

## DRAFT BASIC ASSESSMENT REPORT – REF. DC26/0005/2021: KZN/EIA/0001534/2021

Submitted in terms of the Environmental Impact Assessment Regulations, 2014, as amended promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) to:

**KWAZULU-NATAL DEPARTMENT OF ECONOMIC DEVELOPMENT, TOURISM AND ENVIRONMENTAL AFFAIRS (EDTEA)**

### PROJECT TITLE

Proposed Construction of Ulundi 19 Service Station and associated infrastructure on Farm Dorstfontein, 526, GU, within Ulundi Local Municipality, KwaZulu-Natal.

#### (1) (A) (i) DETAILS OF THE EAP WHO PREPARED THE REPORT:

Mondli Consulting Services has been appointed by Khobo Investment Properties (Pty) Ltd to undertake the Basic Assessment process for the construction of Ulundi 19 Service Station and associated infrastructure on Farm Dorstfontein, 526, GU, within Ulundi Local Municipality, KwaZulu-Natal.

#### Details of the EAP:

Business name of EAP:	<b>Mondli Consulting Services</b>		
Physical address:	<b>6 Joseph Avenue, New Era House, Suite 9, Durban North</b>		
Postal address:	<b>P O Box 22536, Glenashley</b>		
Postal code:	<b>4022</b>	Cell:	<b>0824187708</b>
Telephone:	<b>0826799841</b>	Fax:	<b>(031) 5725647</b>
E-mail:	<a href="mailto:mondlib@webmail.co.za">mondlib@webmail.co.za</a>		
	<a href="mailto:mondlibee@gmail.com">mondlibee@gmail.com</a>		

#### (ii) The expertise of the EAP (including curriculum vitae – ATTACHED as Appendix F)

Name of representative of the EAP	Education qualifications	Professional affiliations	Experience at environmental assessments (yrs)
<b>N. Buthelezi</b>	<b>She holds a Diploma in Nature Conservation, and a BTech (Nature Conservation) degree from Mangosuthu University of Technology.</b>	<b>She is in the process of registering with SACNASP.</b>	<b>She has worked for Ezemvelo KZN Wildlife as a volunteer assisting the District Conservation Officer. She worked as a Co-ordinator for KZN National</b>

			Botanic Gardens on contract basis. She has been involved in conservation and botanic work as part of her experience. She has been involved in EIAs for Mondli Consulting Services, in particular with regard to biodiversity function for over 4 years.
BM Mthembu	Diploma in Nature Conservation Master's degree (Environmental Studies Dissertation, Geography) Bachelor of Laws (LLB)	EAPASA registered EAP: No. 2018/168 in accordance with the prescribed criteria of Regulation 15(1) of section 24 H Registration Authority Regulations  Society of South African Geographers (Membership No. 28/09), confirmed to comply with the requirements set by South African Council for Natural Scientific Professions.	Has been involved in environmental and conservation field for over 20 yrs. Conducted EIAs for over 17 years including Strategic Env. Assessment. Has been involved in the review and commenting on development projects impacting on the environment.

**(B) THE LOCATION OF THE ACTIVITY**

- (i) The project site is falling within Ulundi Local Municipality, on the R34 to Vryheid & R66 to Ulundi /Nongoma intersection. It is on located on Farm Dorstfontein,526,GU, Ulundi.

N	O	G	U	0	0	0	0	0	0	0	0	0	5	2	6	0	0	0	0	0

- (ii) *The physical address and farm name*

Property Number	Property Description	Size	Development type
1	Farm Dorstfontein, 526, GU, within Ulundi	The total size of the Farm is 341 hectares in	Commercial - Low Impact Mixed Use

	Local Municipality, KwaZulu – Natal.	extent, of which the Service Station with food outlets and offramp from R34, loop road from R66 will occupy 8 744m <sup>2</sup> .	(Fuel Service Station with food outlets and a trucks court)

- (iii) Where the required information in terms of (i) and (ii) is not available, the co-ordinates of the boundary of the property or properties

Alternatives	Latitude (S)	Longitude (E)
Preferred site	28° 25" 19.65"	31° 19" 29.77"
Alternative site 1	28° 25" 23.60"	31° 19" 30.49"

**(C) A PLAN WHICH LOCATES THE PROPOSED ACTIVITY OR ACTIVITIES APPLIED FOR AS WELL AS ASSOCIATED STRUCTURES AND INFRASTRUCTURE AT AN APPROPRIATE SCALE.**

See attached plan which shows the proposed activity and associated infrastructure – **Appendix A**

- (i) A linear activity, a description and co-ordinates of the corridor in which the proposed activity or activities is to be undertaken

The proposed project is not a linear activity.

**In the case of linear activities: N/A**

Alternatives	Latitude (S)	Longitude (E)
Preferred site	None	None
<b>Alternative site 1</b>	<b>None</b>	<b>None</b>
Starting point of the activity		
Middle point of the activity		
End point of the activity		
<b>Alternative site 2</b>	<b>None</b>	<b>None</b>
Starting point of the activity		
Middle point of the activity		
End point of the activity		

- (ii) On land where the property has not been defined, the co-ordinates within which the activity is to be undertaken

The proposed activity is not on land that has not been defined.

**(D) A DESCRIPTION OF THE SCOPE OF THE PROPOSED ACTIVITY, INCLUDING –**

The project entails the construction of Ulundi 19 Service Station and associated infrastructure, comprising fuel storage tanks [2 x 46 000 litres ULP], 1 x 43 000 litres diesel totaling 135 000 litres

all underground, pumps, paving & canopy, trucks court, building on site comprising small office, convenience shop, food outlets, trucks court, small kitchen, ablution block and car wash. All buildings are single storey.

**(i) All listed and specified activities triggered and being applied for**

In terms of the Environmental Impact Assessment (EIA) Regulations 2014, as amended, promulgated in terms of the National Environmental Management Act, 1998 (NEMA), certain listed activities are specified for which either a Basic Assessment (GNR 327 and 324) or a full Scoping and Environmental Impact Assessment (GNR 325) is a requirement.

In this regard the following listed activity in Government Notice R 327 which is Listing Notice 1 and Listing Notice 3 are applicable, which require only a Basic Assessment process.

**Table 1**

<b>Indicate the number and the date of the relevant notice;</b>	<b>Activity No(s) (in terms of the relevant notice)</b>	<b>Describe each listed activity as per the project description (and not as per wording of the relevant Government Notice)<sup>1</sup>:</b>
GNR. 327 of 2014 (Listing Notice 1) - as amended on 7 April 2017.	Activity No. 14 - the development and related operation 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 meters.	<p>In this instance, it is 135 000 liters of fuel that will be stored on site for commercial purposes in the form of a Filling Station.</p> <p>Gas will be stored in bottles of 9kg (30), 14 kg (10), 19kg (20) and 48kg (10), totaling 1270kg at any given time.</p> <p>10 000 litres of paraffin will also be stored on site, above the ground.</p> <p>The Service Station will stock no more than 200 litres of lubricants (oil &amp; brake fluid) on site. It is not foreseen that the site will store more than the maximum stated above.</p>
GNR. 324 of 2014 (Listing Notice 3) as amended on 7 April 2017.	Activity No. 10 - the development and related operation of facilities or infrastructure, for the storage, or the storage and handling of a dangerous good, where such storage occurs in containers with a	<p>In this instance, it is 135 000 litres of fuel that will be stored on site for commercial purposes in the form of a Filling Station.</p> <p>The site is located outside an urban area, within 5 kilometres of Ophathe Heritage Park.</p> <p><b>Since the applicant has increased the</b></p>

<sup>1</sup>Please note that this description should not be a repetition of the listed activity as contained in the relevant Government Notice but should be a brief description of activities to be undertaken as per the project description, i.e. describe the components of the desired development.

	<p>combined capacity of 30 but not exceeding 80 cubic meters.</p> <p>d. <b><u>KwaZulu – Natal</u></b></p> <p>xiii. <u>Outside urban areas:</u></p> <p>(aa) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any terrestrial protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve;</p>	<p><b>tanks capacity to 135 000 litres, this listed activity is falling away. We have only included it because it was one of the listed activities included during the pre-application meeting with EDTEA. It will be removed after confirmation with EDTEA when a draft application is circulated.</b></p>
<p>GNR. 324 of 2014 (Listing Notice 3) as amended on 7 April 2017.</p>	<p>Activity No. 12 - the clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</p> <p>d. <b><u>KwaZulu – Natal</u></b></p> <p>vii. <u>On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.</u></p>	<p>The Project Planner who is currently conducting a rezoning and subdivision process has enquired from Ulundi Local Municipality about the zoning of the site.</p> <p>The Local Municipality has since confirmed that the site falls under “Environmental Services”, and is therefore zoned Environmental Management.</p>

**Please note** that any authorization that may result from this application will only cover activities specifically applied for.

- (ii) **A description of the activities to be undertaken including associated structures and infrastructure**

### Background and proposed development

The pre – application meeting was held with the Department of Economic Development, Tourism and Environmental Affairs attended by the EAP and the applicant on 8 February 2021.

The proposed site is located on the R34 to Vryheid & R66 to Ulundi /Nongoma intersection. It is on located on Farm Dorstfontein,526, GU, Ulundi. R34 & R66 are two main roads linking Vryheid and Ulundi / Nongoma vehicular traffic with the proposed site and the two respective roads are tarred and in a relatively good condition.

As highlighted above the project entails the construction of a service station and associated infrastructure, comprising underground fuel storage tanks, pumps, paving & canopy, covered trucks court, building on site comprising small office, convenience shop, food outlets, staffroom, small kitchen, ablution block and car wash.

### Project Overview

The total site is 341 hectares in extent, of which the Service Station with food outlets, off ramp from R34, and loop road for trucks from R66 will occupy 8 744m<sup>2</sup> at the corner of R34 to Vryheid and R66 to Ulundi / Nongoma, with 15 metres clearance from the two respective KwaZulu – Natal Provincial roads. The site is relatively flat to gently sloping in the eastern direction. The Farm is owned by Emakheni Communal Property Association and leased to the applicant, Khobo Investments Properties (Pty) Ltd.

According to Ulundi Local Municipality the site falls under “Environmental Services”, and is zoned Environmental Management. The site and the Farm are roamed by livestock, and has been used for livestock farming. The actual development footprint is vacant with some indigenous tree species and grass. The site will be accordingly rezoned to low impact mixed use in line with the municipal land use scheme. The appointed project Planner is currently busy with rezoning and subdivision process. The proposed future zoning is low impact mixed use in line with the Municipal land use scheme.

### Project objectives

The main objective of the project is to provide fuel and take away food to customers in the vicinity, and those travelling along R34& R66 Roads. The Facility will also provide sustainable jobs as close as possible to the people of Ulundi and surrounding communities.

### Services on site

#### **Sewerage / Sanitation**

According to the 2020 / 2021 Draft IDP the most common sanitation facility used in the municipality is the pit latrine (both ventilated and unventilated), which is used by 64,18% of the population, followed by the chemical toilet (15,93%) and the flush toilet (9,86) respectively. It is noted from the data that about 5% of the population is sadly still do not have access to sanitation facilities.

The area where the site is located has no sewer infrastructure. The geotechnical study has indicated that the site is unsuitable for the disposal of effluent septic tanks / soak away system. This is attributable to shallow impermeable sandstone rock underlying the site. The Geotechnical Engineer has recommended the use of conservancy tanks. This will be a covered tank without any overflow. It is used to temporarily receive and retain sewerage, and it requires periodic emptying at regular intervals, and sometimes the use of an additive like bio enzyme granules to accelerate the

process of bacteriological breakdown of effluent.

### ***Portable water***

There is no portable water in the area, the project is likely to make use of the borehole if the water is still not available during the construction and operational phases.

### ***Stormwater Infrastructure***

A storm water plan will be compiled to regulate water flow and disposal on site.

The Stormwater Management design principles normally include some of the following:

- The establishment and maintenance of grass and plants adjacent to newly constructed infrastructure.
- Hazardous or environmentally dangerous chemicals kept on site must be kept outside of the 1:00 year flood line and wetlands or appropriately bunded.
- Groundcover should be maintained during construction to ensure erosion protection.
- Flow concentration points should avoid unstable soil areas and/or stockpiles.
- All pollution from the surfaces should not flow directly into water resources.
- Ensure aesthetic designs.

### ***Roads***

The access to the property will be determined by the traffic impact assessment (TIA) in conjunction with KwaZulu – Natal Department of Transport (KZNDOT). However, the current access is off R66 to Ulundi / Nongoma. It is not anticipated that there will be internal roads that will trigger any of the listed activities in terms of the EIA Regulations, 2014, except the short loop road below 1000m<sup>2</sup> that will be used by trucks to the covered trucks court.

### ***Electricity***

There is electricity in the area, and it will be a matter of ensuring the necessary connections to the proposed new Facility. Eskom will be contacted regarding issues of capacity as a registered stakeholder.

### ***Refuse***

At the level of the Municipality, the Ulundi Municipality IDP indicates that refuse collected is transported to a transfer station located on a site owned by Zululand District Municipality and managed by Ulundi Municipality. Thereafter, it is transported to Richards Bay for disposal.

In terms of the proposed development, refuse will be stored on site, in a well-constructed bin area before disposal. The local Municipality will be requested to collect solid waste once a week, alternatively a private service provider can be arranged for the collection of solid waste from the facility to the transfer station or registered landfill site. It is anticipated that the project will generate the following types of waste:

### **Construction phase**

General waste – the general waste likely to be generated during the project construction include litter from workers on site like plastics and papers. The suppliers and construction in general are likely to generate cans, papers and empty cement bags.

Hazardous – hazardous waste is defined as waste that poses substantial or potential threat to public health and the environment. This includes waste that tends to ignite, reactive, corrosive and toxic. The anticipated waste include metal, oil spills, concrete remnants, asphalt, chemical waste during construction and paint containers. Hazardous chemical substances must be inventoried and stored in accordance with the requirements of the safety data sheet, the EMPr and the Norms and Standards for the storage of waste

### Operational phase

General waste – paper and cans, cardboards, plastics and food remaining in the restaurant.

