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PROPOSED DEVELOPMENT OF AN INLAND DIESEL DEPOT, TRANSPORTATION PIPELINE AND ASSOCIATED INFRASTRUCTURE ON PORTION 5 OF THE FARM FRANSHOEK NO. 1861, SWINBURNE, FREE STATE PROVINCE.

FIRST DRAFT SCOPING REPORT

Submitted to:

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Prepared for:
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Spatial Solutions Reference No: 70005 **Date: 29 January 2020**

Project Team

The Di-Thabeng Truck and Taxi (Pty.) Ltd. Development Project Team consists of two groups of professionals.

Firstly the, technical team which is directly concerned with the motivation of the project. This team will further assist in preparing the development plan, formulate the technical solutions and respond to issues.

Secondly the Independent Environmental team. This team operates independently from the technical team and is involved with an independent environmental impact assessment. They are following the prescriptions of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and will evaluate the proposal. Although this report focuses on the possible impacts of the proposed development, it will include input from both groups and has been derived from information supplied during the scoping process and subsequent technical documents. Members of the two groups are as follows:

GROUP ONE			
1	**Technical Team**	**Appointed Company**	**Name and Surname**
1.1	Civil Engineering	Ilifa Africa Engineers	Mr. J. Olivier
1.2	Engineering	Ilifa Africa Engineers	Mr. A. Poortman
1.3	Land Surveying	P.W.A. Rheeder	Mr. P. Rheeder
1.4	Traffic Impact Assessment	Ilifa Africa Engineers	Mr. J. Olivier
1.5	Geo-Technical Assessment	Reahola Geotech (Pty.) Ltd	Mr. W. van den Berg
1.6	Ecological Assessment	DPR Consultants	Mr. D. van Rensburg
1.7	Cultural and Heritage Assessment	Archaetnos Culture & Cultural Resource Consultants	Prof. A.C. van Vollenhoven
1.8	Architect	MNI Architects	Mr. C.D.H.Sparks

GROUP TWO			
2	**Independent Environmental Team**	**Appointed Company**	**Name and Surname**
2.1	Environmental Consultant	Spatial Solutions Incorporated.	Mrs. W. Cordier

A. Executive Summary

Introduction

Spatial Solutions Incorporated (SSI) as independent environmental consultants and impact assessors, has been appointed by Di-Thabeng Truck and Taxi Proprietary Limited (hereinafter referred to as "The Proponent") to facilitate the Integrated Environmental Management (IEM) procedure for the proposed development of an inland diesel depot, transportation pipeline and associated infrastructure on Portion 5 of the farm Franshoek no. 1861 (hereinafter referred to as "The Property"), Swinburne, Free State.

Located approximately 20 kilometres (km) east of Harrismith towards Durban, on the edge of the Drakensberg, the proposed property is situated adjacent to the small town, Swinburne, which forms the eastern boundary. The property is approximately 4.5 km north west of the Montrose filling station adjacent to the N3 highway. The entrance to the proposed property is situated approximately 450 metres (m) south of the N3 on the Main Swinburne Road leading to town and approximately 160 m on Old School Road. The property falls within the Thabo Mofutsanyana Municipal District, and Maluti-a-Phofung Local Municipal District, jurisdiction area.

The remainder of the property (south and west of the proposed development borders) was actively cultivated and is bordered by vacant land, envisioned for future residential development to the east. The north western section of the proposed property is bordered by Portion 3 of Farm 1861 with a prevailing filling station and associated buildings however, the filling station is vacant and not currently utilised.

According to the National Vegetation Map of South-Africa, Lesotho and Swaziland (Mucina & Rutherford 2006) the property would historically have been covered in one main vegetation type Eastern Free State Sandy Grassland (GM 4) within the Mesic Highveld Grassland Bioregion.

Project description

The total extent of the parent farm is approximately 624 hectares (ha), and the client owns 39.6872ha of the farm Franshoek and subsequently wishes to rezone and transform approximately 15 ha of the property by developing an inland diesel depot.

The inland diesel depot, which is proposed will comprise of vertical bulk fuel storage tanks, with a total capacity of approximately 50 million litres and sufficient parking area for heavy vehicles. In addition, a diesel transportation pipeline of approximately 700 metres is envisioned for development, from the prevailing railway line located south of the proposed property. The proponent envisions that diesel which is delivered at the coastline of KwaZulu-Natal will be transported via train to Swinburne, and subsequently be pumped through a 10" carbon steel pipeline from the railway line to the inland diesel depot. The prevailing access road (Old School Road) will be upgraded to accommodate additional

traffic. Previously the property was actively cultivated and comprised a primary school for the local community, however the school has been shut down, and the prevailing school building has been transformed and upgraded by Di-Thabeng Logistics into a dining hall and restrooms for their staff *i.e.* truck drivers.

Currently Di-Thabeng Logistics occupies approximately 9 500 m^2 within the boundaries of the proposed property and lease the area from the property owner Di-Thabeng Truck and Taxi (Pty.) Ltd. Di-Thabeng Logistics constructed an office building of 105 m^2 and added a battery room and generator room to the prevailing school building of 56 m^2 and 36 m^2 respectively. One (1) horizontal diesel storage tank has been erected on site 1 August 2019 with a storage capacity of 79 000 m^2. In addition, grass islands and concrete pavement were constructed to ultimately direct heavy vehicles around the site. It is extremely important to note that no activity that requires an environmental authorisation has commenced and Di-Thabeng Logistics, that is already operational, will indefinitely operate separately from the proposed development that is being applied for in this application.

This application therefore deals with the proposed development of an inland diesel depot with a storage capacity of approximately 50 million litres of diesel, a pipeline to transport diesel and sufficient parking for heavy vehicles.

Environmental Impact Assessment Requirements

The proposed development involves 'listed activities', as defined by the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended and the Environmental Impact Assessment (EIA) Regulations.

Listed activities are activities, which may have potentially detrimental impacts on the environment and therefore require environmental authorisation from the relevant authorising body. The proposed development occurs in the Free State and thus the Department of Economic Small Business Development and Tourism and Environmental Affairs (DESTEA) is the responsible regulatory and competent authority.

In terms of the new Environmental Impact Assessment Regulations (GN R. No. 327, GN R. No. 325, GN R. No. 324 [7 April 2017]) under the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) the following activities are triggered by the proposed development.

Listing Notice	Possible Listed Activities
GN R. No 327 (Listing Notice 1)	9, 10, 12, 14, 24, 27 and 28
GN R. No 325 (Listing Notice 2)	4 and 7
GN R. No 324 (Listing Notice 3)	12

Approach to the project

Under the Environmental Impact Assessment Regulations and the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998) as amended 7 April 2017, the project will follow a Scoping and EIA Process. Please refer to section B.1. for a detailed description of activities pertinent to the proposed project.

This Scoping Report represents the initial identification of key issues or concerns as highlighted by the relevant authorities, professional judgement by the Environmental Assessment Practitioner and interested and/or affected parties (I&AP). Scoping in conjunction with Screening allows for the identification of the anticipated impacts, particularly those, which require specialist investigations. A full assessment of the impacts and proposed alternatives will form part of the EIA Report.

Public Participation

- The first pre-application Public Participation Process will commence Friday 31 January 2020 – Monday 2 March 2020
- Publication of a local newspaper advertisement in the Harrismith Chronicle published Thursday 30 January 2020.
- Distribution of Background Information Documents via hand (knock and drops) to all residents on site and within 100m radius of the property boundaries;
- One set of site notices (one in English and one in Afrikaans) will be erected at the existing access road.
- Notification letters sent to all registered Interested and Affected Parties notifying them of the commencement of the first commenting period and where the document can be found for viewing.
- All documents on review will be uploaded to the Spatial Solutions Inc. website: http://spatialsolutions.co.za/

Comments received during the first commenting period will be addressed in the Second Draft Scoping Report and the Second Draft Scoping Report will then be made available for comment to registered Interested and Affected Parties.

Identification of environmental issues

A baseline description of the environment was gathered through visual inspections of the site and its surroundings, desktop studies as well as preliminary specialist recommendations. This information was used to assess the potential areas of study, as a result of the proposed development.

The possible key issues identified include:

- Traffic Impact;
- Impacts on land capability/agriculture;

- Possible Botanical / Ecological Impacts;
- Heritage Impacts;
- Geo-technical impacts;
- Socio-Economic Impacts (if requested by DESTEA);
- Visual impacts (if requested by SAHRA).

As a result of the above-mentioned anticipated impacts, it is recommended that the specialist studies as listed below, be undertaken during the EIA phase of the process. The specialist studies assist with the development of an understanding of the system processes and the potential positive and negative impacts of the proposed development on both the social and biophysical environments:

- Botanical / Ecological Assessment;
- Heritage Assessment;
- Traffic Impact Assessment;
- Geo Technical Assessment;
- Impacts on land capability/agriculture (If requested by the department of Agriculture and Rural development);
- Socio-Economic Assessment (If requested by DESTEA) and
- Visual Impact Assessment (If requested by SAHRA and DESTEA)

Conclusion

The Environmental Impact Assessment (EIA) report will assess the impacts of each of the individual activities as well as ascertain the cumulative impacts of the development in its entirety. The EIA report will outline the necessary mitigation measures and delineate sensitive areas and facets worthy of conservation. Lastly, potential alternatives and mitigation measures will be devised in order to minimise negative impacts and optimise positive impacts.

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Glossary

- **Applicant:** Any person who applies for an authorisation to undertake an activity or to cause such activity to be undertaken as contemplated in Section 22(1) of the Environment Conservation Act, 1989 (Act No. 73 of 1989).

- **Competent authority:** The organ of state responsible for deciding whether or not to grant an environmental authorisation.

- **Critically endangered**: A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild, in the immediate future.

- **Dangerous goods:** means goods containing any of the substances as contemplated in South African National Standard No. 10234, supplement 2008 1.00: designated "List of classification and labelling of chemicals in accordance with the Globally Harmonized Systems (GHS)" published by Standards South Africa, and where the presence of such goods, regardless of quantity, in a blend or mixture, causes such blend or mixture to have one or more of the characteristics listed in the Hazard Statements in section 4.2.3, namely physical hazards, health hazards or environmental hazards.

- **Development:** means the building, erection, construction or establishment of a facility, structure or infrastructure, including associated earthworks or borrow pits, that is necessary for the undertaking of a listed or specified activity, but excludes any modification, alteration or expansion of such a facility, structure or infrastructure, including associated earthworks or borrow pits, and excluding the redevelopment of the same facility in the same location, with the same capacity and footprint.

- **Ecology:** The study of the inter relationships between organisms and their environments.

- **Ecosystem:** A dynamic complex of plant, animal and micro-organism communities and their non-living environment, interacting as a functional unit.

- **Environment:** All physical, chemical and biological factors and conditions that influence an object and/or organism.

- **Environmental Impact Assessment:** Assessment of the effects of a development on the environment.

- **Environmental Management Plan:** A legally binding working document, which stipulates environmental and socio-economic mitigation measures that must be implemented by several responsible parties throughout the duration of the proposed project.

- **Indigenous vegetation:** refers to vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation and where the topsoil has not been lawfully disturbed during the preceding ten years.

- **Local relief:** The difference between the highest and lowest points in a landscape. For the purposes of this study, the local relief is based on a scale of 1:50 000.

- **Soil compaction:** Mechanically increasing the density of the soil, vehicle passage or any other type of loading. Wet soils compact easier than moist or dry soils.

- **Study area:** Refers to the entire study area as indicated on the study area map.

- **Succession:** The natural restoration process of an ecosystem.

- **Sustainable Development:** The integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations.

- **Vulnerable:** A taxon is 'Vulnerable' when it is not 'Critically Endangered' or Endangered' but is facing a high risk of extinction in the wild in the medium-term future.

- **Wetland:** means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

Acronyms and Abbreviations

Abbreviation	Description
DAFF	Department Agriculture, Forestry and Fisheries
DESTEA	Department of Economic Small Business Development and Tourism and Environmental Affairs
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
EAPASA	Environmental Practitioners Association of South Africa
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
HIA	Heritage Impact Assessment
IAIASA	International Association for Impact Assessment South Africa
I&AP's	Interested and Affected Parties
IDP	Integrated Development Plan
IEM	Integrated Environmental Management
MAP	Maluti-a-Phofung
NDP	National Development Plan
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEMBA	National Environmental Management: Biodiversity Act, 10 of 2004
NHRA	National Heritage Resources Act, 25 of 1999.
NSBA	National Spatial Biodiversity Assessment
NWA	National Water Act, 26 of 1999
PoS	Plan of Study
PPP	Public Participation Process
PSDF	Provincial Spatial Development Framework
SAHRA	South African Heritage Resources Agency
SANBI	South African National Biodiversity Institute
SANRAL	South African National Roads Agency
SDF	Spatial Development Framework
SEA	Strategic Environmental Assessment
SPLUMA	Spatial Planning and Land Use Management Act
SR	Scoping Report
SSI	Spatial Solutions Incorporated
TOR	Terms of Reference
UFS	University of the Free State

B. Introduction

Spatial Solutions Incorporated (SSI) as independent environmental consultants and impact assessors, has been appointed by Di-Thabeng Truck and Taxi Proprietary Limited (hereinafter referred to as "The Proponent") to facilitate the Integrated Environmental Management (IEM) procedure for the proposed development of an inland diesel depot, transportation pipeline and associated infrastructure on Portion 5 of the farm Franshoek no. 1861 (hereinafter referred to as "The Property"), Swinburne, Free State (Please refer to Figure 1: Locality Map).

As per the requirements of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended (7 April 2017) Regulations (GN R. No. 326, GN R No. 327, GN R. No. 325 and GN R. No. 324) under Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) the following information is pertinent with regards to the Environmental Assessment Practitioner (EAP) that has conducted the Scoping procedures for the proposed development:

Table 1: Spatial Solutions Incorporated Business Information

Company Registration Number	97/08626/21
Physical Address	Corner of Second Avenue and Reid street, Westdene, Bloemfontein
Postal Address	P.O. Box 28046 Danhof. 9310
VAT Registration Number	4080167069
Telephone Number	051 101 0696
Fax Number	086 553 9003
Email	willene@spatialsolutions.co.za
BEE Status	Level 4 Contributor

Table 2: Environmental Assessment Practitioner Details.

Environmental Assessment Practitioner	Mrs. M.W. Cordier
Degrees obtained.	Magister Environmental Management (UFS).
	BSc. Hons. Zoology and Environmental Ecology (UFS).
	BSc. Geography (UFS).
Certificates obtained	Environmental Managers as leaders, managers and change masters.
	Project Management for Environmental Management Systems.
	SPSS Training workshop.
	GIS Intermediate.
	GIS & GPS Short course.
	Academic writing for honours students.
Professional Registration	In process of registering at EAPASA. Previous Member of IAIASA.

B.1 Company Profile

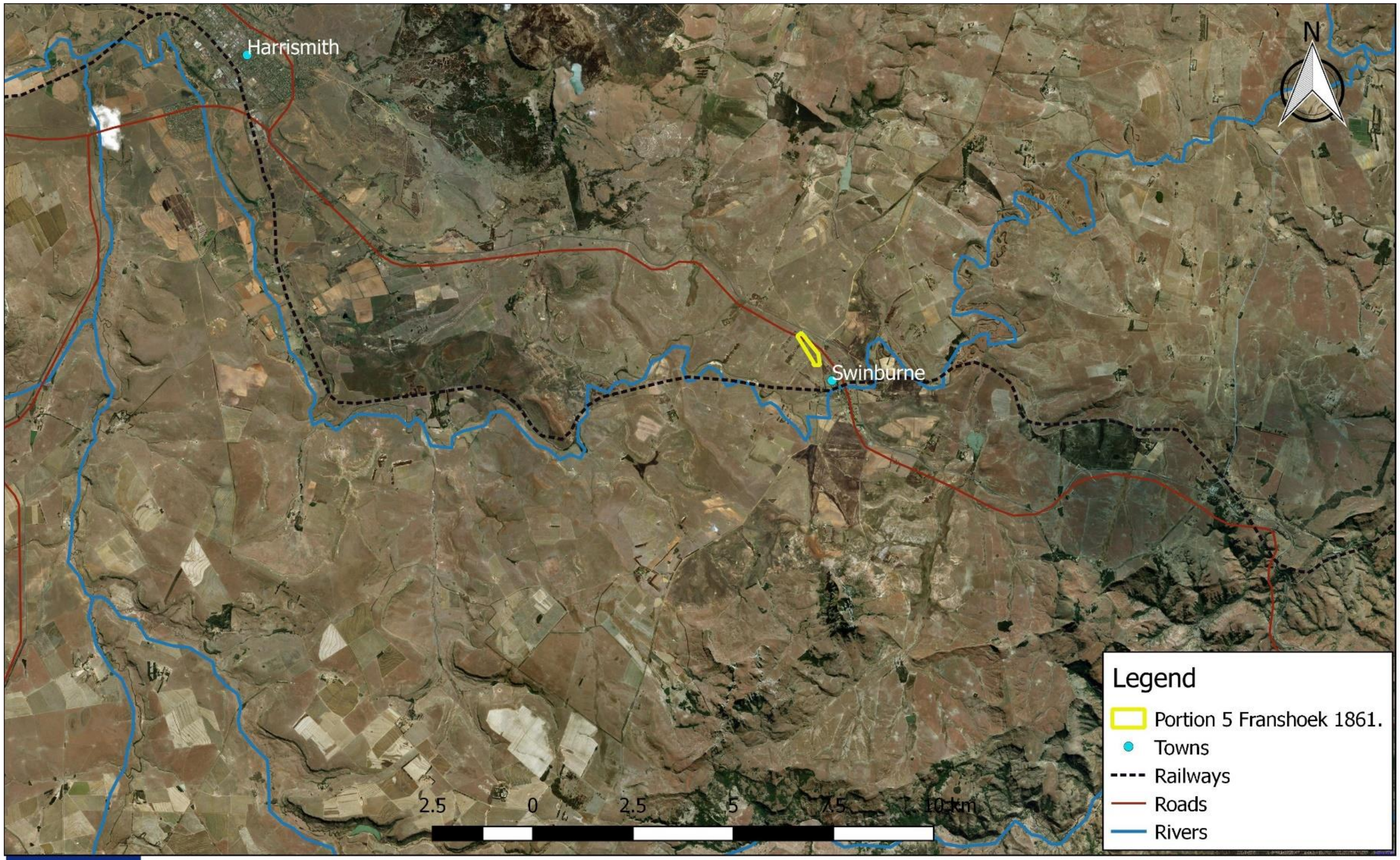
Spatial Solutions Incorporated is a group of dynamic professional, trendy Environmentalists and other property professionals with experience in multi-disciplinary project management that strive towards rendering a superior participatory, action-learning, professional service in a challenging environment to the satisfaction of our clients and the communities in which we are actively involved.

