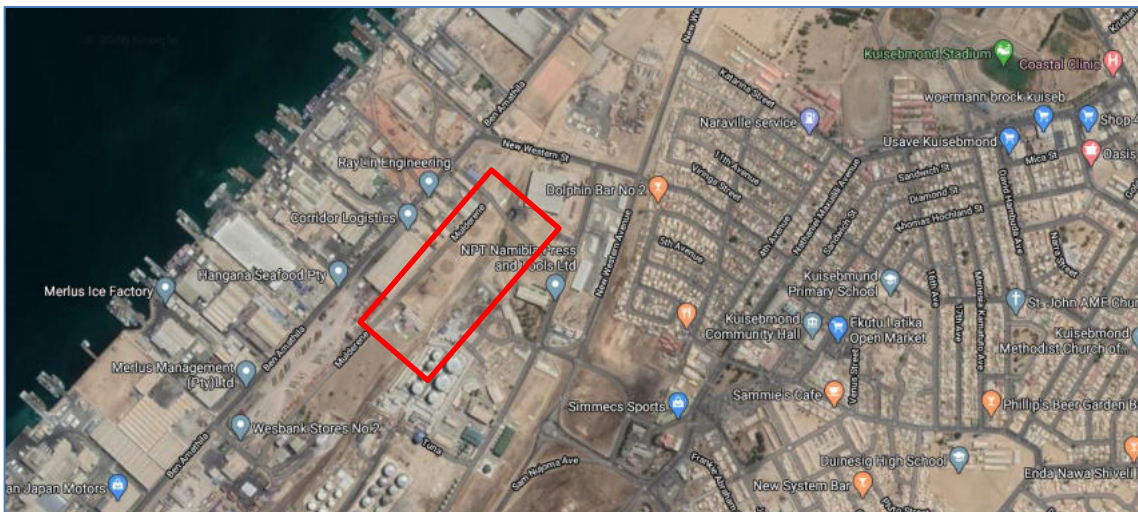


Figure 14: Surrounding land uses

## CONCLUSION AND IMPACT

The impact on the sense of place will be low.

## 10.8. HEALTH

The safety, security and health of the labour force, employees and neighbours are of great importance, workers should be orientated with the maintenance of safety and health procedures and they should be provided with PPE (Personal Protective Equipment). A health and safety officer should be employed to manage, coordinate and monitor risk and hazard and report all health and safety related issues in the workplace. The introduction of external workers into the area is sometimes accompanied with criminal activities posing security risks for neighbours. However, the proponent will take certain measures to prevent any activity of this sort. The welfare and quality of life of the neighbours and workforce needs to be considered for the project to be a success on its environmental performance. Conversely, the process should not affect the overall health of persons related to the project including the neighbours.

### CONCLUSION AND IMPACT

The activity will have a low impact on the health of the affected community.

## 11. IMPACT ASSESSMENT AND EVALUATION

The Environmental Impact Assessment Renewal sets out potential positive and negative environmental impacts associated with the project site. The following assessment methodology will be used to examine each impact identified, see *Table* below:

*Table 3: Impact Evaluation Criterion (DEAT 2006)*

Criteria	Rating (Severity)	
Impact Type	+	Positive
	O	No Impact
	-	Negative
Significance of impact being either	L	Low (Little or no impact)
	M	Medium (Manageable impacts)
	H	High (Adverse impact)

Probability:	Duration:
5 – Definite/don't know	5 - Permanent
4 – Highly probable	4 – Long-term (impact ceases)

3 – Medium probability	3 – Medium term (5 – 15 years)
2 – Low probability	2 – Short-term (0 – 5 years)
1 – Improbable	1 - Immediate
0 - None	
<b>Scale:</b>	<b>Magnitude:</b>
5 – International	10 – Very high/don't know
4 – National	8 - High
3 – Regional	6 - Moderate
2 – Local	4 - Low
1 – Site only	2 - Minor
	0 - None

The impacts on the receiving environment are discussed in the paragraphs below:

## 11.1. IMPACTS DURING THE OPERATIONAL PHASE

### 11.1.1. ECOLOGICAL IMPACTS

Staff and visitors should only make use of walkways and existing roads to minimise the impact on vegetation. Minimise the area of disturbance by restricting movement to the designated working areas during maintenance and drives.

#### Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Ecology Impacts	-	1	2	4	2	M	L

### 11.1.2. DUST POLLUTION AND AIR QUALITY

Vehicles transporting goods and staff will contribute to the release of hydrocarbon vapours, carbon monoxide and sulphur oxides into the air. Possible release of sewer odour, due to sewer system failure or maintenance might also occur. All maintenance of bulk services and infrastructure at the project site has to be designed to enable environmental protection.

### Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Dust & Air Quality	-	2	2	4	4	M	L

### 11.1.3. CONTAMINATION OF GROUNDWATER

Spillages might also occur during maintenance of the sewer system. This could have impacts on groundwater especially in cases of large sewer spills. Proper containment should be used in cases of sewerage system maintenance to avoid any possible leakages. Oil and chemical spillages may have a health impact on groundwater users. Potential impact on the natural environment from possible polluted groundwater also exists.

### Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Groundwater contamination	-	2	2	4	2	M	L

### 11.1.4. GENERATION OF WASTE

Household waste from the activities at the site and from the staff working at the site will be generated. This waste will be collected, sorted to be recycled and stored in on site for transportation and disposal at an approved landfill site.

### Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Waste Generation	-	1	2	2	2	M	L

### 11.1.5. FAILURE IN RETICULATION PIPELINES

There may be a potential release of sewage, stormwater or water into the environment due to pipeline/system failure. As a result, the spillage could be released into the environment and could potentially be health hazard to surface and groundwater. Proper reticulation pipelines and drainage systems should be installed. Regular bulk services infrastructure and system inspection should be conducted.



## Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Failure of Reticulation Pipeline	-	1	1	4	2	M	L

### 11.1.6. FIRES AND EXPLOSIONS

There should be sufficient water available for firefighting purposes. Ensure that all fire-fighting devices are in good working order and are serviced. All personnel have to be trained about responsible fire protection measures and good housekeeping such as the removal of flammable materials on site. Regular inspections should be carried out to inspect and test firefighting equipment by the contractor.

## Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Fires and Explosions	-	2	1	4	2	M	L

### 11.1.7. HEALTH, SAFETY AND SECURITY

The safety, security and health of the labour force, employees and neighbours are of great importance, workers should be orientated with the maintenance of safety and health procedures and they should be provided with PPE (Personal Protective Equipment). Workers should be warned not to approach or chase any wild animals occurring on the site. No open flames, smoking or any potential sources of ignition should be allowed at the project location. Signs such as 'NO SMOKING' must be prominently displayed in parts where inflammable materials are stored on the premises.

## Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Safety & Security	-	1	2	4	2	M	L

## 11.2.CUMULATIVE IMPACTS

These are impacts on the environment, which results from the incremental impacts of the construction and operation of the development when added to other past, present, and reasonably foreseeable future actions regardless of which person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. In relation to an activity, it means the impact of

an activity that in it may not become significant when added to the existing and potential impacts resulting from similar or diverse activities or undertakings in the area.

Possible cumulative impacts associated with the proposed construction include: sewer damages/maintenance, uncontrolled traffic and destruction of the vegetation or the environment. These impacts could become significant especially if it is not properly supervised and controlled. This could collectively impact on the environmental conditions in the area. Cumulative impacts could occur in both the operational and the construction phase.

### Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Cumulative Impacts	-	2	3	4	2	M	L

## 12. CONCLUSION

In line with the Environmental Management Act (No 7 of 2007), *Green Earth Environmental Consultants* have been appointed to conduct an Environmental Impact Assessment Renewal for the construction of facilities and storage and handling of petroleum products on Erven 2589 and 2590, Walvis Bay and the closure and creation of street portions.

Negative impacts that can be associated with the development are most likely to include: production of solid waste, dust emissions, atmospheric emissions, noise pollution, movement of soils, increased wastewater generation, the disruption of groundwater from the foundation or other structures, can result in an increase in traffic on the nearby roads and there can be an impact on the occupational health and safety of workers. However, this project is believed to be an asset to this area. Facilities and employment will be made available for which there is a need.

After assessing all information available on this project, *Green Earth Environmental Consultants* believe that the development is required.

## 13. RECOMMENDATION

It is therefore recommended that the Ministry of Environment, Forestry and Tourism through the Environmental Commissioner support and approve the Environmental Clearance Renewal for the construction of facilities and storage and handling of petroleum products on Erven 2589 and 2590, Walvis Bay and the closure and creation of street portions and for the following listed activities:

### **ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES**

- *The construction of facilities for the refining of gas, oil and petroleum products;*

### **HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE**

- *The storage and handling of dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.*
- *Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid, petroleum, gas or paraffin.*

### **LAND USE AND DEVELOPMENT ACTIVITIES**

- *The rezoning of land from zoned open space (reserved as street) to any other land use.*

### **INFRASTRUCTURE**

- *The route determination of roads and design of associated physical infrastructure where:*
  - (a) it is a public road;*
  - (b) the road reserve is wider than 30 meters; or*
  - (c) the road caters for more than one lane of traffic in both directions.*

## LIST OF REFERENCES

Commencement of the Environmental Management Act, 2012. *Ministry of Environment, Forestry and Tourism*. Windhoek. Namibia, pp. 3 – 22.