Hazardous waste – It is anticipated that the operational phase will generate chemical waste, oil, oil cans and petro chemicals during the operational phase. This type of waste must be landfilled in the landfill that is authorized to take such waste. As highlighted above all type of chemicals must be stored in line with the legislated standards. This type of waste will be managed, handled and disposed by the private specialized service provider to be engaged.

Solid waste will be stored at the designated “bin area” within the premises and be collected once a week by either the Municipality or private registered service provider for disposal at the municipal landfill site. It is anticipated that the stored waste before collection will be below the threshold of 100m<sup>3</sup>, too little to warrant a waste license in terms of GN 718: Category A; B & C. Should the storage of waste increase in future, the frequency of disposal will be increased.

The project will promote the recycling of material like paper, glass, tins and plastic bottles and do separation at source. The recycling is also anticipated to be below 10 tons per month.

### Management of waste by Ulundi Municipality as contained in the IDP and SDF

Ulundi Municipality is said to be supportive of recycling initiatives done by SMMEs within the wards who collect waste, and the Municipality provides them with transport to the Waste Station where big companies buy waste from them. The Municipality is reportedly assisting Schools with waste education, waste bins for various types of waste and transport. The Municipality is also having plans to build a Buy Back Centre to assist recyclers. These programmes can be expanded in partnership with private players like the developer who has made a commitment for the upliftment of the locals, improvement in the environmental quality and contribution in the eradication of poverty in the area.

### Construction and phases

It is anticipated that the project will take about 9 months to complete, if the environmental authorisation is granted. However, like any project of this nature there could be external variables and influences which cannot be controlled by the applicant. The applicant will request the maximum timeframe allowed for the validity of a decision.

The construction phase will follow the conditions of the Environmental Authorisation, Environmental Management Programme and recommendations of Specialists studies.

### Filling station and underground tanks

All tanks will be composite type tanks to be stored underground. This area is further expanded under the EMPr, but it must be stated that the SAB specifications and guidelines will be complied with, which will include:

- SABS 089 – 3 1999 – the installation of underground storage tanks, pumps / dispensers and pipes.
- SABS – 0140 – 2 – Identification of colour markings (identification of hazards and equipment).
- SABS 62-1 & 62 -2 – steel pipes fittings.



- SABS 1123 – steel pipes flanges.
- SABS 12000 – standardised specifications for construction.
- SABS 1535 – polyester coated steel tanks for the underground storage for hydrocarbons and oxygenated solvents.

Accordingly, the underground storage tanks will comply with relevant SANS / SABS codes of Practice which include: SANS 10400 TT 53, SANS 10131, SANS 10108, SANS 11535 and SANS 10089 Part 2 & 3.

The underground storage tanks will be accordingly fitted with an overfill protection device. The tanks will be designed as to reduce risk of possible soil and groundwater contamination. As an extra precautionary measure, the underground storage tanks will be dipped daily and reconciled against volumes to establish any possible loss attributed to leakage. The conditions of the tanks, pipes and monitoring wells will be inspected on regular basis. The underground tanks and products will be pressure tested prior to the actual commissioning. The tanks will be underground as opposed to above the ground, in order to eliminate the risk of fire.

Although the issue of the stormwater is addressed separately, but the following must be emphasized as far as they relate to fuel, oil and possible contaminants:

- Storm water, petrol, diesel and other polluted run-off must be directed to the containment sump of appropriate design.
- Storm water leaving the premises must not be polluted by any substance whether such a substance is a solid, liquid, gas vapour or any combination of these.
- There must be no mixing of contaminated and uncontaminated water.
- Clean storm water must be separated from contaminated storm water.

#### **(E) A DESCRIPTION OF THE POLICY AND LEGISLATIVE CONTEXT WITHIN WHICH THE DEVELOPMENT IS PROPOSED INCLUDING –**

*(i) An identification of all legislation, polices, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report*

**Table 2**

<b>Legislation</b>	<b>Authority</b>	<b>Year</b>
National Environmental Management Act	Department of Economic Development, Tourism and Environmental Affairs (EDTEA) / Department of Environment, Forestry and Fisheries (DEFF)	1998
EIA Regulations, 2014	EDTEA / DEFF	2014
Guideline:5 Assessment of Alternatives and	EDTEA / DEFF	2006

Impacts in support of EIA Regulations		
Guideline on Need and Desirability, Department of Environmental Affairs	EDTEA / DEFF	2017
Petroleum Products Act, 1977 (Act 120 of 1977) as amended. – Petroleum Products site and retail license Regulations 2006	Department of Energy	1977 and 2006 respectively
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)	EDTEA / DEFF	2004
National Environmental Management Air Quality and National Dust Control Regulations	National Department of Health	2013
The National Water Act	Department of Water and Sanitation	1998
National Environmental Management: Waste Act	EDTEA / DEFF	2008
National Environmental Management: Biodiversity Act	DEDTEA / DEFF	2004
Alien and Invasive Species Regulations	EDTEA / DEFF	2014
KwaZulu-Natal Amafa and Research Institute Act, Act No. 5	KwaZulu – Natal Amafa and Research Institute	2018
National Heritage Resources Act National Heritage Council Act	Heritage Council Heritage Council	1999 1999

South African Constitution	RSA	1996
Promotion of Administrative Justice Act	Department of Justice	2000
Occupational Health and Safety Act, 85 of 1993	Department of Labour	1993
National Health Act 61 of 2003	National Department of Health	2003
National Forests Act	DEFF	1998
Environment Conservation Act 73 of 1989 (Noise Control Regulation in terms of section 25 of the Environmental Conservation Act, 1989 – GNR 154, commenced 10 January 1992)	DEFF / EDTEA	1989, commenced 1992
Hazardous Substances Act (Act No. 15 of 1973)	EDTEA / DEFF/ Department of Energy	1973
National Land Transport Act, 2009 (Act No. 5 of 2009)	SANRAL / KZNDOT	2009

(iii) How the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments

**Table 3**

<b>Legislation, polices, plans, guidelines, spatial tools, municipal development planning frameworks and other instruments</b>	<b>Compliance and applicability</b>
National Environmental Management Act	Promulgation is as per this Act
EIA Regulations, 2014	The whole process must comply with these Regulations. This is in line with the EIA Regulations as promulgated in terms of the National Environmental Management Act, 1998 (NEMA). In this regard it is 135 000 litres of fuel that will be stored on site as triggered by GNR. 327 of 2014 (Listing Notice 1) as amended on 7 April 2017, activity No. 14.
Guideline:5 Assessment of Alternatives and Impacts	These Guidelines are applicable in terms of the

in support of EIA Regulations	exploration of alternatives.
Guideline on Need and Desirability, Department of Environmental Affairs	In terms of these guidelines the need and desirability of the project must cover certain specifics like training, safety, service delivery, benefits to the local people and the alignment of planning related issues to the project.
Petroleum Products Act, 1977 (Act 120 of 1977) as amended. – Petroleum Products site and retail license Regulations 2006	This relates to the control of petroleum products, site and retail licenses in this regard.
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)	This may be applicable in case of dust on site.
National Environmental Management Air Quality and National Dust Control Regulations	The purpose of the regulations is to prescribe general measures for the control of dust in all areas.
The National Water Act	The activities that may affect water resources on site e.g. wetlands, groundwater resources and a nearby watercourse.
KwaZulu-Natal Amafa and Research Institute Act	The legislation relates to heritage objects in case there are heritage resources on the site in question.
South African Constitution	Section 24 of the South African Constitution impress upon everyone having the right to an environment that is not detrimental to health.
National Forests Act	This legislation safeguards against the destruction of forests and indigenous that may be found on site.
Environment Conservation Act 73 of 1989 (Noise Control Regulation in terms of section 25 of the Environmental Conservation Act, 1989 – GNR 154, commenced 10 January 1992)	This relates to any noise that may need to be controlled during construction and operational phases of the project.
Hazardous Substances Act (Act No. 15 of 1973)	The act regulates the working of chemicals and hazardous substances.
National Environmental Management: Waste Act	All waste related issues are governed by this legislation e.g. appropriate disposal of solid waste during construction and operational phases.
National Health Act	This piece of legislation is key in regulating health related issues.
Occupational Health and Safety Act	Safety and Health issues on site, especially during construction and beyond.
SANS 10400 amendments, in terms of the National Building Regulations and Building Standards Act, No. 103 of 1977	This must accompany the building plans submitted to the Municipality.
National Forests Act (Act 84 of 1998), 1998	The Act is applicable to the site as it comprises of indigenous vegetation.
National Development Plan	This relates to issues of job creation, economic activities, rural employment and inclusive rural development, environment challenges and the need for sustainable development. The plan speaks about creating 11 million net new jobs over the period and reducing the rate of unemployment to about 6% by 2030.
Spatial Development Framework (SDF 2020/2021)	These documents are key in identifying the

and the Central Spatial Development Plan (CSDP 2014/2015)	appropriate land use for the site. In this instance the site is broadly identified for industrial purpose.
Spatial Planning Land Use Management Act (SPLUMA)	The Act is responsible for planning related issues within local government. This assist in ensuring integration and coherence with respect to planning issues within a municipal area.
National Land Transport Act, 2009 (Act No. 5 of 2009)	The TIA's is undertaken in terms of this act.

**(F) A MOTIVATION FOR THE NEED AND DESIRABILITY FOR THE PROPOSED DEVELOPMENT INCLUDING THE NEED AND DESIRABILITY OF THE ACTIVITY IN THE CONTEXT OF THE PREFERRED LOCATION**

The proposed Ulundi 19 Service Station would be well situated along R34 & R66 Roads and is likely to have a desirable effect in this precinct being the intersection of two busy roads. The project is likely to provide jobs and subcontracting benefits to the locals during pre-construction, construction and operational phases.

Arrive Alive

The development of the project will play an import role in addressing some of the development challenges facing Ulundi and the KwaZulu – Natal Province through the creation of jobs.

According to the 2020 / 2021 Draft IDP, the unemployment profile provides that 49,45% of the population in Ulundi is unemployed. According to the Statistics SA 2015 data more than half of the population (50, 4%) within Ulundi LM are dependent on some form of grant or subsidy.

The 2019/2020 Ulundi Local Municipality's integrated development plan (IDP) envisaged an ambitious drop in unemployment rate to 6% by 2030. This vision will require an additional 11 million jobs. It is noted that there has been an increase of people looking for employment, and the likelihood of them finding employment has decreased. In terms of skill levels, the largest portion of the workforce is employed at semi-skilled level followed by skilled and low-skilled. This project will go a long way towards achieving some of Ulundi 's stated strategic goals. The unemployment rate in South Africa is known to be contributing immensely to the social ills the country is currently experiencing.

At times the impact of unemployment on society is often underestimated; whereas it includes factors like psychological harm, loss of work ethic, self-confidence, increase in ailments, disruption of family and social relations, increase in social exclusion and accentuation of race and gender tensions. In this regard the project is mindful of the challenge and intends contributing in a holistic and balanced manner.

Overall, the Facility will provide livelihoods to the local people and enhance local economic development. The developer has indicated a strong commitment to the upliftment of the locals. The locals will also be engaged at the appropriate stage to participate in the recycling programme.

The proposed development is well located along a high mobility corridor and will thus provide convenience to motorists travelling along R66 & R34 Road to either Vryheid direction or to Ulundi /

Nongoma and beyond. The area of Ulundi and its environs is rich in both history and natural heritage and it is frequented by tourists throughout the year. The proposed location is en-route to Nongoma which is the seat of the Zulu Kingdom. The Kingdom is visited by guests throughout the year, and it hosts several high profile events. The Facility will be beneficial to both tourists, business people and travelers in terms of fuel and other needs that will be provided by the Service Station.

The nearest filling station is located at Ulundi town almost 19 kms away, and another at Melmoth town which is about 30 km away from the proposed site. The proposed service station is likely to close the distance gap in terms of fueling stations. This means the proposed Service Station will prove convenient to the motorists travelling along both R34 and R66. The location of the Ulundi 19 Service Station is ideal for the target market which is motorists driving along the two mentioned roads.

The proposed Facility will serve as a refueling, rest and eating place for motorists travelling along the R34 and R66 to various destinations, including other Provinces like Mpumalanga and neighbouring states like Swaziland. The proposed Facility will contribute in the Government's Arrive Alive road safety goal as it will provide a resting station for motorists, and assist in terms of reducing road fatigue.

Ulundi Municipality is traversed by two corridors namely the R34 and the R66 routes. The R34 is the main transport link road between Richards Bay and Mpumalanga. The R66 on the other hand provides regional access within the Zululand District Municipality.

R34 and R66 traversing the municipal area, can be said to be falling under activity nodes. Activity nodes serve as points in the spatial system where potential access to a range of opportunities is greatest, where networks of association create diversity and where people are able to satisfy the broadest range of their day-to-day needs. Being points of maximum economic, social and infrastructure investment, as well as representing established patterns of settlement and accessibility. The SDF contends that these nodes must be regarded as primary devices on which to anchor the structure of the sub-regional spatial system.

The site is located near a popular hitch hiking spot, and it will provide a sense of security in this secluded area. During the site visit, litter was noticed being allegedly dumped by hitch hikers, and people who are waiting for transport to various destinations. The proposed project will ensure a clean environment around the Facility, and this will contribute to the quality of the environment.

The proposed development will unfold in line with the following project phases:

***i. Pre-construction phase and planning***

This phase offer opportunities that are provided by the project to the local professional service providers whenever the skills are available. It does also offer limited opportunities for manual work e.g. the digging of trial pits when studies like Geotechnical Studies are conducted.

***ii. Construction phase***

This phase is highly technical in terms of engineers, artisans and the like, but also make provision for the manual worker and opportunities for the local suppliers and small sub-contractors. It is anticipated that 40 unskilled workers will be employed by the project during the construction phase. Manufacturers of materials will create employment and increase economic activities. Transporter of materials will create jobs in their sector. The utilization of skilled workers and training of less skilled workers in the construction will take place on site. The opportunity afforded to unskilled workers to work and interact with skilled personnel will assist in the informal transfer of skills with long term benefits. There will be an opportunity as well for licensed informal traders to do business when construction is underway on site.

