

Landscape and Visual Impact Assessment - Phase 2F

For specific infrastructure elements

OMMP-BRWSP

OLIFANTS MANAGEMENT MODEL PROGRAMME BULK RAW WATER STUDY PHASE (OMMP-BRWSP): PROPOSED PHASE 2F PIPELINE RE-ALIGNMENT AND ASSOCIATED INFRASTRUCTURE, IN THE CAPRICORN AND SEKHUKHUNE GREATER DISTRICT MUNICIPALITIES, WITHIN THE FETAKGOMO TUBATSE AND LEPELLE NKUMPI LOCAL MUNICIPALITIES, IN THE LIMPOPO PROVINCE.

Applicant: Department of Water and Sanitation, Implementing Agent:
Labalelo Water User Association

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**Olifants
Management
Model (OMM)
Programme**

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1 Structure of the report

The specialist study will be undertaken in compliance with Appendix 6 of GN 982 of 4 December 2014, as amended by Appendix 6 of GN 326 of 7 April 2017. Table 1 indicates how Appendix 6 has been fulfilled in this report.

Table 1: Indication of appliance with Appendix 6 of GN 326 of 7 April 2017

NEMA Regulations (2017) Appendix 6	Relevant sections
(1) A specialist report prepared in terms of these Regulations must contain -	
(a) details of -	
(i) the specialist who prepared the report; and	Appendix C
(ii) the expertise of that specialist to compile a specialist report, including a curriculum vitae;	Appendix C
(b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	Section 5
(c) an indication of the scope of, and the purpose for which, the report was prepared;	Section 6.4 and 6.5
(cA) an indication of the quality and age of base data used for the specialist report;	Section 7.2
(cB) a description of existing impacts on site, cumulative impacts of the proposed development and levels of acceptable change;	Section 9
(d) the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Section 7.2.1.2
(e) a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Section 7.2
(f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying alternative;	Section 10
(g) an identification of any areas to be avoided, including buffers;	N/A
(h) a map superimposing the activity, including the associated structures and infrastructure on the environmental sensitivities of the site, including areas to be avoided, including buffers;	N/A
(i) a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 6.7
(j) a description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives, on the environment or activities;	Section 10
(k) any mitigation measures for inclusion in the EMP;:	Section 11
(l) any conditions for inclusion in the environmental authorisation;	Section 11
(m) any monitoring requirements for inclusion in the EMP or environmental authorisation;	Section 11
(n) a reasoned opinion -	
(i) as to whether the proposed activity, activities or portions thereof should be authorised;	Section 12
(iA) regarding the acceptability of the proposed activity or activities; and	Section 12
(ii) if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMP, and where applicable, the closure plan;	Section 11
(o) a description of any consultation process that was undertaken during the course of preparing the specialist report	N/A
(p) a summary and copies, if any, comments received during any consultation process and, where applicable all responses thereto; and	N/A
(q) any other information requested by the competent authority.	No other information requested

2 List of acronyms

ARM	African Rainbow Minerals
BA	Basic Assessment
BLM	Bureau for Landscape Management
BPEO	Best Practicable Environmental Option
CA	Competent Authority
CBA	Critical Biodiversity Area
DEA	Department of Environmental Affairs
DEM	Digital Elevation Model
DTM	Digital Terrain Model
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
ECA	Environmental Conservation Act
ECO	Environmental Conservation Officer
EIA	Environmental Impact Assessment
EMPR's	Environmental Management Programme
EMF	Environmental Management Framework
IEM	Integrated Environmental Management
GIS	Geographic Information System
GN	General Notice
GPS	Geographical Positioning System
IEM	Integrated Environmental Management
KOPs	Key Observation Points
LVIA	Landscape and Visual Impact Assessment
LWUA	Lebalelo Water User Association

NEMA	National Environmental Management Act
OLEMF	Olifants Environmental Management Framework
ORWRDP	Olifants River Water Resources Development Project
OMMP-BRWSP	Olifants Management Model Programme Bulk Raw Water Study Phase
PPP	Public Participation Process
RoD	Record of Decision
RRoD	Revised Record of Decision
SANLC	South African National Land Classification
SIP	Strategic Integrated Project
SSV	Site Sensitivity Verification
TCTA	Trans Caledon Tunnel Authority
VAC	Visual Absorption Capacity
WTW	Waste Water Treatment
ZNJV	Zutari Ndodana Joint Venture
ZTV	Zone of Theoretical Visibility

3 Abbreviations

°C	Degree Celsius
3D	Three dimensional
km	Kilometre
m	Meter
mm	Millimetres
ML	Mega Litre

4 Glossary

Alternatives	A possible course of action, in place of another, that would meet the same purpose and need defined by the development proposal. Alternatives considered in the (Environmental and Social Impact Assessment) ESIA process can include location and/or routing alternatives, layout alternatives, process and/or design alternatives, scheduling alternatives and input alternatives.
Characteristics	An element, or combinations of elements, which contribute to landscape character.
Development	Any proposal that results in a change to the landscape and/ or visual environment.
Elements	Individual parts, which make up the landscape, for example trees and buildings.
Feature	Particularly prominent or eye-catching elements in the landscape such as tree clumps, church towers or wooded skylines.
Environmental Impact Assessment	A public process that is used to identify, predict, or cause the least damage to the environment at a cost acceptable to society, in the long term as well as in the short term.
Geographic Information Systems	A system that captures, stores, analyses, manages, and presents data linked to location. It links spatial information to a digital database.
Impact (Visual)	A description of the effect of an aspect of the development on a specified component of the visual, aesthetic, or scenic environment within a defined time and space.
Issue (visual)	Issues are concerns related to the proposed development on a specified component of the visual, aesthetic, or scenic environment within a defined time and space.
Level 2 assessment	Identification of issues raised in scoping phase, and site visit; Description of the receiving environment and the proposed project; Establishment of view catchment area and receptors; Brief indication of potential visual impacts, and possible mitigation measures.
Land cover	The surface cover of the land usually expressed in terms of vegetation cover or the lack of it. Related to but not the same as Land use.
Land use	What land is used for based on broad categories of functional land cover, such as urban and industrial use and the different types of agriculture and forestry.
Landform	The shape and form of the land surface which has resulted from combinations of geology, geomorphology, slope, elevation, and physical processes.
Landscape	An area, as perceived by people, the character of which is the result of the action and interaction, of natural and/ or human factors.
Landscape character	These are distinct types of landscape that are relatively homogeneous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur, they share broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement pattern, and perceptual and aesthetic attributes.

Landscape quality	A measure of the physical state of the landscape. It may include the extent to which typical landscape character is represented in individual areas, the intactness of the landscape and the condition of individual elements.
Landscape value	The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a variety of reasons.
Magnitude	The intensity of the impact on views, scenic or cultural resources.
Project Area	The area which has been covered for the authorization process, this includes the permanent and temporary servitude.
Receptors	Individuals, groups, or communities who are subject to the visual influence of a project.
Sense of place	The unique quality or character of a place, whether natural, rural, or urban allocated to a place or are through cognitive experience by the user. It relates to uniqueness, distinctiveness or strong identity and is sometimes referred to as genius loci meaning "spirit of the place".
Severity	The intensity of the impact on views, scenic or cultural resources.
Significance	The significance of impacts can be determined through a synthesis of the aspects produced in terms of their nature, duration, severity, extent, and probability.
Study area	The area includes the permanent and temporary servitude area, extending to the KOPs.
Viewpoint	A selected point in the landscape from which views of a project or another feature can be obtained.
View catchment area	A geographic area, usually defined by the topography, within which a particular project or other feature would generally be visible.
Viewshed	The outer boundary defining a view catchment area, usually along crests and ridgelines
Visibility	The geographic area from which the project will be visible.
Visual absorption capacity	The ability of an area to visually absorb development because of screening topography, vegetation, or structures in the landscape.
Visual character	The overall impression of a landscape created by the order of the patterns composing it; the visual elements of these patterns are the form, line, colour and texture of the landscape's components. Their interrelationships are described in terms of dominance, scale, diversity, and continuity. This characteristic is also associated with land use.
Visual exposure	The relative visibility of a project or feature in the landscape. Visual exposure is based on distance from the project to selected viewpoints. Visual exposure or visual impact tends to diminish exponentially with distance.
Visual resource	The visible physical features on a landscape (e.g., land, water, vegetation, animals, structures, and other features).
Landscape and Visual Impact Assessment	A Landscape and Visual Impact Assessment simulates and predicts the significance and magnitude of the visual effects on the landscape.
Visual Intrusion	The level of compatibility or congruence of the project with the qualities of the area, or its sense of place. This is related to context and maintaining the integrity of the landscape or townscape.

5 Declaration of independence

I, Elmie Weideman declare that:

I act as the independent specialist in this application;

I will perform the work relating to the application in an objective manner, even if it results in views and findings that are not favourable to the applicant;

I declare that there are no circumstances that may comprise my objectivity in performing such work;

I have expertise in conducting the specialist report relevant to this application, including knowledge of the applicable Regulations and any guidelines that have relevance to the proposed activity;

I will comply with the Regulations and all other applicable legislation;

I have no, and will not engage in, conflicting interest in the undertaking of this 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; all the particulars furnished by me in this form are true and correct; and

I realise that a false declaration is an offence is punishable in terms of the applicable legislation.



Signature of the specialist:

Name of company: Create Landscape Architecture and Consulting

Date: November 2024

6 Introduction

The Lebalelo Water User Association (LWUA) appointed the Zutari Ndodana Joint Venture (ZNJV) for the provision of professional services for the Olifants Management Model Programme Bulk Raw Water Study Phase (OMMP-BRWSP).

6.1 Project Background

Phase 2 of the Olifants River Water Resources Development Project (ORWRDP-2) is a Department of Water and Sanitation (DWS) project, which underwent an environmental impact assessment (EIA) process and obtained a positive Record of Decision (RoD) from the Department of Environmental Affairs (DEA) in 2006 in terms of the Environmental Conservation Act, No. 73 of 1989 (ECA). After many appeals by large organisations, including the Kruger National Park, the Minister decided to grant the Revised RoD (RRoD) (ref: 03/2/4), dated 16 October 2006.

The approved ORWRDP-2 consists of various phases as defined below. These were previously implemented by the Trans-Caledon Tunnel Authority (TCTA). The phases are designed and implemented in a phased manner, depending on need and availability of finances. For this reason, phase specific Environmental Management Programmes (EMPrs) are developed and submitted for approval to the Competent Authority (CA).

- Phase 2A: Construction of De Hoop Dam
- Phase 2B: Pipeline from Flag Boshielo Dam to Pruissen near Mokopane (72 km)
- Phase 2B+: Consists of a raw water pipeline from Pruissen Reservoir to the proposed Sekuruwe Water Treatment Works (WTW), including offtakes to the proposed Mokopane WTW and two commercial user offtakes.
- Phase 2C: Pipeline from De Hoop Dam to Mooihoek
- Phase 2D: Pipeline from Steelpoort to Mooihoek (24 km)
- Phase 2E: Pipeline from Mooihoek to Havercroft Junction (14 km)
- Phase 2F: Pipeline from Havercroft Junction to Olifantspoort (44 km)
- Phase 2G: Possible second pipeline parallel to Phase 2B
- Phase 2H: Changes and additions to the current Phase 2H (Lebalelo Network); and
- Phase 2I: Pipeline from the De Hoop Dam to the proposed Eskom Tubatse Pump-storage Hydro-electric Scheme.

The ORWRDP-2 has since been reconstituted to become the OMMP-BRWSP in recent years, with the Lebalelo Water User Association (LWUA) acting as the implementing agent for the following portions of the project:

- Phase 2B
- Phase 2B+
- Phase 2D2; and
- Phase 2F

Furthermore, since inception, the project has acquired the status of strategic importance, and recently on 05 March 2023 the project was classified as a Strategic Integrated Project (SIP) under the SIP 19 (i.e., Water and Sanitation Infrastructure Portfolio). As such, it is critical that the

project must be expedited in terms of Schedule 2 (Section 17(2)) of the Infrastructure Development Act, No. 23 of 2014. The purpose of this piece of legislation is to provide facilitation and coordination of public infrastructure development which is of economic significance or social importance in South Africa and to ensure that infrastructure development in the country is given priority in planning, approval, and implementation. A general layout of all the project phases and pipeline alignments is illustrated in **Error! Reference source not found..** Phase 2F, is the easterly pipeline alignment indicated by the green line.

6.1.1 Phase 2F

Phase 2F comprises approximately 60 km of pipeline intended to convey water to the Olifantspoort Water Treatment Works (WTW), thereby augmenting the water supply to Polokwane and surrounding rural areas. The alignment of Phase 2F starts near Havercroft Junction, deviating from the R37 to take a more direct route to the Olifantspoort WTW, following existing gravel roads along part of the way, refer to **Error! Reference source not found.** . The pipeline starts as a 1,200 mm diameter over 18.5 km, reducing to a 1,000 mm diameter over 25.6 km, originating at the Klipfontein Balancing Dam (or Break Pressure Dam) with a projected capacity of 21 ML.

An Environmental Authorisation (EA) (ref:14/12/16/3/3/1/1626) was obtained for Phases 2E & 2F in May 2017, for the alignment illustrated in **Error! Reference source not found.** (old), from the DFFE. This authorisation was valid for five (5) years and lapsed in June 2022. Following an interactive public participation process (PPP) in April 2022, facilitated by DWS and ZNJV, Condition 7 of the EA was amended on 2 May 2017 (ref: 14/12/16/3/3/1/1626/AM1). The revised condition stipulates that the activity must commence within ten years of the authorisation issue date (i.e., by 2 May 2027), after which the authorisation will lapse, necessitating a new application for EA to proceed with the activity.