The company was established in June 1997 (Company Reg. No. 97 /008626/21) as a consulting firm with its main objective to deliver advice on issues pertaining to the sustainable development of the urban and rural environment and their communities. It is a South-African company that specialises in community-driven development planning and environmental management for the African continent.

All our staff members are professionally registered at the applicable statutory council. This ensures that we only deliver professional advice and that we accept our responsibilities and liabilities with each commission. It is also important that we contribute to the enhancement of our different professions and we therefore deem it fit that our shareholders and employees register with a recognised professional institute or association. We adopt a culture of continuous learning and regularly attend short courses to stay up-to date with trends and new theory and practice.

Our core expertise includes the following:

- Environmental Impact Assessments;
- Basic Assessment Reports;
- Environmental Management Programmes;
- Environmental Compliance Audits;
- Community participation and action-learning partnerships as part of our commissions;
- Community-based planning and the establishment of urban-rural linkages;
- Site acquisitions for telecommunication infrastructure;
- Lease negotiations for telecommunication sites;
- Permitting for telecommunication infrastructure;
- Property valuation;
- Feasibility studies, Site evaluation reports and Surveys;
- Formalisation/ Upgrading of informal settlements;
- Integrated development planning (IDPs);
- Local economic development and Business plans;
- Project Management;
- Rezoning and consent use / Subdivisions / Consolidations;
- Spatial planning including Spatial Development Frameworks;
- Strategic planning and Policy formulation;
- Town planning schemes / Framework plans/ Structure plans and
- Township establishments / Urban development.



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Locality Map:
Portion 5 of the Farm Franshoek No. 1861, Swinburne, Free State.

Figure 1: Area indicated in yellow shows the proposed development area, Portion 5 of the Farm Franshoek No. 1861

Figure 2: Aerial image of the subject property and its surroundings. Blue area indicates the parent farm, yellow area is envisioned for the proposed development.

C. Policies and Guidelines.

C.1 Legal Requirements

The aim of this component of the report is to provide a brief overview of the pertinent policies as well as legal and administrative requirements applicable to the proposed development.

C.1.1 Environmental Impact Assessment Requirements

The proposed development involves 'listed activities', as defined by the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended and the Environmental Impact Assessment (EIA) Regulations. Listed activities are activities, which may have potentially detrimental impacts on the environment and therefore require environmental authorisation from the relevant authorising body. The proposed development occurs in the Free State and thus the Department of Economic Small Business Development and Tourism and Environmental Affairs (DESTEA) is the responsible regulatory and competent authority.

On the 4th of December 2014 the Minister of Environmental Affairs promulgated the new EIA regulations under section 24(5) and 44 of the NEMA, 1998 (Act 107 of 1998) and therefore GN R. No. 982, GN R No. 983, GN R. No. 984 and GN R. No. 985 replaced GN R. No. 543, GN R. No 544, GN R. No 545, GN R. No 546. Further amendments were made to the Act in 2014 EIA Regulations (GN R. No. 982, GN R No. 983, GN R. No. 984 and GN R. No. 985).

In terms of the new EIA Regulations as amended 7 April 2017 (GN R. No. 326, GN R No. 327, GN R. No. 325 and GN R. No. 324) the following activities as listed in Table 3 are triggered:

Table 3: Listed activities triggered by the proposed development in terms of the 2017 EIA Regulations.

Government Notice Regulation No. 327 (Listing Notice 1)	
Activity Number	**Description of Activity**
9	The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or storm water— (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more; excluding where— (a) such infrastructure is for bulk transportation of water or storm water or storm water drainage inside a road reserve or railway line reserve; or (b) where such development will occur within an urban area.
10	The development and related operation of infrastructure exceeding 1 000 metres in length for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge or slimes – (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more; excluding where— (a) such infrastructure is for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge or slimes inside a road reserve or railway line reserve; or (b) where such development will occur within an urban area.
12	The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or **(ii) infrastructure or structures with a physical footprint of 100 square metres or more;** where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; — excluding— (aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;

	(cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies; (dd) where such development occurs within an urban area; [or] (ee) where such development occurs within existing roads, [or] road reserves or railway line reserves; or (ff) the development of temporary infrastructure or structures where such infrastructure or structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared.
24	The development of a road— (i) for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or (ii) with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres; but excluding a road— (a) which is identified and included in activity 27 in Listing Notice 2 of 2014; (b) where the entire road falls within an urban area; or c) which is 1 kilometre or shorter.
27	The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.
28	Residential, mixed, retail, commercial, **industrial** or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development: (i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or **(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare;** excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.

Government Notice Regulation No. 325 (Listing Notice 2)	
Activity Number	**Description of Activity**
4	The development and related operation of facilities or infrastructure, for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres.
7	The development and related operation of facilities or infrastructure for the bulk transportation of dangerous goods– (i) in gas form, outside an industrial complex, using pipelines, exceeding 1 000 metres in length, with a throughput capacity of more than 700 tons per day; (ii) in liquid form, **outside an industrial complex**, using pipelines, exceeding 1 000 metres in length, **with a throughput capacity of more than 50 cubic metres per day;** or (iii) in solid form, outside an industrial complex, using funiculars or conveyors with a throughput capacity of more than 50 tons per day.
Government Notice Regulation No. 327 (Listing Notice 3)	
Activity Number	**Description of Activity**
12	The clearance of an area of 300 square metres or more of indigenous vegetation except where such a clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan b. Free State: i. Within any critically endangered or endangered ecosystems listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; ii Within critical biodiversity areas identified in bioregional plans. iii. On land where at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or equivalent zoning; or iv Areas within a watercourse or wetland; or within **100 metres from the edge of a watercourse or wetland.**

C.1.2 Other Legal Requirements

The following list of legislation applicable to biodiversity may or may not be applicable to the proposed development. Its relevance may become clear when the biodiversity is assessed, and the impacts are determined during the EIA phase.

National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)

The purpose of the Biodiversity Act is to provide for the management and conservation of South Africa's biodiversity within the framework of the NEMA and the protection of species and ecosystems that warrant national protection. As part of its implementation strategy, the National Spatial Biodiversity Assessment was developed.

National Water Act, 1998 (Act No. 36 of 1998)

The National Water Act guides the management of water in South Africa as a common resource. The Act aims to regulate the use of water and activities, which may impact on water resources through the categorisation of 'listed water uses' encompassing water extraction, flow attenuation within catchments as well as the potential contamination of water resources, where DWS is the administering body in this regard. The Act is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways which consider amongst other factors:

- Meeting the basic needs of present and future generations
- Promoting equitable access to water
- Facilitating social and economic development
- Providing for the growing demand of water use;
- Protecting aquatic and associated ecosystems and their biological diversity
- Reducing and preventing the pollution and degradation of water resources
- Promoting dam safety; and
- Managing floods and droughts.

Protected species – Provincial Ordinances

Provincial ordinances were developed to protect particular plant species within specific provinces. The protection of these species is enforced through permitting requirements associated with provincial lists of protected species. Permits are administered by the Provincial Departments of Environmental Affairs.

National Heritage Resources Act, 1999 (Act No. 25 of 1999)

The National Heritage Resources Act legislates the necessity for cultural and heritage impact assessment in areas earmarked for development, which exceed 0.5 ha. The Act makes provision for the potential destruction to existing sites, pending the archaeologist's recommendations through permitting procedures. Permits are administered by the South African Heritage Resources Agency (SAHRA).

National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)

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

NEMA Environmental Impact Assessment Regulations Guideline and Information Document Series: Guideline on Alternatives

This guideline provides an overview of how to consider alternatives in the EIA process. It is aimed at Government authorities, non-governmental organizations, environmental impact practitioners, project applicants and interested and affected parties. The guideline strives to create a common understanding amongst the different stakeholders of what is required in the identification and assessment of alternatives.

C.1.3 Development Guidelines

A process of environmental analysis, design conceptualisation and impact assessment has been initiated. This includes engagement with relevant stakeholders such as Department of Economic, Small Business Development, Tourism and Environmental Affairs (DESTEA), Maluti-a-Phofung Municipality, Department of Water Affairs and Department of Agriculture.

C.1.3.1 Provincial Spatial Development Framework

The goals and objectives of the Provincial Spatial Development Framework (PSDF) relates to sustainability and sustainable development are premised upon the national directives put forward in the National Development Vision 2030 and the National Spatial Development Perspective (NSDP).
The PSDF is to serve as a spatial and strategic supplement to the Free State Provincial Growth and Development Strategy (PGDS) with specific reference to the Provincial Strategic Growth and Development Pillars stipulated in the PGDS.

The PSDF will be a manual for integrated spatial and strategic planning, institutional integration and co-operative governance as is required by law. In this regard, specific reference is made to:

- The alignment and integration of sectoral strategies in accordance with a common vision and objectives for sustainability.
- Enhancing the sustainability of all economic sectors in accordance with the principles that:
    - The long-term future of economic activities depends on the sustainability of the resource base and the supporting environment.
    - Resource use can only be sustainable if the ethic of environmental care applies at all applicable levels of planning and implementation

- Supporting the district and local municipalities in the preparation of their SDFs in terms of the Local Government Municipal Systems Act 32 of 2000. Such support and guidance include the following:
    - Providing a standard spatial format for giving effect to, among others, the Free State PGDS and the associated development programmes and projects throughout the province.
    - Facilitating the land-use classification of the province in a standard format in accordance with defined Spatial Planning Categories (SPCs).
    - Recording the land-use (SPC) plans and associated strategies and guidelines in an innovative Spatial Planning Information System (SPISYS).
    - Illustrating the desired future spatial patterns that provide for integrated, efficient and sustainable settlements throughout the province based upon the development priorities set in rural development programmes and the Free State PGDS.

C.1.3.2 Integrated Development Plan and Spatial Development Framework

Integrated Development Plan (IDP) and Spatial Development Framework (SDF) related initiatives are by default required to be integrated into the Local Municipality planning tools and given their National significance are seen to override / form part of local planning. According to the Integrated Development Plan for the Thabo Mofutsanyana District (2015) key priorities within the municipal boundaries are:

- Sustainable infrastructures
- Local Economic Development, Job creation and Tourism
- Agriculture and Rural Development
- Social Development, Sports, Arts and Culture
- Good Governance and Community Participation
- Financial viability

C.1.4 Other Applicable Guidelines

C.1.4.1 Guideline for involving Visual and Aesthetic Specialists in the EIA processes (2005)

The guideline looks at the following:

- Triggers and Key issues potentially requiring visual specialist's input in the EIA process;
- The choice of the appropriate specialist and the negotiation process leading to sound terms of reference for that specialist;
- Specialist Input to Impact Assessment and recommendation of management actions.

C.1.4.2 Guideline for involving Biodiversity Specialists in the EIA processes (2010)

These guidelines will be incorporated during the use of numerous specialists in the EIA Phase of the proposed development. As mentioned above, a list of specialists has been appointed to conduct specialist assessments to assist the developer in making an informed decision.

C.1.4.3 National Environmental Management Act. Environmental Impact Assessment Regulations Guideline and Information Document Series: Guideline on Alternatives

This guideline provides an overview of how to consider alternatives in the EIA process. It is aimed at Government authorities, non-governmental organizations, environmental impact practitioners, project applicants and interested and affected parties. The guideline strives to create a common understanding amongst the different stakeholders of what is required in the identification and assessment of alternatives.

C.1.4.4 National Spatial Biodiversity Assessment

The National Spatial Biodiversity Assessment (NSBA) classifies areas as worthy of protection based on its biophysical characteristics, which are ranked according to priority levels.

C.1.4.5 National Development Plan

The National Development Plan (NDP) aims to eliminate poverty and reduce inequality by 2030. According to the plan, South Africa can realise these goals by drawing on the energies of its people, growing an inclusive economy, building capabilities, enhancing the capacity of the state, and promoting leadership and partnerships throughout society.

C.1.4.6 Sustainable Energy Strategy for the Free State

South Africa's steady economic growth, coupled with an increasing focus on industrialization and a mass electrification programme to increase access to electricity in the deep rural areas, has resulted in a steep increase in the demand for energy. In 2015, petroleum products accounted for 99% of energy demanded by the sector and the sector accounted for 77% of petroleum products consumed in the country. These challenges need to be addressed in the context of supporting the Province's economic development and job creation. (South African Energy Sector Report, 2018)

C.2 Details of the Applicant

Table 4: Applicant Details.

Name of the Applicant	Email
Di-Thabeng Truck and Taxi Pty. Ltd. Mr. P. J. Du Toit.	pieter@dithabeng.co.za

C.3 Project Motivation

Di-Thabeng Truck and Taxi Pty. (Ltd.) specialises in the transportation and distribution of diesel across South Africa, an inland diesel depot, pipeline to transport diesel and associated infrastructure is envisioned on Portion 5 of the Farm Franshoek No, 1861, Swinburne Free State.

The remainder of the property (south and west of the proposed development borders) was actively cultivated and is bordered by vacant land, envisioned for future residential development to the east. The north western section of the proposed property is bordered by Portion 3 of Farm 1861 with a prevailing filling station and associated buildings however, the filling station is vacant and not currently utilised. The total extent of the parent farm is approximately 624 hectares (ha), the client owns 39.6872ha of the farm Franshoek and subsequently wishes to rezone and transform approximately 15 ha of the property by developing an inland diesel depot.

The inland diesel depot, which is envisioned will comprise of vertical bulk fuel storage tanks, with a total capacity of approximately 50 million litres and sufficient parking area for heavy vehicles Previously the property was actively cultivated and comprised a primary school for the local community, however the school has been shut down, and the prevailing school building has been transformed by Di-Thabeng Logistics into a dining hall and restrooms for their staff *i.e.* truck drivers.

Currently Di-Thabeng Logistics occupies approximately 9 500 m^2 within the boundaries of the proposed property and lease the area from the property owner Di-Thabeng Truck and Taxi (Pty.) Ltd. Di-Thabeng Logistics constructed an office building of 105 m^2 and additionally added a battery room and generator room to the prevailing school building of 56 m^2 and 36 m^2 respectively. One horizontal diesel storage tank has been erected on site 1 August 2019 with a storage capacity of 79 000 m^2 to be utilised only by Di-Thabeng Logistics. Additionally, grass islands and concrete pavement were constructed to ultimately direct heavy vehicles around the site. It is important to note that Di-Thabeng Logistics will indefinitely operate separately from the proposed development which is applied for.

Furthermore, a 10” carbon steel (SCH 40) diesel transportation pipeline of approximately 700 metres is envisioned for development, from the prevailing railway line located south of the proposed property.

The proposed development is strategically located and nestled between the N3 highway (to the north of the property) and in close vicinity to the railway line (south of the property) in Swinburne, as the diesel which is shipped to the coastline of KwaZulu-Natal, can be transported via train and subsequently pumped through the proposed diesel pipeline to the inland diesel depot, thus ultimately minimising costs associated with the transportation and distribution of diesel.

This type of development differentiates from the immediate surrounding area, as no similar operational developments are located within close vicinity to the proposed site. The proposed

property is surrounded by vacant agricultural land, and the Swinburne village, envisioned for future residential development. However, the property is located approximately 4.5 km north west of the Montrose filling station adjacent to the N3 highway.

In addition, the proposed development will not only create seasonal jobs during the construction phase of the development, but also create jobs during the operational phase of the development, which will enhance the livelihoods of previously disadvantaged individuals.

C.4 Proposed Site

C.4.1 Regional Setting

Located approximately 20 kilometres (km) east of Harrismith towards Durban, the proposed property is situated adjacent to the small town, Swinburne, which forms the eastern boundary. The property is approximately 4.5 km north west of the Montrose filling station adjacent to the N3 highway.

C.4.2 Site Locality

The entrance to the proposed property is situated approximately 450 metres (m) south of the N3 highway on the Main Swinburne Road leading to town and approximately 160 m on Old School Road. The property falls within the Thabo Mofutsanyana Municipal District, and Maluti-a-Phofung Local Municipal District, jurisdiction area. The site falls outside of the Urban Edge and the property is currently zoned as Agriculture; thus, the property will be rezoned accordingly to accommodate the proposed development (Figure 3).

Table 5: Property Details.