### ***iii. Operational phase***

Provision of sustainable and permanent jobs to the locals through the Service Station and food outlet. The developer has indicated his desire to employ and prioritise local people, and this will have an advantage of shorter travelling distances for the locals from the nearby rural areas and Ulundi, thus saving on travelling costs.

Looking at the guideline on need and desirability publication, compiled as part of the EIA Guideline & Information Document Series, one has found it very helpful in further assessing this development. It also includes tools like the integrated development plan (IDP), Spatial Development Framework (SDF) and Environmental Management Framework (EMF). The said guideline provides a list of 14 aspects, which must be considered. The points below indicate how different aspects have been addressed for the proposed development.

1. *Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved Spatial Development Framework (SDF) agreed to by the relevant environmental authority? (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP).*

**Response: The project falls within Ulundi Local Municipality. The Municipal IDP (2019-2020) plan states that with the substantial focus on job creation and economic development the municipality will have to ensure that adequate space is available to accommodate the required economic growth. The SDF forms part of the IDP and has identified the corridor where the site is located as critical for economic growth.**

2. *Should development, or if applicable, expansion of the town/area concerned in terms of this land use (associated with the activity being applied for) occur here at this point in time?*

**Response: The proposed location is located in an area identified by Ulundi Municipality SDF as a primary corridor. At a Regional level, R34 runs through the western portion of the municipality and is considered one of the primary movement corridors within Ulundi municipality. Ulundi Municipality recognizes the significance of the R34 at a regional level, and the economic opportunities it presents for the Municipality. It connects Vryheid to Ulundi, Melmoth, Eshowe and ultimately Richards's Bay. Development occur along this route and the comparative advantages presented is currently not fully utilized.**

On the other hand, R66 runs roughly in a northeast-south westerly direction and provides regional access within the Zululand District Municipality. This route has been identified as the primary corridor. The town of Ulundi is situated on the R66, which is the main economic centre of the Municipality.

3. *Does the community/area need the activity and the associated land use concerned (is it a societal priority)? This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate).*

**Response:** This project is likely to enhance the area in terms of its location. At a local level the project is likely to provide sustainable jobs. The timing is perfect in the context of economic devastation caused by Covid 19 pandemic.

During the public meeting held on 11 April 2021 on site the attendees registered their unanimous support for the project.

4. *Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development?*

**Response:** No, not all the engineering services are available on this site. Services available on this site includes electricity, water from the borehole, refuse removal will be arranged. The area has no sewer infrastructure and will make use of conservancy tanks as recommended by the Geotechnical Engineer through the Geotechnical Study. The developer will be responsible for the provision of services that are not readily available on site. This is viewed as one way of kick starting the services availability for the precinct that may benefit the surrounding rural settlements in the long run.

5. *Is this development provided for the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)?*

**Response:** The IDP has acknowledged the backlog that exists in the area of Ulundi with regard to some engineering services, especially the rural areas or areas outside of the urban edge. The municipal SDF has indicated the plans that the Municipality have for the future, however in this instance the developer will provide unavailable services for the site.

6. *Is this project part of a national programme to address an issue of national concern or importance?*

**Response:** Yes, in terms of reducing unemployment and poverty in South Africa.

7. *Is the development the best practicable environmental option for this land/site?*

**Response:** The site is zoned environmental management according to Ulundi Municipality; however the project will only utilise less than 1 HA of the 341 HA site for this development. The development will result in the clearance of indigenous vegetation on site; however mitigation measures will be put in place as outlined below.



From the environmental perspective the municipal SDF has emphasised that environmental studies are critical, and that the SDF should aim to protect the environment through prescriptive measures. The SDF must aim to limit proposed developments within areas that have already been identified as endangered. This specific site is not under such endangered areas.

8. *Would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF as agreed to by the relevant authorities?*

**Response:** No, the project will actually enhance the goals of the IDP i.e. local economic development while ensuring environmental sustainability. The Ulundi Municipality SDF has made a firm commitment to ensuring effective and efficient land use management, taking cognizance of sound environmental practices.

9. *Would the approval of this application compromise the integrity of the existing environmental management priorities for the area (e.g. as defined in EMFs), and if so, can it be justified in terms of sustainability considerations?*

**Response:** No, in fact the environmental management priorities will be enhanced through mitigation measures like eradication of alien plants on site which are threatening the indigenous species. The project is mindful of the role played by the natural heritage in the area of Ulundi and its importance to tourists which in turn will contribute to the survival of the proposed Service Station.

10. *Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context).*

**Response:** As highlighted above, Ulundi Municipality in its SDF has identified R34 and R66 as important corridors in terms of economic activities of the town at both Regional and local levels. Identification and classification of movement routes in Ulundi is based on function/role, and intensity of use or development along the route/corridor. Corridors include the main arterial roads that define the spatial structure and drives settlement pattern, and the major local link roads between different settlements. It is in this context that location at the intersection of the two roads becomes important.

11. *How will the activity or the land use associated with the activity applied for, impact on sensitive natural and cultural areas (built and rural / natural environment)?*

**Response:** The proposed development will result in the clearance of less than 1 HA of indigenous vegetation in terms of the current development footprint. The proposed development is within 5 kms of the protected area/s and need to be mindful of this in terms of mitigation measures.

There are indigenous tree species and one protected tree species (marula tree) that will be relocated and removed from the site; however, the project will do this exercise within the context of legislation and ensure replanting of the same species. At this stage the

**assessment has not identified sensitive habitats that will be severely affected. The project is also located within an area of high heritage value, however KZN Amafa and Research Institute will also be afforded an opportunity to comment on the project.**

*12. How will the development impact on people's health and wellbeing (e.g. in terms of noise, odours, visual character and sense of place, etc)?*

**Response: The proposed development does not produce any emissions, save the fumes that may be coming from the fuel fumes during filling up. In terms of the visual character, there are very few rural households in the vicinity of the site, however the mitigation measures will take into account the issue of light in the landscape and the nearby protected areas.**

*13. Will the proposed activity or the land use associated with the activity applied for, result in unacceptable opportunity costs?*

**Response: No.**

*14. Will the proposed land use result in unacceptable cumulative impacts?*

**Response: No.**

As stated above regarding need and desirability this must be looked in the context of the environment process in its entirety. In conclusion the following extract from the guidelines provides a succinct summary of how need and desirability should be viewed in terms of the proposed project. However, to determine if the proposed activity is the best option when considering "need and desirability" this must be informed by the sum of all the impacts considered holistically. In this specific instance "need and desirability" also becomes the impact summary regarding the proposed activity".

The location in question has taken ecological and socio-economic perspectives into consideration. The project has thus far identified no fatal flaws nor major negative impacts or potential impacts, and whatever has been identified as an impact has been accompanied by a mitigation measure to ensure impacts are adequately addressed.

## **(G) A MOTIVATION FOR THE PREFERRED SITE, ACTIVITY AND TECHNOLOGY ALTERNATIVE**

As per GN. R 326, Appendix 1(2)(b), alternatives for the proposed development are to be identified and considered, and this is in line with the definition under Chapter 1 of the EIA Regulations, interpreting alternatives as "in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to the –

- a. Property on which or location where the activity is proposed to be undertaken;
- b. Type of activity to be undertaken;
- c. Design or layout of the activity
- d. Technology to be in the activity;
- e. Operational aspects of the activity

And includes the option of not implementing the activity”

This approach compels the developers and assessors to consider other potential land uses and possible future land uses for the site under assessment.

*Preferred site and alternative layout*

The applicant is leasing the section that will be used for the proposed development (8744m<sup>2</sup>) from Emakheni Communal Property Association who owns the whole 341 HA Farm. The point of departure was to identify possible sites within the Farm. The site was expected to meet the minimum requirements as stipulated by Petroleum Companies i.e. visibility, accessibility and minimum size. Two sites were identified within the Farm, which is the site opposite the T – junction of R34 / R66 coming from the Ulundi side. This site was abandoned in favour of the current one (preferred site) due to the earthworks that was likely to be required for the site from the engineering perspective.

This applicant felt that this was going to be a costly exercise. Furthermore, the said alternative site is notorious for the vehicles losing control as they approach the T – junction from the Ulundi side, landing on the site. The latter was identified as a possible risk to the proposed service station. This was to pose a threat to both human life and property.

On the basis of the foregoing, the current site was chosen as a preferred site. The preferred site is estimated to be 15metres from the road, measured from both R34 and R66 sides. The proposed layout plan has taken into account the issue of proximity to the two roads, avoidance of matured tree species on site and watercourses.

The site is ideally located within a well-established transport network at the intersection of R66 to Ulundi / Nongoma and R34 to Vryheid.

The proposed site was found to be suitable for this project based on the following factors:

- The site is located at the intersection of R66 to Ulundi / Nongoma and R34 to Vryheid, which are primary movement corridors as identified by Ulundi Local Municipality.
- The site location is attractive from the business perspective with regards to accessibility and visibility.
- The site has enough space for the buildings and parking.
- It is anticipated that sustainable jobs will be created for the surrounding community.
- Studies conducted on site thus far have not identified any flaws.
- The proposed development is not in conflict with the development plans of Ulundi Local Municipality

*Alternative site*

As highlighted above, the alternative site is located opposite the T – junction of R34 / R66 coming from the Ulundi side. This site was abandoned as per the reasons furnished above.

### *Technology alternative*

The underground storage of tanks is highly controlled and regulated in South Africa through South African Bureau of Standards (SABS) Specifications and Codes, Guidelines and various South African National Standards (SANS).

There is no specific “special” technology considered for the proposed project, except that the project construction will follow the guidelines of the National Home Building Council (NHBC) with regards to construction specifications.

As indicated above there will be heavy reliance on SANS codes of practice as specified for the underground storage tanks and associated fuel handling infrastructure. The COTO specifications will be used during construction of roads, kerbs and forecourt.

### **(H) A FULL DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED ALTERNATIVE WITHIN THE SITE, INCLUDING:**

#### ***(i) Details of all the alternatives considered***

##### *Property on which the activity is undertaken*

The site and exact proposed locations are currently undergoing feasibility tests through various studies that include traffic impact assessment, heritage assessment, geology of the site and so forth. The site has not revealed any fatal flaws thus far. The environmental impact assessment is also underway.

##### *Type of activity undertaken*

The activity will include a Service Station, food outlets and trucks forecourt as per the attached project layout.

##### *Design and layout of the activity*

The layout has been adjusted to be 15 metres away from the road, with a loop from R66 to be used by trucks to their forecourt.

##### *Technology to be used by the activity*

As highlighted above under (G), there is no specific technology that will be used for the project, except the designs that will be in line with SANS / SABS codes of Practice.

##### *No – go option*

The no-go option is defined as an option of not undertaking the proposed activity and its associated alternatives. In this instance this will mean retaining the entire site in its current state. The no-go option is not seen as an alternative in this instance and context.

The proposed activity and facility will afford the local people an opportunity to be employed, and this contribute in alleviating poverty. If this option is not pursued the unemployed are likely to lose out in terms of potential job opportunities that are likely to be created by this development. This is particularly true for the locals who are unskilled, especially during the construction and operational phases. The local small businesses are also likely to benefit during the project construction phase. The no go option will mean the loss of permitted informal trading during construction phase of the project. The facility will provide permanent jobs for those who will be employed when the facility is operational.

There will be a loss of savings on distance travelled to work. There will be a loss of economic development with regards to the neighboring communities.

There will be a loss of local economic empowerment and other opportunities like subcontracting, supplying material and permitted trading during construction. There will be loss of revenue generation by the Municipality in future through rates, which in turn assist in service delivery.

The no-go option from another perspective will mean no development on this site and landscape. There will be not a slightest chance for soil and water contamination. There will be no risk of petroleum products polluting the underground water resources. There will be no light pollution on this landscape. The no go option will mean that the site will remain intact as a habitat and there will be no clearance of vegetation.

#### Alternative location

The identified location is seen as ideal based on the points outlined above.

#### ***(ii) Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs***

The project has followed the standard public participation process as contemplated under Regulation 41 of the 2014 EIA Regulations, as outlined below.

- Pre-application meeting held between the Department of Economic Development, Tourism and Environmental Affairs, applicant, Khobo Investment Properties (Pty) Ltd representatives and Mondli Consulting Services EAP on 8 February 2021.
- Site notice board – notices were displayed on site on a visible location for a continuous period of 30 days. A picture of the notice that was displayed on site as contemplated under Regulation 41 (3) is attached – see **Appendix B (1) and B (2)**.
- Public meeting – the public meeting was held on site attended by members of the community and the local ward Cllr. The meeting was held on site on 11 April 2021 at 11am – see attached minutes - **Appendix B (3)(i), B (3)(ii), B (3)(iii) and B (3)(iv)**.
- The newspaper advert was published in the iSiZulu newspaper, Ilanga dated 15 April 2021 - **Appendix B (4)**.
- Draft Basic Assessment Report (BAR) circulation / Written Notices – a register of Interested and Affected parties has been compiled.
- Notification letters / e-mails have been sent to the relevant stakeholders inviting them to comment on the project.

*(iii) A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or reasons for not including them*

Over and above TABLE 4 below, a TABLE of Comments and Responses Report is attached as TABLE 19. See also the list of a Register of interested and affected parties – TABLE 20.