Several listed activities outlined in the National Environmental Management Act, No. 107 of 1998 (NEMA) Listing Notice 1 [General Notice (GN) R983 of 2014] and Listing Notice 3 (GN R985 of 2014) are expected to be triggered by the construction of the newly proposed infrastructure of Phase 2F, along with the associated access and internal roads. Consequently, these activities require authorisation by means of a Basic Assessment (BA) process as outlined in Regulations 19 - 20 of the EIA Regulations of 2014 (GN R982 of 2014). Included in this application, as part of the project infrastructure, are the access and internal roads required for the construction of the entire Phase 2F alignment.

A high-level Landscape and Visual Impact Assessment (LVIA) was conducted in 2005 which formed part of the initial EIA process for the then ORWRDP which covered all typical infrastructure for a project of this nature, however it excluded specific large-scale infrastructure.

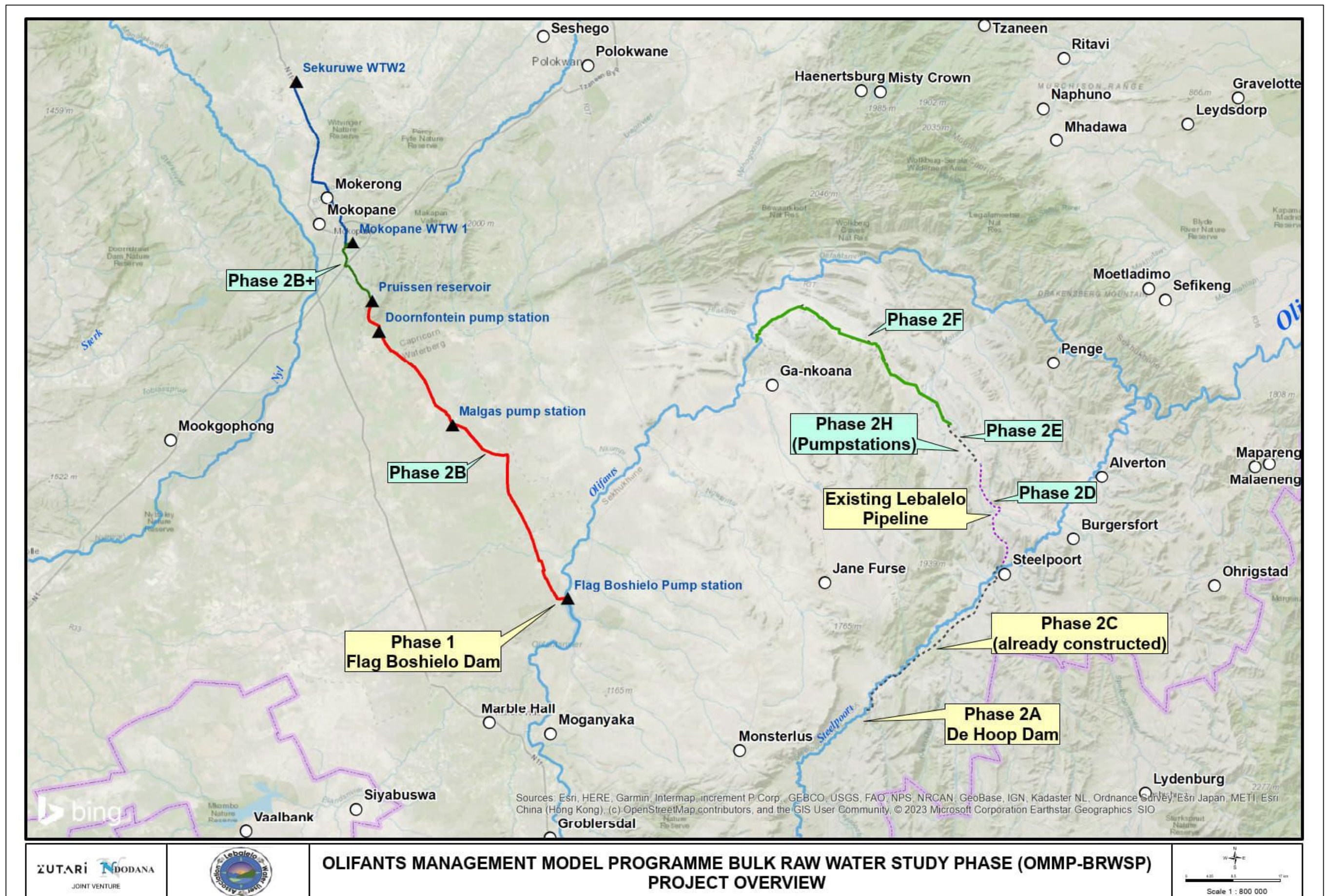
The scope of the newly proposed infrastructure is the following (the proposed current Phase 2F changes are illustrated in **Error! Reference source not found.**):

- Development or widening of access and internal roads required for construction of the entire Phase 2F alignment; and
- Realignment of sections along the authorised 2017 pipeline alignment.

[The length of the pipeline deviation is estimated to be approximately 3.35 km (~3,350 m), thus triggering, among other activities, Activity 9 of Listing Notice 1 (GN R983 of 2014) of the NEMA EIA Regulations of 2014. As a result, authorisation through a BA process is required]

6.2 Project Location

The project area spans two local municipalities—Greater Tubatse and Lepelle Nkumpi—and two district municipalities—Capricorn and Greater Sekhukhune—within the Limpopo Province. However, the pipeline realignment and the proposed access roads are located within the Fetakgomo Tubatse Local Municipality which is part of the Sekhukhune District Municipality. Along the pipeline route, several mines are located, including RPM Twickenham, Cromex Mining Mecklenburg, Sefateng Chrome Mines, and ARM Bokoni Platinum Mine (Atok), previously owned by Anglo Platinum. This area is recognised as part of the Critical Biodiversity Area (CBA) and situated within the Sekhukhuneland Centre of Floristic Endemism, known for its diverse plant life and habitat suitable for endemic species. Reference can be made to **Error! Reference source not found.** for phase 2F in relation to major roads and towns/settlements.



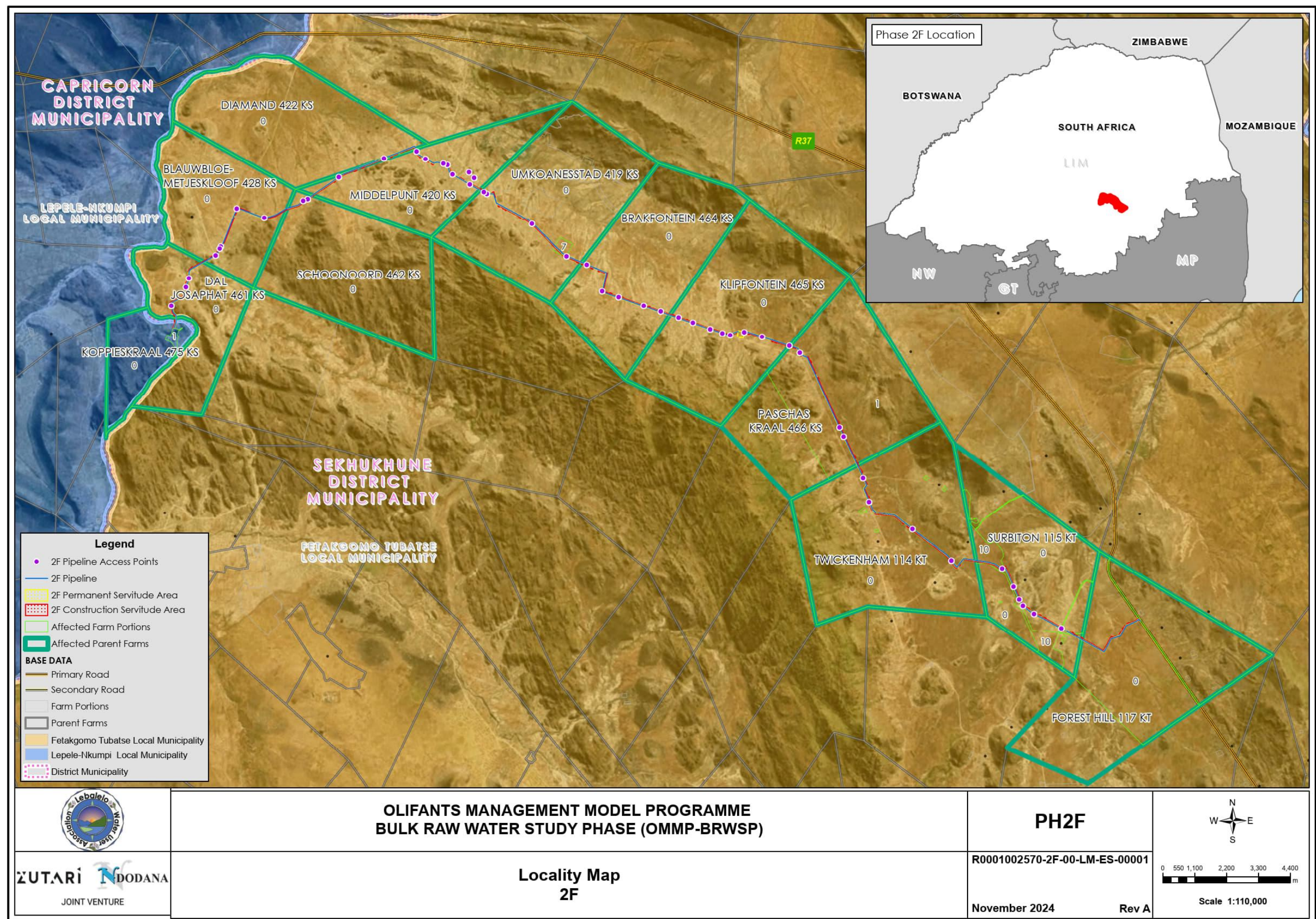


Figure 2: Locality map _Phase 2F

6.3 Principles and concepts of LVIA's

Visual and landscape resources have value in terms of the regional economy and inhabitants of the region. Furthermore, these resources are often difficult to place a value on as they normally also have cultural or symbolic values. Therefore, LVIA's are to be performed in a logical, holistic, transparent, and consistent manner. Oberholzer (2005) identifies the following concepts to form an integral part of the LVIA process:

- Visual resources include the visual, aesthetic, cultural and spiritual aspects of the environment, which contribute toward and define an area's sense of place;
- Natural and cultural landscapes are inter-connected and must be considered as such;
- All scenic resources, protected areas, and sites of special interest within a region need to be identified and considered as part of the LVIA;
- All landscape processes such as geology, topography, vegetation, and settlement patterns that characterise the landscape must be considered;
- Both quantitative criteria, such as 'visibility' and qualitative criteria, such as aesthetic value or sense of place must be included as part the assessment;
- LVIA's must inform EIA process in terms of visual inputs; and
- Public involvement must form part of the process.

The guideline furthermore recommends that the LVIA process identifies the Best Practicable Environmental Option (BPEO) based on the following criteria:

- Long term protection of important scenic resources and heritage sites;
- Minimisation of visual intrusion on scenic resources;
- Retention of wilderness or special areas intact as far as possible; and
- Responsiveness to the area's uniqueness, or sense of place.

6.4 Purpose of this report

The purpose of the report is:

- To establish the study area which will include the site itself and the full extent of the wider landscape around it, which the proposed development will influence in a significant manner, the ZTV (Zone of Theoretical Visibility);
- To establish the landscape baseline in terms of physical influences, land cover, influence of human activity, aesthetic, and perceptual aspects as well as overall sense of place;
- To establish a value to the potentially affected landscape;
- To establish the visual baseline in terms of the area in which the project will be visible, the different groups of people (visual receptors) who may experience views of the proposed development, the places where they will be affected (Key Observation Points - KOPs), the nature of the views and the visual amenity at these places;
- To assess the landscape effects which deals with the effects of change and development on the landscape as a resource by means of:
 - Identifying components (individual elements or key features) of the landscape that are likely to be affected by the proposed development;
 - Identifying interactions between the landscape receptors and the different components of the development during all the different project stages;
 - Assess the visual effects which deals with the effects of change and development on the views available to people and their visual amenity;

- Propose mitigation measures to minimise any potential landscape and visual impacts during the construction and operational phase of the proposed project.

6.5 Development Category and Level of Assessment

As per the Site Sensitivity Verification (SSV) Report conducted, Level 2 input is required which typically include the following:

Level 2 assessment:

Approach:

Visual report by visual specialist or competent professional.

Method:

Identification of issues raised in scoping phase, and site visit;

Description of the receiving environment and the proposed project;

Establishment of view catchment area and receptors.

Brief indication of potential visual impacts, and possible mitigation measures.

Figure 3: Level 2 assessment (Oberholzer, B.2005)

6.6 Legislation and Institutional Framework

Oberholzer (2005) indicates that current South African environmental legislation governing the EIA process (which may include consideration of visual impacts if this is identified as a key issue of concern) is the NEMA (Act 107 of 1998). This includes the 2014 NEMA EIA regulations as amended (published in General Notice (GN) No. R.982 as well as R 983 Listing Notice 1, R 984 Listing Notice 2, and R 985 Listing Notice 3).