Property Information	
Farm Name	Portion 5 of the Farm Franshoek No. 1861
Physical Address	Old School Road, Swinburne, Free State.
SG Code	F01500000000186100000
Coordinates of the site boundaries.	**A:** 28° 20’ 12.76’’ S; 29° 16’ 08.61’’ E
	B: 28° 20’ 10.13’’ S; 29° 16’ 12.20’’ E
	C: 28° 20’ 34.21’’ S; 29° 16’ 23.69’’ E
	D: 28° 20’ 36.12’’ S; 29° 16’ 23.20’’ E
	E: 28° 20’ 36.11’’ S; 29° 16’ 29.30’ E
	F: 28° 20’ 26.70’’ S; 29° 16’ 27.76’’ E

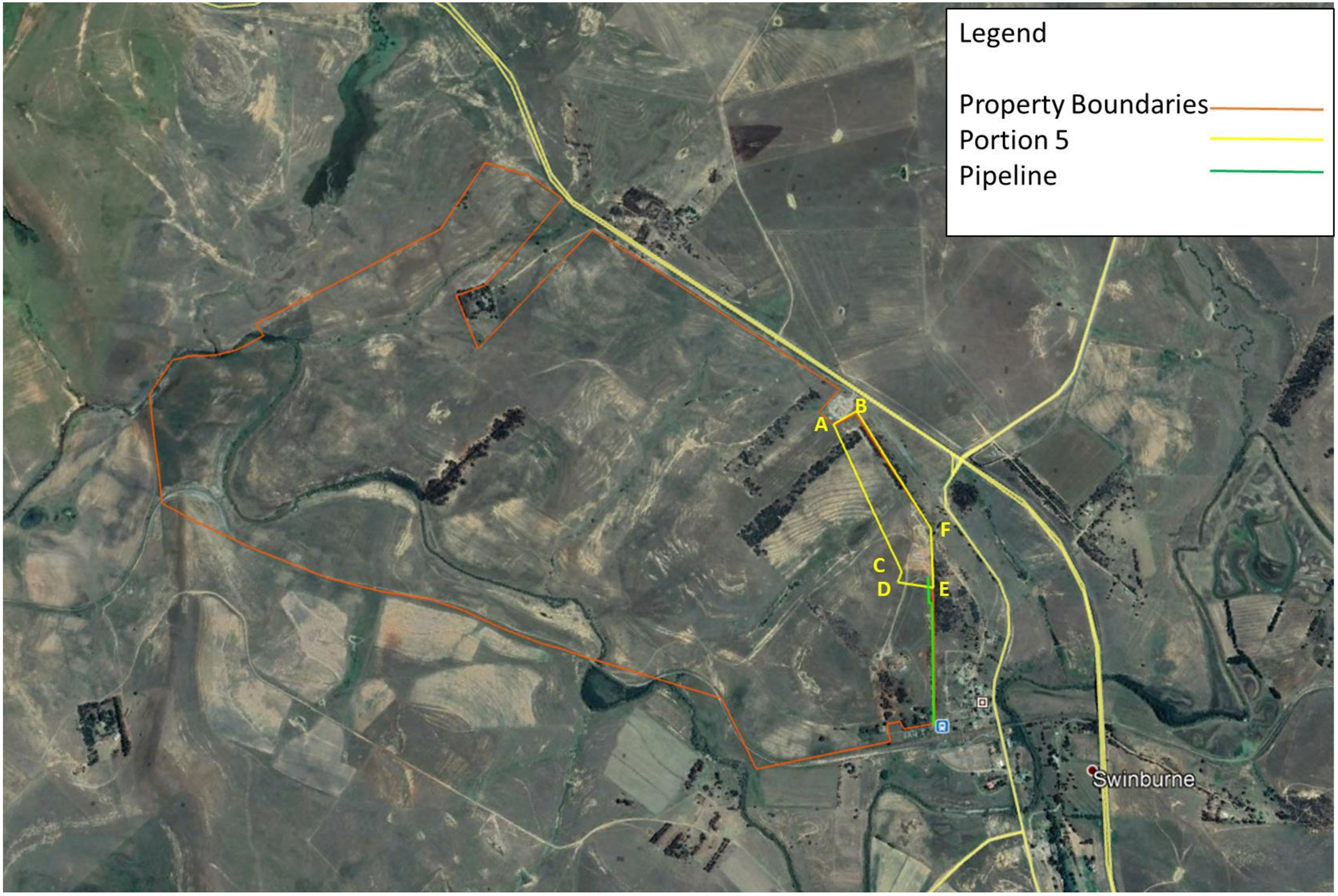


Figure 3: Portion 5 of the Farm Franshoek No. 1861. property boundaries.

C.4.3 Site Description

The proposed area envisioned for development is approximately 15ha. Historically, the property was actively cultivated with crops and also comprised of a primary school for the local community, thus the natural vegetation has either been disturbed or totally transformed. The remainder of the property parent farm will remain in its current state *i.e*. vacant land.

According to the National Vegetation Map of South-Africa, Lesotho and Swaziland (Mucina & Rutherford 2006) the property would historically have been covered in one main vegetation type Eastern Free State Sandy Grassland (GM 4) within the Mesic Highveld Grassland Bioregion. This vegetation type is currently listed as being of Least Concern (LC) under the National List of Threatened Ecosystems (Notice 1477 of 2009) (National Environmental Management Biodiversity Act, 2004).

According to the baseline assessment of the appointed Ecologist the site in question is listed as being a Critical Biodiversity Area 1 (CBA 1) and Ecological Support Area 2 (ESA 2). The portion listed as CBA 1 should therefore have a relatively high conservation value. The on-site survey could however not identify any elements which would warrant this classification and is consequently not considered to increase the conservation value significantly. Species diversity in the portion of remaining natural grassland is substantial but not considered significant in terms of this region. This would however increase somewhat during the rainy season when dormant or annual species would be more prominent. As a result of the above the loss of the remaining natural grassland is considered to still be moderate but cannot be regarded as a high impact.

C.5 Project Description

An inland diesel depot, pipeline to transport diesel and associated infrastructure is envisioned on Portion 5 of the Farm Franshoek No, 1861, Swinburne Free State.

The remainder of the property (south and west of the proposed development borders) was actively cultivated and is bordered by vacant land, envisioned for future residential development to the east. The north western section of the proposed property is bordered by Portion 3 of Farm 1861 with a prevailing filling station and associated buildings however, the filling station is vacant and not currently utilised. The total extent of the parent farm is approximately 624 hectares (ha), the client owns 39.6872ha of the farm Franshoek and subsequently wishes to rezone and transform approximately 15 ha of the property by developing an inland diesel depot.

The inland diesel depot, which is envisioned will comprise of the following:

- **Vertical bulk fuel storage tanks:**

  Eight (8) vertical bulk fuel storage tanks of 5 million litres each and eight (8) vertical bulk fuel storage tanks of 1 million litres each, thus combined the a total capacity of approximately 50 million litres.

- **Sufficient parking area for heavy vehicles**

Seven (7) rows of approximately 40 parking bays each are envisioned to ensure sufficient parking for heavy vehicles thus the total extent is approximately 280 parking bays.

- **Diesel transportation pipeline:**

A diesel transportation pipeline of approximately 700 metres is envisioned for development, from the prevailing railway road located south of the proposed property. The proponent envisions that diesel which is delivered at the coastline of KwaZulu Natal will be transported via train to Swinburne, and subsequently pumped through a 10" carbon steel pipeline (SCH 40 Pipe) from the railway line to the inland diesel depot. The maximum throughput capacity is calculated at 133 l/s with a minimum head of 60m.

- **Upgrade of prevailing access road.**

C.6 Approach to the project

C.6.1 Authority Consultation

Authority consultation plays an integral role in any EIA process. The authorities guide the process through highlighting the necessary legislative requirements and key areas of concerns.

C.6.2 Registration of the Project with DESTEA

In terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended and the Environmental Impact Assessment (EIA) Regulations, a pre-application meeting was held on the 28th of May 2019, with the officials of DESTEA. Thereafter a site meeting was conducted with law enforcement officials on the 24th of July 2019. DESTEA provided the authorisation on the 13th of December 2019 that the project may proceed with the Scoping Process in terms of the Environmental Impact Assessment Regulations as discussed above.

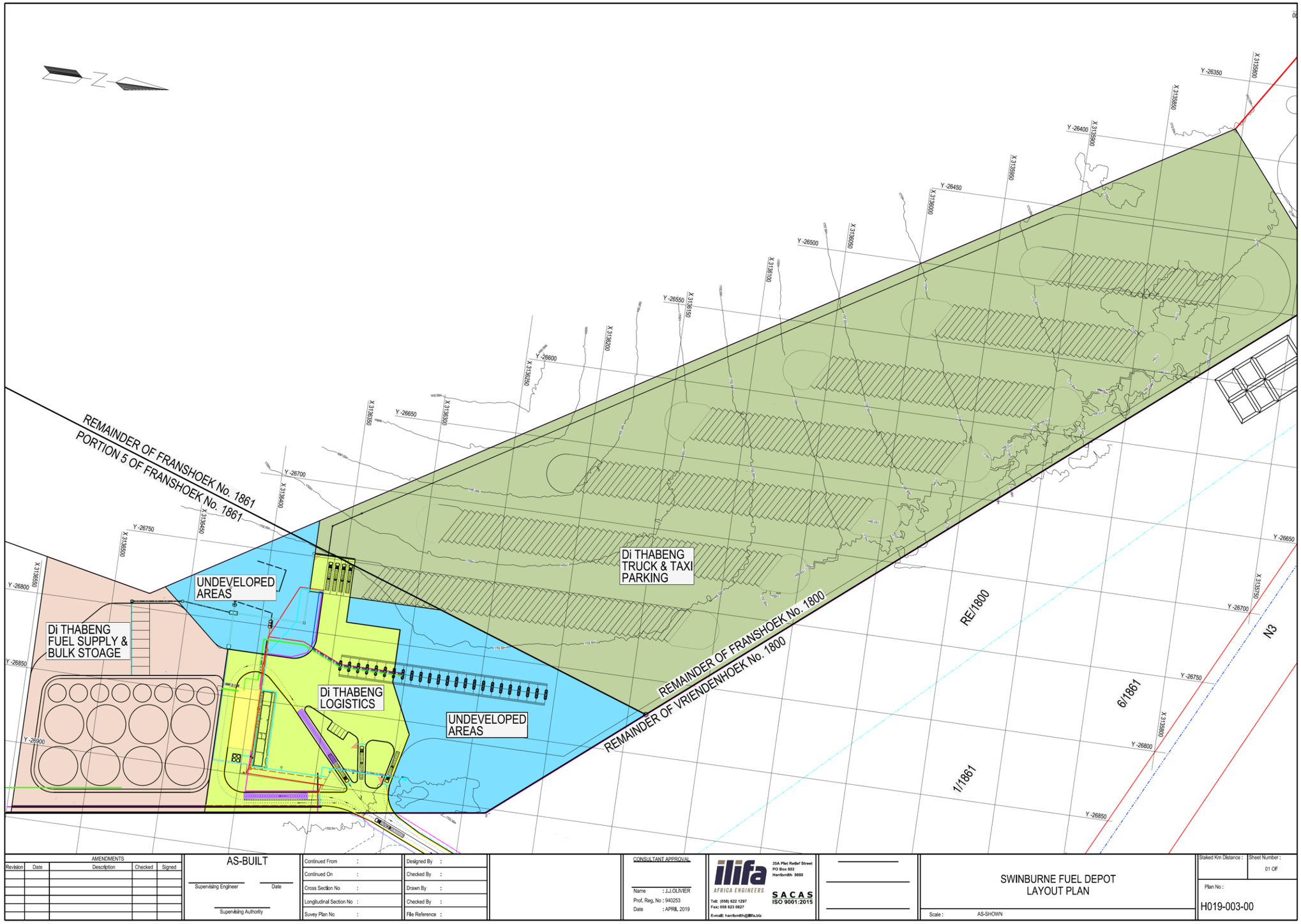


Figure 4: Preliminary Development Layout, Proposed development of an inland diesel depot on Portion 5 of the Farm Franshoek No. 1861.

D. Description of the Environment

D.1 Biophysical Environment

D.1.1 Geology Land Types and Soils

The land type is classified as Fc387, and the proposed property slopes gradually from north east to south west. The geology can be described as dominated by Mudstone, siltstone and sandstone of the Beaufort Group; Karoo Sequence. The resulting soil types are Glenrosa and/or Mispah forms (other soils may occur), lime generally present in the entire landscape (Please refer to Figure 5).

D.1.2 Topography

The topography of the site consists of a plain which has a gradual slope from north east to south west and which forms a shallow valley along the western border of the site. Soils on the site are relatively shallow and sandy with some areas of sandstone exposures present. The slope and topography of the site is clearly devoid of any defined watercourses but it is clear that runoff occurs from north east to south west, following the general slope (Please refer to Figure 6).

D.1.3 Wetlands and Hydrology

The site lies within the Upper Vaal Management Area and is located in the C81B quaternary catchment. The site forms part of the catchment of a wetland system which is situated adjacent to the site to the south west. The site has an approximate elevation of 1 724m along the northern border decreasing to 1 703m along the central section of the south western border clearly indicating the gradual slope of the site providing runoff to the adjacent wetland area.

It is evident that the site does not contain any watercourses, wetlands or drainage lines. However, the site clearly generates surface runoff which feeds into a wetland area outside the south western border of the site. The wetland area is excluded from the proposed development but is situated immediately adjacent to the border. It should not be directly affected by the development and should not lead to any wetland loss (Please refer to Figure 7).

D.1.4 Climate

Swinburne is located within a summer-rainfall region. The precipitation falls in form of thunderstorms between November and March. Great differences between the average temperatures in winter and summer as well as very frequent occurrence of frost confirm a continental climate.

D.1.5 Vegetation

According to the National Vegetation Map of South-Africa, Lesotho and Swaziland (Mucina & Rutherford 2006) the property would historically have been covered in one main vegetation type Eastern Free State Sandy Grassland (GM 4) within the Mesic Highveld Grassland Bioregion (Please refer to Figure 8). This vegetation type is currently listed as being of Least Concern (LC) under the National List of Threatened Ecosystems (Notice 1477 of 2009) (National Environmental Management Biodiversity Act, 2004).

According to the baseline assessment from the appointed Ecologist, the site in question is listed as being a Critical Biodiversity Area 1 (CBA 1) and Ecological Support Area 2 (ESA 2). The portion listed as CBA 1 should therefore have a relatively high conservation value. The on-site survey could however not identify any elements which would warrant this classification and is consequently not considered to increase the conservation value significantly. Species diversity in the portion of remaining natural grassland is substantial but not considered significant in terms of this region. This would however increase somewhat during the rainy season when dormant or annual species would be more prominent. As a result of the above the loss of the remaining natural grassland is considered to still be moderate but cannot be regarded as a high impact.

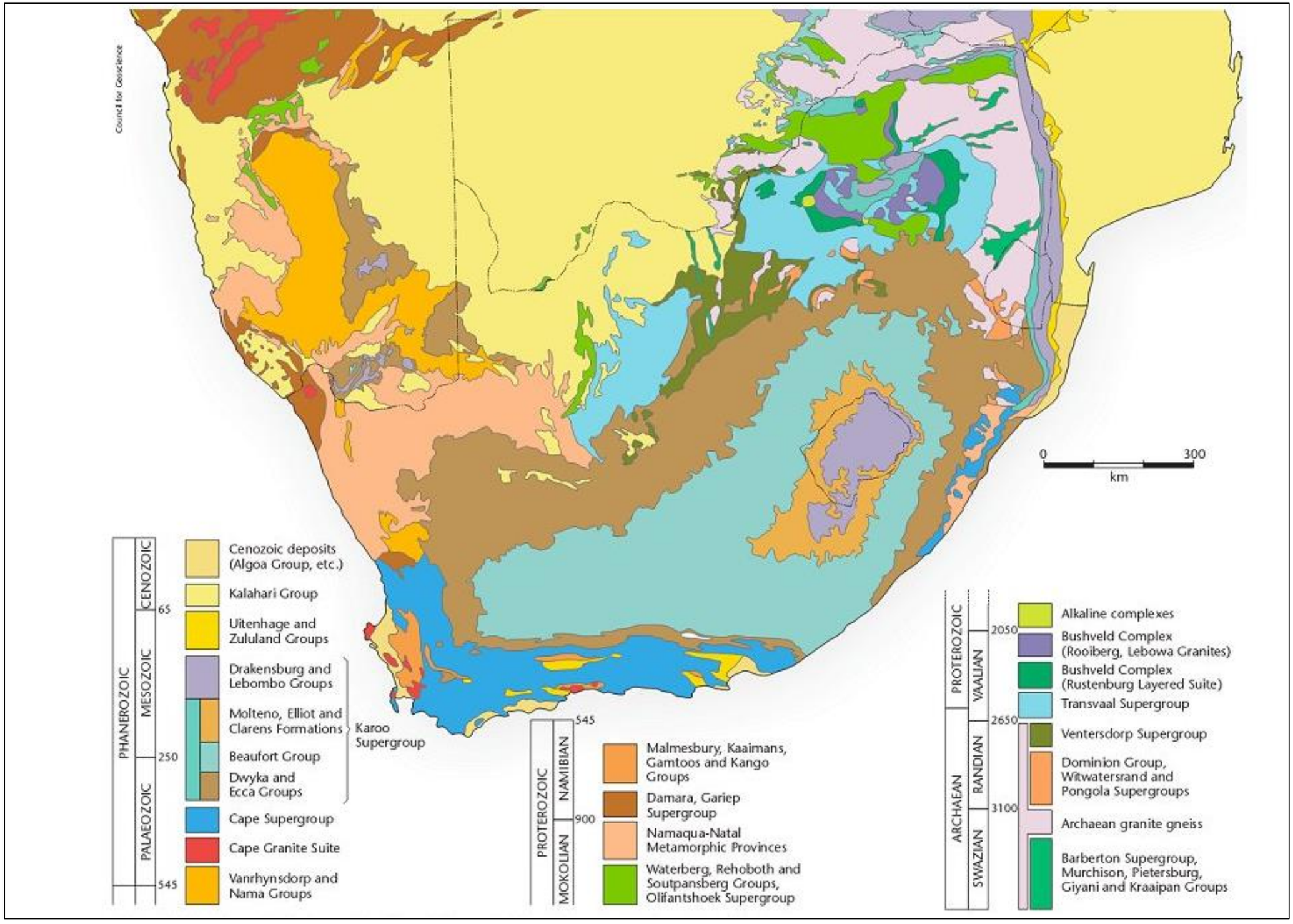


Figure 5: Geology map of South Africa. (Image Sourced: www.wildlifecampus.co.za)