**Table 4**

<b>Organisation (I &amp; A party)</b>	<b>Issue / concern raised</b>	<b>EAP's response</b>	<b>Incorporation / Non-incorporation and reasons thereof</b>
Ezemvelo KZN Wildlife	Biodiversity issues. Their comments will be attached as <b>Appendix B (5)</b> .	Draft Basic Assessment report has been circulated to Ezemvelo KZN Wildlife.	Comments will be incorporated onto the EMPr.
KwaZulu – Natal Amafa and Research Institute	KwaZulu – Natal Amafa and Research Institute is the custodian for heritage in KZN Province.  <b>Comments will be attached as - Appendix B (6)</b> .	Draft Basic Assessment report has been circulated to KwaZulu – Natal Amafa and Research Institute.	Comments will be incorporated onto the EMPr.
Department Water and Sanitation (DWS)	Department of Water and Sanitation to provide comments as per their constitutional function.  Comments from DWS will be attached as <b>Appendix B (7)</b> .	Draft Basic Assessment report has been circulated to DWS.	Comments will be incorporated onto the EMPr.
Department of Agriculture, Forestry and Fisheries (DEFF – Forestry Regulations and Support).	The Department of Agriculture, Forestry & Fisheries (DEFF - Forestry Regulations and Support) is the authority mandated to regulate activities affecting natural forests and tree species protected in terms of National Forest Act.  Their comments will be attached as <b>Appendix B (8)</b> .	Draft Basic Assessment report has been circulated to DEFF – Forestry Regulations and Support.	Comments will be incorporated onto the EMPr.
Department of	The Department Mineral	Draft Basic Assessment report	Comments will be

Mineral Resources and Energy	Resources and Energy will be the final Department to authorise the Fuel Service Station.  Their comments will be attached as <b>Appendix B (9)</b> .	has been circulated to the Department of Mineral Resources and Energy.	incorporated onto the EMPr.
Ulundi Local Municipality	Ulundi Local Municipality is the local authority under whose jurisdiction the subject site falls. Their comments will be attached as <b>Appendix B (10)</b> .	Draft Basic Assessment report has been circulated to Ulundi Local Municipality.	Comments will be incorporated onto the EMPr.
Zululand District Municipality	Zululand District Municipality is responsible for bulk services within this District.  Their comments will be attached as <b>Appendix B (11)</b> .	Draft Basic Assessment report has been circulated to Zululand District Municipality.	Comments will be incorporated onto the EMPr.
Department of Economic Development, Tourism and Environmental Affairs.	EDTEA is the Department mandated to authorize environmental applications in the Province of KZN.  Comments will be attached as - <b>Appendix B (12)</b> .	Draft Basic Assessment report has been circulated to EDTEA.	Comments will be incorporated onto the EMPr.
Fuel Retailers Association.	This is an industry association which is an interested stakeholder.  Comments will be attached as <b>Appendix B (13)</b> .	The draft report has been forwarded to the Association for comments.	Comments will be incorporated onto the EMPr.
Ntombela Traditional Council	The site is falling under this Traditional Council.  Comments will be attached as <b>Appendix B (14)</b> .	The draft report has been forwarded to the Traditional Council.	Comments will be incorporated onto the EMPr.
ESKOM	ESKOM is an entity responsible for the provision of electricity in the area, servitudes and so forth.  Comments will be attached	The draft report has been forwarded to ESKOM.	Eskom conditions will be incorporated onto the EMPr where relevant, and observed to the

	as <b>Appendix B (15)</b> .		letter.
KwaZulu – Natal Department of Transport (KZNDOT)	KZNDOT is the Department responsible for the two roads i.e. R34 and R66 traversing Ulundi municipal area where the site is located.  Comments will be attached as <b>Appendix B (16)</b> .	The draft report has been forwarded to KZNDOT.	Comments will be incorporated onto the EMPr.

***(iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects.***

***(Preferred site)***

***Geographical and physical attributes***

**Topography**

The mean elevation (metres above sea level) ranges from 1600 metres above sea level in the western parts of the Municipality, 723 metres above sea level in the central parts of the Municipality, to 140 metres above sea level on the eastern boundary.

The site is located south of the Ulundi town, and relatively flat to gently sloping in the eastern direction.

**Land Use character**

There are existing residential buildings situated on the Farm, but not on the portion and site where the development is proposed.

The surrounding land uses include Ophathe Heritage Park and Game Reserve, private Farms with residential dwellings and vacant land that is in the main used for livestock grazing.

***Climate***

The municipality has a mixture of two “precipitation sectors” which is linked to the varying topography within the Municipal area. On average the two sectors average between 722 to 826mm per annum and 827 to 912mm per annum. Selected pockets have a higher average precipitation of 1,012 to 1,251mm per annum.

***Description of ecological baseline***

*Vegetation and Fauna*

*Vegetation*



The site was visited by the environmental team led by our internal conservationist on the 23 March 2021. The information gathered on site is therefore quite recent. This was in autumn where vegetation has seeds and flowers, making it easy to accurately identify species.

Other than identifying dominant species on site, the assessment was also meant to assess the impacts on vegetation that will be cleared, especially the indigenous vegetation. This included ecological assessment looking at the potential impact the project will have on natural vegetation. The purpose of the field assessment was to provide a “site picture” of vegetation that will be cleared and how this will impact the vegetation of the area. The identification of invader plants on site for the purposes of the eradication programme. Identifying tree species, and to a lesser extent grass species.

Other than the desktop analysis that was done prior to the site visit, a site walk was conducted to also identify and mark the extent of habitat types and vegetation communities present within the proposed development area. A comprehensive field assessment of the identified vegetation communities was then conducted to record the dominant floral species within each community, and determine the presence of protected and/or endangered species present within the proposed development area. If any protected species were identified within the proposed development area, they were marked and recorded.

In terms of the existing impacts on site, it was observed that the veld is not ecologically managed, as a result it has turned into a thicket. The portion next to the main entrance gate has turned to be an illegal dumping spot attributable to the hitch hikers and motorists. This was negatively affecting the ecosystem.

Some of the possible impacts will include removal of indigenous tree species, removal of basal cover which can result in susceptibility of soil to erosion. The species inhabiting the area will lose their habitat, however because of the size of the development footprint it is anticipated that animal species can migrate to the rest of the area that will not be developed. The clearance of vegetation has to safeguard against soil erosion and surface run – off water pollution, and ultimately sedimentation.

#### *Grass species*

The grass family is one of the most important families in the world. It forms the very basis of many ecosystems and all animals are therefore either directly or indirectly dependent on them for survival. Grasses are used as a food source; they provide shelter for a huge range of organisms, and they protect the soil from being degraded which leads to erosion.

Grassland is a complex ecosystem which supports a huge variety of organisms such as insects, frogs, reptiles, birds and mammals which includes our large herbivores. Many species use the grassland to build nests, forage for food, and use as shelter.

The grass family is one of the most important families in the world, if not the most important. It forms the very basis of many ecosystems and all animals are therefore either directly or indirectly dependent of them for survival. Grasses are used as a food source; they provide shelter for a huge range of organisms, and they protect the soil from being degraded which leads to erosion.

**Table 5. Below are grass species recorded on the site.**

<i>Scientific Name</i>	<b>Common Name</b>
<i>Chloris virgata</i>	Feather-top Chloris
<i>Digitaria eriantha</i>	Common Finger Grass
<i>Eragrostis curvula</i>	Weeping Love Grass

<i>Eragrostis superba</i>	Saw-Tooth Love Grass
<i>Sporobolus africanus</i>	Rat's – Tail Dropseed
<i>Dichrostachys cineria</i>	Sickle Bush
<i>Panicum maximum</i>	White Buffalo Grass
<i>Heteropogon contortus</i>	Spear Grass
<i>Aristida junciformis</i>	Ngongoni Three-Awn

**Table 6. Below is the list of trees species recorded on site**

Scientific Name	Common Name	Zulu name
<i>Acacia ataxacantha</i>	Flame thorn	ugagane
<i>Acacia borleae</i>	Sticky thorn	Isanqawe
<i>Acacia brevispica</i>	Prickly thorn	Umthathawe
<i>Acacia kraussiana</i>	Coast climbing thorn	Ugagane
<i>Acacia nilotica</i>	Scented thorn	umnqawe
<i>Acacia tortilis</i>	Umbrella thorn	umsasane
<i>Euphorbia ingens</i>	Gewone naboom	
<i>Sclerocarya birrea</i>	Marula	Umganu
<i>Ziziphus mucronata</i>	Buffalo thorn	umphafa
<i>Aloe arborescens</i>		inhlaba
<i>Tirucallia tirucalli</i>		umunde
<i>Berchemia zeyheri</i>	Red ivory wood	umncaka
<i>Opuntia ficus-indica</i>	Prickly pear	umhlonhlo
<i>Ficus abutilifolia</i>	Large- leaved rock fig	Impayi
<i>Zanthoxylum capense</i>	Small knobwood	Umunzwane
<i>Lippia javanica</i>		Umsuzwane
<i>Solanum incanum</i>		intuma

### Invader plants

Invasive alien plant species (IAP) are species whose introduction and/or spread outside their natural distribution threaten biological diversity. They are non-native to an ecosystem and may cause economic or environmental harm. They impact negatively on biodiversity, including decline or elimination of indigenous species – through competition for water and the disruption of local ecosystems and ecosystem functions. IAPs, introduced and/or spread outside their natural habitats, have affected natural biodiversity in almost every ecosystem type on earth and are one of the greatest threats to biodiversity.

Without natural enemies, these plants reproduce and spread quickly, taking valuable water and space from our indigenous plants. Many alien plants consume more water than local plants, depleting our valuable water resources. Thick alien vegetation can also provide fuel for veldfires, making them exceptionally hot, which damages the burnt areas soil structure. Alien plants cost South Africa tens of billions of rand annually in lost agricultural productivity and resources spent on removing or managing them. IAPs are a major threat to biodiversity in catchment areas, potentially disrupting the delicate natural balance in ecosystems. As we depend on biodiversity for water, food, wood, clean air, medicine and much more, it is vitally important that we protect this resource. (Grain SA, April 2017)

**Table 7. Alien invasive plants identified on site**

Scientific Name	Common Name
<i>Bidens Pilosa</i>	Blackjack

Looking at the impact of the proposed development on vegetation, the development will not have tremendous impact on vegetation as there will be translocation of plant species and EMPr for guidance and monitoring for any environmental disturbances that are likely to occur during the construction and at an operational phase of the project.

There is a big mature *Ficus abutilifolia* tree on the Farm boundary near R34 which must be marked and protected as it is under the red list plants declared by South African National Biodiversity Institute

### *Fauna*

During the site walk and filed assessment limited evidence of faunal activity was observed. Not much of faunal species were observed. The desktop investigation revealed that no species of great conservation importance were noted to occur within the study area i.e. animal species that are endangered, threatened or in the red data list on site. However, it has to be stated that faunal assessment was never the focus, partly due to the small size of the proposed footprint.

It is a fact that any clearance of vegetation amounts to the destruction of a habitat or part thereof. In this instance as this clearance will affect animal species, but there is a chance of migration to the area that will not be developed, given the fact that only 8 744m<sup>2</sup> will be developed.

### *Environmental Management within Ulundi Local Municipality*

Ulundi municipality has a number of environmental sensitive areas, of which some arrears are already formally protected. The Emakhosini Ophathe Heritage Park & Game Reserve is located on the southern boundary of the Municipality directly south of the White Mfolozi River. The Game Reserve is directly east of the R66.

According to the municipal IDP, areas are mainly concentrated in the east, where Ulundi borders on the Hluhluwe Mfolozi Game Reserve. A limited number of small Priority 1 Biodiversity Area pockets are scattered throughout the Municipal area and are situated in close proximity to the areas of Nhlazatshe, KwaMbambo and Babanango.

Ulundi Local Municipality will be afforded an opportunity to comment on this project from the land use perspective, and the rezoning and subdivision is currently underway. The latter process will require the approval of the local municipality.

The general approach is that land use adjacent protected areas needs to be compatible with the values of the protected areas, with a gradient of development/land use density and scale, as well as type, occurring from the edge of protected area to the outer edge of the buffer. The municipal control measures are likely to be closer or adjacent to the protected area and lessen as you move away towards the edge of the buffer.

The spatial distribution of environmental bio-diversity areas of significance is considered vital to provide the spatial framework for future spatial development planning. Those areas where development needs to be avoided or at best, carefully managed, is of particular importance. This

spatial structuring principle focuses on conserving the core biodiversity areas (wetlands, flood plains, steep slopes and special sensitive bio-diversity areas).

### ***Soil and Geology***

According to the geotechnical study having used the 2830 Dundee, 1:250 000 Geological Map Series, the general area where the site is located is underlain by red-brown, coarse grained, arkosic to subarkosic, sandstone, quartz arenite, micaceous sandstone, small pebble conglomerate, subordinate, siltstone and mudstone of the Natal Group that was deposited during the Ordovician-Silurian Period. The geotechnical investigation conducted indicated the area for the proposed development comprised generally transported material directly overlying the weathered sandstone of the Natal Group.

### ***Groundwater and Wetlands / Hydrology***

According to the geotechnical study, no groundwater seepage was encountered during the geotechnical investigation. However, it should be noted that during periods of prolonged rainfall, particularly during the summer season, there will be a marked increase in the occurrence and magnitude of groundwater seepage flow. Perched groundwater flows at the soil/rock interface are likely to become more prolific in the rainy months. Platforms intercepting this interface are likely to encounter groundwater seepage during these times.

There is no watercourse or wetland traversing the site nor within the regulated zone.

### ***Social attributes***

The area is falling under Ulundi Local Municipality demarcated as ward 21 in terms of municipal boundaries. It is falling under Ntombela Traditional Council in terms of traditional structures.

### ***Economic attributes***

The proposed project is likely to create economic spin offs for the local people, especially the rural communities bordering the project site. The project is likely to make a major economic contribution in this regard, given the fact that it is surrounded by poor communities that need economic opportunities.

The Socio – economic Assessment as well as the comments from the stakeholder meeting have confirmed the expected economic benefits that will flow from the project.

### ***Heritage & archaeological, historical features and cultural aspects***

Our walk about on site did not reveal any graves nor any visible heritage objects within the proposed project site. However we are mindful of the fact that Ulundi municipal area is rich in historical and cultural heritage assets. Cultural heritage sites require intensive management to avoid all types of destruction, such as vandalism and development.

In this regard the services of Active Heritage have been sourced since their preliminary desktop assessment on the Farm showed Iron Age sites that need to be assessed. The report will be provided in due course.