In addition, the following acts and guidelines are applicable (Oberholzer, 2005):

- National Environmental Management: Protected Areas Act (Act 57 of 2003). This act is intended to identify and protect natural landscapes.
- National Heritage Resources Act (Act 25 of 1999). This provides legislative protection for listed or proclaimed sites, such as urban conservation areas, nature reserves and proclaimed scenic routes.
- Advertising on Roads and Ribbons Act (Act 21 of 1940). Visual pollution is controlled, to a limited extent, by the Advertising on Roads and Ribbons Act (Act 21 of 1940), which deals mainly with signage on public roads.
- Municipal Systems Act (Act 32 of 2000). Visual and aesthetic resources are also protected by local authorities, where policies and by-laws relating to urban edge lines, scenic drives, special areas, signage, communication masts, etc. have been formulated.

6.6.1 Olifants Environmental Management Framework (EMF) Report

It was decided by the governing authorities that an EMF should be created. This decision was made in order to manage future development to be sustainable as well as monitor and control the cumulative impacts of human activity on the natural environment. The EMF is meant to be a guideline to assist the decision-making process. It integrates frameworks, policies and different government mandates. The EMF presents important information in a

format that is easy to access and understand. According to the EMF, the project falls within, what is classified as, Zone E - Rural Sekhukhune/platinum mining focus area. There is a high risk of desertification in this area because of the extensive removal of natural vegetation. The excessive harvesting of firewood further increases this risk. A large constraint is the potential future impact on mining and industrial activities on the natural vegetation and scenic environment. Therefore, it is of utmost importance that topsoil is conserved, and successful rehabilitation and monitoring is implemented.

6.7 Assumptions, limitations and exclusions

The following limitations and assumptions are applicable to this report:

- Determining a visual resource in absolute terms is not achievable. It is a complex procedure since it is determined through a combination of quantitative (visibility) and qualitative (aesthetic value) criteria. Therefore, a LVIA cannot be entirely objective in this sense. Individuals will evaluate a landscape differently, based on experience, culture, and social background;
- Various factors can enhance or reduce the visual impact of the proposed project, for instance, vegetation near a receptor's view of the proposed project. Other factors include weather, climatic conditions, and seasonal change. It is therefore difficult to determine the visual impact of the proposed project from the viewpoint of each individual receptor;
- The layouts and technical information provided are conceptual. Therefore, the possibility of adaption exists. Should there be any significant changes in the designs of the proposed infrastructure, these changes may have to be re-assessed;
- No specific national legal requirements for LVIA's currently exist in South Africa. However, the assessment of visual impacts is required by implication when the provisions of relevant acts governing environmental management are considered and when certain characteristics of either the receiving environment or the proposed project indicate that visibility and aesthetics are likely to be significant issues and that visual input is required (Oberholzer, 2005);
- All information (length and location) relating to the proposed project as referred to in this report is assumed to be the latest available information;
- KOPs represent either a typical view from a sensitive viewing location or the range of impacts associated with the project. These locations are usually located on a commonly travelled route from which the project will be visible, or other most likely observation points;
- Visual simulations were not undertaken in this study;
- No construction activities will take place after sunset;
- The proposed infrastructure has no height, therefore no viewshed were created; and
- This document should be read in conjunction with the previous high level visual assessment for Phase 2F (Klapwijk, M. *ORWRDP_VIA for Infrastructure Development, report reference number: PWMA 04/b50/00/3014*).

7 Methodology

7.1 Impact assessment methodology

For the Environmental Assessment Practitioner (EAP) to allow for sufficient consideration of all environmental impacts, impacts were assessed using a common, defensible method of assessing significance. The method to be used for assessing risks/impacts is outlined in Appendix A of this document.

7.2 Landscape and visual assessment methodology

The LVIA approach is based on Oberholzer, B. (2005). The guideline draws on best practice in EIA and provides guidance applicable to visual specialist input. The study will be divided into a baseline assessment and an impact assessment.

7.2.1 Establishing the landscape baseline

The landscape baseline aims to provide an understanding of the landscape that may be affected, its constituent elements, its character, and the way it varies spatially, its geographical extent, its condition, the way it is experienced, and the value attached to it.

The landscape baseline will be established through a **desktop study** and a **site visit** which identified and recorded the character of the landscape, the elements, features, aesthetic, and perceptual factors as well as the value attached to it.

The landscape character is made up of the following:

- Physical influences: Geology, soils, landform, drainage lines and water bodies;
- Land cover: Different types of vegetation patterns and tree cover;
- Influence of human activity: Land use management, character of settlement, building types and pattern, open fields, and enclosure;
- Aesthetic and perceptual aspects of the landscape: Scale, complexity, openness, tranquillity, and wilderness; and
- Overall sense of place

A value to the potentially affected landscape was established, whereas information that will contribute to the value might include:

- National parks;
- Areas of outstanding scenic beauty;
- Conservation areas; and
- Historical or cultural heritage sites.

The landscape baseline is communicated through means of:

- Maps, photos, and text at an appropriate level of detail, divided into landscape character types and areas as appropriate;
- Identification and description of the individual elements and aesthetic and perceptual aspects of the landscape; and
- Identification of the condition of the landscape.

7.2.1.1 Desktop study

The desktop assessment is based on a spatial analysis of the proposed project area using Geographic Information Systems (GIS) as well as digital photographic imagery, photographs, various databases, and all available data on the planned infrastructure. The desktop assessment serves as a planning basis for the site visit by identifying preliminary areas of importance in terms of potential visual impacts. Digital aerial photographs were used to identify certain landforms and landscape patterns.

The desktop included a study of the existing environment in terms of topography, land use and land cover data. The desktop study included a study of the existing environment in terms of topography and land cover data information from the South African National Land-Cover (SANLC) 2018 raster dataset is based primarily on the newly gazetted land-cover classification standard (SANS 19144-2) with 73 classes of information and is available on an open license agreement. It is of excellent quality.

7.2.1.2 Site visit

A site visit was undertaken on the 1st of November 2024. The field assessment included a drive around the surrounds to determine the visual context within which the proposed project is to be developed. Areas of potential important observation points were assessed and recorded by making use of a hand-held Global Positioning System (GPS) to confirm these viewpoints and potential receptors.

High resolution photographs were taken from the areas where the proposed project will have the highest visual impact which will serve to indicate the visibility of the proposed project in relation to identified KOPs.

7.2.2 Establishing the visual baseline

The aim of the visual baseline is to establish the area in which the development may be visible, the different groups of people who may experience views of the proposed development, the places where they will be affected, the nature of the views and the visual amenity at these points. As stated under section 6.7 the spatial extent for this type of infrastructure cannot be determined through a viewshed analysis as there is no significant height above natural ground level, however the visual baseline will be established by identifying:

- Potentially impacted visual receptors and assess severity for each;
- The different groups of people who may experience views of the proposed project infrastructure (receptors of visual effects); and
- The KOP's, where they will be affected and the nature of the views at these points. (Other factors such as structures and vegetation will also influence the visibility at identified viewpoints, the actual nature and effect of these was determined by the site visit). The selection of the viewpoints will consider the following factors:
 - Accessibility to the public;
 - The potential number and sensitivity of receptors who may be affected;
 - The viewing direction and distance;
 - Nature of the viewing experience; and
 - View type

7.2.3 Assessment of landscape impacts

An assessment of landscape effects deals with the effects of change and development on the landscape as a resource. The study area will be considered and includes the site itself and the full extent of the wider landscape around it, which the proposed development will influence in a significant manner. This will be based on the extent of the area from which the development is potentially visible.

7.2.3.1 Predicting landscape impacts (effects)

Once the landscape baseline information is established it can be combined with understanding of the details of the proposed development to identify and describe landscape impacts (effects).

- The initial step will be to identify the components (individual elements or key features) of the landscape that are likely to be affected by the scheme (landscape receptors).
- The second step will be to identify interactions between the landscape receptors and the different components of the development during the different project stages.

7.2.3.2 Assessing landscape impacts (effects)

The identified landscape impacts (effects) will be assessed to determine their significance.

Assessment will be based on:

- Sensitivity of landscape receptors (determined through the visual absorption capacity (VAC) and overall susceptibility to the type of change);
- Value of the landscape receptor (landscape character types and individual elements and features contributing to landscape character); and
- Severity (magnitude) of landscape impacts (effects) related to size, scale geographic extent, duration, and reversibility.

7.2.4 Assessment of visual impacts

The assessment of visual impacts (effects) deals with the effects of change and development on the views available to people and their visual amenity.

7.2.4.1 Predicting visual impacts (effects)

Likely impacts (effects) on potential visual receptors will be identified, to determine these impacts, the following will be considered:

- The nature of the view (full or partial);
- The proportion of the infrastructure which will be visible;
- The distance of the viewpoint to the proposed development; and
- Whether the view is stationary or transient.

7.2.4.2 Assessing visual impacts (effects)

The identified visual impacts (effects) will be assessed to determine their significance. The assessment will be based on:

- The sensitivity of visual receptors (susceptibility of visual receptors to change, mainly based on the occupation or activity at a specific viewpoint and the extent to which their attention may be focused on the view);
- Value attached to the views; and
- Severity of the visual effects related to size/scale, geographical extent, duration and reversibility of visual effects.

7.2.5 Mitigation of landscape and visual impacts

Mitigation measures and the construction and operational management practices will be included in the project description to the relevant level of detail. Possible impacts (effects) will be identified early in the project which include siting, access, layout, structures, ground modelling and planting.

Forms of mitigation includes:

- Prevention/avoidance;
- Reduction by means of:
 - Adjustment of site levels;
 - Use of appropriate form, detail design, materials and finishes where it is not desirable or practical to screen;
 - Alterations to landform together with structured planting;
- Avoiding or reducing obtrusive lighting, consideration will be given to different ways of minimising light pollution; and
- Offset, remedy, or compensate.