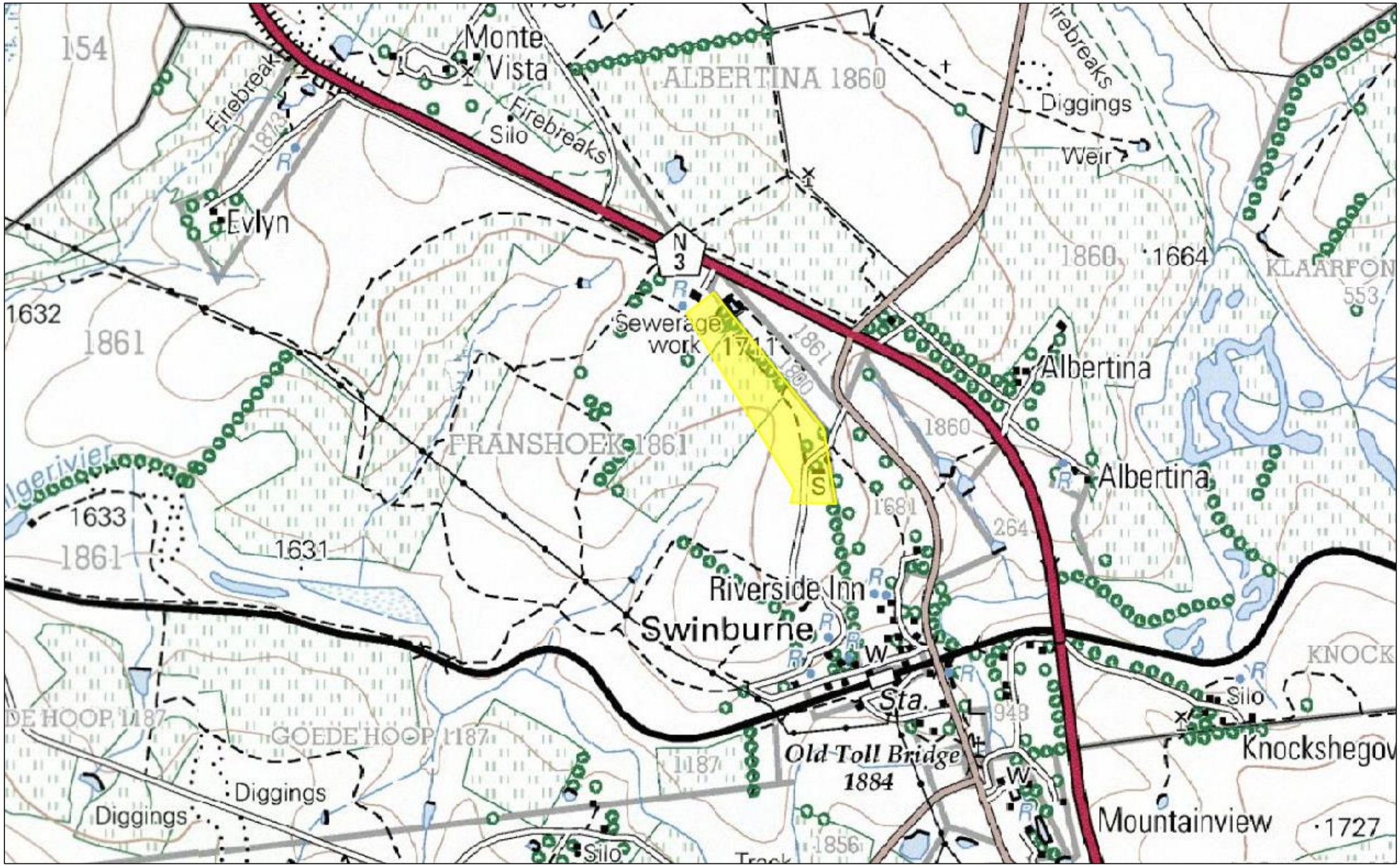


Figure 6: NGI Topocadastral 50K Map of the proposed development.

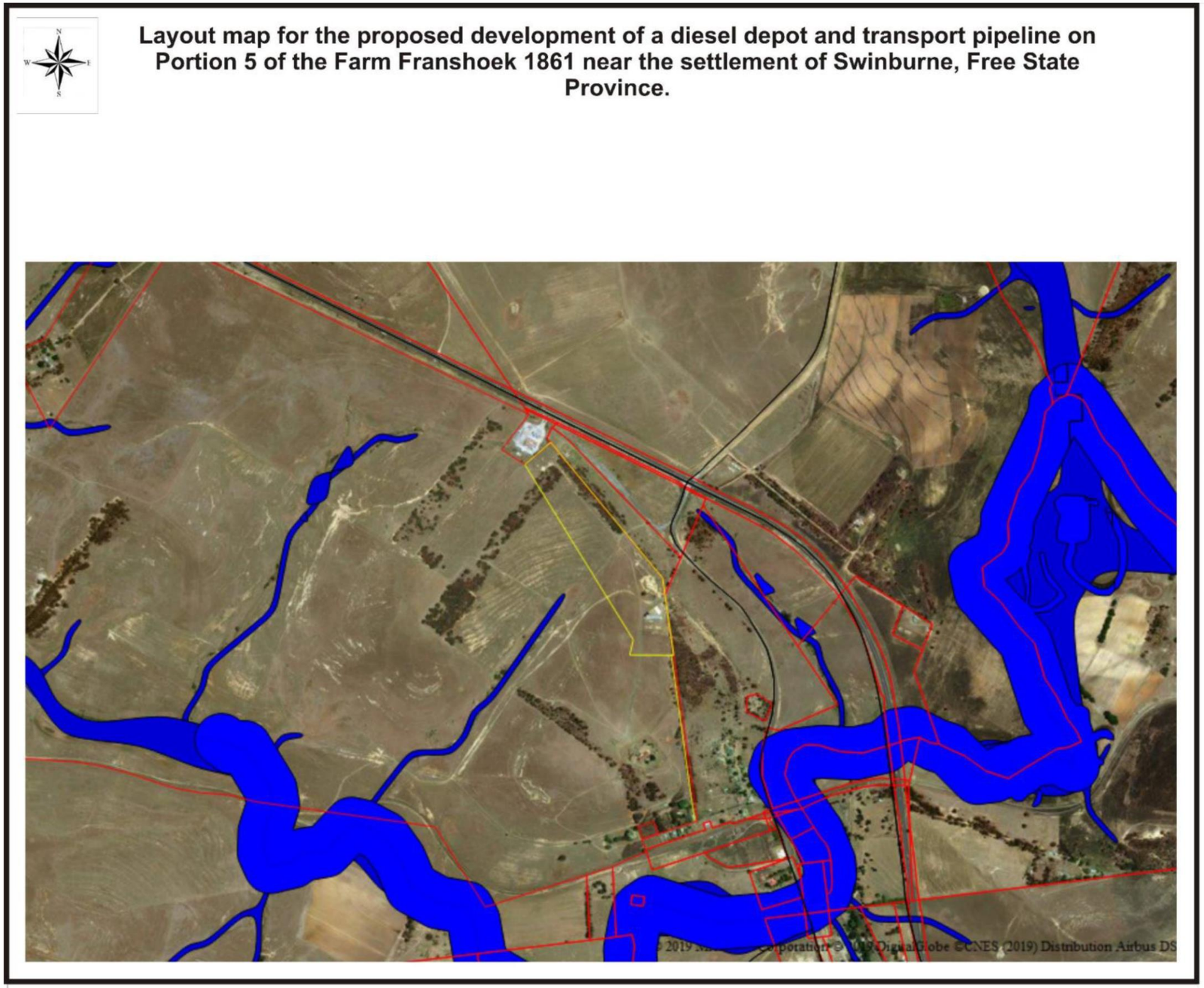


Figure 7: Wetland adjacent to the proposed property (Image provided by DPR Ecologists, 2019).

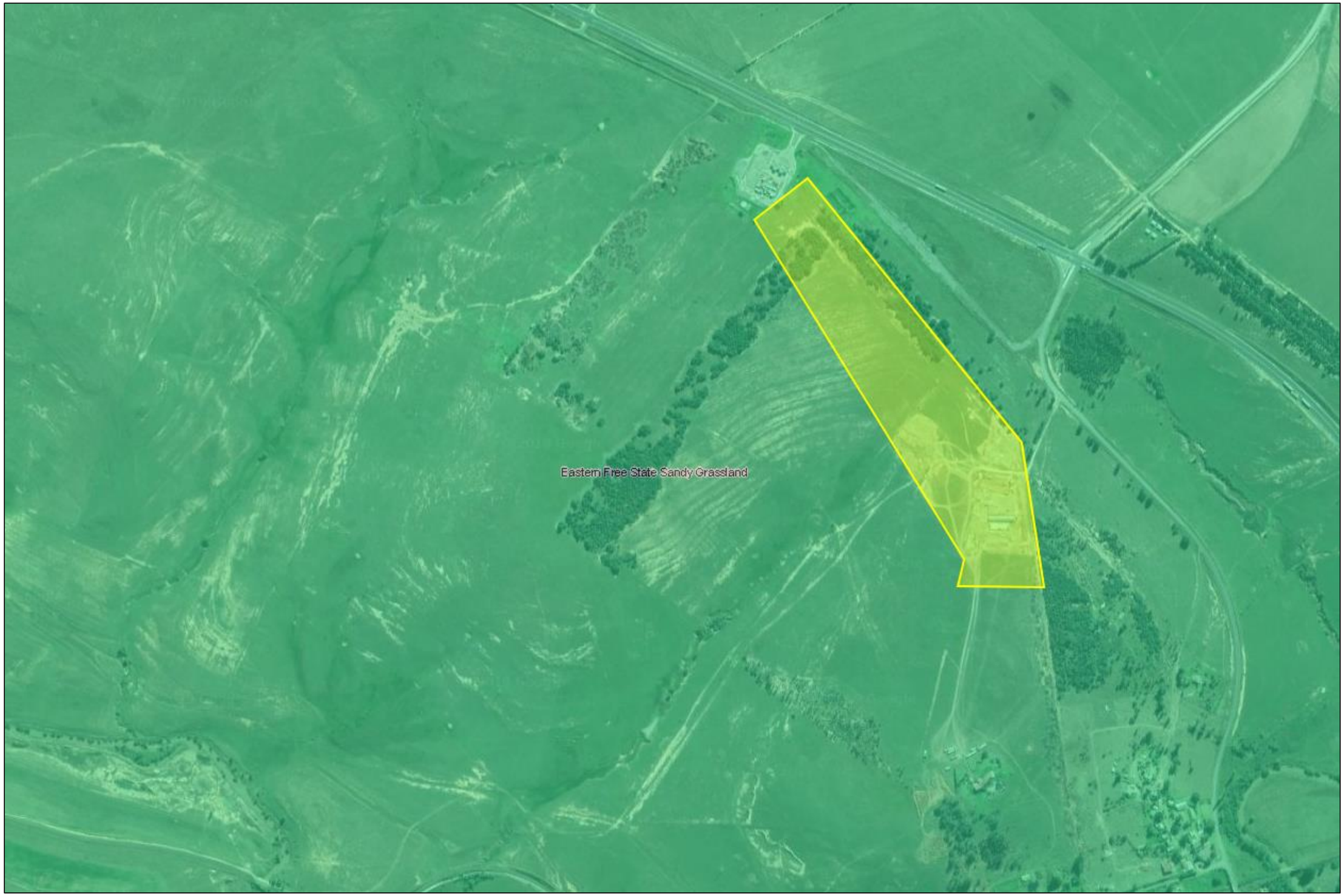


Figure 8: Original Vegetation of the Proposed Property (Mucina et.al. 2005).

D.2 Compulsory Screening Report

A notice was published 05 July 2019 of the requirement to submit a report generated by the national web based environmental screening tool in terms of Section 24(5)(h) of the national environmental management act 1998 (Act. No. 107 of 1998) and regulation 16(1)(b)(v) of the Environmental Impact Assessment Regulations, 2014, published under Government Notice No. R.982 in Government Gazette No. 38282 of 04 December 2014, as amended, will be compulsory when submitting an application for environmental authorisation in terms of regulation 19 and regulation 21 of the Environmental Impact Assessment Regulations, 2014.

A Screening Report was compiled using the National Environmental web-based screening tool as stipulated within the abovementioned regulations. Table 6 provides a summary of the web generated screening report. Please refer to Addendum F: Additional Information, for the detailed report.

Table 6: Proposed Development Area Environmental Sensitivity.

Proposed Development Area Environmental Sensitivity					
Theme	**Sensitivity**				**Comments**
	Very High	**High**	**Medium**	**Low**	
Agriculture		X			
Animal Species		X			
Aquatic Biodiversity	X				
Archaeological and Cultural Heritage		X			
Civil Aviation				X	
Palaeontology		X			
Plant Species			X		
Defence				X	
Terrestrial Biodiversity	X				

D.3 Social Environment

D.3.1 Visual

The entrance to the proposed property is situated approximately 450m south from the N3 highway, however the north eastern boundary of the site is approximately 100m from the N3 highway. This section of the site borders an old vacant filling station. The proposed development will be visible from the N3 highway and the main road leading to Swinburne.

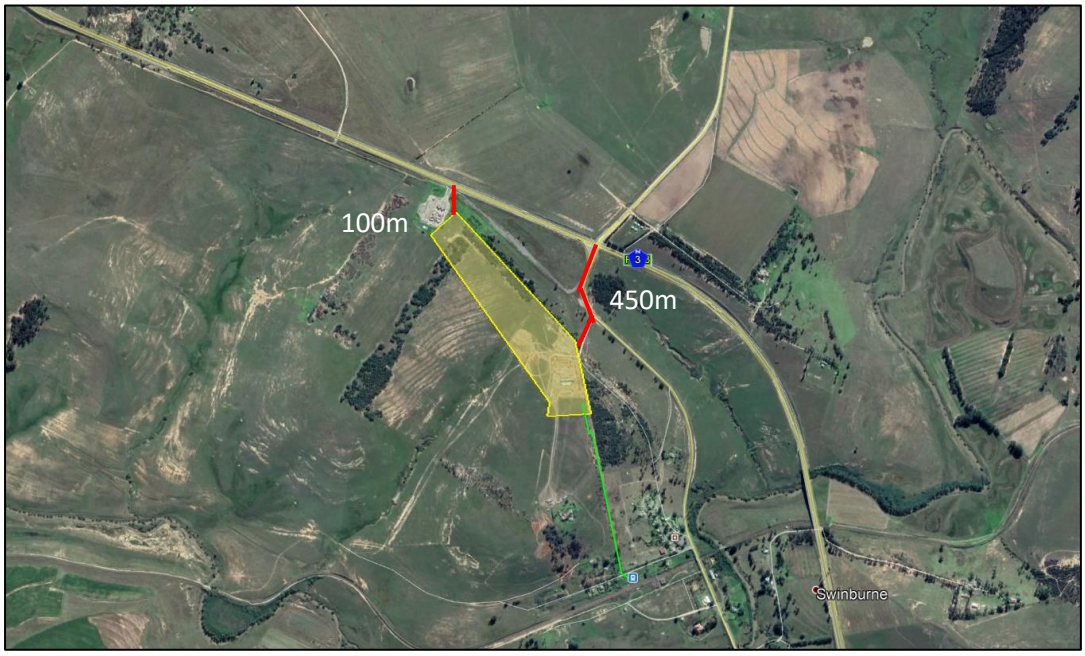


Figure 9: Proposed development in proximity to major roads.