The draft basic assessment report has also been forwarded to KwaZulu – Natal Amafa and Research Institute for their comments as custodians of heritage objects in the Province of KwaZulu – Natal.

### ***Site photographs***



*Figure 1 - Site photograph ( 19 January 2021)*

- (v) **The impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts –**

*(aa) can be reversed*

*(bb) may cause irreplaceable loss of resources; and*

*(cc) can be avoided, managed or mitigated*

The reasons for abandoning alternative site were furnished above, and therefore we will now focus on the potential for the preferred.

### **Impacts identified for the preferred site**

- Soil erosion during earthworks, construction and operational phases.
- Habitat loss - Rehabilitation of the site is important once the work is completed where appropriate.
- Air pollution in the form of dust during construction.
- Soil contamination during construction and operational phases.
- Soil contamination during operational phase.
- Underground and surface water pollution.
- Stockpiling.
- Location of construction camp.
- Littering and solid waste.
- Heritage objects, fossils and graves found during earthworks.
- Concrete mixing.
- Alien plants - eradication that might invade the area after earthworks.
- Noise pollution during construction and operational phases.
- Traffic Management.
- Visual impact.
- Health and Safety.
- Social and economic impacts.

#### *Positive impacts of the activity*

The local unemployed people and small businesses will benefit in terms of jobs during the construction and operational phases of the project. The project will contribute in local economic development for the broader area. Local business will get an opportunity to be suppliers to the project, as well as sub-contracting opportunities.

Several skills will be required for the completed project like petrol attendants, security staff, cashiers, receptionists, housekeeping, chefs, waitress, gardeners, supervisors and so forth.

#### *Negative impacts of the activity*

The project has to safeguard against the random and arbitrary removal and cutting of indigenous tree species that are on site. An uncontrolled cutting of trees will have a negative impact. This will be done by avoiding tree cutting and removal where possible and practical; where unavoidable all trees likely to be affected will be identified for replacement on project completion. Trees are important in supplying humankind with oxygen, providing habitats for species, while tree roots are helpful in holding the soil thus protecting it from erosion.

The construction phase has to safeguard against any possible environmental degradation like soil erosion that may be caused during earthworks. The project has to safeguard against any possible underground water pollution.

Soil contamination due to concrete mixing and possible oil spillages. Air pollution in the form of dust during the construction phase that may be generated and dispersed to the neighbouring properties, road and passersby. Risk of fire and explosion due to the nature of the petroleum products stored on site.

Increase in ambient noise levels from construction machinery, workers on site and passersby and patrons. Emissions due to construction traffic as trucks deliver material on site, and the plant working on site. Waste that will be generated during construction and operational phases of the project. Sewerage conservancy tanks will be Calcemite type SABS approved to ensure there is no soil contamination or leak at all, until the contents are pumped out. Health and safety risk to workers and residents during construction.

The EIA Regulations, 2014 as amended stipulates requirements that need to be adhered to and objectives to be reached when undertaking environmental impact assessment. Key to a successful EIA is the accurate identification of environmental and social impacts and the subsequent assessment of the likely significance of each impact. This will assist in facilitating the prioritization of impacts, the identification of fatal flaws and the identification of mitigation measures.

**Table 8: interpretation of the overall significance of impacts is presented below**

Scoring value	Significance
>35	<b>High – The impact is total / consuming / eliminating</b> – In the case of adverse impacts, there is no possible mitigation that could offset the impact, or mitigation is difficult, expensive, time-consuming or some combination of these. Social, cultural and economic activities of communities are disrupted to such an extent that these come to a halt. Mitigation may not be possible / practical. Consider a potentially fatal flow in the project.
25 – 35	<b>High – The impact is profound</b> – In the case of adverse impacts, there are few opportunities for mitigation that could offset the impact, or mitigation has a limited effect on the impact. Social, cultural and economic activities of communities are disrupted to such an extent that their operation is severely impeded. Mitigation may not be possible / practical. Consider a potential fatal flaw in the project.
20 – 25	<b>Medium – The impact is considerate / substantial</b> – The impact is of great importance. Failure to mitigate with the objective of reducing the impact to acceptable levels could render the entire project option or entire project proposal unacceptable. Mitigation is therefore essential.
7 – 20	<b>Medium - The impact is material / important to investigate</b> – The impact is of importance and is therefore considered to have a substantial impact. Mitigation is required to reduce the negative impacts and such impacts need to be evaluated carefully.
4 – 7	<b>Low – The impact is marginal / slight / minor</b> – The impact is of little importance but may require limited mitigation; or it may be rendered acceptable in the light of proposed mitigation.
Scoring value	Significance
0 – 4	<b>Low – The impact is unimportant / inconsequential / indiscernible</b> – no mitigation required, or it may be rendered acceptable in light or proposed mitigation.

The significant rating of each identified impact was then reviewed by the EAP through professional judgement and checklists. The checklist entails comprehensive list of possible environmental effects and impacts. In assessing each impact and its significance the evaluation was based on the following elements:

### Nature of the impact

The environmental impacts of a project are those resultant changes in environmental parameters, in space and time, compared with what would have happened had the project not been undertaken or if the no-go option was adopted.

**Extent** - This talk to the physical and spatial scale of the impact. Below are some of the standard terms used in assessment relating to the extent.

**Table 9 - Extent**

RATING	EXTENT SCALE
7	<b>International</b> - The impacted area extends beyond national boundaries.
6	<b>National</b> – The impacted area extends beyond provincial boundaries.
5	<b>Ecosystem</b> – The impact could affect areas essentially linked to the site in terms of significantly impacting ecosystem functioning.
4	<b>Regional</b> – The impact could affect the site including the neighbouring areas, transport routes and surrounding towns e.g. at the KZN Provincial level.
3	<b>Landscape</b> – The impact could affect all areas generally visible to the naked eye, as well as those areas essentially linked to the site in terms of ecosystem functioning.
2	<b>Local</b> – The impacted area extends slightly further than the actual physical disturbance footprint and could affect the whole, or a measurable portion of adjacent areas. Normally within a radius of 2 km from the site.
1	<b>Site Related</b> – This is an impact within the boundaries of the construction site or the development footprint. The loss is considered inconsequential in terms of the spatial context of the relevant environmental or social aspect.

**Magnitude** - This provides a qualitative assessment of the severity of a predicted impact. Below are some of the standard terms used in assessment relating to this indicator.

**Table 10 - Magnitude**

RATING	MAGNITUDE SCALE
7	<b>Total / eliminating</b> – Function or process of the affected environment is altered to the extent that it is permanently changed.
6	<b>Profound / considerate / substantial</b> – Function or process of the affected environment is altered to the extent where it is permanently modified to an extent of temporal cease.
5	<b>Material / important</b> – The affected environment is altered, but function and process continue, albeit in a modified way.



4	<b>Discernible / noticeable</b> – Function or process of the affected environment is altered to the extent where it is temporarily altered, be it in a positive or negative manner.
3	<b>Marginal / slight / minor</b> – The affected environment is altered, but natural function and process continue.
2	<b>Unimportant / inconsequential / indiscernible</b> – The impact temporarily alters the affected environment in such a way that the natural processes or functions are negligibly affected.
1	This is where there will be no impact on the environment.

**Duration** - This describes the timeline of the predicted impact. Below are some of the standard terms used in assessment relating to duration.

**Table 11 - Duration**

Rating	DURATION SCALE
7	<b>Long term</b> – Permanent or more than 15 years post decommissioning. The impact remains beyond decommissioning and cannot be negated.
3	<b>Medium term</b> – Lifespan of the project. Reversible between 5 to 15 years post decommissioning.
1	<b>Short term</b> – The impacts will be easily reversible with the adoption of mitigation measures. This will happen during the project lifespan. The impact will either be remedied with mitigation or will be mitigated through natural processes within the project phase i.e. within 0 – 5 years.

**Irreplaceability / Loss of resources** - Environmental resources cannot always be replaced; once destroyed, some may be lost forever. It may be possible to replace, compensate or reconstruct a lost resource in some cases. The loss of a resource may become more serious later, and the assessment must take this into account. Below are some of the standard terms used in assessment relating to duration.

**Table 12 - Irreplaceability / Loss of resources**

RATING	IRREPLACEABILITY / RESOURCE LOSS SCALE
7	<b>Permanent</b> – The loss of a non-renewable / threatened resource which cannot be renewed / recovered with, or through, natural process in a time span of over 15 years, or by artificial means.
5	<b>Long term</b> – The loss of a non-renewable / threatened resource which cannot be renewed / recovered with, or through, natural process in a time span of over 15 years, but can be mitigated by other means.
4	<b>Loss of an 'at risk' resource</b> – one that is not deemed critical for biodiversity targets, planning goals, community welfare, agricultural production, or other criteria, but cumulative effects may render such loss as significant.

3	<b>Medium term</b> – The resource can be recovered within the lifespan of the project. The resource can be renewed / recovered with mitigation or will be mitigated through natural process in a span between 5 and 15 years.
2	<b>Loss of an ‘expendable’ resource</b> - one that is not deemed critical for biodiversity targets, planning goals, community welfare, agricultural production, or other criteria.
1	<b>Short-term</b> – Quickly recoverable. Less than the project lifespan. The resource can be renewed / recovered with mitigation or will be mitigated through natural process in a span shorter than any of the project phases, or in a time span of 0 to 5 years.

**Reversibility** - The distinction between reversible and irreversible impact is a very important one, and the irreversible impacts not susceptible to mitigation can constitute significant impacts in an EIA process. The potential for rehabilitation is the major determinant factor when considering the temporal scale of most predicted impacts. Below are some of the standard terms used in assessment relating to reversibility.

**Table 13 - Reversibility**

RATING	REVERSIBILITY SCALE
7	<b>Long term</b> – The impact will never be returned to its original or benchmark state. The impact cannot be reversed.
3	<b>Medium term</b> – The impact / effect will be returned to its original or benchmark state through mitigation or natural processes in a span shorter than the lifetime of the project, or in a time span between 5 and 15 years.
1	<b>Short term</b> – The impact / effect will be returned to its original or benchmark state through mitigation or natural processes in a span shorter than any of the phases of the project, or in a time span of 0 to 5 years.

**Probability** - The assessment of the probability / likelihood of an impact / effect has been undertaken in accordance with ratings and descriptors provided below.

**Table 14 - Probability**

RATING	PROBABILITY SCALE
1.0	Absolute certainty / will occur
0.9	Never certainty / very high probability
0.7 – 0.8	High probability / to be expected
0.4 – 0.6	Medium probability / strongly anticipated
0.3	Low probability / anticipated
0.2	Possibility
0.0 – 0.1	Remote possibility / unlikely

**(vi) The methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives**

The alternative site location had fatal flaws from both engineering and safety perspectives and was deemed not worth pursuing. It was therefore abandoned for the purposes of further consideration. As a result the assessment is focusing on this specific site (preferred site). T

Before the site was visited, there was an analysis of the google image, analysis of the National Wetlands map & aerial images, SAHRIS heritage programme and South African Protected Conservation Areas Database (SAPAD). Other than the desktop analysis that was done prior to the site visit, a site walk was conducted to analyze and observe the physical environment on the project site. The assessing team also used professional judgment, observation on site, checklists and past experience.

The assessment identified and marked the extent of habitat types and vegetation communities present within the proposed development area. A comprehensive field assessment of the identified vegetation communities was then conducted to record the dominant plant species within each community, and determine the presence of protected and/or endangered species present within the proposed development area. If any protected species were identified within the proposed development area, they were marked and recorded.

The assessing team has also consulted stakeholders and tapped on their knowledge. We have also looked at the historical data for the site, to get a better insight of the changes over time. We have also studied literature and Specialists studies conducted on site thus far.

**(vii) Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects**

*Positive impacts of the activity*

The local unemployed people and small businesses will also benefit in terms of jobs during the construction and operational phases of the project. The local economic development for the greater area will be enhanced by this project. Suppliers and sub-contractors will benefit during the construction phase, as well as during the operational phase. The project will contribute in skills development for the area in that the locals will get an opportunity in new skills like petrol attendants, cashiers, waitress and so forth.

The site and the area will also get an opportunity for an enhanced ecological management in the sense that all invader plants will have to be eradicated as per the plan.

*Negative impacts of the activity*

The main concern is that of the clearance of indigenous vegetation on site. The removal and cutting of plants ought to be done within the regulatory framework. This will be done by avoiding

tree cutting and removal where possible and practical; where unavoidable all trees likely to be affected will be identified for replacement on project completion.

The construction and operational phases must safeguard against any possible environmental degradation like soil erosion that may be caused by the development footprint. The project must safeguard against any possible pollution of soil, surface and underground water. The project will use Calcamite type of septic tanks to ensure there is no leakage or contamination of any form. The project has to safeguard against soil contamination by machinery during earthworks and construction phase. The project of this nature poses a risk of fire and explosion due to the nature of the petroleum products stored on site, albeit the strict regulations guiding such storage on site.

Overall, the project is alive to the concept of sustainable development that talks to development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The concept continuously underpins the inextricable link between human socio-economic systems and the environment. Therefore, the project has no intention of socially harming the area, if anything it will promote its growth and prosperity.

**(viii) The possible mitigation measures that could be applied and level of residual risk**

*Mitigation* - In the assessment process the potential to mitigate the negative impacts is determined and rated for each identified impact. The significance of environmental impacts has therefore been assessed considering any proposed mitigation measures.

- Reduction of soil erosion by ensuring that the soil always has ground cover, and diverting water appropriately to avoid run off.
- Dust suppression by watering the site during construction phase.
- Ensuring that noise levels are within legally acceptable levels during the construction phase.
- Identification of tree species likely to be affected by earthworks, and replacing all of them on project completion.
- Planting of indigenous trees after project completion as part of promoting the natural feel, providing a habitat for certain species and landscaping. The trees will be planted around the facility to preserve the sense of place.
- The eradication of alien plants on site.
- Ensuring that there is no degradation taking place on site during construction and post construction, achieved through continuous monitoring by the Environmental Control Officer.
- Ensuring that waste is disposed in line with acceptable environmental standards.
- Ensuring that the conservancy tanks used are SABS compliant, and we are exploring Calcamite type of tanks as recommended by the engineering technician.
- Ensuring that there is no pollution, of whatever type, is taking place on site during construction and post construction by continuous monitoring by the Environmental Control Officer.
- Stormwater management need to be implemented as per the recommendations of the Stormwater plan.
- Implementation of the Environmental Management Programme (EMPr) and its recommendations.