7.2.6 Schematic approach

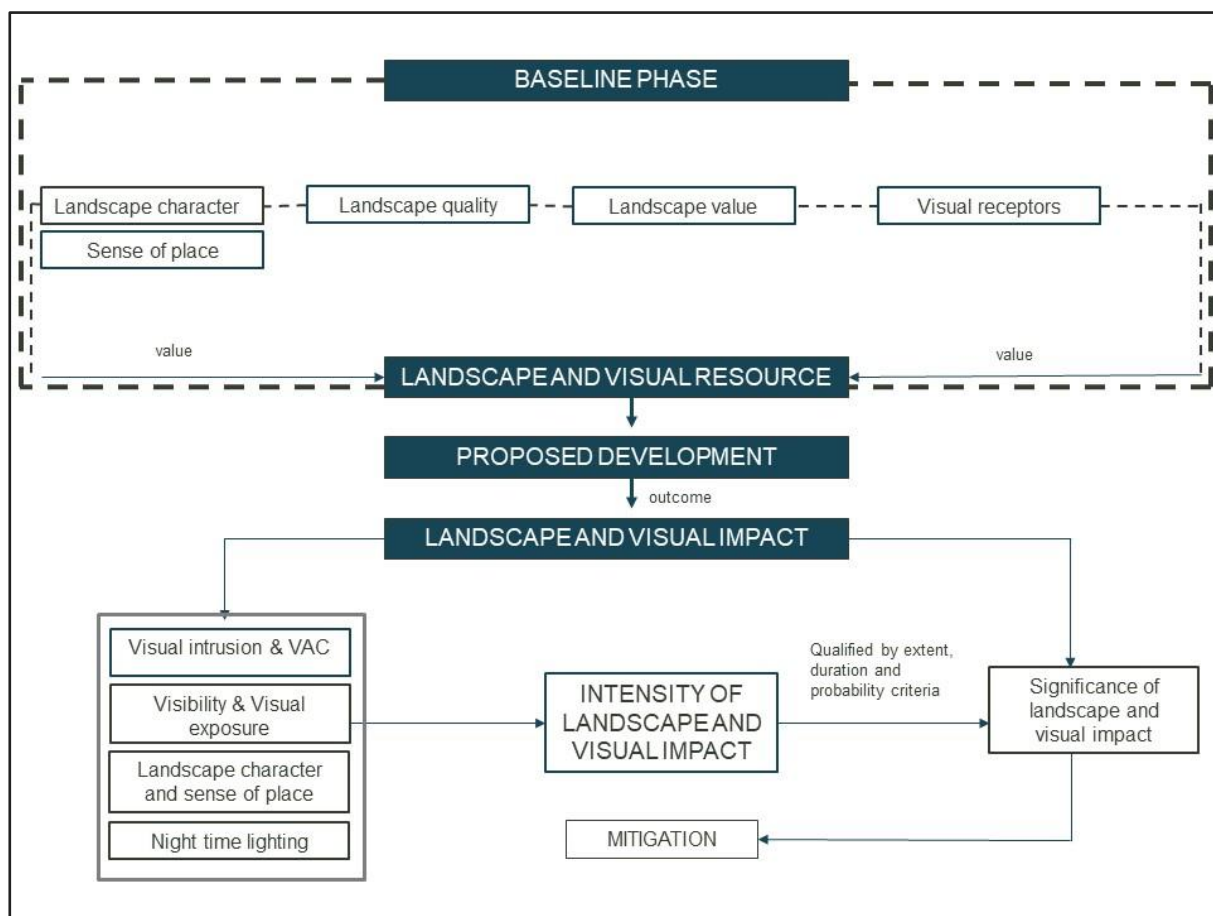


Figure 4: A general schematic approach for LVIA's

8 Description of the proposed project

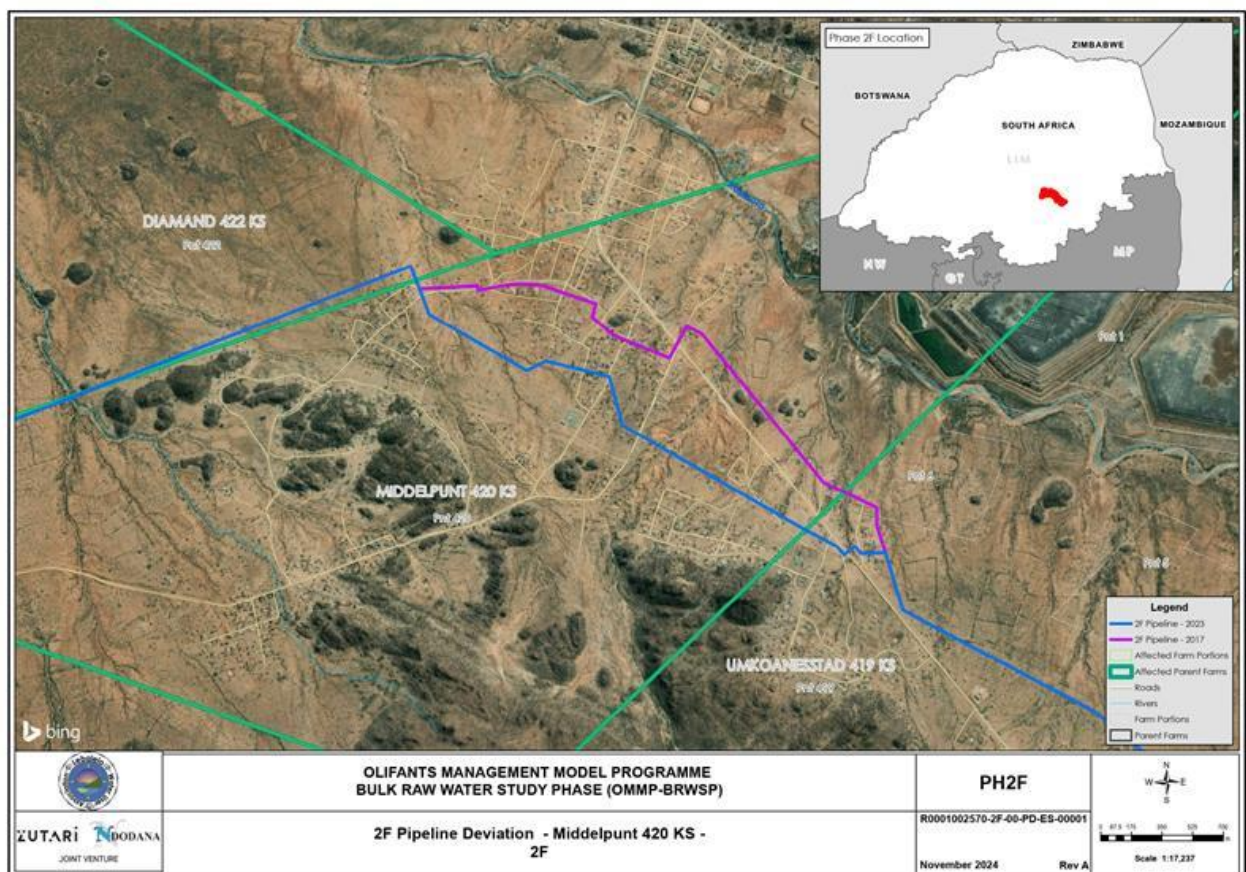
8.1 Project components

8.1.1 Realignment of sections along the authorised 2017 pipeline alignment.

The servitudes of the authorised 2017 pipeline have been affected by various encroachments since then. Changes are along the following sections:

- A section south west of Bokoni Platinum mine, close to the rural settlement of Zeekoegat (refer to Figure 5);
- A section south west of the Ditobeleng settlement (refer to Figure 6); and
- A section along the D4190, close to the settlement of Malogeng (refer to Figure 7).

A comparison between the new (blue) and the old (purple) section of the alignment is clearly illustrated in the figures below.



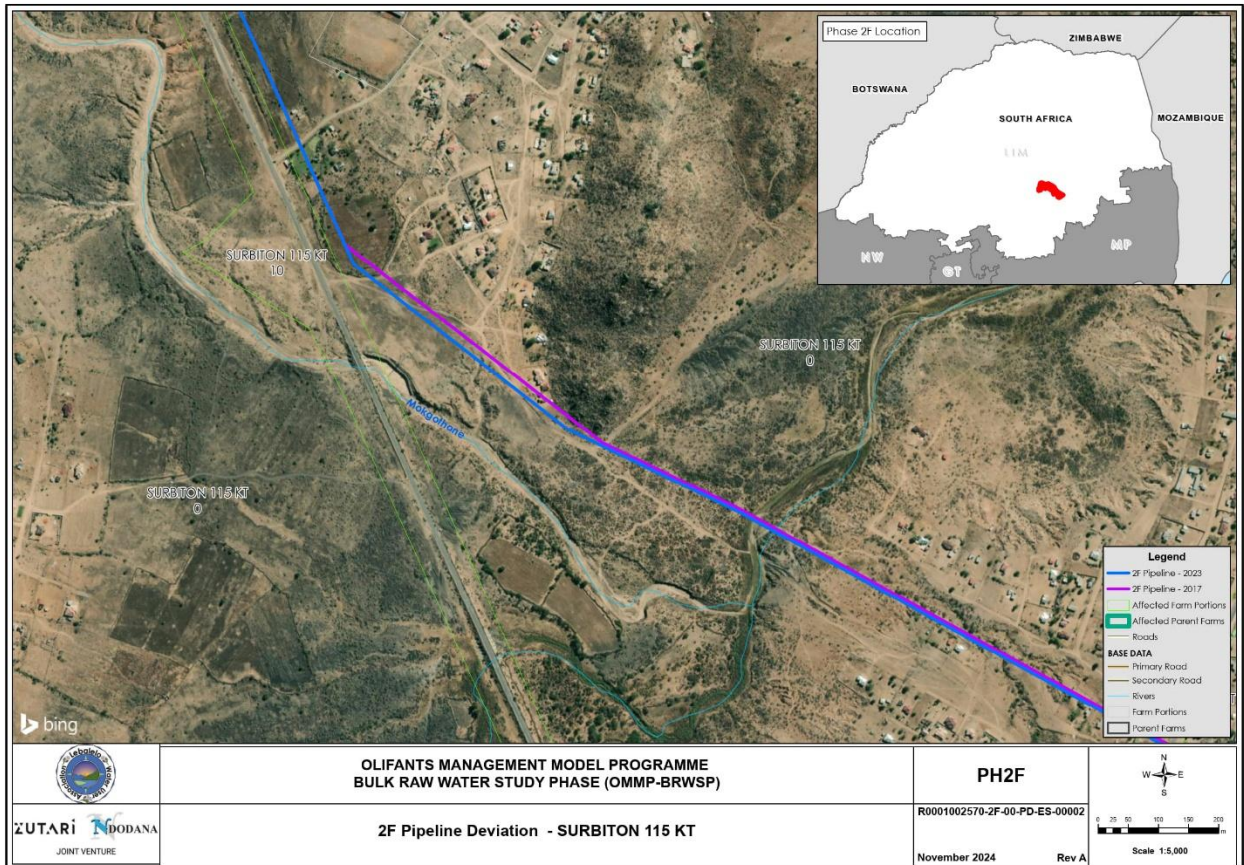


Figure 6: Proposed servitude deviation close to Ditobeleng settlement

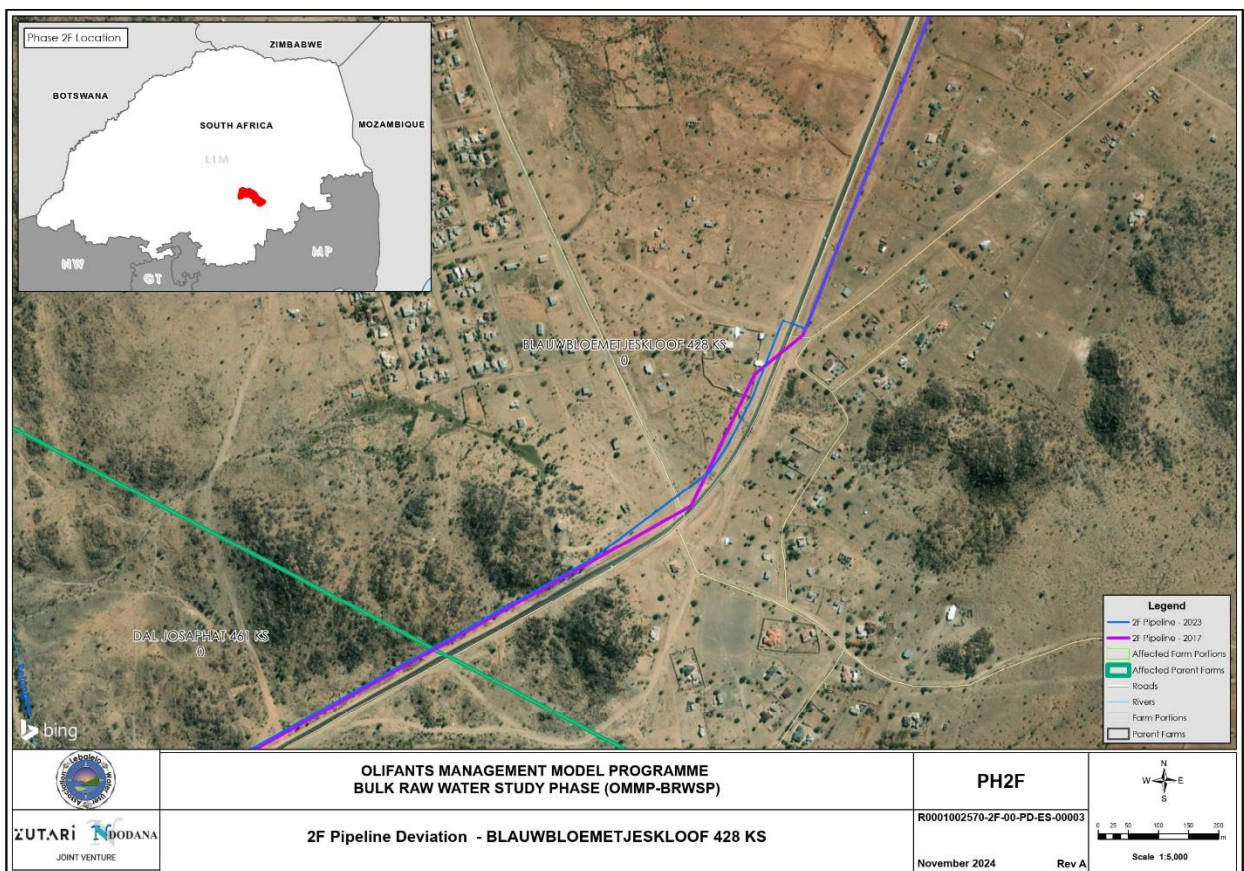


Figure 7: Proposed deviation along the D4190

8.1.2 Development or widening of access and internal roads required for construction

The current status quo of each access road (50 in total) and associated access number is given in the table below. The location of access points is shown in **Error! Reference source not found..**

Table 2: Proposed access and internal roads

Existing status quo	Access number
Existing road/footpath	2F-01, 2F-02, 2F-03, 2F-04, 2F-05, 2F-07, 2F-08, 2F-11, 2F-14, 2F-15, 2F-16, 2F-17, 2F-2-1, 2F-2-2, 2F-2-3, 2F-2-4, 2F-2-5, 2F-2-6, 2F-2-7, 2F-2-8, 2F-2-9, 2F-2-13, 2F-2-14, 2F-2-15, 2F-2-16, 2F-2-17, 2F-2-18, 2F-2-20, 2F-2-21, 2F-2-23, 2F-2-24, 2F-2-25α, 2F-2-25, 2F-2-26, 2F-2-27, 2F-2-28, 2F-2-29, 2F-2-30, 2F-2-33, 2F-2-34.
New road/ Green fields/Unused Road	2F-09, 2F-12, 2F-13, 2F-2-10, 2F-2-11, 2F-2-12, 2F-2-19, 2F-2-22, 2F-2-31,