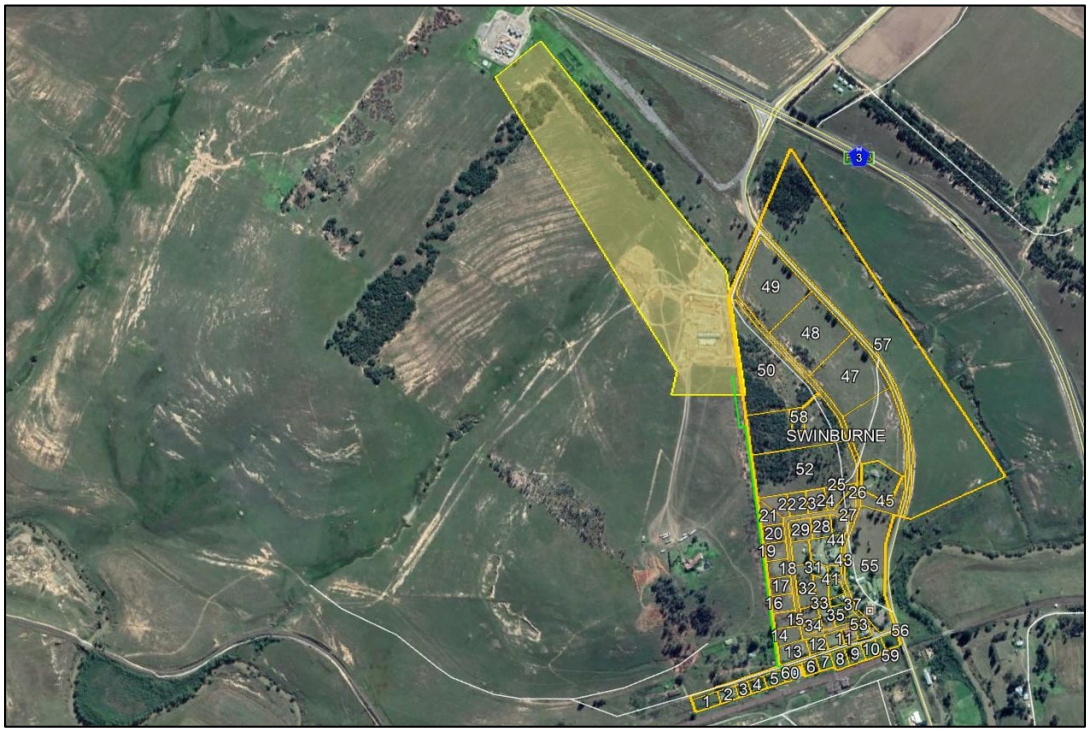


Figure 10: Proposed development in proximity to Swinburne and proposed future residential development.

D.3.2 Archaeological Resources.

Due to the previous agricultural activities and the prevailing school on site as well as the transformed nature of the proposed development site, it is not foreseen that any archaeological resources of significance will be found on site. However, due to the development size of the property being larger than 5 000m^2 a notification of the proposed development will be submitted to SAHRA. Their recommendations will be included in the final EIR.

D.3.3 Noise

The majority of noise levels to be generated by the development during the construction period will take place during work hours. However, noise levels during the operational phase will not be similar to that of the neighbouring properties as no similar development occurs within the area. The surrounding properties might experience some noise pollution from the proposed development and increased traffic from the neighbouring highway during the operation phase, however noise buffers in the form of landscaping will be considered during the EIA phase in the preferred layout alternative.

D.3.4 Odour

No impact on the general odour in the environment is expected to occur due to the proposed development.

D.3.5 Traffic

Traffic at the first section of the main road leading to Swinburne and Old School Road will increase as a result of the proposed development. One access gate will grant access to the proposed development. Possibilities are explored to widen the road prior to the access gate to prevent traffic congestion especially during peak times. The Traffic Impact Assessment will be included in the draft EIR.

D.3.6 Socio-economic

The proposed development will mostly have positive socio-economic impacts in creating job opportunities during the construction and operational phase.

Pillars of the PSDF:

1. Economic Growth
2. Education
3. Quality of life
4. Rural development
5. Social cohesion
6. Good Governance

E. Public Participation Process

Public participation is the involvement of all parties who potentially have an interest in a development or project or be affected by it. The principal objective of public participation is to inform and enrich decision-making. This is also its key role in the Scoping Report.

E.1 Process Followed to Date

The initial required public participation processes will be conducted 31 January 2020 – 02 March 2020. This process will include the following:

- Publication of a newspaper advertisement in the Harrismith Chronicle.
- Distribution of Background Information Documents (via hand) to all residents within 100m of the property boundary;
- Erection of site notices (one in English and one in Afrikaans) at a strategic location;
- Direct notification letters (via registered mail) to identified I&AP's.
- Direct notification letters (via e-mail) to identified I&AP's.

E.1.1 Newspaper Advertisement

An advertisement, notifying the public of the Environmental Impact Assessment process and requesting Interested and Affected Parties (I&APs) to register with Spatial Solutions Inc., will be placed in the local newspaper, Harrismith Chronicle 30 January 2020. I&AP's will be given until 02 March 2020 to register as Interested and Affected Parties.

E.1.2 Site Notices

To inform surrounding communities and immediately adjacent landowners of the proposed development, notices will be erected on site at visible and accessible locations close to the site 30 January 2020.

E.1.3 Direct Notification of identified Interested and Affected Parties

Key stakeholders comprising of the following sectors, will be informed directly of the proposed development by post and email 28 January 2020.

- Provincial Authorities;
- Local Authorities;
- Ward Councillors;
- Non-governmental organizations;
- Directly adjacent landowners; and
- Other Interested and affected parties.

E.1.4 Concerns Raised by Interested and Affected Parties

Interested and affected parties are to register by completing registration forms and forwarding comments by email, fax and mailed letters. The I&APs comments will be captured on a database, acknowledged and forwarded to the relevant specialists for their consideration.

E.1.5 First Draft Scoping Report for Public Review

Comments on the report will be incorporated into the Second Draft Scoping report submitted to the DESTEA as well as in the Environmental Impact Report (EIR), which will once again be made available for public review March 2020.

E.2 Comments and Response Report

Registered I&APs concerns raised, as well as responses to these concerns, will be detailed in the Comments and Response Report to be included in the Draft Final Scoping report.

E.3 Public Participation Process Addendums

E.3.1 First Draft Scoping Phase

a) Advertisement
b) Site Notices
c) Background Information Document
d) Notification Letter
e) Proof of Registered letters sent to I&APs

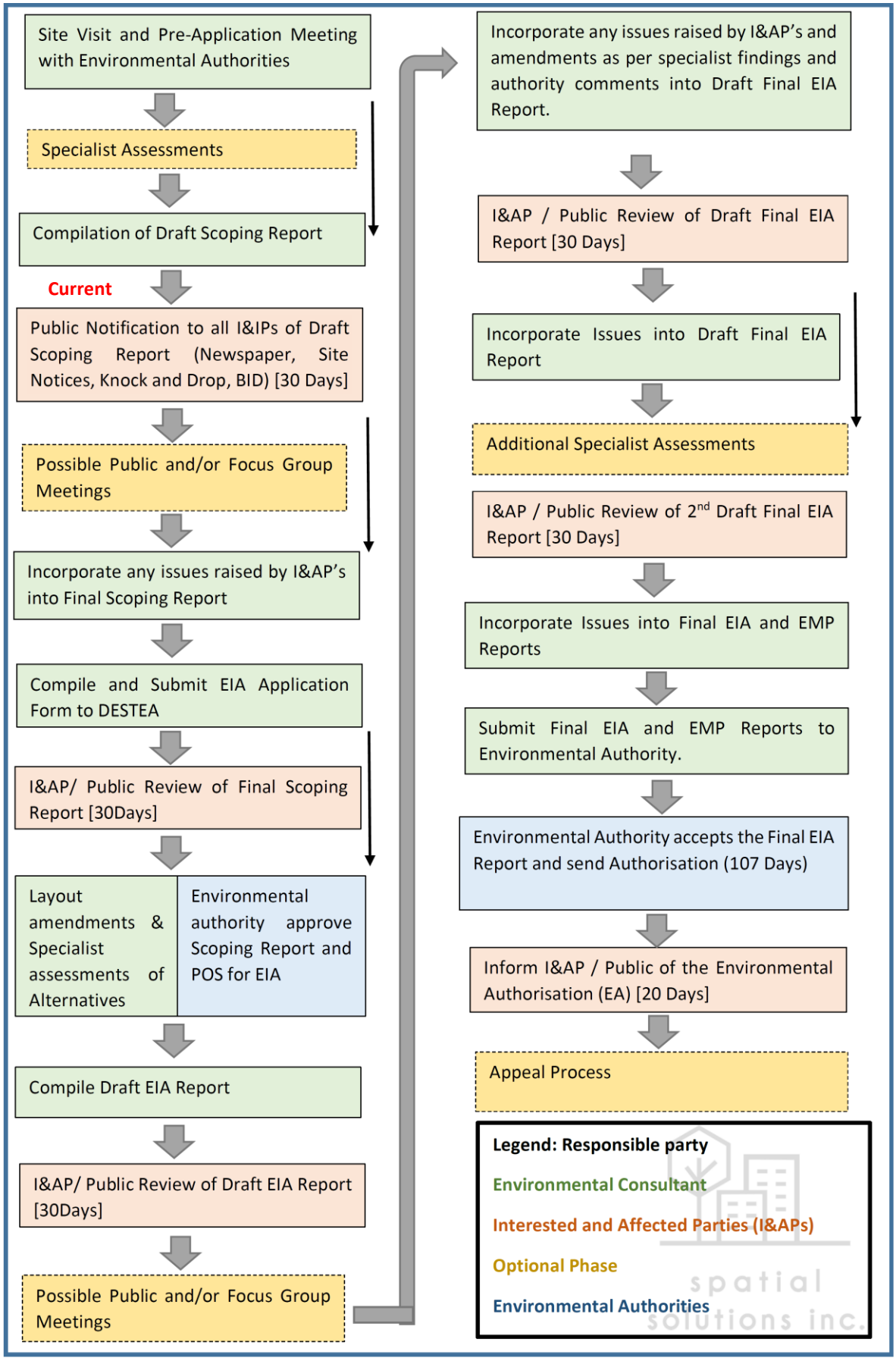


Figure 11: EIA Process Flow Chart

F. Layout Alternatives

The identification of alternatives is an important component of the EIA process. Where possible, alternatives will be identified and investigated. The various alternatives will be assessed in terms of both environmental acceptability as well as economic feasibility. The preferred option will be highlighted and presented to the authorities in the EIR Report.

F.1 Layout Alternative 1

Alternative 1 comprised the development of approximately 14 ha of the property. The layout indicated that the proposed inland diesel depot development would have been in a triangular shape slightly expanding from the north to the south. The smallest part facing towards the N3 Highway and the larger section towards the southern part of the site reaching the prevailing homestead of the property. This layout included eight (8) Bulk fuel storage tanks, a service yard, truck filling stations and a large parking area for heavy vehicles. Sixteen rows of approximately 23 parking bays each were envisioned to ensure sufficient parking for heavy vehicles thus totalling 380 parking bays. This alternative is not preferred due to the fact that the natural elevation of the site ranges from 1711m in the north to 1702m in the south. Inevitably runoff will be generated by the extensive parking area and possibly result in pollution of the Wilge River situated approximately 500m south of the prevailing residence on site. Although alternative 1 would have created minimal visual impact from major routes, the layout does not incorporate green corridors which encourages functioning ecosystems and species conservation.

F.2 Layout Alternative 2

Following preliminary engagement between the client and adjacent neighbours, the proponent decided to drastically change Alternative 1, by moving the entire proposed development to the northern section of the property. Alternative 2 is located on a plateau and has a relatively flat topography. This layout indicates that the development will be almost parallel to the prevailing N3 highway and includes eight (8) vertical bulk fuel storage tanks of 5 million litres each and ten (10) vertical bulk fuel storage tanks of 1 million litres each. The proposed tanks with a total capacity of approximately 50 million litres will be located south of and parallel to the existing dining hall building leased by Di-Thabeng Logistics in four neat rows. A sufficient parking area for heavy vehicles are also indicated in Alternative 2 comprising of eight (8) rows of approximately 43 parking bays each thus the total extent is approximately 342 parking bays. Lastly a diesel transportation pipeline was envisioned to pump diesel from the prevailing railway line in the south to the proposed inland diesel depot.

F.3 Layout Alternative 3 (Preferred)

The preferred layout (alternative 3) indicates that the proposed development will be located on Portion 5 of the Farm Franshoek No. 1861. Dithabeng Truck and Taxi (Pty.) Ltd. wishes to develop an inland diesel depot, which will be operated by Di Thabeng Fuel Supply and Bulk Storage.

The inland diesel depot, which is envisioned will comprise of the following:

- **Vertical bulk fuel storage tanks:**

  Eight (8) vertical bulk fuel storage tanks of 5 million litres each and Eight (8) vertical bulk fuel storage tanks of 1 million litres each are envisioned for development. The proposed tanks with a total capacity of approximately 50 million litres will be located south and perpendicular to the existing dining hall building leased by Di-Thabeng Logistics in three neat rows.
- **Sufficient parking area for heavy vehicles**

  Seven (7) rows of approximately 40 parking bays each are envisioned to ensure sufficient parking for heavy vehicles thus the total extent is approximately 280 parking bays.
- **Diesel transportation pipeline:**

  A diesel transportation pipeline of approximately 750 metres is envisioned for development, from the prevailing railway road located south of the proposed property. The proponent envisions that diesel which is delivered at the coastline of KwaZulu Natal will be transported via train to Swinburne, and subsequently pumped through a 10" carbon steel pipeline (SCH 40 Pipe) from the railway line to the inland diesel depot. The maximum throughput capacity is calculated at 133 l/s with a minimum head of 60m.

Bulk Services.

The proposed development also includes the construction of a bulk water line and sewer line. Please refer to table 7 for full specifications of the bulk service infrastructure to be developed.

Table 7: Bulk Services Specifications.

Specifications	Bulk Water Line	Garden Taps	Sewer Line
Length	315 m	10 m	145 m
Diameter	63mm HDPE	25mm HDPE	160mm uPVC pipe

The preferred layout (Alternative 3) considers the preliminary input from specialists. According to the baseline studies the proposed development will cover an area which is not classified as highly sensitive, and no heritage artefacts of heritage value are foreseen to be located on the proposed site, as the property was actively cultivated and consisted of a school and school grounds. Alternative 3 is also preferred as all sensitive areas were excluded from the layout. The preferred layout also allows a green corridor from the southern section of the remainder of the site through to neighbouring properties which will aid in faunal migrations, however it should be noted that the proposed development borders vacant land to the east, which is envisioned for future residential development.

F.4 No-Go Alternative

The Department of Economic Small Business Development and Tourism and Environmental Affairs (DESTEA), stresses that the no-go option should be considered in cases where the proposed development will have a significant negative environmental impact that cannot be effectively or satisfactorily be mitigated. The approach will consider the no-go option.

G. Background to Need and Desirability

When formulating project proposals and when evaluating project specific applications, the strategic context of such applications and the broader societal needs and the public interest must be considered. In an effort to better address these considerations and its associated cumulative impacts, the NEMA also provides for the compilation of information and maps that specify the attributes of the environment in particular geographical areas, including the sensitivity, extent, interrelationship and significance of such attributes which must be taken into account. The Environmental Management Framework ("EMF") Regulations of 2010 state that EMFs must, inter alia, "specify the attributes of the environment in the area, including the sensitivity, extent, interrelationship and significance of those attributes, state the environmental management priorities of the area, indicate the kind of developments or land uses that would have a significant impact on those attributes and those that would not and indicate the kind of developments or land uses that would be undesirable in the area or in specific parts of the area".

It is, however, important to realise that a plan, framework or strategy for an area does not ultimately determine if an EIA is refused or granted. When "need and desirability" must be considered as part of an EIA process, the content of the IDPs , SDFs, EMFs and other relevant plans, frameworks and strategies must be taken into account when considering the merits of each application. Whether a proposed activity will be in line with or deviate from the plan, framework or strategy *per se* is not the issue, but rather the ecological, social and economic impacts that will result because of the alignment or deviation. As such, the EIA must specifically provide information on these impacts in order to be able to consider the merits of the specific application.

Where a proposed activity deviates from a plan, framework or strategy, the burden of proof falls on the applicant (and the Environmental Assessment Practitioner) to show why the impacts associated with the deviation might be justifiable.

The need and desirability of development must be measured against the abovementioned contents of the IDP, SDF and EMF for the area, and the sustainable development vision, goals, objectives, strategies and plans formulated in, and the desired spatial form and pattern of land use reflected in, the area's IDP and SDF. While project-level EIA decision-making therefore must help us stay on course by finding the alternative that will take us closer to the desired aim/goal, it is through Integrated

Development Planning (and the SDF process) that the desired destination is firstly to be considered and the map drawn of how to get there.

Financial viability must be considered within the context of justifiable economic development, measured against the broader societal short-term and long-term needs. While the financial viability considerations of the private developer might indicate if a development is "do-able", the "need and desirability" will be determined by considering the broader community's needs and interests as reflected in an IDP, SDF and EMF for the area, and as determined by the EIA. While the importance of job creation and economic growth for South Africa cannot be denied, the Constitution calls for justifiable economic development. The specific needs of the broader community must therefore be considered together with the opportunity costs and distributional consequences in order to determine whether or not the development will result in the securing of ecological sustainable development and the promotion of justifiable social and economic development – in other words to ensure that the development will be socially, economically and environmentally sustainable.

As spatial planning policy has a long-term outlook and is mainly responsible for prescribing planning principles relevant to the development of land, the interrogation of the proposed development in terms of such policies will be dealt with mostly in the 'desirability' section of this report. In the 'desirability' section it is also important to give consideration to the planning principles that the Spatial Planning Land Use Management Act (SPLUMA) as well as the criteria for assessing the desirability of a proposal as contemplated in the Local Municipal By-law.

There are, however, certain aspects of planning policy that deal with the 'need' of a development and pertain mostly to financial need or development need. As the Integrated Development Plan represents a shorter time frame (5 years), and focuses on required investment rather than spatial directives, it is closer related to the actions that need to happen now, and therefore alignment with the IDP will be discussed in the 'need' section.