- The earthworks must be carried out in accordance to SANS 1200 D.
- The use of fuel tanks that comply with SABS standards and relevant SANS.
- Ensuring that the project stick to the principles of sustainable development and look at all aspects in a balanced manner.
- Maintenance of the habitat after project completion.

**(ix) The outcome of the site selection matrix**

There has been no comprehensive comparison of the preferred and alternative site, for the reasons furnished above i.e. the alternative site proved to be fatal from engineering, cost and safety perspectives. As indicated under (G) above, the alternative site is located opposite the R34 & R66 intersection, however it is still part of the same Farm. It was our observation that the vegetation coverage and habitat types of both sites are very much similar. Therefore, there is no site selection matrix applied.

**(x) If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such**

There has been no comprehensive assessment of alternatives as highlighted above. The project is located along the R66 & R34 Roads which is an ideal spot from the connectivity perspective, compared to the site opposite the intersection which can lead to collisions/ accidents.

The preferred site is motivated as follows:

- The site is leased by the proponent for this specific activity due to its ideal location from the business perspective as per the requirements of the petroleum industry, among other things that look at accessibility, visibility, environmental sustainability and size.
- The assessment has not shown any fatal environmental flaws.
- There will be no need for extensive infilling from engineering perspective, compared to the alternative site.
- According to the socio – economic study the business is economically viable, and likely to do well in the current location.
- There are no households and settlement that will be disrupted by the construction of this project.
- The location of the site in a rural area settled by poor communities will present economic opportunities, and a real opportunity for the project to make a meaningful impact and contribution to the social prosperity and growth.
- The site has not shown any serious fatal flaws thus far.

**(xi) A concluding statement indicating the preferred alternatives, including preferred location of the activity**

It is deemed practical to continue with this site as opposed to abandoning it for another location, that may not meet the minimum requirements of the proposed activity i.e. size, visibility and

accessibility. The site is ideally located along the opportunity corridors as identified by Ulundi Municipality i.e. along R34 and R66 roads. The site will be easily accessed by both small vehicles and trucks.

The site is ideally located away from watercourses, and this has drastically reduced chances of water pollution.

**(I) A FULL DESCRIPTION OF THE PROCESS UNDERTAKEN TO IDENTIFY, ASSESS AND RANK THE IMPACTS THE ACTIVITY WILL IMPOSE ON THE PREFERRED LOCATION THROUGH THE LIFE OF THE ACTIVITY, INCLUDING –**

The environmental team has physically visited the site on several occasions i.e. on 19 January 2021 to see the site, on 23 March 2021 for a formal detailed site assessment and on 11 April 2021 to conduct a public meeting held on site.

The first stage has been the walk about by the environmental team on site observing the physical environment of the whole identified site and exact location. Desktop analysis of the site and location has been done using google images, map analysis like National Wetlands map & aerial images, SAHRIS heritage programme and South African Protected Conservation Areas database (SAPAD). The team also used its professional judgment, checklists, observation on site and past experience. The stakeholders are consulted widely, including the locals to tap on their knowledge of the area.

The literature review of the area and site is done, combining this with the knowledge of specialists as per the Specialists Studies conducted, and local indigenous knowledge.

The site and exact location have proved to be socially acceptable during engagements with the members of the public and the area leaders. The studies conducted thus far have not revealed serious environmental flaws. The development location seems to be acceptable from the applicant perspective, as most of the key engineering infrastructure is already available like electricity and water. The site and location have also been assessed against the existing municipal planning tools like IDP and SDF, and no conflict was noted.

**(i) A description of all environmental issues and risks that were identified during the environmental impact assessment process**

- Soil erosion during earthworks, construction and operational phases.
- Habitat loss - Rehabilitation of the site is important once the work is completed.
- Cutting, felling and pruning of indigenous tree species on site.
- Air pollution in the form of dust during construction.
- Soil contamination during construction and operational phases.
- Underground and surface water pollution.
- Stockpiling on site.
- Location of construction camp.
- Littering and solid waste.
- Heritage objects like fossils and graves that may be found during earthworks.
- Concrete mixing.
- Alien plants – eradication programme.
- Noise pollution during construction and operational phases.

- Traffic Management.
- Health and Safety.
- Visual.
- Social and economic impacts (positive and negative)

(ii) An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures

Table 15 – Impacts and mitigation

Impact and risk	Description / Significance	Mitigation
Soil erosion / earthworks	<ul style="list-style-type: none"> <li>• The removal of groundcover and earthworks may lead to soil erosion on site.</li> </ul>	<ul style="list-style-type: none"> <li>• Any noticeable erosion gullies on site must be dealt with, by implementing anti-erosion measures.</li> <li>• Reuse topsoil to rehabilitate disturbed areas.</li> <li>• Prevent soil erosion by maintaining the grass cover on site.</li> <li>• Stormwater plan will control all stormwater which may cause soil erosion on site.</li> </ul>
Habitat loss / Loss of species	<ul style="list-style-type: none"> <li>• No loss of species is anticipated to occur due to the size of the development area.</li> </ul>	<ul style="list-style-type: none"> <li>• Indigenous landscaping is recommended on project completion.</li> <li>• The fauna on site is likely to migrate to the rest of the site during earthworks.</li> <li>• The habitat integrity will be ensured by the assessment three months post construction.</li> </ul>
Removal of trees and vegetation	<ul style="list-style-type: none"> <li>• Cutting of indigenous plant species.</li> <li>• Disturbance of fauna on site.</li> </ul>	<ul style="list-style-type: none"> <li>• Disturbed and cut indigenous tree species must be re-planted on project completion to enhance the habitat.</li> <li>• Induction course for workers on site must emphasise the importance of vegetation.</li> <li>• Animal species found on site must not be unnecessarily interfered with.</li> <li>• In case of species disturbance, they are likely to migrate to the</li> </ul>

		rest of the undisturbed site.
Air pollution	<ul style="list-style-type: none"> <li>• Dust from earthworks.</li> <li>• Construction vehicle fumes.</li> </ul>	<ul style="list-style-type: none"> <li>• Suppression of dust by watering the project site as and when necessary during construction.</li> <li>• Vehicles and machinery must be properly and regularly serviced.</li> </ul>
Soil contamination	<ul style="list-style-type: none"> <li>• Concrete mixing must not spill onto the soil during construction.</li> <li>• Oil and chemicals contaminating soil during construction.</li> </ul>	<ul style="list-style-type: none"> <li>• Prevent soil contamination by not mixing any concrete on the soil.</li> <li>• Vehicles and plant must not be allowed to drip oil, and drip trays must be used when vehicles/plant are parked on site.</li> <li>• Vehicles must not be repaired on site as to cause soil contamination.</li> </ul>
Soil contamination (operational phase)	<ul style="list-style-type: none"> <li>• Possible leaks from conservancy tanks.</li> </ul>	<ul style="list-style-type: none"> <li>• The project will use Calcamite type tanks that are SABS compliant as normally recommended by Waste Water Engineers.</li> <li>• Only approved and accredited conservancy tanks service provider will be utilised by the applicant.</li> <li>• The capacity of the conservancy tanks will be in line with the Engineers recommendations.</li> <li>• The conservancy tanks will be emptied by vacuum tankers, when required.</li> </ul>
Stormwater and water resources	<ul style="list-style-type: none"> <li>• Contamination of ground and surface water.</li> <li>• Accidental spillages of Petro chemicals from vehicles and equipment.</li> <li>• Erosion gullies.</li> <li>• The tanks pose a risk of leak onto to the underground water resources.</li> </ul>	<ul style="list-style-type: none"> <li>• Implementation of the Stormwater Plan.</li> <li>• The Plan has to be implemented to the letter, ensuring that accumulated surface water is collected and disposed of in a responsible manner.</li> <li>• Before and after construction the site must be graded, and no ponding of water on site</li> </ul>



		<p>must be allowed.</p> <ul style="list-style-type: none"> <li>• The platform must be graded to prevent ponding and ingress of water into the newly placed fills and the deeper soils.</li> <li>• Rainwater harvesting must be adopted on site.</li> <li>• The fuel tanks must be SABS compliant and in line with relevant SANS.</li> <li>• The base of the fuel tank excavations must be flat and free of rocks, compacted to specification with the correct backfill material and prepared using accepted SANS standards to ensure stability of underground tanks.</li> <li>• All pipe-work must be double walled and comply with SANS 62- 1 and 2'SANS 1132 (pipework).</li> <li>• Absorbent spill kits and disposal containers must be provided to workers to handle spillages.</li> <li>• The underground storage tanks must be designed and installed in accordance with the SABS Standards (South African Bureau of Standards, SABS 089-3-1999'and Third Edition. Code of practice – The petroleum industry, Part 3: The installation of underground storage tanks, pumps/dispensers and pipework at service station and consumer installations). SANS</li> </ul>
--	--	--

		<p>standards adequately address various potential impacts via the implementation of required engineering measures.</p> <ul style="list-style-type: none"> <li>• An emergency preparedness and Response Plan must be implemented for the site.</li> </ul>
Stockpiling	<ul style="list-style-type: none"> <li>• Stockpiling will be done on site, within a clearly demarcated construction camp.</li> </ul>	<ul style="list-style-type: none"> <li>• No stockpiling must take place within 150 metres of a watercourse.</li> </ul>
Location of construction camp	<ul style="list-style-type: none"> <li>• A construction camp will be located at the appropriate place, and accordingly fenced.</li> </ul>	<ul style="list-style-type: none"> <li>• The construction camp must be located 150 metres away from the watercourse.</li> </ul>
Littering / Solid waste / Waste	<ul style="list-style-type: none"> <li>• The project must take care of the site not to be polluted by such things as litter by workers on site, oil spills, building material, papers, cans and bottles.</li> <li>• Possible waste – plastics, metal, wood, concrete and so forth.</li> </ul>	<ul style="list-style-type: none"> <li>• Solid waste must be disposed of at the nearest landfill site or transfer station as maybe appropriate, with proof of responsible disposal method whenever requested. In all likelihood the bulk of solid waste generated will be in the category of general waste.</li> <li>• However, it is anticipated that some hazardous waste may be generated which will be disposed of appropriately in the landfill site that accepts such type of waste. Hazardous waste defined as waste that poses substantial or potential threat to public health and the environment. This includes waste that tends to ignite, reactive, corrosive and toxic.</li> <li>• Chemical waste must be stored in appropriate containers and disposed of at an appropriate disposal site.</li> <li>• Rubbish drums and refuse plastic bags will have to be made available for litter during the day, to be cleared and</li> </ul>

		<p>disposed at the landfill site or transfer station at appropriate intervals as advised by the Environmental Control Officer.</p> <ul style="list-style-type: none"> <li>• All construction spoil must be disposed of at the appropriate landfill site.</li> <li>• No burning of refuse must take place on site.</li> </ul>
Destruction and disturbance of graves and heritage resources.	<ul style="list-style-type: none"> <li>• The project will have to be on the watch for any heritage objects that may be found during earthworks phase.</li> </ul>	<ul style="list-style-type: none"> <li>• In case of any heritage object found during earthworks, the project must stop, and such must be reported to KZN Amafa and Research Institute.</li> </ul>
Concrete mixing	<ul style="list-style-type: none"> <li>• Concrete mixing on site can pollute and contaminate the soil.</li> </ul>	<ul style="list-style-type: none"> <li>• The mixing of concrete must be done within the bunded area or alternatively be brought on site by a readymade concrete mixer.</li> <li>• All spillages must be removed and properly disposed of.</li> </ul>
Alien invaders	<ul style="list-style-type: none"> <li>• Alien plants invading the site must be eradicated systematically.</li> </ul>	<ul style="list-style-type: none"> <li>• Alien plants will be eradicated on project completion.</li> </ul>
Noise (construction phase)	<ul style="list-style-type: none"> <li>• There will be ambient noise on site due to construction activities, especially vehicles and machinery.</li> </ul>	<ul style="list-style-type: none"> <li>• Machinery and equipment used during construction phase must be properly serviced.</li> <li>• No construction must take place during the night as to disturb the peace of the area.</li> <li>• No construction must take place during Sundays and public holidays.</li> </ul>
Traffic management	<ul style="list-style-type: none"> <li>• There will be an increase of traffic flow in the vicinity of the site during construction.</li> </ul>	<ul style="list-style-type: none"> <li>• Flag persons will be used to control traffic as may be necessary.</li> <li>• The 40 km speed signs will be erected on site, in order to control traffic speed and avoid accidents.</li> </ul>
Health and Safety	<ul style="list-style-type: none"> <li>• The movement of people within the site must be controlled through the security entry and register.</li> <li>• The site will have a dedicated</li> </ul>	<ul style="list-style-type: none"> <li>• Safety officer must be appointed to deal with all safety issues on daily basis during construction.</li> <li>• Safety induction must be done</li> </ul>

	<p>Safety Officer.</p> <ul style="list-style-type: none"> <li>• Construction vehicles must not pose a threat to the safety of local pedestrians</li> <li>• The workers must be provided with mobile toilets on site.</li> <li>• Fire and explosion always pose danger to projects of this nature.</li> </ul>	<p>on commencement of construction.</p> <ul style="list-style-type: none"> <li>• Protective clothing must be worn by workers at all times.</li> <li>• Safety file and Safety officer to be on site, especially during construction phase.</li> <li>• Safety signs and speed limits erected on site.</li> <li>• The mobile toilets on site must be kept clean and serviced regularly.</li> <li>• Fire extinguishers must be readily available onsite and easily accessible.</li> <li>• Firefighting equipment must comply with SANS 1151 and must be inspected regularly.</li> <li>• No smoking must be allowed near flammable materials.</li> <li>• No cell phones may be used during fuel dispensing during operational stage.</li> <li>• An emergency Response Plan (ERP) must be implemented for the site, for emergency procedures. The ERP must include emergency contact numbers.</li> <li>• Staff must be trained adequately to avoid and handle high risk situations.</li> <li>• Health and safety protocols in terms of section 27 (2) of the Disaster Management Act must be observed at all times.</li> <li>• All protocols relating to combating and preventing spread of Covid 19 must be observed.</li> </ul>
Visual impact	<ul style="list-style-type: none"> <li>• The project must not cause an</li> </ul>	<ul style="list-style-type: none"> <li>• The site must be closed with shed</li> </ul>

	<p>outcry to the locals and passersby.</p> <ul style="list-style-type: none"> <li>• Landscape intrusion.</li> </ul>	<p>cloth during construction.</p> <ul style="list-style-type: none"> <li>• The developer must plant indigenous tree species in the vicinity of the site to reduce the visual impact on the landscape.</li> <li>• Lights used by the Facility must be inward facing as to reduce the impact of light at night.</li> </ul>
Socio economic impacts	<p>–</p> <ul style="list-style-type: none"> <li>• Creation of employment opportunities for skilled and non-skilled employees (temporal &amp; permanent).</li> <li>• Skills development to local communities.</li> <li>• Possible opportunities for the local suppliers and sub-contractors.</li> <li>• Economic spin offs for the area</li> </ul>	<ul style="list-style-type: none"> <li>• Prioritisation of the locals in terms of employment, unless if the skill is not available locally.</li> <li>• Complaint register must be accessible on site to the members of the public.</li> <li>• The project will ensure it encompasses the concept of sustainable development.</li> <li>• The project must ensure the success of its commitment to social upliftment.</li> <li>• The developer has stated the project's commitment to social upliftment and creation of opportunities.</li> </ul>

Cumulative impacts affect the significance ranking of an impact since it considers impacts from both on and off site. The challenge is when the impacts that are considered within standards if combined may be cumulative in nature to the level that may exceed the set standards. In this regard it is important to consider impacts in terms of their cumulative nature.