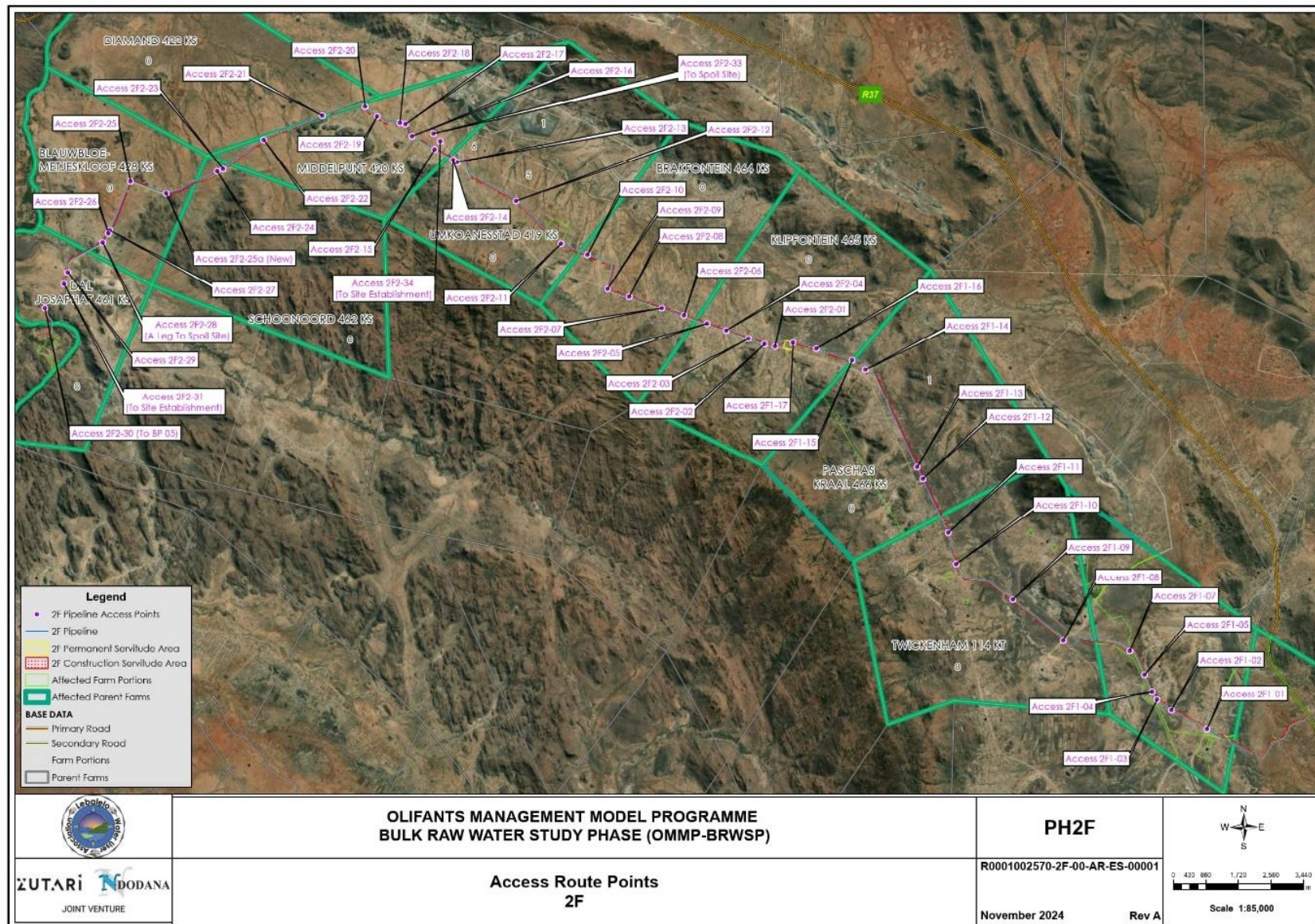


Figure 8: Access route points

9 Baseline assessment

This section of the report aims to analyse and describe the intrinsic value of the existing landscape, including aspects of the natural, cultural, and scenic landscape. The table below describes the character, uniqueness, intactness, quality, rarity, vulnerability, and sense of place. This analysis assists the reader by describing the visual resource before the proposed development. This is essential as the existing environment must be understood before assessing the impacts that will potentially change the existing environment. General views associated with the proposed development and surrounds area are indicated in Figure 11 - Figure 20.

9.1 Landscape baseline

Table 3: Summary of the landscape baseline

Landscape character¹	
Climate	The climate of the study area can be described as semi-arid, lying in the rain shadow of the escarpment which have an annual rainfall of 400 mm and mean temperature of 22°C.
Topography and Geology	Undulating norite and pyroxenite hills is characteristic of the Sekhukhuneland landscape. Rocky outcrops are common and widespread throughout the region. High concentrations of metals such as chromium, platinum, titanium and vanadium are contained within the rocks of the region. This gave rise to surface mining operations. The Steelpoort and Olifants Rivers have eroded deep broad valleys. These valleys traverse the Leolo Mountains and many sequences of undulating hills that are mostly orientated north - south. This section forms part of the middle of the Olifants sub catchment and contains a variety of geological features. Soils vary from moderate to deep sandy loam to erodible duplex soils. The vertical scale of the landscape is defined by irregular undulation flat valleys and mountain foothills. The horizontal scale is interrupted by the rising landform to the east and west.
Vegetation cover	Woody natural vegetation is mostly evident south west of the proposed pipeline servitude, along the foothills of the Leolo Mountains where larger trees are more abundant. Within the valley the vegetation is largely modified. The riverine habitat is in a poor state. The vegetation falls within the Mixed Bushveld of the Savanna Biome (Low and Rebelo, 1996.) The natural vegetation varies from a dense, short Bushveld to open Savanna. Much of the vegetation is overgrazed and mainly de - bushed and thus open and sparse with large scale erosion across the study area. The average vegetation height is not more than 5 m and provides little screening ability. Taller trees within valleys are sparsely scattered and is mostly associated with private residences.
Land use	This study area is characterised by a mix of land uses. Industrial activities are mainly linked to several mines lying to the north of the pipeline servitude, the area also includes dry land, villages and subsistence agriculture associated with

¹ These are distinct types of landscapes that are relatively homogeneous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur, they share broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement pattern, and perceptual and aesthetic attributes.

	scattered settlements. Informal stock grazing occurs throughout the section. Both the D4190 and the R37 are busy roads, often with slow moving trucks, minibus taxis, pedestrians, cattle and goats. Uncontrolled mining, agricultural and residential development of the area has resulted in the irreplaceable loss of Sekhukhuneland's unique landscape, however sections of these natural areas are still evident along sections of the foothills of the Leolo Mountains, approximately 1 – 1.5 km west of the proposed project area.
Landcover	Figure 9 indicates the landcover for both the proposed pipeline servitude (solid black line) as well as the previously authorised pipeline servitude (hatched black line). Where the proposed changes occur the main landcover types consist out of: • Eroded land • Subsistence/small scale agriculture • Residential • Open woodland It is clear that the landcover type remain vastly similar for all proposed pipeline servitude deviations. Based on this information the proposed changes will not be significantly more, or less sensitive to the landscape and visual impacts associated with the infrastructure.

Visual absorption capacity and visual intrusion

VAC is an indication of the ability of the landscape to visually conceal the development. Areas with high VAC have the ability to accommodate and absorb physical changes in the landscape without transforming its visual character and quality. The factors that contribute to the VAC factor includes slope, vegetation height and visual pattern. The VAC can be expressed as follows:

- High VAC - Built up areas and industrial/mining zones, where tall structures provide a high degree of visual screening;
- Moderate VAC – Areas of natural vegetation and moderately undulated topography; and
- Low – Agricultural areas (crops provide little screening) where the topography is fairly flat.

The degree of visual intrusion is related to the idea of context and maintaining the integrity of the landscape and essentially rates the degree of contrast. The higher the landscape quality and the simpler the visual context, the more likely the impact will be intrusive.

The first section of the alignment from the R37 to the turnoff of the D4180 has low - moderate VAC as a result of the proximity to industrial type infrastructure, over grazed stretches of land, sparse natural vegetation and slightly more dense built typology. As receptors move closer to the section of the alignment which runs along the foothills of the Leolo Mountain Range (along the D4180) the landscape's VAC decreases as this segment is characterised by natural woody vegetation and unique rock formations with small-scale man-made infrastructure. VAC increases again towards the D4182.

Visual intrusion is rated as indicated in Table 4 below:

Table 4: Visual intrusion

Visual intrusion (How the project fits into the surrounding landscape)	Criteria
High	Results in a noticeable change or is discordant with the landscape
Moderate	Partially fits into the landscape, but clearly noticeable
Low	Minimal change or blends in well with the landscape
None	Negligible change to the landscape

The proposed access roads will have low visual intrusion as a result of:

- The presence of already established gravel and tar access roads traversing the study area;
- The fact that the proposed access roads will have no height; and
- Vast areas across the landscape have been left barren (eroded as a result of overgrazing) and the clearing of vegetation for new access roads will result in minimum change.

The proposed deviation in the alignment will not be visually more intrusive than the authorised alignment as the landscape types which traverses the area remain vastly similar.

Landscape Quality

Landscape quality is based on human perceptions and expectations in the context of the existing environment. The landscape quality rating is a combination of the landscape's, intrinsic physical properties consisting out of the landform, vegetation, water, colour, adjacent scenery, scarcity, cultural or man-made modifications. Landscape quality increases with the presence of water, topographic ruggedness and where diverse patterns of vegetation occur. Areas that contain more natural features or harmonious man-made compositions will have a more favourable landscape quality than areas with non- harmonious human activity.

Table 5: Landscape quality rating

Landscape quality rating	Criteria
High	Unmodified landscape: The landscape is almost free from human encroachment, Visual integrity occurs and where human intervention is visible, no visual discontinuity occurs, and visual order is harmoniously maintained. Strongly defined landforms are noted, including mountains and large bodies of water. Distinct visual patterns are formed through patterns, colours and textures.
Moderate	Moderately transformed/disturbed landscape: There is average visual integrity between the natural and manmade landscape. Some visual encroachment is visible which lacks visual order. There is some disruption of the natural and man-made patterns. Moderately distinctive landscape patterns are visible, including rolling hills and smaller water bodies.
Low	Extensively transformed human intervention: There is low or no visual integrity between the natural and man – made natural features. The visual integrity of the landscape is disrupted, and visual order is entirely lost. Little visual patterns are formed, and vegetation patterns, colours and textures are not noticeable.

The landscape quality from the most eastern section of the alignment, up to the D4182 can be considered moderate – low. This is as a result of the landscape's modification, proximity of the existing mines and other medium scale, similar type of infrastructure, small scale built-up areas, illegal dumping, the overall rural feel, the absence of natural open bodies of water and the fairly rugged topography.

The visual quality for the central section of the study area is considered high (especially west of the alignment), due to the diverse topography, rising landforms and complex vegetation. The rural image is picturesque in localized areas and relatively unspoiled by human activity, this is especially true in sections where mining activities are not visible from a distance.

The section along the D4197 and D4190's visual quality is regarded as moderate due to the modification of the landscape by human intervention and intrusion such as roads, mines housing, grazing pastures and villages. The visual setting is not vivid and nor does it have elements that fully unify a view. Transformed areas such as mining and residential areas have a lower landscape quality than undisturbed areas, broadly located east of the D4182.

Figure 10 is a high-level illustration of these areas when traveling along main gravel roads.

Landscape Value

The landscape is likely to be most valued by tourists who travel through the broader study area to visit nature and game reserves throughout the year which offer various eco-tourism activities. The proposed

activities may therefore lower the landscape value to a very small extent through the direct loss of rural and natural land, especially during the construction phase of the project.

Local residents attach a high cultural and economic value to their surrounding landscape in terms of cultural value, various landscape elements have cultural connections and regional significance. In essence, local communities live from the landscape, and it is seen as a communal asset. Considering the above local residents will therefore attach a moderate - high value, depending on their direct association with the landscape.

Construction workers, mine workers and stakeholders associated with various current and future industrial projects within the study area will have a different perception because of the employment opportunities, their more regular contact with the landscape and the ongoing infrastructural type changes within it. The proposed project will therefore affect the landscape value to a lesser extent for this specific receptor group.

Sense of place

Sense of place is the "extent to which a person can recognise or recall a place as being distinct from other places, as having a vivid or unique, or at least a particular character of its own". Sense of place is constituted by spatial form and character of the natural landscape together with human intervention and transformation mainly associated with habitation. Sense of place is determined through a site visit.

The overall remoteness of the area, the denuded landscape and the typical rural one storey, scattered brick houses, juxtaposed with narrow dust roads, open parcels of eroded land and livestock, gives the area its particular character. There is a distinct character change between the sections located closer to larger village settlements and main roads such as the R37 and D4190.

The most significant human made features includes the various chrome and platinum mines with associated waste rock dumps, slimes dams and infrastructure located north of the proposed pipeline servitude. Other main features include the striking Leolo Mountain Range, lying east of the alignment. The several nature and game reserves (located within the Wolkberg Wilderness Area) are situated approximately 7 km north of phase 2F. The sense of place for the section located at the foothills of the Leolo Mountains is provided by the topography, interesting rock formations, mining activities (which have caused visual scarring) in the distance and sparsely scattered settlements and gravel roads. All these features combined gives this area its distinct natural and rural character.