G.1 Questions to be engaged with when considering Need and Desirability

In light of the above, the need for and desirability of a proposed activity must specifically and explicitly be addressed throughout the EIA process (screening, "scoping", and assessment) when dealing with individual impacts and specifically in the overall impact summary by taking into account the answers to inter alia the following questions:

- How will this development (and its separate elements/aspects) impact on the ecological integrity of the area;
- How were the following ecological integrity considerations taken into account;
    - Threatened Ecosystems,

- Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries,
- Wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure,
- Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs"),
- Conservation targets,
- Ecological drivers of the ecosystem,
- Environmental attributes and management proposals contained in relevant Environmental Management Frameworks,
- Environmental attributes and management proposals contained in relevant Spatial Development Framework, and Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.)

- How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?
- How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?
- What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimise, reuse and/or recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste?
- How will this development use and/or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?
- How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts?

- Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e. de-materialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life)
- Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational equity and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources for the proposed development alternative?).

While the concept of need and desirability relates to the type of development being proposed, essentially, the concept of need and desirability can be explained in terms of the general meaning of its two components in which need refers to time and desirability to place – i.e. is this the right time and is it the right place for locating the type of land-use/activity being proposed? Need and desirability can also be equated to wise use of land.

G.2 Need

In terms of the National Environmental Management Act, as amended, EIA 2014 Regulations, the Scoping/EIA report must provide a description of the need and desirability of the proposed activity. The consideration of "need and desirability" in EIA decision-making requires the consideration of the strategic context of the development proposal, along with the broader societal needs and the public interest. While the concept of need and desirability relates to the type of development being proposed, essentially, the concept of need and desirability can be explained in terms of the general meaning of its two components in which need refers to time and desirability to place – i.e. is this the right time and is it the right place for locating the type of land-use/activity being proposed? Need and desirability can be equated to wise use of land – i.e. the question of what the most sustainable use of land is.

Considering the fact that the proposed development is located within close vicinity to the prevailing N3 highway, transportation and distribution of diesel from the property will not only decrease costs associated with diesel distribution but will also grant easy access for heavy vehicles.

The proposed development is not surrounded by similar developments of this nature as the property's east are envisioned for future residential development and the properties west were actively cultivated.

Table 8: Crucial questions about the "need and desirability" of the proposed development.

No.	Questions	Answers
a	**How will this development (and its separate elements/aspects) impact on the ecological integrity of the area;**	The overall area has been highly impacted on by previous agricultural activities and the prevailing school and school grounds. Some botanical sensitive areas may however be present. These areas will be avoided as far as possible.
b	**How were the following ecological integrity considerations considered?**	
	1. Threatened Ecosystems	1. Should a specialist identify any threatened ecosystems on site, these sections should be excluded from the proposed development
	2. Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries,	2. The proposed property is several kilometres from the ocean. Should sensitive areas be identified by specialist's care will be taken to avoid these.
	3. Wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure,	3. There are no wetlands present on the site where the proposed development is envisioned, however a wetland outside the proposed development borders are present. Care must be taken in order to manage and mitigate inevitable runoff which will be created by the large parking area.
	4. Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs"),	4. The site in question is listed as being a Critical Biodiversity Area 1 (CBA 1) and Ecological Support Area 2 (ESA 2) (Please refer to Addendum F Additional Information for the detailed screening report as generated by the online web-based screening tool programme). The

		portion listed as CBA 1 should therefore have a relatively high conservation value. The on-site survey could however not identify any elements which would warrant this classification and is consequently not considered to increase the conservation value significantly. The remainder of the property was subject to agricultural activities which transformed natural vegetation.
	5. Ecological drivers of the ecosystem,	5. Natural or human-induced factors that directly or indirectly cause a change in an ecosystem are referred to as "drivers." Changes in ecosystem services are almost always caused by multiple, interacting drivers that work over-time and over level of organization and that happen intermittently. Changes in ecosystem services can feed back to alter drivers. The proposed property has been actively cultivated and thus natural vegetation has either been disturbed or totally transformed.
	6. Environmental attributes and management proposals contained in relevant Environmental Management Frameworks,	6. According to the SPLUMA Chapter 2 (7)(b)(iii) the principle of spatial sustainability, whereby spatial planning and land use management systems must— uphold consistency of land use measures in accordance with environmental management instruments.

	7. Environmental attributes and management proposals contained in relevant Spatial Development Framework, and **8. Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.).**	7. The proposed property is currently zoned as Agriculture; thus Portion 5 of the Farm Franshoek No. 1861 should be rezoned accordingly. 8. No RAMSAR sites are located on the property.
No.	**Questions**	**Answers**
d	**How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?**	This was determined by means of a Botanical / Ecological Assessment, conducted by the specialist. Possible sensitive Botanical areas will be avoided.
e	**How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?**	This was determined by means of a Botanical / Ecological Assessment, conducted by the specialist. Possible sensitive Botanical areas will be avoided.
f	**What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimise, reuse and/or recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste?**	<u>During the construction Phase:</u> Some building rubble will be generated. This will be re-used for the construction and compaction of roads and infrastructure. <u>During the operational phase:</u> Domestic waste will be generated by truck drivers and staff on site. Measures will be implemented to ensure that recycling of domestic waste occur.
g	**How will this development use and/or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of**	The proposed development will not have a significant impact on non-renewable natural resources. The client would like to operate off the grid in the near future by powering the

	the depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	proposed development with solar and battery energy. Energy saving lighting solutions will be sourced.
No.	**Questions**	**Answers**
h	**How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system considering carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts?**	The proposed development will not have a significant impact on non-renewable natural resources. The client would like to develop the proposed development off the grid by powering the proposed development with solar and battery energy. Energy saving lighting solutions will be sourced. The Local Municipality will also provide their comments to confirm if the municipal network have sufficient capacity for the proposed development.
i	**Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e. de-materialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life**	The proposed development envisions functioning off the grid by means of electricity, thus it is envisioned that the proposed development be generated by batteries and solar power.
j	**Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational equity, and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources for the proposed development alternative**	The use of natural renewable resources (sunlight) will be much more expensive initially, but an extensive financial saving is expected in the long run.

G.2.1 Location and Accessibility

Located approximately 20 kilometres (km) east of Harrismith towards Durban, the proposed property is situated adjacent to the small town, but outside of the town boundaries and urban edge of Swinburne, which forms the eastern boundary. The property is approximately 4.5 km north west of the Montrose filling station adjacent to the N3 highway. The entrance to the proposed property is situated approximately 450 metres (m) south of N3 on the Main Swinburne Road leading to town and approximately 160 m on Old School Road. The property falls within the Thabo Mofutsanyana Municipal District, and Maluti-a-Phofung Local Municipal District, jurisdiction area.

G.2.2 Proximity of Commercial and Employment Opportunities.

The proposed property is not surrounded by similar developments to that which is envisioned for the property; however, the N3 highway is in close vicinity to the property and the Montrose filling station is located approximately 4.5km south west. An old vacant filling station borders the north western section of the proposed development. The proposed development aims to create much needed job opportunities for the surrounding community. During the construction phase of the development as well as during the operational phase of the development.

G.2.3 Infill Planning of Available Land within the Urban Edge

The property falls outside of the urban edge thus, the proposed property should be rezoned accordingly to accommodate the future development. A suitably qualified Regional and Town Planner will be appointed to conduct the rezoning application once an Environmental Authorisation (EA) has been issued per the relevant municipal by-laws.

G.2.4 Compatibility with Surrounding Area

As stated in Section G.2.2. the proposed property is not surrounded by similar developments. The proposed site is surrounded by mostly vacant land to the south and west, and the vacant land which borders the proposed property on the eastern side is envisioned for future residential development. The N3 highway is located north of the property approximately 450 metres from the highway to the proposed access gate of the property.

G.2.5 Existing Land Use Rights

Agricultural activities were actively practiced on the proposed property, and a school for the local community was located on the property. The existing land use rights constitutes agricultural activities as the proposed development has not been rezoned as of yet.

G.2.6 Provincial Spatial Development Framework (PSDF) and Urban Edge

The Free State PSDF is prepared in accordance with bioregional planning principles that were adapted to suit the site-specific requirements of the Free State. The bioregional principles as applied in the PSDF comply with the national statutes and policy that direct spatial planning in South Africa, including the Spatial Planning and Land Use Management Bill (2012), the NSDP, and the NSSD. The Free State Vision 2030 is to be given effect through the six pillars and drivers of the FSGDS. By considering Sustainability and Spatial Context.

Pillars of the PSDF:

1. Economic Growth
2. Education
3. Quality of life
4. Rural development
5. Social cohesion
6. Good Governance

The proposed development is in line with the PSDF regarding pillars 1 and 3, enhancing economic growth and improving quality of life. The proposed development will create job opportunities during the construction and operational phase of the development, thus improving the quality of life for previously disadvantaged individuals.

G.2.7 Maluti-a-Phofung Integrated Development Plan (IDP) 2012-2017

According to the Maluti-a-Phofung's (MAP) Integrated Development Plan (2018-2019), "*the challenges the municipality face is the negative audit opinion, high rate of unemployment, massive roads and storm water backlogs, reliable water, electricity supply and land availability for cemeteries in rural areas, mushrooming of informal settlements, community unrest and possible disconnection of electricity by Eskom.*"

Considering the above, the MAP municipality endeavours to implement the following strategic goals and objectives:

1. To ensure the provision of Infrastructure development and service delivery
2. To promote local economic development
3. To ensure spatial planning
4. To ensure good corporate governance and public participation
5. To ensure municipal transformation and organisational development
6. To ensure municipal financial viability

The need of the proposed development is demonstrated most strongly by its alignment to number two (2): to promote local economic development, thus creating an enabling environment to attract investment that generates economic growth and job creation as the construction of the proposed

inland diesel depot will not only create jobs during the construction phase, but also during the operational phase once construction is completed.

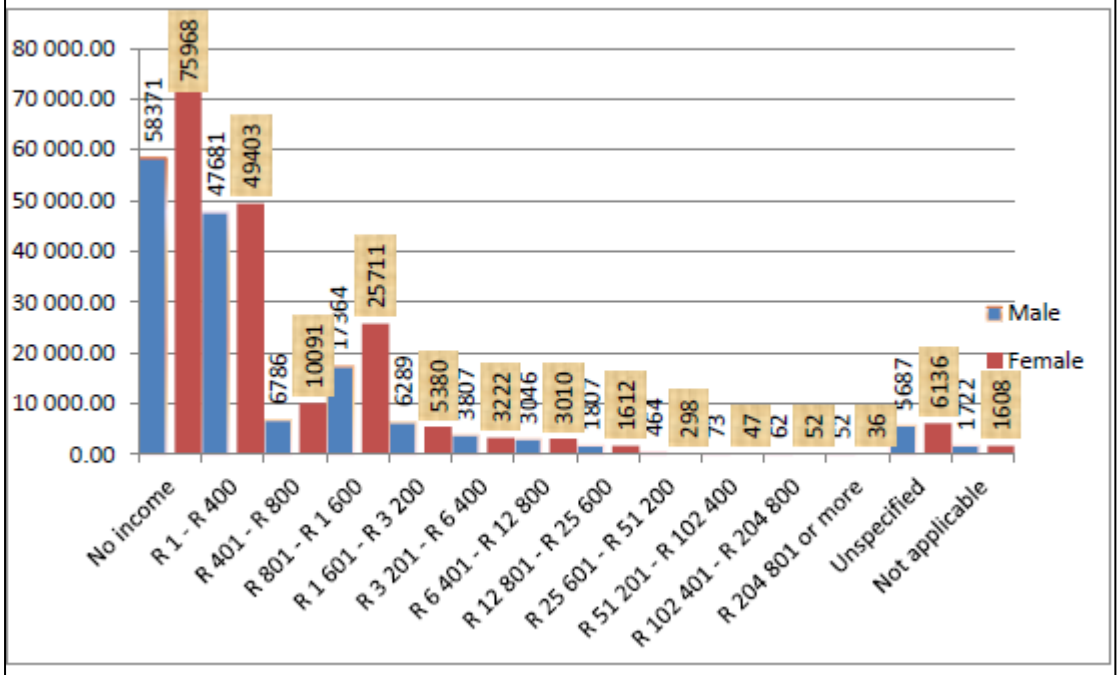
In terms of need in general relative to timing of development, it is important to consider socio-economic trends in the Maluti-a-Phofung District. According to the MAP municipality's IDP (2018-2019) an alarming rate of unemployment (Figure 12) and poverty (Figure 13) are experienced within the boundaries of the municipality.

Maluti a Phofung unemployment rate by gender (15-64 years)

Source: Statistics South Africa Census 1996, Census 2001 and Census 2011

Figure 12: Unemployment rate by gender within the Maluti a Phofung Municipal District (IDP 2018-2019).

Distribution of individual income within MAP according to Gender:



Source: Statistics-South Africa, Census 2011

Figure 13: Distribution of individual income within the Maluti a Phofung Municipal District (IDP 2018-2019).

Considering the above, it is evident that poverty and unemployment remains a challenge not only in the MAP district, but overall in South Africa. As stated, the proposed development is in line with the IDP as job opportunities will be created during the construction and operational phase of the development, thus uplifting the local community and livelihoods of disadvantaged individuals.

G.2.8 Approved Structure Plan of the Municipality

The property falls within the Thabo Mofutsanyana Municipal District, and Maluti-a-Phofung Local Municipal District, jurisdiction area. The property is located outside of the town boundaries of Swinburne. The proposed development is not surrounded by similar developments, as the town of Swinburne consists of overarching residential units. However, the proposed development is situated near the N3 highway leading from Harrismith to Durban.

G.2.9 Does the community / area need the activity and the associated and

The proposed development will not only create jobs during the construction phase of the development, but also during the operational phase. The community of Swinburne and surrounding areas will definitely benefit as job opportunities will be created which will ultimately improve their livelihood.

G.2.10 How will the development impact on people's health and wellbeing?

The proponent aims to develop an inland diesel depot on the proposed property. The storage and handling of dangerous goods of approximately 50 million litres will be applied for to receive environmental authorisation. Should all necessary mitigation measures be implemented in order to prevent noise, odour, air and water pollution the development will have no significant impact on the peoples' health in the surrounding area. The proposed development will not result in any dire environmental impacts should the Environmental Management Plan and Waste Minimisation plan be adhered to.

G.3 Desirability

When considering an application for Environmental Authorisation (EA), the competent authority must comply with section 24O of the National Environmental Management Act, No 107 of 1998 (NEMA), and must have regard for any guideline published in terms of section 24J of the Act and any minimum information requirements for the application. This includes this need and desirability guideline (2017).

According to the Municipal Demarcation Board, Municipal Capacity Assessment (2018), transport employment in the transport and storage sector contribute to approximately 3.9% of employment within the Maluti-a- Phofung boundaries (Figure 14).

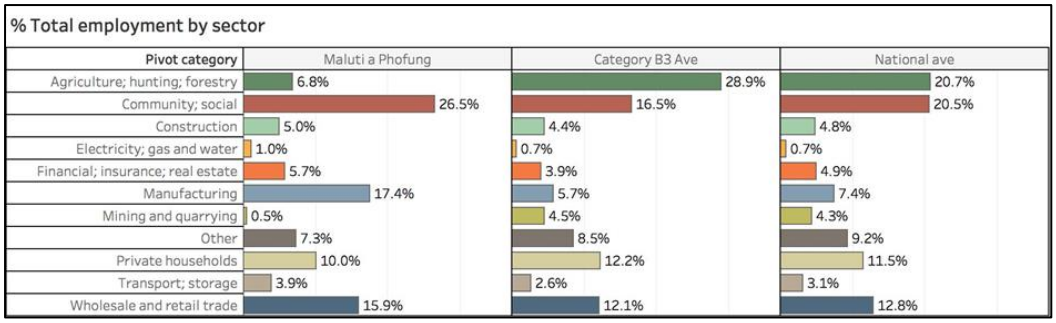


Figure 14: Employment by sector within the boundaries of Maluti a Phofung.

The factors that influence desirability directly correlates with the impact that the proposed development will have in terms of socio-economic, engineering and transport services, the surrounding community and the surrounding environment. The degree to which the proposed development can be deemed desirable is explained in table on below.

Table 9: Desirability of the proposed development.

Socio-Economic Impact	The development will add to job creation in construction over the short and medium term, and thereafter permanent operational employment.
Scale of Investment Impact on Transport	The scale of investment is localised to the property however, the proposed property is located outside of the urban edge of Swinburne, thus the local economy will be boosted.
Impact on Engineering Services	The property is located outside of the urban edge thus, engineering link services are not within close proximity to the site. impact on engineering services in terms of capacity will be addressed by letters from the local municipality and relevant authorities. However, the proponent wishes to operate completely off the grid in the near future. Alternative technologies will be used where possible to reduce the impact on external engineering services.
Impact on transport	The impact is investigated by means of a Traffic Impact Assessment.
Compatibility with surrounding land-uses	The proposed development is not surrounded by similar developments, it is currently bordered by vacant land envisioned for future development to the east and agricultural land to

	the south and west. The property is however situated south of the prevailing N3 highway.
Impact on safety, health and wellbeing of the surrounding community	The surrounding area does not consist of similar developments. Should all necessary mitigation measures be implemented in order to prevent noise, odour, air and water pollution the development will have no significant impact on the peoples' health in the surrounding area. The proposed development will not result in any dire environmental impacts should the Environmental Management Plan and Waste Minimisation plan be adhered to.
Impact on heritage resources	The impact is investigated by means of a Heritage Impact Assessment.
Impact on the biophysical environment	The property has experienced disturbance from agricultural activities and the prevailing school ground. Sustainable technologies will be used where possible to limit the effect of the development on the environment.

G.3.1 Suitability of the Di Thabeng Inland Depot development

The proposed property is not surrounded by similar developments to that which is envisioned for the property; however, the N3 highway is located north and the Montrose filling station is located approximately 4.5km south west of the property. An old vacant filling station borders the north western section of the proposed development. The proposed development aims to create much needed job opportunities for the surrounding community. During the construction phase of the development as well as during the operational phase of the development.