**Table 16 – Cumulative impacts**

<b>Impact and risk</b>	<b>Cumulative impacts (past, current and foreseeable)</b>
Soil erosion	Not cumulative.
Air pollution	None anticipated.
Soil contamination (construction & operational)	None anticipated.
Stormwater and water resources	Not foreseen, with a stormwater plan in place.
Stockpiling	None anticipated.
Location of construction camp	Not foreseen
Destruction and disturbance of graves and heritage resources	Not foreseen

Littering and solid waste	Unlikely to be cumulative
Concrete mixing	Not cumulative in this instance
Noise (construction phase)	Not cumulative
Traffic management	Not cumulative - The Traffic Impact Assessment (TIA) report concluded that the existing traffic conditions are good, with all critical intersections operating at good levels of service during peak hours.
Health and Safety (construction phase)	Not cumulative
Health and Safety (operational phase)	Not cumulative
Socio – economic impacts (negative)	Not cumulative

**(J) AN ASSESSMENT OF EACH IDENTIFIED POTENTIALLY SIGNIFICANT IMPACT AND RISK, INCLUDING –**

- Cumulative impacts that may occur as a result of the undertaking of the listed activity during the project life cycle;
- The nature, significance and consequence of the impact and risk;
- The extent and duration of the impact and risk;
- The probability of the impact and risk occurring;
- The degree to which the impact and risk can be reversed;
- The degree to which the impact and risk may cause irreplaceable loss of resources; and
- The degree to which the impact can be mitigated.

**Table 17: Assessment of negative impacts of the preferred site and layout**

Impact and risk	Magnitude	Duration	Extent	Reversibility	Irreplaceability/ Loss of resources	Probability	Significance with mitigation
Soil erosion / earthworks	Unimportant.	Short term.	The loss is considered inconsequential	Medium term	Short - term.	Probable.	See Table below
Habitat loss / Loss of species	Marginal	Medium term	Inconsequential to no loss.	Medium term	Short term	Low probability	See Table 18 below
Removal of trees and vegetation	Marginal	Medium term	Inconsequential to no loss.	Medium term	Short term	Low probability	See Table 18 below

Air pollution	Unimportant	Short term	Considered inconsequential.	Short term	Short-term	Probable	See Table below
Soil contamination	Unimportant.	Short term	Considered inconsequential.	Short term	Short-term	Probable	See Table below
Soil contamination (operational phase)	Unimportant.	No impact on the environment	Considered inconsequential.	Short term	Short-term	Probable	See Table 18 below
Stormwater and water resources	Unimportant	Short term	Extends slightly further than site	Short term	Medium term	Probable	See Table below
Stockpiling	Unimportant	Short term	Considered inconsequential	Short term	Short term	Remote possibility	See Table below
Location of construction camp	Unimportant	Short term	Considered inconsequential	Short term	Short term	Remote possibility	See Table below
Littering and solid waste	Unimportant	Short term	Considered inconsequential	Short term	Short term	Low probability	See Table below
Destruction and disturbance of graves and heritage resources	Under assessment.	Under assessment.	Under assessment.	Under assessment.	Under assessment.	Under assessment.	See Table below
Concrete mixing	Unimportant	Short term	Considered inconsequential	Short term	Short term	Low probability	See Table below
Alien invader species	Important	Short term	Considered inconsequential.	Short term	Short term	Probable	See Table below
Noise (construction phase)	Unimportant	Short term	Considered inconsequential	Short term	Short term	Probable	See Table below
Noise (operational phase)	Unimportant	Short term	Considered inconsequential	Short term	Short term	Probable	See Table below
Traffic management	Marginal	Short term	Noticeable	Short term to Medium term	Short term to Medium term	Probable	See Table below
Health and Safety (construction phase)	Inconsequential	Short term	Considered inconsequential	Short term	Medium term	Probable	See Table below

Health and Safety (operational phase)	Noticeable	Short term	Extends slightly further than site	Short term	Medium term	Remote possibility	See Table below
Visual impact							
Socio economic impacts	Inconsequential	Not foreseen	Not foreseen	Not foreseen	Not foreseen	Unlikely	See Table below

The overall significance of an impact / effect has been ascertained by attributing numerical ratings to each identified impact. The numerical scores obtained for each identified impact have been multiplied by the probability of the impact occurring before and after mitigation. High values suggest that a predicted impact / effect is more significant, whilst low values suggest that a predicted impact / effect is less significant.

**Table 18: Ranking and scoring of negative impacts of the preferred site and layout**

Impact and risk	Magnitude		Duration		Extent		Resource Loss	Reversibility		Probability		Significance Without Mitigation	Significance with mitigation
	With out	With	With out	With	With out	With		With out	With	With out	With		
Soil erosion	3	2	3	2	2	1	0	3	1	0.3	0.2	3.3	1.2
Habitat loss / loss of species	3	2	3	1	2	1	2	3	1	0.3	0.2	3.9	1.4
Removal of trees & vegetation	3	2	3	1	2	1	2	3	1	0.3	0.2	3.9	1.4
Air pollution	3	2	3	1	2	1	1	3	1	0.6	0.2	7.2	1.2



(dust)													
Soil contamination (construction & Operational)	3	2	3	1	2	1	1	3	1	0.3	0.2	3.6	1.2
Water resources pollution	2	1	3	1	2	1	0	3	1	0.3	0.2	3	0.8
Stock piling	2	1	3	1	2	1	3	3	1	0.2	0.1	2.6	0.7
Location of construction camp	2	1	3	1	2	1	3	3	1	0.6	0.1	7.8	0.7
Littering / Solid waste	3	2	3	1	2	1	1	3	1	0.6	0.3	7.2	1.8
Heritage resources (still under assessment)	2	1	1	1	2	1	1	3	1	0.2	0.1	2	0.6
Concrete mixing	3	2	3	1	2	1	1	3	1	0.6	0.3	7.2	1.8
Alien invaders	2	1	3	1	2	1	0	3	1	0.3	0.2	3	0.8
Noise -	3	2	2	1	2	1	1	1	1	0.4	0.2	3.6	1.2

const ructio n & opera tional phas es													
Traffi c	4	3	3	1	3	2	1	7	3	1.0	0.9	18	9
Healt h and Safet y (cons tructi on)	4	2	3	1	3	1	3	3	1	0.4	0.2	6.4	1.6
Healt h and Safet y (oper ation al)	5	4	3	2	3	2	3	3	1	0.2	0.1	3.4	1.2
Visua l impac t	3	2	3	1	3	2	1	3	1	0.3	0.2	3.9	1.4
Socio - econ omic impac t (nega tive)	1	0	0	0	0	0	0	0	0	0.0	0.0	0	0
<b>Average</b>												<b>5.29</b>	<b>1.64</b>
												<b>Low</b>	<b>Low</b>

### Significance

In the context and highlight of the significance scoring outlined above, the Service Station and associated infrastructure with food outlets impacts can be mitigated. The overall significance impact for both options without mitigation, is considered to be LOW, with a score of 5.29. When mitigation is taken into consideration, the overall impact significance is still considered to be LOW, with a score of 1.64.

There are no comprehensive ecological alternative sites that have been analysed, and therefore there is no way of comparing the impacts for alternatives. The identified impacts like cutting and removal of indigenous tree species, soil erosion, noise, alien plants and environmental pollution can be mitigated as outlined **under (I)(ii)**. However, our assessment is that the socio - economic benefits to the community far outweighs the impacts that can be mitigated like underground water resources, soil erosion and so forth. This benefit talks to the jobs, a place to re fuel and buy small items from the convenience shop and the food outlet for the patrons. This is likely to have a direct bearing on the wellbeing of the residents. The no-go option will offer very little benefit to the locals and broader economy when one considers the findings of the Socio – economic study.

The no-go option will offer very little benefit to the local and broader economy when one considers the findings of the assessment and the Specialists studies done thus far.

**(K) WHERE APPLICABLE, A SUMMARY OF THE FINDINGS AND IMPACT MANAGEMENT MEASURES IDENTIFIED IN ANY SPECIALISTS REPORT COMPLYING WITH APPENDIX 6 TO THESE REGULATIONS AND AN INDICATION AS TO HOW THESE FINDINGS AND RECOMMENDATIONS HAVE BEEN INCLUDED IN THE FINAL REPORT;**

**THE FOLLOWING SPECIALISTS STUDIES ARE ATTACHED AS APPENDICES D:**

Based on the screening tool, interaction with stakeholders and the Competent Authority during the pre – application meeting, the following studies have been conducted / and or are still being conducted on site: i.e.:

- Socio – economic impact assessment.
- Geotechnical Study
- Traffic Impact Assessment (TIA)
- Heritage Assessment

The environmental assessment team also conducted a basic vegetation assessment on site as outlined above under H (iv) above.

**Socio – economic assessment for the proposed Ulundi 19 Service Station and food outlets prepared by Demacon dated March 2021 – Appendix D (1)**

This study provides an indication of the potential economic impacts that could result from both construction and operational phases. The report indicates that formal employment will be created up to 122 jobs during construction phase. The construction phase is anticipated to have a positive effect on Ulundi Local municipal area. The formal employment opportunities created during the operational phase represents 697 employment opportunities.

The report has highlighted both positive and negative effects of the project at both construction and operational stages. Some of the positives during construction include jobs that include increase in household income and opportunities for small businesses, the use of the local material will contribute to the GDP and the general taxes for the local authority. The operational stage will also include a range of positive effect that will include long term employment, convenience to both locals and passing traffic, taxes and rates for the Municipality and general stimulation of the local economy and contribution to the GDP.

The negative effect during construction includes dust and its impact on other business, increased vehicular and pedestrian traffic in the vicinity of the site, magnet for the unemployed, noise due to traffic activities. The negative effects at the operational stage will include impact on existing service stations. The report contends that the likelihood of this impact is low given the fact that no other filling stations exist within the proposed station's sphere of influence. Furthermore, the report has identified the impact significance as low to medium i.e. 22 before mitigation, and low post mitigation in terms of the impact matrix provided. The ever possible danger of pollution to the underground water, air pollution due to the release of organic compounds during refueling operation, exhaust emissions of vehicles visiting the service station, visual intrusion and general waste have also been identified. However, all the negative impacts can be mitigated as outlined in both the report and the basic assessment report itself and associated EMPr.

Based on the information provided it would appear the project is feasible. The author has been requested to include the feasibility statement, as well as analysis of competition to the proposed service station.

**Geotechnical Study prepared by Geo Caluza Consulting (Pty) Ltd dated October 2020 Appendix D (2)**

As stated by the report, the objectives of the investigation were to assess the suitability of the site from geotechnical perspective, provide an overview of the founding conditions for the proposed development, identify the presence of problematic ground conditions, assess the excavation conditions for earthworks and assess the suitability of the in-situ materials for use during construction. It also provides an indication of the subsoil conditions pertaining to the site and their suitability for on-site disposal of waste water by means of septic tanks.

The fieldwork was conducted in September 2020 and comprised the excavation and profiling of inspection pits, CBR Dynamic Cone Penetrometer tests, DCP, Dynamic Cone Penetrometer Light, tests, DPL, and Sampling.

According to the 2830 Dundee, 1:250 000 Geological Map Series, the general area where the site is located is underlain by red-brown, coarse grained, arkosic to subarkosic, sandstone, quartz arenite, micaceous sandstone, small pebble conglomerate, subordinate, siltstone and mudstone of the Natal Group that was deposited during the Ordovician-Silurian Period. The geotechnical investigation conducted indicated the area for the proposed development comprised generally transported material directly overlying the weathered sandstone of the Natal Group.

As indicated above, no groundwater seepage was encountered during the geotechnical investigation. However, the report cautioned that it should be noted that during periods of prolonged rainfall, particularly during the summer season, there will be a marked increase in the occurrence and magnitude of groundwater seepage flow. Perched groundwater flows at the soil/rock interface are likely to become more prolific in the rainy months. Platforms intercepting this interface are likely to encounter groundwater seepage during these times.