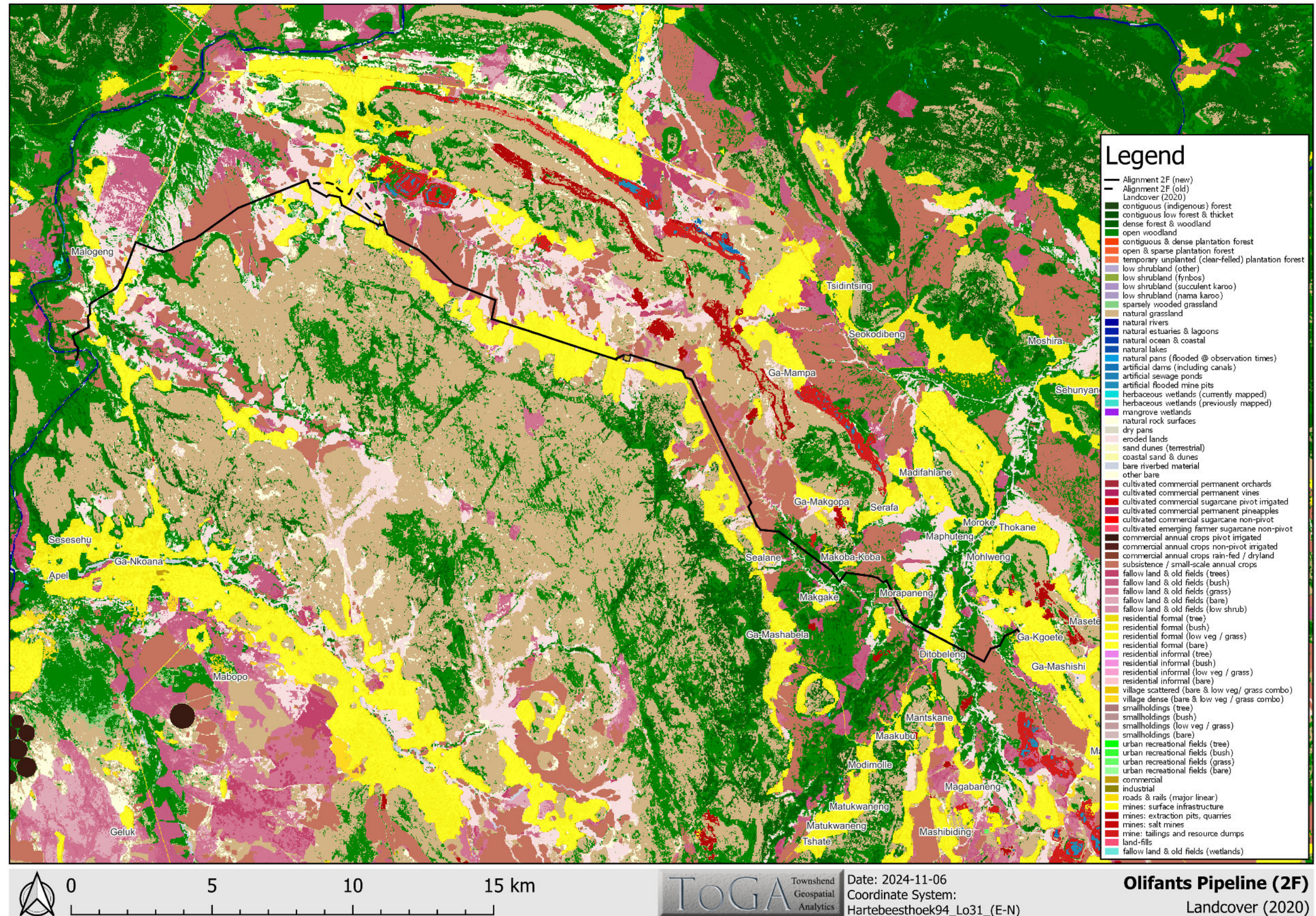


Figure 9: Landcover_Phase 2F



Figure 10: Areas of increased and decreased visual sensitivity



Figure 11: Typical topographical features along the Twickenham Mine access road



Figure 12: Scour boxes next to the R37, at the eastern section of the alignment



Figure 13: Typical houses and rocky outcrops next to the Twickenham Mine access road at the southern section of the alignment



Figure 14: Mixed savanna and bushveld vegetation with an absence of understorey vegetation



Figure 15: Village settlement on the D4180, along the Leolo Mountains



Figure 16: Informal structure opposite the pipeline servitude, along the D4180



Figure 17: Typical view along the D4180



Figure 18: Along the D4190, with Bokoni platinum mine infrastructure in the background



Figure 19: Eskom Middelpunt substation located close to the settlement of Zeekoegat



Figure 20: View along the D4190

9.2 Visual baseline

Table 6: Summary of the visual baseline

Visual receptors	
Receptors for visual impacts are potential viewers of the proposed development and receptor sensitivity refers to the degree that a development affects people. This depends on the number of people viewing the project and their perceptions of the study area. Perception of an object is linked to the purpose for which a viewer is present in the study area (i.e. the reason for their visit). The sensitivity of a particular individual to the visual impact of a proposed development may, therefore, also vary over time as they experience different features and land uses in the area. The sensitivity of viewers is determined by the number of viewers and by how likely they are to be impacted upon. It is also dependent on their perception of the area and their ability to adapt to changes in their environment and can include how frequently they are exposed to the view. A visual receptor's sensitivity is based upon the viewer's: - Familiarity with the actual scene; - Circumstances that bring them into contact with that view; and - Nature of the view (full or glimpsed, near or distant). Receptor sensitivity is therefore expressed as follows: - High sensitivity – e.g. nature reserves, coastal areas and scenic routes or trails; - Moderate sensitivity – e.g. residential areas, agricultural areas, sporting / recreational areas or places of work; and - Low sensitivity – e.g. industrial, mining or degraded areas. The criteria used to define receptor sensitivity are summarised in Table 7 below.	
Table 7: Receptor perception	
Receptor perception	Criteria
High	People attach a high value to aesthetics, such as in or around a game reserve, coastal areas, scenic routes or conservation areas, and the project is perceived to significantly impact on this value of the landscape
Moderate	People attach a moderate value to aesthetics, such as neighbourhoods and smaller towns, where natural character is still plentiful and in close range of residency.
Low	People attach a low value to aesthetics, when compared to employment opportunities. Environment has already been transformed.
For access roads and where the servitude pipeline deviates, the main views will be from people traveling along the D4197, D4180, D4185 and the D4190, it is highly unlikely that tourists would be traveling on these roads they are mainly used by local residents and the occasional mine or utility infrastructure employee. Due to the visually minimal invasive proposed infrastructure, the possible positive perception for local job opportunities and the already transformed environment, the overall receptor sensitivity will be low for these transient receptors. Stationary receptors who reside directly next to an access road or a section where the proposed pipeline servitude deviates are most likely considered to have moderate sensitivity as the natural character is still plentiful and in close range of residency, this is especially true for the section along the D4180 which runs along the Leolo Mountains.	

Visual exposure
Visual exposure refers to the geographic area from which the proposed project will be visible and is defined by the degree of visibility of a proposed project from various receptor sites. According to Hull and Bishop (1998), the visual exposure of the proposed project is based on the distance from the proposed source of impact and usually (depending on the type of infrastructure) fades out beyond 7 km (in this context the estimated visual exposure will not be more than 1 km). The visibility of an object decreases exponentially over distance and accordingly visual

impact will diminish as the viewer moves away from the object being viewed. It is also important to note that the actual zone of visual influence of the proposed project may be smaller than indicated because of screening by existing vegetation and infrastructure. The influence of diminishing visual exposure over distance is shown below in Figure 21.

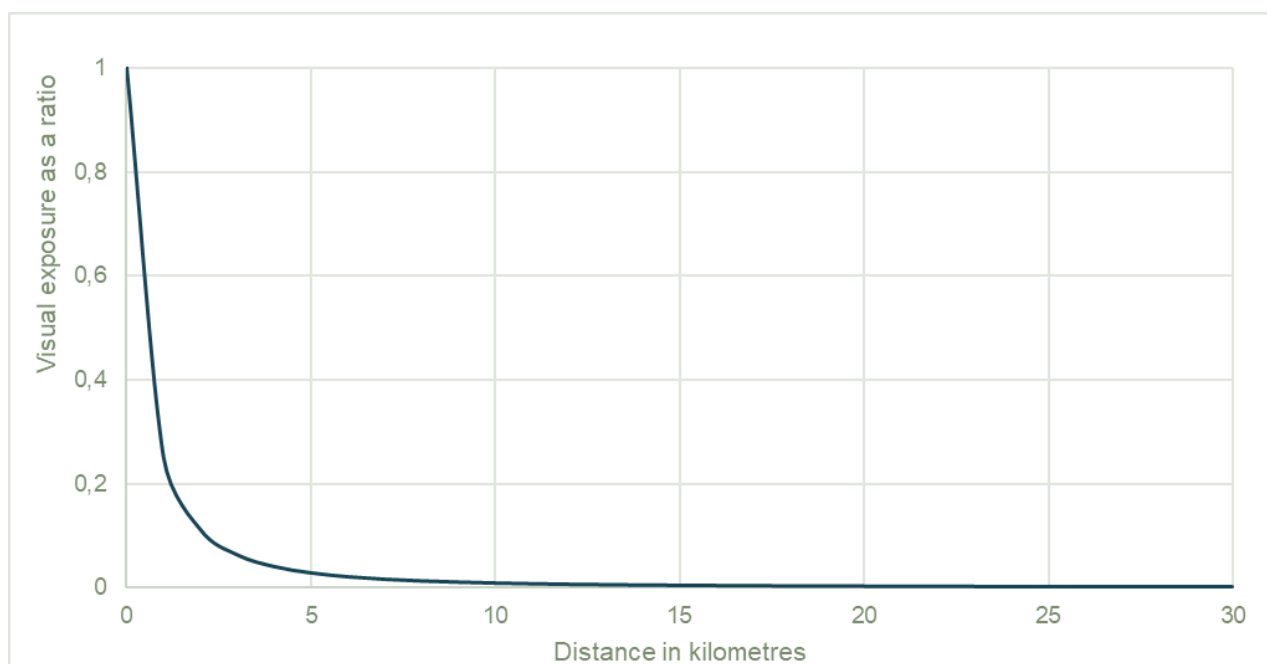


Figure 21: Visual exposure (Hull and Bishop, 1988)

It is highly likely that visual exposure (and therefore visibility) will only be experienced during the construction phase of the project due to the larger concentration of activity and construction machinery/vehicles.

Table 8: Key observation points

Key observation points					
Table 8 indicates the KOPs identified during the site visit (Figure 22- Figure 31). The viewpoints were not randomly selected but were chosen because they are likely to best represent the visibility (or the lack thereof) of the infrastructure to receptors.					
KOP	Particular infrastructure	Location	Visibility	Receptor sensitivity	Transient or Stationary
1	Access road (existing road)	24°26'38.22"S 30° 3'45.63"E On the D4185 Photo number 811	Full	Low	Transient
2	Realignment of pipeline servitude Access road (existing gravel road)	24°26'13.23"S 30° 2'55.80"E Close to Twickenham Mine (mine access road) Photo number 813	Full	Low	Transient
3	Access road (new)	24°24'19.11"S 29°59'47.39"E From the D4180 Photo number 820	Full	Low	Transient
4	Access road (existing gravel road)	24°21'34.63"S 29°58'18.88"E From the D4180 Photo number 822	Full	Moderate - Low	Stationary and Transient
5	Access road (existing gravel road)	24°20'29.94"S 29°54'41.24"E From the D4180 Photo number 826	Full	Moderate Low	Stationary and Transient
6	Realignment of pipeline servitude Access road (existing gravel road)	24°18'35.21"S 29°51'59.14"E From the D4180 Photo number 828	Full	Moderate Low	Stationary and Transient
7	Realignment of pipeline servitude Access road (existing gravel road)	24°17'59.22"S 29°51'12.16"E Within the settlement of Zeekoegat Photo number 830	Full	Moderate Low	Stationary and Transient
8	Access road (new road)	24°18'43.41"S 29°48'17.14"E On the D4197	Full	Low	Transient

		Photo number 833			
9	Access road (existing gravel road)	24°19'46.75"S 29°46'27.89"E On the D4190 Photo number 837	Full	Low	Transient
10	Access road (existing gravel road)	24°20'13.06"S 29°45'57.80"E On the D4190 Photo number 838	Full	Moderate Low	Transient and Stationary



Figure 22: KOP 1



Figure 23: KOP 2



Figure 24: KOP 3



Figure 25: KOP 4



Figure 26: KOP 5



Figure 27: KOP 6



Figure 28: KOP 7



Figure 29: KOP 8



Figure 30: KOP 9



Figure 31: KOP 10

10 Impact Assessment

Landscape and visual impacts are measured as the change to the existing visual environment caused by the project as perceived by the viewers (Young, 2000). The impact(s) may be negative, positive or neutral (i.e., the visual quality is maintained). The magnitude or intensity of the visual impacts is determined through analysis and synthesis of the VAC of the landscape (potential of the landscape to absorb the project), viewshed (zone of visual influence or exposure), visibility (viewing distances), compatibility of the project with landscape integrity (congruence), and the sensitivity of the viewers (receptors).

Sources of landscape and visual impacts are identified for the construction and operational phases of the project. The significance of the landscape and visual impacts were assessed using the prescribed impact rating methodology. Potential landscape and visual impacts associated with the proposed infrastructure are discussed in the sections below according to the method outlined in Appendix A. Appendix B provides detailed impact tables.

After conducting the site visit the specialist can confirm that there will be no additional or an increase in landscape and visual impacts for:

- The proposed realignment of sections of the pipeline servitude; and
- The use of existing access roads for phase 2F (best practice guidelines are however given under Section 11)

10.1 Landscape impacts

Landscape impacts relate to physical changes to the landscape resulting from proposed development, that is changes to the landscape character and to the landscape as a resource.

10.1.1 Impact on Landscape character and sense of place

This impact is a change in the landscape character and sense of place of the study area through the addition of industrial-type infrastructure. The proposed development will add to the light industrial components in the landscape, resulting in negative changes to the landscape character and sense of place.