G.3.2 Compatibility with Forward Planning Documents and Policies

G.3.2.1 Provincial Spatial Development Framework (PSDF)

The proposed development is in line with the first pillar of the PSDF regarding enhancing economic growth and improving quality of life. The proposed development will create job opportunities during the construction and operational phase of the development, thus improving the quality of life for previously disadvantaged individuals.

G.3.2.2 Maluti-a-Phofung Integrated Development Plan (IDP)

the proposed development is demonstrated most strongly by its alignment to the second pillar of the IDP thus, to promote local economic development, thus creating an enabling environment to attract investment that generates economic growth and job creation as the construction of the proposed

inland diesel depot will not only create jobs during the construction phase, but also during the operational phase once construction is completed.

H. Identification of Key Environmental Issues

The key issues listed in the following section have been determined through an internal process based on similar developments, environmental scoping and public participation process as well as site visits.

The potential impacts and key issues identified include:

- Traffic impact,
- Possible Botanical Impacts;
- Possible impact on Heritage resources,
- Possible impact on Archaeological resources;
- Possible Stormwater Impacts;
- Possible Socio-Economic Impacts (if requested by DESTEA)
- Possible Visual impacts (if requested by SAHRA and DESTEA)

Further details associated with the construction and operation of the various activities as listed in the Project Description will be discussed in detail in the EIA Report. The EIA Report will assess the impacts of each of the activities as well as ascertain the cumulative impacts of the development in totality. The EIA Report will outline the necessary mitigation measures and delineate sensitive areas containing species of conservation importance and habitats integral to the maintenance of ecosystem functioning.

H.1 Summary of Anticipated Impacts:

Table 10: Summary of anticipated impacts as a result of the proposed development.

Environmental Aspect	Relevant Area	Environmental Objective	Potential Impacts	Additional Investigations	Potential Mitigation
ENVIRONMENTAL					
Botanical	Region	To ensure that species of conservation importance are identified and preserved.	Fragmentation of habitat, loss of species of conservation importance, loss of biodiversity, disruption of natural processes and functionality.	Botanical / Ecological Assessment	Indigenous Landscaping, search and rescue of endangered vegetation and rehabilitation disturbed areas.
Ecology	Region	To ensure that species of conservation importance are identified and preserved.	Loss of habitat and species diversity.	Botanical / Ecological Assessment	Landscaping with indigenous vegetation
Biodiversity	Region	To ensure that the proposal does not negatively impact on the surrounding areas.	Disturbance of functional biodiversity corridors and potential habitat to endangered species.	Botanical / Ecological Assessment	One protected geophyte could be identified, namely *Watsonia lepida*. As a result, where specimens will be affected by the

					development the necessary permits should be obtained and they be transplanted to adjacent areas where they will remain unaffected.
Fire	Region	To ensure that Fire Management procedures and efficient Fire breaks are in place.	Raging fires can cause a loss in biodiversity as well as potential material damage.	N/A	Implement fire breaks.
Agricultural Potential	Site / Region	To prevent the loss of high potential, fertile agricultural land. To assess the condition of the soils on site and determine the locations of high potential land (if any). To assess the long-term impacts associated with the loss of this Agricultural land.	According to the screening report the proposed site is classified within the Agriculture theme as high sensitivity.	The department of Agriculture and Rural Development will be granted the opportunity to provide much needed input in this regard.	Awaiting comments from the department of Agriculture and Rural Development.
Fauna	Region	To ensure that species of conservation importance are identified and preserved.	Loss of biodiversity in the disruption of natural processes and functionality.	Botanical / Ecological Assessment	The majority of the site is already transformed, which should decrease the

			Introduced species not being able to adapt to surrounds. Other than birds and domestic animals, very little fauna is expected on the site.		impact and the extent of the development is small which should limit the impact as well. In order to ensure no direct impact on the mammals on the site the hunting, capturing or trapping of mammals on the site should be strictly prohibited during the construction and operational phases.
Hydrological Impact	Site / Region	To ensure that no alterations resulting in harmful impacts on the hydrological functioning of the water resources on site is undertaken.	Pollution of the water resources.	Botanical / Ecological Assessment	No wetlands or watercourses located on the proposed site; however, runoff is clearly generated.

Environmental Aspect	Relevant Area	Environmental Objective	Potential Impacts	Additional Investigations	Potential Mitigation
Social and Surroundings					
Socio-Economic	Region	To ensure that the development makes a positive and sustainable contribution towards the socio-economic upliftment of the entire community. To ensure that the local community is informed. To ensure that employment generated, transfer of skills and training is accurately directed.	Employment opportunities generated during the construction as well as operational phase of the proposed development	N/A	N/A
Impact on Heritage and cultural resources	Site	To ensure that all heritage and cultural landscape related characters are kept in place. To ensure that all affected heritage resources on site including buildings, symbols of cultural significance and heritage significance are identified and preserved. To ensure that any possible impacts on scenic drives are mitigated.	Loss of heritage and culturally significant landscapes. Loss of heritage significant resources on site.	Cultural Heritage Impact Assessment	The site has no clear indication of heritage significance. It should be noted that the subterranean presence of archaeological and/or historical sites, features or artefacts is always a distinct possibility. Operating controls and

					monitoring should therefore be aimed at the possible unearthing of such features. Care should therefore be taken when development commences that if any of these are discovered, a qualified archaeologist be called in to investigate the occurrence.
Archaeological	Site	To ensure that all artefacts and symbols of cultural significance and heritage significance are identified and preserved.	Loss of heritage and culturally significant artefacts.	Cultural Heritage Impact Assessment	Same as previous.
Traffic	Regional	To prevent traffic congestion as a result of the development.	Traffic congestion on the surrounding road network.	Traffic Impact Assessment	To be determined during specialist assessment
Noise Impact	Site/Regional	To ensure that the proposed development, including the associated noise pollution such as traffic does not negatively	Noise Pollution	No Assessment foreseen at this stage	Conservative speed limits on internal road network. Construction of berms around the proposed property

		impact on the surrounding residents.			and rehabilitate with indigenous vegetation which will act as screening to mute noise generated by traffic.
Visual Impacts	Regional	To minimise potential visual changes in the existing setting which could be brought about by the proposed development. To minimize the potential effect on the character of the landscape and the views and perceptions of observers in the greater area. To ensure that the development blends in with the landscape character.	The proposed development is located outside of the urban edge and is not surrounded by similar developments.	No Assessment foreseen at this stage	Awaiting Comments from SAHRA and DESTEA.

Table 11: Anticipated impacts as identified during the Scoping Phase of the EIA Process.

Environmental Aspect	Relevant Area	Environmental Objective	Potential Impacts	Additional Investigations	Potential Mitigation
Environmental					
Contamination of land	Site	To ensure that the surrounding soil is kept free from any contamination emanating from the proposed inland diesel depot.	Possible degradation of soil quality and functionality.	Geo - technical testing to be conducted during the early stages of the EIA phase.	To be determined during the EIA phase.
Botanical Resources	Site	To ensure that no significant and valuable flora be destroyed as a result of the proposed development.	Habitat Loss.	Botanical / Ecological Assessment	To be determined during the EIA phase.
Social and Surroundings					
Archaeological	Site	To ensure that all artefacts and symbols of cultural significance and heritage significance are identified and preserved.	Loss of heritage and culturally significant artefacts.	Cultural Heritage Impact Assessment	Care should therefore be taken when development commences that if any of artefacts of cultural significance are discovered, a qualified archaeologist be called

					in to investigate the occurrence.
Visual	Site and surrounding area.	To ensure that the visual impacts of the development on the area and surrounding area will be minimized.	The development will visually alter the current appearance of the site.	Development and urban design guidelines	To be determined during the EIA phase.
Transport	Site and surrounding Road Network.	Site and surrounding road network.	Potential traffic flow increases on Old School Road leading to Site from the N3 Highway.	A traffic impact assessment will commence.	To be determined during the EIA phase.
Cumulative Impacts					
Cumulative Impacts will be assessed in more detail during the EIA phase of the application. It is difficult to distinguish between possible and real impacts during the Scoping phase as the Specialist Studies will conclude on the possible impacts generated as well as the degree to which these can be mitigated against. No environmental degradation should occur during the construction or operational phase of this project					
The stormwater runoff will be directed into stormwater infrastructure to be constructed as part of the proposed development					
The proposed site is zoned as agriculture which was historically cultivated with crops and a school for the local community was located on the property.					
The impacts on traffic and transport due to the proposed development are expected to mostly affect N3 Highway, Old School Road and the main road leading to Swinburne since main access to the site will be taken from there.					
The proposed development will mostly have positive socio-economic impacts in creating job opportunities during the construction and operational phase.					

H.2 Methodology for EIA Phase

H.2.1 Impact identification and assessment methodology

The identification and assessment of environmental impacts is a multi-faceted process, which combines quantitative and qualitative descriptions and evaluations. It involves the application of scientific measurements and professional judgement to determine the significance of environmental impacts associated with the proposed project. The process involves consideration of inter alia: the purpose and need for the project; views and concerns of interested and affected parties, general public interest; and environmental legislation and guidelines.

The generic criteria and systematic approach used to identify, describe and assess impacts are outlined below. The assessment of the impacts has been conducted according to a synthesis of criteria required by the integrated environmental management procedure.

H.2.2 Specialist Assessments

The following specialist studies will be undertaken during the EIA phase of the process in order to assist with the development of an understanding of the system processes and the potential impacts of the proposed development on both the social and biophysical environments:

- Botanical / Ecological Assessment;
- Heritage Assessment;
- Traffic Impact Assessment;
- Geo Technical Assessment.
- Socio-Economic Assessment (If requested by DESTEA)
- Visual Impact Assessment (If requested by SAHRA and DESTEA)

The results of the possible specialist studies will be analysed and interpreted in order to assess the potential impacts of the proposed development on the ecosystem, devise potential alternatives to select activities and develop the necessary mitigation measures in order to minimise negative impacts and optimise positive impacts. The specialist recommendations will be incorporated in the Environmental Management Plan (EMP). The activities as described in the project description will be assessed on both an individual as well as a cumulative level with respect to the project in its entirety.

Please refer to the table below indicating the anticipated time frames:

Table 12: Anticipated timeframe with reference to the EIA process.

Activity	Start Date	End Date
Scoping Phase		
Pre- Application Meeting with DESTEA	28 May 2019	
Baseline Specialist Assessments	May 2019	July 2019
Compile Screening Report	July 2019	July 2019
Compilation of First Draft Scoping Report	August 2019	January 2020
Submit Draft Scoping Report to DESTEA	January2020	
First Public Review of Draft Scoping Report. (30 Days)	31 January 2020	02 March 2020
Incorporation of comments and amendment of Draft Final Scoping Report and Compilation of Application (21 Days)	March 2020	March 2020
Compile and Submit EIA Application Form to DESTEA	March 2020	April 2020
Second Public Participation Process (PPP) Draft Final Scoping Report (30 Days)	April 2020	April 2020
Amendment of Final Scoping Report and submit final Report to decision-making authority for a decision (14 days)	April 2020	May 2020
Submit Final Scoping Report	May 2020	
Relevant Authority Review of Final Scoping Report	May 2020	June 2020
DESTEA approve Scoping Report EIA Process, Layout Amendment & Specialist Assessments	June 2020	June 2020
EIA Phase		
Compile Draft EIR Report	May 2020	June 2020
First Public Review of Draft EIA Report. (30 Days)	June 2020	July 2020
Possible additional specialist Studies	July 2020	August 2020
Incorporation of comments and amendment of Draft Final EIA Report and EMP (21 Days)	August 2020	August 2020
Second Public Participation Process (PPP) Final EIA Report and EMP (30 Days)	August 2020	September 2020
Incorporation of comments and amendment of Final EIA Report and EMP (21 Days)	September 2020	October 2020
Submit FINAL EIA and EMP Reports to DESTEA	October 2020	
Authority review of Final EIA and EMP reports (107 Days)	October 2020	January 2021
DESTEA issue Environmental Authorisation	January 2021	
Inform I&AP / Public of Environmental Authorisation and Appeal Period	January 2021	February 2021

I. Plan of Study (PoS)

The Scoping phase of the environmental process determined that more information on certain aspects of the development was required. As a follow up to the Scoping phase, a comprehensive Environmental Impact Assessment (EIA) is now required.

This Plan of Study (PoS) for the Environmental Impact Assessment (EIA) outlines the procedure to be followed and methods to be employed in investigating and assessing all the issues identified in the Scoping phase. SSI has compiled this Plan of Study for EIA, which outlines the sequence of actions to be taken in order to complete the EIA process and, ultimately, to obtain an environmental authorisation for the applicant (Di-Thabeng Truck and Taxi Proprietary Limited) regarding the proposed project. The Plan of Study for EIA is based on the findings and recommendations of the Scoping Report and the related process.

I.1 Scope of the EIA

The scope of the EIA includes Portion 5 of the Farm Franshoek No. 1861, Swinburne Free State. Furthermore, the future bulk water and sewerage line routes will be included in the assessment. The proposed development will be re-examined, and possible additional alternatives might be investigated, in light of the findings of the specialist studies that were mentioned in this Scoping Report.

I.2 Purpose of the Plan of Study for EIA

Comments and concerns raised by the I&APs and key stakeholders during the Public Participation Process, will be collected and processed in the Final Comments and Response document, which forms a part of the Final Scoping Report. The next step of the EIA process is the development of guidelines for execution of the impact assessment and the compilation of an Environmental Impact Report (EIR). The Plan of Study for the EIR outlines these guidelines.

I.3 Environmental Issues Identified During Scoping

The key environmental issues identified by the Scoping phase were determined through an internal process based on similar developments, desktop analysis, revision of existing information, historical data, consultation with Interested and Affected Parties and the relevant authorities, DESTEA. Potential risk sources / impacts were identified by the EIA team who has been on site to appraise the environment and identify the potential impacts of the development.

This Scoping Report evaluates and highlights the most significant problems that require further investigation during the EIA. The Environmental Investigation Team will thus focus on discipline-specific problems, seeking to examine each significant issue in further detail through the relevant specialist studies.

Other issues that are identified through consultation with I&APs and key stakeholders during the Scoping phase will be incorporated in the specialists' terms of reference. Issues relevant to the environmental investigation and will be included in the list of key environmental issues. The EIR will examine each concern and, based on the findings of the specialist studies, assess the significance of the impacts of the development. Suitable mitigation measures for all identified impacts will be provided by all specialist studies.

I.3.1 The Physical and Biological Environment

During the EIA phase, the specialist studies to be conducted in the study area will need to further examine the following key impacts:

- Impact on Biodiversity.
- Impact on Ecology.
- Heritage Impact.

I.3.2 The Artificial (Man-Made) Environment

During the EIA phase, the specialist studies to be conducted in the study area will need to further examine the following key impacts:

- Traffic Impact
- Noise Impact
- Impact of associated Infrastructure
- Storm Water Impacts
- Possible Social and Economic Impacts
- Possible Visual Impact

I.4 Public Participation Process

The database of the stakeholders to be developed during the scoping process will be used to ensure that these stakeholders are involved and participate in the EIA process. The advertisement of the proposed development includes i.e. newspapers, notices at entrances to the site as well as on-site, distributed Background Information Document (BIDs) to relevant authorities, commenting authorities, and adjacent landowners.

Two public commenting periods (PPP's) will take place during the EIA process. Registered Interested and Affected parties will be notified of the commencement of the EIA phase of the study and therefore the first PPP via notification letters sent by registered post or email. This period will run for a total of 30 days excluding public holidays. Comments received during this time will be addressed in the Comments and Response report as well as in the EIR.

The second draft EIR will then be made available for an additional 30-day period (excluding public holidays) and registered interested and affected parties will be notified of this second PPP in the same manner, via registered letters. Comments received during this period will be included and addressed in the Comments and Response Report as well as in the Final EIR, which will be submitted to the Department of Environmental Affairs and Development Planning for final review and authorisation.

Should it be necessary for a public meeting during the EIA phase, the necessary arrangements will be made to house such a meeting.

I.5 Approach to the study

The specialist is to provide Terms of Reference for the approach to be used in the study. Assumptions and sources of information must also be clearly identified. The knowledge of local people should be incorporated in the study. The description of the study approach shall include a short discussion of the appropriateness of the methods used in the specialist study in terms of local and international trends and specific practice.

I.5.1 Description of the affected environment

A description of the affected environment must be provided. The focus of this description must be relevant to the specialist's field of expertise. The specialist must provide an indication of the sensitivity of the affected environment. Sensitivity, in this context, refers to the "ability" of an affected environment to tolerate disturbance, for example, if disturbance of the natural habitat results in the permanent loss of its biodiversity. If the affected environment is categorised as having a "low tolerance" to disturbance it is, therefore, termed a highly sensitive habitat. If, on the other hand, a habitat is able to withstand significant disturbance without a marked impact on its biodiversity, the affected environment could be categorised as having a high tolerance to disturbance (i. e. "low sensitivity" habitat).

I.5.2 Impact identification and assessment

The specialist must make a clear statement, identifying the environmental impacts of the construction, operation and management of the proposed development. As far as possible, the specialist must quantify the suite of potential environmental impacts identified in the study and assess the significance of the impacts according to the criteria set out below. Each impact will be assessed and rated. The assessment of the data must, where possible, be based on accepted scientific techniques, failing which the specialist is to make judgements based on his/her professional expertise and experience.