The laboratory test results indicate that the soils tested are generally of "low" expansiveness. The materials of low expansiveness are not likely to have an effect on the proposed development. From a geotechnical perspective, the site is considered suitable for the proposed development subject to recommendations given in the geotechnical report.

The report recommended that the proposed structures be founded on weathered sandstone bedrock using reinforced convectional footings. This foundation type needs to be complemented by good site drainage and plumbing service precautions. The report further recommended that Geo-Caluzza Consulting Engineers inspect and approve all foundation excavations to confirm depth of founding and bearing pressure.

Regarding ablutions and sewer related issues, the general feasibility of an on-site sanitation system, in particular, a septic tank soakaway disposal method, has been evaluated in terms of the requirements laid down by SABS0400:1990.

Several criteria are used to assess whether septic tank soak-away systems are feasible, and these include some of the following:

- Suitability of the subsoils/existing geotechnical conditions for disposal of wastewater and sewage effluent by subsoil percolation,
- Occurrence of groundwater,
- Availability of sufficient area that may be allocated for evapotranspiration purposes, and
- Sufficient soil cover.

The site is considered to be unsuitable for the disposal of effluent via a septic tank/ soakaway system. This is due to shallow impermeable sandstone rock underlying either transport. Other alternatives are recommended i.e. Conservancy tanks. The conservancy tanks are normally used in the opinion of the Engineer, it is impractical to connect to an existing sewer line or if there is access to the site for periodic emptying of the tank and or there is sufficient availability of vehicles for emptying the tank when at given intervals. In the EAP's experience this is also done where there is no sewer infrastructure as is the case within the proposed site, and where septic tanks are not recommended.

It is the full responsibility of the applicant to ensure maintenance or emptying of the tank when required and to provide sufficient access to the tank.

A most important factor in the promotion of a stable site is the control and diversion of surface water from the site. Such water should be directed towards the natural surface drainage lines. Disposal of stormwater should conform to the Local Authority's requirements. Surface drainage of building platforms should be designed to direct water away from fill edges to prevent overtopping of the fill crest and erosion of the fill embankment slopes. It is important that grassing of fill embankments be carried out as soon as possible after construction. The need for subsoil drainage will need to be assessed during construction. Where groundwater seepage is encountered, these zones will need to be controlled with effective subsoil drains, particularly where water is likely to gain ingress into foundations and structural layers of the fill embankments. The occurrence of seepage at the base of housing platform cuts may require similar treatment.

The Geotechnical report emphasised that the subsoil conditions contained in this report relate to the information obtained from the inspection pits, percolation tests, DCP and DPL tests put down for investigation. It is possible that variances to the anticipated subsoil conditions will be encountered in other parts of the site during construction. It is therefore important that when such variances occur, they are reported to Geo-Caluza Consulting Engineers (Pty) Ltd so that timeous assessment, and recommendations for the necessary adjustments to construction procedure, can be made. It is also critical that Geo-Caluza Consulting Engineers (Pty) Ltd carry out control testing to ensure that materials used in the construction of the proposed structures are appropriate together with accepted rates of compaction in placing the various formation layers.

**Traffic Impact Assessment (TIA) for a proposed Ulundi 19 Service Station prepared by Mr Vusi B. Mthombeni dated November 2020 - Appendix D (3)**

The aim of this study is to investigate the impact of the revamp on the existing road network, operating conditions during the base year and forecast year scenarios. The study will evaluate the need for the implementation of road upgrades and / or intersection improvements necessary to mitigate the impact of current and envisaged operations resulting from on-site improvements.

The expected trip generation, distribution and assignment, capacity analyses, and access arrangements are discussed in the report. Additionally, comments are made on the road infrastructure and intersections within the primary study area of the site.

An assessment pertaining to the on-site transportation facilities was undertaken for the following:

- Access points.
- Parking provision.
- Parking.

The proposed **access point 1**, is the one off R66 (P52-1), which is the current access point located at 120 metres from the intersection. This site access will have to be formalised to allow trucks to access the Facility. The on-site investigation reveal that the site distance or site clearance is more than 120m from either direction. However this access point will have to be formalised and endorsed by KZNDOT as the responsible authority for both roads, and be in line with their access design standard.

The **second access point**, ingress only, will be obtained from R34 (P47-3) south approach coming from the Vryheid side. Again this will have to be positioned as per the recommendations from KZNDOT standard road design manual.

The site visit was undertaken for the typical weekday AM peak period and PM peak period to assess the current traffic operating conditions for a worst-case scenario. On the other hand the traffic count was also conducted by Vumiso Projects (Pty) Ltd.

The following are some of the important on-site observations during the morning peak hour site visit:

- There was no major queueing observed at the intersection R66 / R34.
- Some pedestrians observed hitch hiking along the R66 and R34 to access transport during peak hours and off-peak hours.
- Mini-bus taxis observed travelling through within the vicinity of the site
- The condition of tar is good.

A design horizon year of 5 years is applicable for the site as the expected traffic demand is less than 1 000 peak hour vehicle trips. The proposed filling station will attract traffic on adjacent roads, based on current traffic volumes. It is also expected that future development will increase traffic generated by 50% to 80% in the future. However, during compilation of this report there was no available information to add on the background traffic volumes.

It is therefore important to note that filling stations are not trip generators of new trips, but rather are trip interceptors providing a service to existing road users. The proposed land-use is for a Filling Station, and related activities. The trip generation rate for the proposed land use is applied as the worst-case site trip demand.

Road upgrades or intersection improvements are required in instances where it is not viable to mitigate the impact of a development by means of demand-side mitigation measures. Regarding road upgrades, the report contends that, no road upgrades are required except the development of an access road to the proposed development site.

The following observations and comments can be made regarding the performance and capacity analysis results of the key intersections:

- The intersection approaches perform overall at acceptable levels of service (LOS A and for AM and PM peak period.
- The additional peak hour vehicle trips generated by the proposed site has no impact on the intersection performance and on the road network.
- Based on the above capacity analysis results, no road upgrades required, and the intersection performs at an acceptable Level of Service overall in all scenarios A

The TIA concluded by supporting the proposed Service Station from the traffic perspective, as long as all the recommendations are implemented to the letter.

#### **Heritage Assessment - Appendix D (4)**

Active Heritage has been commissioned to conduct a heritage assessment due to the heritage richness of Ulundi area. Comments have also been forwarded to KwaZulu – Natal Amafa and Research Institute for their formal comments as custodians of heritage objects in the Province of KwaZulu – Natal.

### **(I) AN ENVIRONEMNTAL STATEMENT WHICH CONTAINS -**

#### ***(i) a summary of the key findings of the environmental impact assessment;***

It is critical that all project phases adhere to the conditions stated in this Basic Assessment Report, specialists' studies and the EMPr for the proposed project. At this stage, it is anticipated that the project will not have a significant impact on the receiving environment.

The main positive impact relates to jobs that will be created by the project benefitting residents closer to where they live. The project is therefore likely to also benefit the motorists travelling along both R34 to Vryheid and R66 to Ulundi / Nongoma. The commitment shown by the developer to the upliftment of the local people. In this regard it is anticipated that the project will have a greater social impact in the area.

However, on the other hand it must be ensured that the project does not affect any of the resources like underground resources. The project has to safeguard against the arbitrary cutting and removal of indigenous trees on site. The project must ensure there is no soil erosion taking place on site. The project must ensure that the conservancy tanks used are SABS compliant with zero chance of any soil contamination. The post construction landscaping must ensure that indigenous tree species and ground cover is maintained on site. All material used during construction will have to be removed from site to the disposal site, so that the environment is left in a good state. Alien plants must be eradicated on site. The project must consider the concept of sustainable development.

In the broader scheme of things, the impacts anticipated in the project site are of low impact as highlighted by the significance ranking above. These can be mitigated as outlined above and emphasized in the EMPr.

In the final analysis, social, economic and environmental factors must be weighed against the mitigatory measures advanced by the actual assessment and other reports where applicable and takes everything together for a balanced and well thought decision. Overall, the identified impacts can be mitigated if the recommendations of the Specialists studies and Environmental Management Programme is followed to the letter. Therefore, the EA if granted, and the EMPr will be very crucial during all phases of the project. The EMPr will guide all environment related issues during all phases of the project from planning, pre-construction, construction and operational phase.

***(ii) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and***

**See attached MAP, which superimposes the proposed activity on the preferred site.**

***(iii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;***

*Positive implications of the activity*

The positive spinoffs relate to job creation and business opportunities for the local businesses during construction. The project will also provide fuel, food and other items closer to where people are living. The motorists will benefit by using the Facility for fuel and refreshing whilst travelling.

*Negative implications of the activity*

The project must safeguard against arbitrary cutting and removal of tree species, and possibility of erosion, especially during earthworks. It must safeguard against any spillages that may impact on ground water resources and contamination of soil.

**(M) BASED ON THE ASSESSMENT, AND WHERE APPLICABLE, IMPACT MANAGEMENT MEASURES FROM SPECIALISTS REPORTS, THE RECORDING OF THE PROPOSED IMPACT MANAGEMENT OUTCOMES FOR THE DEVELOPMENT FOR INCLUSION IN THE EMPr;**

Erosion on site will be avoided through the implementation of a detailed Stormwater Plan and following the recommendations of a Geotechnical report. The proposed Rehabilitation actions will be implemented as may be relevant. Care must also be exercised to prevent contaminated water, oil and fuel from migrating into the environment from both surface water runoff and from unlikely leaking of fuel storage tanks. The project must ensure that the conservancy tanks used are SABS compliant with zero chance of any leak. There will be proper landscaping on project completion, making use of indigenous species as appropriate. All these measures have been incorporated onto the EMPr.



**(N) ANY ASPECTS WHICH WERE CONDITIONAL TO THE FINDINGS OF THE ASSESSMENT EITHER BY THE EAP OR SPECIALIST WHICH ARE TO BE INCLUDED AS CONDITIONS OF AUTHORISATION;**

Most of the aspects have been highlighted above.

**(O) A DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINTIES, AND GAPS IN KNOWLEDGE WHICH RELATE TO THE ASSESSMENT AND MITIGATION MEASURES PROPOSED;**

None presented.

**(P) A REASONED OPINION AS TO WHETHER THE PROPOSED ACTIVITY SHOULD OR SHOULD NOT BE AUTHORISED, AND IF THE OPINION IS THAT IT SHOULD BE AUTHORISED, ANY CONDITIONS THAT SHOULD BE MADE IN RESPECT OF THAT AUTHORISATION;**

In the context and highlight of the significance scoring outlined above, the proposed project has low impact to the environment. The environmental management programme has been drafted and attached to this report which will serve as the guiding document under the supervision of the Environmental Control Officer in ensuring the implementation of the mitigation measures. In some instances, like geotechnical issues, the Geotechnical Engineer has emphasised that they must inspect and approve all foundation excavations to confirm depth of founding and bearing pressure..

Our assessment of the site is that the economic and social benefits to the community far outweighs the impacts that can be mitigated like cutting of indigenous trees, underground water, soil erosion, soil contamination and so forth. This benefit talks to the jobs that are closer to where the community is living. The no-go alternative will offer very little benefit to the local and broader economy when one considers the findings of the Socio – economic assessment and other Specialists studies.

Accordingly, it is the opinion of the EAP that there is no significant reason why the project cannot be authorized. It is the EAP's view that this development will far outweigh the impacts imparted by it.

It must be noted that the impacts mostly identified like vegetation clearance, soil erosion, possible, soil contamination can be mitigated through strict implementation of the recommendations of Specialists studies and EMPr. The implementation of the mitigation measures outlined throughout this report and the EMPr are likely to provide a setting for the development to take place in a sustainable manner. Our overall analysis is that this activity must be authorized.

Overall, the identified impacts can be mitigated if the monitoring function is ongoing during the construction phase. The EMPr will be very crucial during all phases of the project.

**(Q) WHERE THE PROPOSED ACTIVITY DOES NOT INCLUDE OPERATIONAL ASPECTS; THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED, THE DATE ON**

**WHICH THE ACTIVITY WILL BE CONCLUDED, AND THE POST CONSTRUCTION MONITORING REQUIREMENTS FINALISED;**

The environmental authorization in this instance will include operational aspects and must be a lifetime requirement. The activity is likely to commence immediately after the environmental authorization is issued, of course if granted by the Department of Economic Development, Tourism and Environmental Affairs, with construction continuing for about 9 months after commencement.

**(R) AN UNDERTAKING UNDER OATH OR AFFIRMATION BY THE EAP IN RELATION TO;**

- (i) the correctness of the information provided in the reports at the time of compilation;
- (ii) The inclusion of comments and inputs from stakeholders and I&APs;
- (iii) The inclusion of inputs and recommendations from the specialist reports where relevant; and
- (iv) Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties; and

I,

confirm that the information provided in the report is correct;

The inclusion of comments and inputs from stakeholders and I&APs is correct;

The inclusion of inputs and recommendations from the specialist reports is correct;

Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties; and

Commissioner of oaths rank or designation:

Commissioner:

Place:

Date:

**(S) WHERE APPLICABLE, DETAILS OF ANY FINANCIAL PROVISIONS FOR THE REHABILITATION, CLOSURE, AND ONGOING POST DECOMMISSIONING MANAGEMENT OF NEGATIVE ENVIRONMENTAL IMPACTS**

The applicant will set aside funds for landscaping, as well as the eradication of invader alien plants on site. The latter will be done in terms of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) and related Regulations dated 2014.

**(T) ANY SPECIFIC INFORMATION THAT MAY BE REQUIRED BY THE COMPETENT AUTHORITY; AND**

The Competent Authority is afforded an opportunity to comment on the draft Basic Assessment report, and these comments will be incorporated into the final report.

**(U) ANY OTHER MATTERS REQUIRED IN TERMS OF SECTION 24 (4)(a) AND (b) OF THE ACT.**

NONE, as all issues relating to organs of state with jurisdiction on site have been covered. Furthermore, all impacts, alternatives, mitigation, option of not implementing an activity, issues of monitoring and assessment thereof have been addressed by this draft Basic Assessment report.

**THE ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT** is attached as **Appendix E.**