Table 9: Summarised impacts: Landscape character and sense of place

Infrastructure	Impact significance: Construction phase		Impact significance: Operational phase	
	Before mitigation	After mitigation	Before mitigation	After mitigation
SECTION WEST OF THE D4197 AND SECTION EAST OF THE D4182: Widening and construction of new access roads	Very low	Very low	N/A	N/A

CENTRAL SECTION ALONG THE LEOLO MOUNTAIN RANGE: Widening and construction of new access roads	Low	Very low	N/A	N/A
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10.1.2 Visual intrusion and VAC

The level of compatibility and the ability of the landscape to visually absorb the proposed infrastructure, including contrasts in form, line, colour, and texture resulting from vegetation clearing.

Table 10: Summarised impacts: Visual intrusion and VAC

Infrastructure	Impact significance: Construction phase		Impact significance: Operational phase	
	Before mitigation	After mitigation	Before mitigation	After mitigation
SECTION WEST OF THE D4197 AND SECTION EAST OF THE D4182: Widening and construction of new access roads.	Very low	Very low	N/A	N/A
CENTRAL SECTION ALONG THE LEOLO MOUNTAIN RANGE: Widening and construction of new access roads.	Low	Very low	N/A	N/A

10.2 Visual impacts

Visual impacts relate to the recording of existing views and the determination of potential impacts as perceived by those living, working, and visiting the area. Infrastructure within visually significant locations will detract from the existing cultural landscape and interfere with the viewsheds of receptors, including road users on main and local gravel roads as well as village settlements in proximity to the proposed infrastructure. The sections below present the results of the findings for each potential visual impact identified. Landscape scarring from exposed and

cleared areas during the construction phase of the project will contribute to visual impacts in localised areas.

10.2.1 Impact on visual exposure and visibility

The visibility and presence of a cleared servitude and associated infrastructure.

Table 11: Summarised impacts: Visual exposure and visibility

Infrastructure	Impact significance: Construction phase		Impact significance: Operational phase	
	Before mitigation	After mitigation	Before mitigation	After mitigation
SECTION WEST OF THE D4197 AND SECTION EAST OF THE D4182: Widening and construction of new access roads.	Very low	Very low	N/A	N/A
CENTRAL SECTION ALONG THE LEOLO MOUNTAIN RANGE: Widening and construction of new access roads.	Very low	Very low	N/A	N/A

11 Mitigation measures and recommendations

Few landscape and visual mitigation measures are feasible with infrastructure with such a geographical spread. It is usually impossible to apply mitigation measures entirely satisfactorily to a point where the significance of the visual impact is greatly reduced. The following recommended mitigation measures are therefore primarily intended to minimise the intensity of the landscape and visual impacts but will in some of the cases not necessarily lower the overall significance.

11.1 Planning and construction phase

The most significant landscape and visual impacts will result during the construction phase and is likely to be from erosion and visual scarring of the landscape from clearing of areas for access roads and work areas. Where access roads will not be used on a permanent basis clean-up from site and rehabilitation monitoring is required to ensure that the mitigation measures are implemented to an acceptable level in order that long term rehabilitation is successful.

There is thus a need to carefully monitor the progress of the physical aspects of rehabilitation (soil stripping, spoil handling, landform development and soil replacement) during the construction and defects liability phases, and the progress of re-establishment of the desired final land use (i.e. to a state where the land use is as close to the pre-construction environment as possible). Implementing rehabilitation in a phased manner simultaneously with the progression of construction for those works areas and applicable access roads that are no longer required will provide a longer lead time for monitoring of rehabilitation before the defects liability period is completed.

11.1.1 New/widening of access roads

11.1.1.1 Natural form and shape

- New access roads should avoid straight edges and corridors, and rather complement / reflect the physical shape of the landscape through which they pass; and
- Any spoil remaining from the construction of the access roads, as well as the fill areas below the constructed road should be suitable shaped to reflect the natural terrain/contours and tie into/ blend with the surrounding landscape.

11.1.1.2 Minimising the risk of erosion

- Avoid cutting across and down steep slopes;
- Develop a method statement for post construction rehabilitation that includes aspects such as:
 - Land restoration;
 - Topsoil storage and replacement;
 - Erosion control through feasible sediment and erosion control devices;
 - Alien plant control; and reseedling or revegetation (if applicable) as well as post construction monitoring of erosion and rehabilitation; and
 - The use of indigenous species for restoration.
- The use of heavy machinery on areas that are outside of the access road area must be avoided to protect soils from erosion and compaction;

- Reduce slope gradients as far as possible along road cuts and disturbed areas to gradients at or below the angle of repose of those disturbed surfaces; and
- Use drainage control measures and culverts to manage the natural flow of surface runoff.

11.1.1.3 Routing

- Delineate routes prior to clearing tracks to minimise disturbance footprints and to ensure correct tracks followed by contractors; and
- Route access roads around larger vegetation patches, especially where it is located close to a village settlement.

11.1.2 All work areas

11.1.2.1 Protection of natural features

- The contractor shall not deface, paint, damage or mark any natural feature (e.g., rocks, etc.) situated on or around the site for survey or any other purposes unless agreed beforehand with the Engineer/ECO. Any features affected by the contractor in contravention to the above shall be rehabilitated/restored to the satisfaction of the Engineer /ECO).
- Develop a site layout and clearance plan that indicates the footprint of site clearance including topsoil stockpile zones, areas for vehicular access, parking and turning zones for construction equipment in order to minimise multiple tracks and areas of disturbance. Access to areas outside of the demarcated areas should be treated as no-go areas;
- Demarcate works areas by means of rocks and/or use of stakes and construction tape; and
- All existing large trees which fall out of the works area must be retained, these will assist in softening forms and obscuring views.

11.1.2.2 Protection of topsoil

- Retain and reuse soils for reinstatement and rehabilitation of disturbed areas, topsoil must be separated from subsoil during excavation and replaced as the top soil layer upon backfilling or reused elsewhere for rehabilitation.
- Monitoring of the effectiveness of rehabilitation will be undertaken throughout construction as phased rehabilitation is implemented in accordance with the proposed Method Statement and/or Rehabilitation Plan developed by the contractor and approved by the ECO/ Engineer. Aspects that need to be monitored and corrective action taken include:
 - Erosion
 - Surface water drainage
 - Vegetation basal cover
 - Vegetation species diversity
 - Presence and abundance of invasive plant species
- To minimise compaction associated with stockpile creation, it is recommended that the height of stockpiles be restricted to 2 m maximum; and

- Locate all topsoil stockpiles in areas where they will not have to be relocated prior to replacement for final rehabilitation. All stockpiles should be clearly demarcated and protected.

11.1.2.3 Housekeeping

- Active work areas should be well maintained and clean, they must be free of litter and other wastes; and
- Temporary construction signs and barricading must be removed as soon as the particular activity or set of activities are complete and in accordance with health and safety requirements.

11.2 Operational phase

Mitigation for operational impacts is ensuring long-term erosion risks from construction areas, especially along steeper topographical areas. Additional measures such as low stone walls or gabions may need to be implemented in order to reduce these risks.

11.2.1 Re-routing of sections of the 2017 pipeline

11.2.1.1 Ongoing rehabilitation

- All disturbed areas need to be rehabilitated as soon as possible after construction;
- Additional long term mitigation measures of the pipeline servitude include the reinstatement of the of the backfilled pipeline trenched to its original soil condition, with shaping and re vegetation of the topsoil; and
- The pipeline servitude must be periodically monitored in order to determine if the reinstatement of the rehabilitated areas is effective. Problem areas must be addressed, and proper maintenance should be undertaken on an on-going basis.

12 Conclusion

The change in the landscape character of the study area is mostly a result of the removal of sparsely located existing natural vegetation in an area already undergoing and showing the impacts of desertification. A variety of shapes, lines, textures, and patterns are visible in the landscape, this is mostly as a result of the variety of land uses such as mining infrastructure, residential infrastructure, subsistence farming, open degraded areas and other typical urban infrastructure (such as overhead transmission lines and substations) which increases the overall VAC and reduces the proposed infrastructure's visual intrusion upon the landscape.

During the site visit, whilst driving around local gravel roads, it was noticed that the alignment can roughly be divided into areas of decreased landscape and visual sensitivity such as the sections west of the D4197 and the section east of the D4182. The section of higher landscape and visual sensitivity run along the villages located along the foothills of the Leolo Mountains. Looking west the latter area have striking views towards this mountainous terrain which include woody vegetation and remarkable rock formations, whilst standing in stark contrast to mining activities which are (in some localised areas) visible towards the north east in the area of Maroteng. Areas which have lower scenic quality are characterised by illegal dumping activities, eroded stretches of land, denser housing typology and large-scale transmission line and mining infrastructure within close range of settlements.

There are varying degrees of VAC (low – moderate) and visual intrusion (low – moderate) depending on the landscape's scenic quality, the proximity to industrial type infrastructure, the height and density of the natural vegetation and overall built typology.

During construction the landscape and visual impacts remains very low - low as the overall duration is expected to be limited, however the intensity of the anticipated landscape and visual impacts is expected to be highest during the peak construction phase of the project when the proposed activity will be more noticeable with typically having highly visible construction machinery and an increase in vehicular movement.

Landscape and visual impact are expected to be very low – low. The vegetation cover of the region is the most important element during the construction and operation of the proposed infrastructure and should be regarded as an important component during the mitigation of the proposed infrastructure.

With reference to Oberholzer, B. (2005) minimal landscape and visual impact is expected, after the site visit and specialist assessment the overall combined anticipated landscape and visual impact is also expected to be minimal and from a visual perspective it is not fatally flawed, this is largely as a result of:

- Existing mining and industrial infrastructure within the study area. This includes the RPM Twickenham, Cromex Mining Mecklenburg, Sefateng Chrome Mines, and ARM Bokoni Platinum Mine (Atok). (Earlier unsuccessful mining activities, without any attempt at rehabilitation, resulted in extensive damage to the immediate environment, which is visible as scars on many of the hills and mountains of the region);
- No significant visual envelope due to the nature of the proposed infrastructure (access roads and pipeline servitude with no significant height);
- The low stationary receptor sensitivity;
- The majority of receptors being transient;
- The proposed infrastructure is not a dominant and significant component in the landscape and blends in well with existing urban forms, colours and textures (various gravel roads (formal and informal) traverse the study area);

- The majority of proposed access roads are existing roads;
- Access roads does not affect steeper, visually more sensitive areas of the Leolo Mountain Range, they are situated in the low-lying valley;
- The low visual exposure, even though the natural vegetation provides little screening ability the infrastructure will have no significant height;
- New access roads are proposed in areas which have already been disturbed / cleared or eroded as a result of overgrazing;
- The assumption that some access roads will be temporary and will after rehabilitation blend in with the existing landscape as natural vegetation are sparsely scattered; and
- No additional and increased landscape and visual impact for the realignment of the pipeline and impacts remain as per previous LVIA, (land use, landcover and receptor type remain largely homogenous as proposed deviations are close (maximum of 700 m) to the authorised alignment.

From a visual perspective the proposed project does not heavily impact on landscapes of significant symbolic, aesthetic, cultural and historical value, however every possible effort should be made to make the new sections of access roads and pipeline servitude blend in with the existing environment. Considering this, the implementation of all mitigation guidelines will lower the intensity of the landscape and visual impacts but will in most cases not lower the overall impact significance.

13 References

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Appendix A

Impact Assessment Methodology

Appendix B

Impact Assessment Tables

IMPACT DESCRIPTION: SECTION WEST OF THE D4197 AND SECTION EAST OF THE D4182: Widening and construction of new access roads: Impact on landscape character and sense of place (construction phase)				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
PRE-MITIGATION				
Dimension	Rating	Motivation		
Duration	Short-term	The impact will last between 1 -5 years	Consequence: Negligible	Significance: Very low
Extent	Site-specific	Limited to the site and its immediate surrounds		
Intensity	Negligible	Negligible damage to individual components of natural or social systems or resources, such that it is hardly noticeable.		
Probability	Very likely	It is most likely that the impact will occur		
MITIGATION:				
Reference must be made to Section 11 of the report				
POST-MITIGATION				
Dimension	Rating	Motivation		
Duration	Short-term	The impact will last between 1 -5 years	Consequence: Negligible	Significance: Very low
Extent	Site-specific	Limited to the site and its immediate surrounds		
Intensity	Negligible	Negligible damage to individual components of natural or social systems or resources, such that it is hardly noticeable.		
Probability	Fairly likely	This impact has occurred here or elsewhere in a similar environment and with a similar type of development and could conceivably occur.		

IMPACT DESCRIPTION: SECTION WEST OF THE D4197 AND SECTION EAST OF THE D4182: Widening and construction of new access roads: Visual intrusion and VAC (construction phase)				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
PRE-MITIGATION				
Dimension	Rating	Motivation		
Duration	Short-term	The impact will last between 1 -5 years	Consequence: Negligible	Significance: Very low
Extent	Site-specific	Limited to the site and its immediate surrounds		
Intensity	Low - negative	Minor damage to natural or social system components, species or resources. Likely to recover over time. Ecosystems and valuable social processes are not affected.		
Probability	Very likely	There is a possibility that it will occur in the lifetime of the project		
MITIGATION:				
Reference must be made to Section 11 of the report				
POST-MITIGATION				
Dimension	Rating	Motivation		
Duration	Short-term	Impact may be permanent or in excess of 20 years	Consequence: Negligible	Significance: Very low
Extent	Site-specific	Extending across the site and nearby settlements		
Intensity	Negligible	Negligible damage to individual components of natural or social systems or resources, such that it is hardly noticeable.		
Probability	Fairly likely	This impact has occurred here or elsewhere in a similar environment and with a similar type of development and could conceivably occur.		