I.6 Impact Assessment Procedure

The criteria for the description and assessment of environmental impacts were drawn from the EIA Regulations, published by the Department of Environmental Affairs and Tourism (April 1998) in terms of the National Environmental Management Act, 1998 (Act No.107 of 1998).

The level of detail was somewhat fine-tuned by assigning specific values to each impact. In order to establish a coherent framework within which all impacts could be objectively assessed it is necessary to establish a rating system, which is consistent throughout all criteria. For such purposes each aspect was assigned a value, ranging from 1-5, depending on its definition.

Please refer to table 13 for the detailed Assessment Procedure Criteria

Table 13: Impact Assessment Criteria.

Potential Impact: This is an appraisal of the type of effect the proposed activity would have on the affected environmental component. Its description should include what is being affected and how it is being affected.		
Extent	**The physical and spatial scale of the impact is classified as:**	
1	Footprint	The impacted area extends only as far as the activity.
2	Site	The impact could affect the whole, or a measurable portion of the site.
3	Regional	The impact could affect the area including the neighbouring farms, the transport routes and the adjoining towns.
4	National	The impact could have a national affect.
5	International	The impact could have an affect outside the boundaries of South Africa
Duration	**The lifetime of the impact, which is measured in relation to the lifetime of the proposed base.**	
1	Short Term	The impact will either disappear with mitigation or will be mitigated through a natural process in a period shorter than any of the phases.
2	Short to medium term	The impact will last up to the end of the phases, where after it will be entirely negated.
3	Medium term	The impact will last up to the end of the phases, where after it will be entirely negated
4	Long term	The impact will continue or last for the entire operational lifetime of the Development but will be mitigated by direct human action or by natural processes thereafter.
5	Permanent	This is the only class of impact, which will be non-transitory. Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.

Intensity	**The intensity of the impact is considered here by examining whether the impact is destructive or benign, whether it destroys the impacted environment, alters its functioning, or slightly alters the environment itself. These are rated as:**	
1	Low	The impact alters the affected environment in such a way that the natural processes or functions are not affected.
2	Medium	The affected environment is altered, but functions and processes continue, albeit in a modified way.
3	High	Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases. This will be a relative evaluation within the context of all the activities and the other impacts within the framework of the project.

Probability	**This describes the likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time. The classes are rated as follows:**	
1	Improbable	The possibility of the impact occurring is none, due either to the circumstances, design or experience.
2	Possible	The possibility of the impact occurring is very low, due either to the circumstances, design or experience.
3	Likely	There is a possibility that the impact will occur to the extent that provisions must therefore be made.
4	Highly Likely	It is most likely that the impacts will occur at some stage of the Development. Plans must be drawn up before carrying out the activity
5	Definite	The impact will take place regardless of any prevention plans, and only mitigation actions or contingency plans to contain the effect can be relied on.
Determination of Significance WITHOUT MITIGATION	**Significance is determined through a synthesis of impact characteristics and is an indication of the importance of the impact in terms of both physical extent and time scale. The significance of the impact "without mitigation" is the prime determinant of the nature and degree of mitigation required. Where the impact is positive, significance is noted as "positive". Significance is rated on the following scale:**	
1	Low	The impact will be mitigated to the point where it is of limited importance.
2	Low to medium	The impact is of importance, however, through the implementation of the correct mitigation measures such potential impacts can be reduced to acceptable levels.

3	Medium	Notwithstanding the successful implementation of the mitigation measures, to reduce the negative impacts to acceptable levels, the negative impact will remain of significance. However, taken within the overall context of the project, the persistent impact does not constitute a fatal flaw.
4	Medium to high	The impact is of great importance. Through implementing the correct mitigation measures the negative impacts will be reduced to acceptable levels
5	High	The impact is of great importance. Mitigation of the impact is not possible on a cost-effective basis. The impact continues to be of great importance, and, taken within the overall context of the project, is considered to be a fatal flaw in the project proposal. This could render the entire development option or entire project proposal unacceptable.
Determination of Significance WITH MITIGATION	**Significance is determined through a synthesis of impact characteristics. It is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. In this case the prediction refers to the foreseeable significance of the impact after the successful implementation of the suggested mitigation measures. Significance with mitigation is rated on the following scale:**	
1	Low	The impact will be mitigated to the point where it is of limited importance.
2	Low to medium	The impact is of importance, however, through the implementation of the correct mitigation measures such potential impacts can be reduced to acceptable levels
3	Medium	Notwithstanding the successful implementation of the mitigation measures, to reduce the negative impacts to acceptable levels, the negative impact will remain of significance. However, taken within the overall context of the project, the persistent impact does not constitute a fatal flaw
4	Medium to high	The impact is of great importance. Through implementing the correct mitigation measures the negative impacts will be reduced to acceptable levels
5	High	The impact is of great importance. Mitigation of the impact is not possible on a cost-effective basis. The impact continues to be of great importance, and, taken within the overall context of the project, is considered to be a fatal flaw in the project proposal. This could render the entire development option or entire project proposal unacceptable.

I.7 Methodology

Each aspect within an impact description is assigned a series of quantitative criteria. Such criteria are likely to differ during the different stages of the development life cycle. Subsequently in order to establish a defined base upon which it becomes feasible to undertake a value-based decision process it is necessary to sum all the criteria.

I.7.1 Ranking Weighting and Scaling

For each impact assessed a scaled weighting factor, or also referred to as the severity which is the sum of the frequency of activity and impact occurring, (refer to the table above) is attached to each respective impact. The purpose of including such a weighting is to ensure that each member of the working group is given the opportunity to introduce their value bias for each individual aspect.
The process of assigning such weights serves to highlight those aspects that are considered the most critical to the various stakeholders as well as providing a means whereby the impact assessor can successfully deal with the complexities that exist between the different impacts and associated aspect criteria.

Simply, such a weighting factor is indicative of the importance of impact in terms of the potential effect that the aspect could have on the surrounding environment. Therefore, the aspect, which is considered to have a greater importance, will be given a higher weighting than that which is of lower importance.

I.7.2 Identifying the Potential Impacts Without Mitigation Measures (WOM)

Following the assigning of the necessary weights to the respective aspects through the sum of all criteria pertaining to any particular impact multiplied by its assigned weighting will result in a value of each impact before the implementation of the necessary mitigation measures.

Table 14: Equation one - Determine Impacts without Mitigation Measures.

Equation 1
Significance Rating = Consequence x Severity/Weighting factor where:
Consequence = Extent + Duration + Intensity
Severity/Weighting factor = Frequency of activity + Frequency of impact.

Table 15: Ranking, Weighing and Scaling Matrix.

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10
Determine the consequence of the impact by summation (1+2+3)				Determine the severity of the Impact by summation (5+6)			Product of consequence and severity determines significance Without Mitigation (4x7)	Sufficiency of the proposed mitigation	Product of Column 8 and Column 9 determines significance With Mitigation (8x9)
Extent of impact	Duration of impact	Intensity of impact	Sum	Probability		Sum	Significance rating (WOM)	Mitigation efficiency (ME)	Mitigated aspects (WM)
				Frequency of impact	Weighting Factor				
Footprint = 1	Short = 1	Low = 1	Sum of Column 1-3	Almost never = 0.1	Low = 0.1	Sum of Column 5-6	Low = 0-2.9	High = 0.2	Low = 0-2.9
Site = 2	Short to Medium = 2	Low to Medium = 2	Sum of Column 1-3	Improbable = 0.2	Low to Medium = 0.2	Sum of Column 5-6	Low to Medium = 3-5.9	Medium to High = 0.4	Low to Medium = 3-5.9
Regional =3	Medium = 3	Medium = 3	Sum of Column 1-3	Probable = 3	Medium = 0.3	Sum of Column 5-6	Medium = 6-8.9	Medium = 0.6	Medium = 6-8.9
National = 4	Medium to Long = 4	Medium to High = 4	Sum of Column 1-3	Highly Probable = 0.4	Medium to High = 0.4	Sum of Column 5-6	Medium to High = 9-11.9	Low to Medium = 0.8	Medium to High = 9-11.9
International = 5	Long = 5	High = 5	Sum of Column 1-3	Definite = 0.5	High = 0.5	Sum of Column 5-6	High = 12-15	Low = 1	High = 12-15

I.7.3 Identifying the Potential Impacts with Mitigation Measures (WM)

In order to gain a better understanding of the significance of an impact, 'mitigation efficiency' (ME) factors can be applied.

The most effective means of deriving a quantitative value of mitigated impacts is to assign each 'without mitigation measures' (WOM) value is assigning a 'mitigation efficiency' (ME) rating (refer to the table 15). The allocation of such a rating is indicative of the efficiency and effectiveness, as identified through professional experience and empirical evidence that the proposed mitigation measures will result in managing the impact.

As a result of the 'with mitigation' (WM) value being derived from the multiplication of the WOM value with its respective ME rating it stands to reason that the lower assigned value the greater the proposed mitigation measures effectiveness and subsequently the lower the WM impact will be.

Table 16: Equation 2 - Determine impacts with Mitigations Measures.

Equation 2
WM = WOM * ME

I.7.4 Mitigation Measures

Mitigation measures should be recommended in order to enhance benefits and minimise negative impacts and they should address the following:

I.7.4.1 Mitigation objectives: what level of mitigation must be aimed at?

For each identified impact, the specialist must provide mitigation objectives (tolerance limits) which would result in a measurable reduction in impact. Where limited knowledge or expertise exists on such tolerance limits, the specialist must make an "educated guess" based on his/her professional experience.

I.7.4.2 Recommended mitigation measures

For each impact the specialist must recommend practical mitigation actions that can measurably affect the significance rating. The specialist must also identify management actions, which could enhance the condition of the environment. Where no mitigation is considered feasible, this must be stated, and reasons provided.

I.7.4.3 Effectiveness of mitigation measures

The specialist must provide quantifiable standards (performance criteria) for reviewing or tracking the effectiveness of the proposed mitigation actions, where possible.

I.7.4.4 Recommended monitoring and evaluation programme

The specialist is required to recommend an appropriate monitoring and review programme, which can track the efficacy of the mitigation objectives. Each environmental impact is to be assessed before and after mitigation measures have been implemented. The management objectives, design standards etc, which, if achieved, can eliminate, minimise or enhance potential impacts or benefits must, wherever possible, be expressed as measurable targets. National standards or criteria are examples, which can be stated as mitigation objectives. Once the above objectives have been stated, feasible management actions, which can be applied as mitigation, must be provided.

The tables described above should indicate how the application of the opposite column on the impact, after mitigation or management actions has reduced the impact. If the proposed mitigation is to be of any consequence, it should result in a measurable reduction in impacts (or, where relevant, a measurable benefit).

The impact assessment will provide an evaluation of the significance of each of the three phases of the project i.e. design construction and operational phases.

I.8 Process to Assess Alternatives

During the EIA phase, feasible alternatives for the proposed development will be considered and subsequently assessed. Therefore, a number of possible proposals or alternatives for accomplishing the same objectives will be considered. For the purposes of this project, the following alternatives (As discussed in detail in Section F) have been identified and will be assessed in more detail in the EIA Report:

- Layout Alternatives
- Access Alternatives
- Stormwater Alternatives
- No-Go Development Alternative

The comprehensive impact assessment phase will specifically assess the impacts of the Site-Specific Development Proposal.

I.9 Specialist Studies Terms of reference

I.9.1 Traffic Impact Assessment

The report must summarise the transportation conditions within the vicinity of the proposed development and provide an assessment of the transportation impacts on the surrounding road network. The analysis should evaluate both the existing year and future year traffic conditions during the expected peak traffic hours of the development. The study outline refers and the methodology for the study is outlined as follows:

- Study the site context in terms of the receiving environment and determine the sphere of influence of the site from a traffic point of view.
- Liaise with the Road Authorities terms of the issues and constraints on the existing roads, in the study area, and the scope of work.
- Obtain background traffic information for the status quo at the key intersections during the weekday AM and PM peak hours.
- Evaluate the existing traffic operations at the key intersections during peak hours on Intersection1: N3 and Montrose, Intersection 2 – N3 and Swinburne, Intersection 3 – Swinburne and T1971 (Inland Fuel Depot Access).
- Determine the acceptable desired access to the site.
- Evaluate proposed alternative access routes.
- Determine the trip generation and distribution of the proposed development given the anticipated improvements to the road network.
- Evaluate the future traffic operations with the proposed development including other background projects under consideration.
- Determine the possible traffic impacts from the proposed development and the appropriate mitigation measures to be applied.
- Prepare a written TIA report.

I.9.2 Visual Impact Assessment

A notice of the proposed development will be submitted to SAHRA subsequently SAHRA will recommend if Visual Impact studies are required for the proposed development. The terms of reference will be included in the comment from SAHRA, if any.

I.9.3 Botanical Impact Assessment

The Assessment is intended to present the ecological condition and botanical conservation importance of vegetation found on site. Potential impacts of the proposed development on the vegetation must be evaluated and recommendations need to be provided for the protection of the botanical significance (including suggested buffer areas and ecological corridors).

- A brief summary description of vegetation communities found on the site,

- The status and conservation value of the vegetation communities;
- Any rare or endangered species encountered or likely to be present;
- A description of the direct, indirect and cumulative impacts of the proposed development on the vegetation and an assessment of the significance of the impacts (on a nominal scale of neutral, very low, low, medium, and high) by evaluating:
  (a) Magnitude, frequency of occurrence, duration and probability of impacts,
  (b) The local, regional, national and international significance of predicted impacts,
  (c) The level of confidence in findings relating to potential impacts, and
  (d) Reversibility of potential impacts.
- A detailed description of appropriate and practicable mitigation measures required to limit the significance of the construction and operational phase impacts and/or enhance potential benefits, and an assessment of their likely effectiveness;
- Take cognizance of the Department of Environmental Affairs (DEA) and Department of Environmental Affairs and Development Planning (DEA&DP) Guideline for Involving Biodiversity Specialists in the EIA Process and the requirements of the Botanical Society of South Africa (BotSoc) in developing an approach to the botanical investigation.

I.9.4 Urban design Guidelines

Guidelines used by the appointed Town Planners will be developed in order to guide the future built form during project implication.

I.9.5 Stormwater Impact / Management Evaluation

The assessment of and proposal for a stormwater management plan aims to evaluate the pre-and post-development surface runoff and the potential human and environmental impacts thereof. The assessment should therefore take cognisance and include the following:

- Assess methods in reducing possible flood damage including damage to life, property and the environment;
- Minimisation, to the extent practical, any increase in stormwater runoff from the new development;
- Reducing soil erosion caused by the new development;
- Assuring the adequacy of existing stormwater infrastructure;
- Maintaining and preventing further damage to existing stormwater canals;
- Maintaining the integrity of stream channels for their biological functions, as well as for drainage;
- The minimisation of pollution in stormwater runoff from new and existing developments and enhance the physical and biological integrity of stormwater and aquatic life;
- The protection of public safety through a proper design and operation of existing stormwater and additional runoff as a result of the proposed development

I.9.6 Soil Assessment / Geotechnical Assessment

The proposed soil assessment needs to address the current nutrient and chemical content of the soil which will in turn determine the impact of the soil quality of the proposed site for the proposed development.

- A geotechnical investigation includes:
- Pitting and assessing soil profile properties
- Recommendations regarding the founding conditions
- Engineering properties of the *in-situ* material
- The presence of groundwater
- Any other geotechnical considerations that could impact the proposed development

I.10 Consultation with Authorities

Authority Consultation Prior to Submission	Further Authority Consultation
Pre-Application Meeting	Subsequent to the submission of the Scoping Report and Plan of Study (PoS) for the EIA process, SSI would require consultation with DESTEA regarding the way forward.
Site Visit with Officials	
Correspondence between SSI and DESTEA	

J. Conclusion

Based on the results of the Scoping phase, the following specialist studies will be undertaken during the EIA phase of the process. The specialist studies will assist with the development of an understanding of the system processes and the potential impacts of the proposed development on both the social and biophysical environments:

- Traffic Impact Assessment;
- Heritage Impact Assessment
- Soil Assessment
- Ecological Impact Assessment
- Stormwater Impact / Management Plan
- Socio-economic Impact and Visual Impact (If requested by DESTEA and SAHRA)

The EIA report will assess the impacts of each of the individual activities as well as ascertain the cumulative impacts of the development in its entirety. The EIA report will outline the necessary mitigation measures and delineate sensitive areas and facets worthy of conservation. Potential alternatives and mitigation measures will be devised in order to minimise negative impacts and optimise positive impacts.

K. Declaration of the Environmental Assessment Practitioner.

I **Mrs. M.W. Cordier** declare that,

General declaration:

- I act as the independent environmental practitioner in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation 8 of the Regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence in terms of regulation 48 of the Regulations and is punishable in terms of section 24F of the Act.

_____

Signature of the EAP.

Spatial Solutions Incorporated

Name of company:

_____

Date

L. References

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- Thabo Mofutsanyana Municipal District, Integrated Development Plan, 2015, Accessed 13 November 2019 : http://www.thabomofutsanyana.gov.za/downloads/Final%20IDP%202014-15.pdf

Addendum A: Maps

Addendum B: Site Layout Alternatives

Addendum C: Site Photos

Addendum D: Authority Correspondence

Addendum E: Public Participation Process

- E1: Proof of advertisement
- E2: Proof of site notices
- E3: Proof of background Information Document (BID)
- E4: Proof of Notification letters
- E5: Interested and Affected Parties List

E1: Proof of advertisement

E2: Proof of site notices

E3: Proof of background Information Document (BID)

E4: Proof of Notification letters

E5: Interested and Affected Parties List

Addendum F: Additional Information