*Constitution of the Republic of Namibia*, 1990. National Legislative Bodies. Namibia, pp. 6 – 63.

Environmental Management Act, 2007. *Ministry of Environment, Forestry and Tourism*. Windhoek. Namibia, pp. 4 - 32.

Forestry Act, 2001. *Office of the Prime Minister*. Windhoek. Namibia, pp. 9 – 31.

Mannheimer, C. & Curtis, B. 2009. *Le Roux and Muller's Guide to the Trees & Shrubs of Namibia*. Windhoek: Macmillan Education Namibia, pp. 249 – 439.

Namibian Environmental Assessment Policy, 1995. *Ministry of Environment, Forestry and Tourism*. Windhoek. Namibia, pp. 3 – 7.

*Nature Conservation Ordinance*, 1975. Windhoek. Namibia, pp. 4 – 47.

*Rushborrok, P.* 2001. Guidance on minimum approaches for improvements to existing Municipal Waste Dumpsites, *WHO Regional Office for Europe*, Copenhagen, Denmark.

Soil Conservation Act, 1969. *Office of the Prime Minister*. Windhoek. Namibia, pp. 1 – 14.

Water Resource Management Act, 2004. *Office of the Prime Minister*. Windhoek. Namibia, pp. 6 – 67.

## APPENDIX A: CURRICULUM VITAE OF CHARLIE DU TOIT

1. **Position:** Environmental Practitioner
2. **Name/Surname:** Charl du Toit
3. **Date of Birth:** 29 October 1960
4. **Nationality:** Namibian
  
5. **Education:**

Name of Institution	University of Stellenbosch, South Africa		
Degree/Qualification	Hons B (B + A) in Business Administration and Management		
Date Obtained	1985-1987		
Name of Institution	University of Stellenbosch, South Africa		
Degree/Qualification	BSc Agric Hons (Chemistry, Agronomy and Soil Science)		
Date Obtained	1979-1982		
Name of Institution	Boland Agricultural High School, Paarl, South Africa		
Degree/Qualification	Grade 12		
Date Obtained	1974-1978		
  
6. **Membership of Professional Association:** EAPAN Member (Membership Number: 112)
  
7. **Languages:**

	<u>Speaking</u>	<u>Reading</u>	<u>Writing</u>
English	Good	Good	Good
Afrikaans	Good	Good	Good
  
8. **Employment Record:**

<u>From</u>	<u>To</u>	<u>Employer</u>	<u>Position(s) held</u>
2009	Present	Green Earth Environmental Consultants	Environmental Practitioner
2005	2008	Elmarie Du Toit Town Planning Consultants	Manager
2003	2005	Pupkewitz Megabuild	General Manager
1995	2003	Agra Cooperative Limited	Manager Trade
1989	1995		Chief Agricultural Consultant

		Namibia	
		Development	Agricultural
1985	1988	Corporation	Researcher
		Ministry of	
		Agriculture	

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.



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**Charl du Toit**

## APPENDIX B: CURRICULUM VITAE OF CARIEN VAN DER WALT

1. **Position:** Environmental Consultant
2. **Name/Surname:** Carien van der Walt
3. **Date of Birth:** 6 August 1990
4. **Nationality:** Namibian

5. **Education:**

Institution	Degree/Diploma	Years
University of Stellenbosch	B.A. (Degree) Environment and Development	2009 to 2011
University of South Africa	B.A. (Honours) Environmental Management	2012 to 2013

6. **Membership of Professional Associations:**

EAPAN Member (Membership Number: 113)

7. **Languages:**

Language	Speaking	Reading	Writing
English	Good	Good	Good
Afrikaans	Good	Good	Good

8. **Employment Record:**

From	To	Employer	Positions Held
07/2013	Present	Green Earth Environmental Consultants	Environmental Consultant
06/2012	03/2013	Enviro Management Consultants Namibia	Environmental Consultant
12/2011	05/2012	Green Earth Environmental Consultants	Environmental Consultant

9. **Detailed Tasks Assigned:**

Conducting the Environmental Impact Assessment, Environmental Management Plan, Public Participation, Environmental Compliance and Environmental Control Officer

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engage.

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Carien van der Walt

## APPENDIX C: ENVIRONMENTAL MANAGEMENT PLAN