IMPACT DESCRIPTION: SECTION WEST OF THE D4197 AND SECTION EAST OF THE D4182: Widening and construction of new access roads: Visibility and visual exposure (construction phase)				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
PRE-MITIGATION				
Dimension	Rating	Motivation		
Duration	Short-term	The impact will last between 1 -5 years	Consequence: Negligible	Significance: Very low
Extent	Site-specific	Limited to the site and its immediate surrounds		
Intensity	Negligible	Negligible damage to individual components of natural or social systems or resources, such that it is hardly noticeable.		
Probability	Very likely	There is a possibility that it will occur in the lifetime of the project		
MITIGATION:				
Reference must be made to Section 11 of the report				
POST-MITIGATION				
Dimension	Rating	Motivation		
Duration	Short-term	The impact will last between 1 -5 years	Consequence: Negligible	Significance: Very low
Extent	Site-specific	Limited to the site and its immediate surrounds		
Intensity	Negligible	Negligible damage to individual components of natural or social systems or resources, such that it is hardly noticeable.		
Probability	Fairly likely	This impact has occurred here or elsewhere in a similar environment and with a similar type of development and could conceivably occur.		

IMPACT DESCRIPTION: CENTRAL SECTION ALONG THE LEOLO MOUNTAIN RANGE: Widening and construction of new access roads:Impact on landscape character and sense of place (construction phase)				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
PRE-MITIGATION				
Dimension	Rating	Motivation		
Duration	Short-term	The impact will last between 1 -5 years	Consequence: Slightly detrimental	Significance: Low - negative
Extent	Site-specific	Extending across the site and nearby settlements		
Intensity	Moderate - negative	Moderate damage to natural or social system components, species or resources.		
Probability	Very likely	There is a possibility that it will occur in the lifetime of the project		
MITIGATION:				
Reference must be made to Section 11 of the report				
POST-MITIGATION				
Dimension	Rating	Motivation		
Duration	Short-term	The impact will last between 1 -5 years	Consequence: Negligible	Significance: Very low
Extent	Site-specific	Extending across the site and nearby settlements		
Intensity	Low - negative	Minor damage to natural or social system components, species or resources. Likely to recover over time. Ecosystems and valuable social processes are not affected.		
Probability	Very likely	There is a possibility that it will occur in the lifetime of the project		

IMPACT DESCRIPTION: CENTRAL SECTION ALONG THE LEOLO MOUNTAIN RANGE:Widening and construction of new access roads: Visual intrusion and VAC (construction phase)				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
PRE-MITIGATION				
Dimension	Rating	Motivation		
Duration	Short-term	The impact will last between 1 -5 years	Consequence: Slightly detrimental	Significance: Low - negative
Extent	Site-specific	Limited to the site and its immediate surrounds		
Intensity	Moderate - negative	Moderate damage to natural or social system components, species or resources.		
Probability	Very likely	It is most likely that the impact will occur		
MITIGATION:				
Reference must be made to Section 11 of the report				
POST-MITIGATION				
Dimension	Rating	Motivation		
Duration	Short-term	The impact will last between 1 -5 years	Consequence: Negligible	Significance: Very low
Extent	Site-specific	Limited to the site and its immediate surrounds		
Intensity	Low - negative	Minor damage to natural or social system components, species or resources. Likely to recover over time. Ecosystems and valuable social processes are not affected.		
Probability	Very likely	It is most likely that the impact will occur		

IMPACT DESCRIPTION: CENTRAL SECTION ALONG THE LEOLO MOUNTAIN RANGE: Widening and construction of new access roads: Visibility and visual exposure (construction phase)				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
PRE-MITIGATION				
Dimension	Rating	Motivation		
Duration	Short-term	The impact will last between 1 -5 years	Consequence: Negligible	Significance: Very low
Extent	Site-specific	Limited to the site and its immediate surrounds		
Intensity	Low - negative	Minor damage to natural or social system components, species or resources. Likely to recover over time. Ecosystems and valuable social processes are not affected.		
Probability	Very likely	It is most likely that the impact will occur		
MITIGATION:				
Reference must be made to Section 11 of the report				
POST-MITIGATION				
Dimension	Rating	Motivation		
Duration	Short-term	The impact will last between 1 -5 years	Consequence: Negligible	Significance: Very low
Extent	Site-specific	Limited to the site and its immediate surrounds		
Intensity	Negligible	Negligible damage to individual components of natural or social systems or resources, such that it is hardly noticeable.		
Probability	Very likely	It is most likely that the impact will occur		

Appendix C

Specialist details

Name : **WEIDEMAN, ELMIE**
 Date of Birth : 28 September 1984
 Profession/Specialisation : Landscape Architecture and Visual Impact Assessments
 Nationality : South African
 Years' experience : 15

Key qualifications

Elmie is a professionally registered Landscape Architect (SACLAP 20223) and the owner of Create Landscape Architecture and Consulting. She is proficient in various aspects related to Landscape Architecture. This includes sustainable landscape design and comprehensive master planning from the conceptual stages through to detail design and implementation. She has also been involved with various design projects which have successfully achieved formal landscape sustainability credits.

She has gained valuable experience in the environmental part of Landscape Architecture where she has mostly dealt with landscape and vegetation rehabilitation, environmental management programmes (EMP's), environmental auditing/monitoring and Landscape and Visual Impact Assessments (LVIA's).

Elmie has worked on various international projects in Lesotho, Abu Dhabi, Nigeria, Kenya, Angola, Malawi, Liberia, Guinea, Botswana, and Mozambique. Elmie has 15 years of experience and holds a Master's (2008) and an Honours degree (2007) in Landscape Architecture, both which she obtained from the University of Pretoria in South Africa.

Relevant previous undertaken:

Ceres PV Facility (Ceres, Western Cape) Create Landscape Architecture and Consulting was appointed by Zutari South Africa to undertake a Landscape and Visual Impact Assessment for PV facility near Ceres in the Western Cape.

Wilderbosch Road Upgrade (Stellenbosch, Western Cape) Create Landscape Architecture and Consulting was appointed by Zutari South Africa to undertake a Landscape and Visual Impact Assessment for the extension of an existing road near Ceres in the Western Cape.

Humansdorp PV facility (Eastern Cape Province, South Africa). Visual Specialist. Create Landscape Architecture and Consulting has been appointed by EnviroSaint to undertake a Landscape and Visual Impact Assessment for PV facility near Humansdorp.

Ribbok and Eland WEF and SEF site sensitivity assessment (Northern Cape Province, South Africa). Visual Specialist. Create Landscape Architecture and Consulting has been appointed by an independent environmental consulting firm to undertake a site sensitivity assessment on various parcels of land which are earmarked for extensive SEF and WEF development.

Sinati Housing Estate (East London, Eastern Cape Province) 01/2023 – 01/2023

Visual Specialist. Create Landscape Architecture and Consulting has been appointed by ECI Consultants to undertake a Landscape and Visual Impact Assessment for a proposed housing estate close to the city of East London. (Billion Group)

Venetia Mine Glint and Glare Assessment (Alldays, Limpopo Province) 10/2022 – 12/2022

Gl意思 and Glare Specialist. Create Landscape Architecture and Consulting was appointed by SRK Consultants to undertake the aviation and ground receptor glint and glare assessment for a proposed solar facility close to the Venetia Mine. (Anglo American)

Waterkloof SEF (Rustenburg, North West Province) 07/2022 – 12/2022

Visual Impact Specialist. Create Landscape Architecture and Consulting was appointed by GIBB Environmental to undertake the Landscape and Visual Impact Assessment for the proposed Waterkloof SEF at Royal Bafokeng Platinum Mine.

Siriti Kriel Open Pit Mining Pits and Dragline, (Kriel, Mpumalanga Province) 02/2022 - present. *Visual Impact Specialist.* Create Landscape Architecture and Consulting has been appointed by Zutari South Africa to undertake the Landscape and Visual Impact Assessment for the proposed Pit 11 and 13 Opencast Operation and associated Dragline Walk at Kriel Colliery. (Seriti Coal (Pty) Ltd).

Mosselbay Energy proposed 1000MW Gas Plant (Mossel Bay South Africa) 11/2021 – 03/2022 *Visual Impact Specialist.* Create Landscape Architecture and Consulting has been appointed by Sativatec to undertake a Landscape and Visual Impact Assessment for a 1000MW Gas Plant close to the town of Mosselbay. (PetroSA)

Greenleaf Energy 3000MW Plant (Mossel Bay, South Africa) 01/2022 – 03/2022. *Visual Impact Specialist.* Create Landscape Architecture and Consulting has been appointed by Sativatec to undertake a Landscape and Visual Impact Assessment for a 3000MW Gas Plant close to the town of Mosselbay. (Greenleaf Energy)

Dwaalboom Mining Rights (North West Province, South Africa) 02/2022 – 03/2022 *Visual Impact Specialist.* Create Landscape Architecture and Consulting has been appointed by EnviroSaint (Pty) Ltd. to conduct a Landscape and Visual Impact Assessment for a Mining Right Application (MRA) for Dangote Dwaalboom Mining (Pty) Ltd, a wholly owned subsidiary of Dangote Cement South Africa (Pty) Ltd. (Dangote Dwaalboom Mining (Pty) Ltd)

Benadeplaats Prospecting Rights (North West Province, South Africa) 02/2022 *Visual Impact Specialist.* Create Landscape Architecture and Consulting has been appointed by Sativatec to conduct a visual specialist study for the Witkop Fluorspar Mine which intend to apply for prospecting rights on Portion 8 of the Farm Benadeplaats.

Cresco De Beers PV Project (Limpopo Province, South Africa) 10/2021 - 03/2022 *Visual Impact Specialist.* Zutari South Africa appointed Create Landscape Architecture and Consulting to conduct a Landscape and Visual Impact Assessment for a 100-Megawatt (MW) alternating current (MWac) Photovoltaic (PV) solar energy facility next to the Venetia Diamond Mine. This is done in order to reduce its consumption of grid-supplied power by procuring locally generated solar power. (De Beers Venetia)

God's Window Skywalk Project (Mpumalanga Province, South Africa) 02/2022 -06/2022. *Visual Impact Specialist.* Zutari Lesotho appointed Create Landscape Architecture and Consulting to conduct a preliminary visual inputs report and Landscape and Visual Impact Assessment for the newly proposed God's Window Skywalk and associated tourist building. The Skywalk involves a cantilevered structure which will protrude over the canyon's edge. (Mpumalanga Tourism and Parks Agency/ Mapulana Canyon (Pty) Ltd)

Polihali Reservoir Master Plan of the Feeder Roads and Bridges (Lesotho) 05/2021 – 05/2022t. *Visual Impact Specialist.* Zutari South Africa appointed Create Landscape Architecture and Consulting to conduct an options analysis (in terms of various visual criteria) for the feeder roads as well as a Landscape and Visual Impact Assessment for the advanced infrastructure which forms part of the Polihali Reservoir. (LHDA)

Mogalakwena PV facility (Limpopo Province, South Africa) 06/2021 *Visual Impact Specialist.* Zutari South Africa appointed Create Landscape Architecture and Consulting to conduct a specialist landscape and visual assessment for a PV facility which will supply energy on an exclusive basis to the Anglo-American Platinum Mogalakwena Mine in Limpopo, South Africa in terms of a Power Purchase Agreement. (Anglo American Platinum)

Cato Ridge Strategic Environmental Assessment (KwaZulu Natal Province) 03/2021 – Current. *Visual Impact Specialist.* Zutari South Africa appointed Create Landscape Architecture and Consulting to conduct a strategic visual assessment for a 1800ha mixed used development to stimulate economic opportunities across the wider community of Cato Ridge. Due to the scale of the proposed footprint, coupled with environmental sensitivities and long-term development

horizon, a Strategic Environmental Assessment (SEA) is proposed to refine potential layout options and no-go areas. (Assmang (Pty) Ltd and Cato Ridge Development Company Ltd (CRDC))

Mokolo Crocodile Water Augmentation Project (MCWAP) Phase 2 Environmental Impact Assessment. (Limpopo Province, South Africa) 01/2021 -04/2021 *Visual Impact Specialist.* GBN-JV appointed InterDesign Landscape Architects to conduct the specialist Landscape and Visual Impact Assessment for the MCWAP phase 2. The project involves the transfer of water from the Crocodile River (West) to the Steenbokpan and Lephalale areas, including the implementation of the River Management System in the Crocodile River (West) and its tributaries. The aim of the Landscape and Visual Impact Assessment was to determine the visual impact of infrastructure elements based on the latest engineering designs. (Department of Water and Sanitation)

Landscape and visual impact assessment for a mining right application near Vanrhynsdorp (Western Cape Province, South Africa) 01/2021 *Visual Impact Specialist.* Sativatec appointed CREATE Landscape Architects and Consulting for conducting the specialist landscape and visual impact assessment which forms part of the Environmental Impact Assessment study. The aim of the application for environmental authorisation is to graduate the prospecting rights into a composite mining right for Limestone, Calcite, Aggregate, Dolomite and Dolomitic Limestone on two sites in the Vanrhynsdorp district. (Blue Waves Properties (Pty) Ltd.

ANNA Transmission Project (Angola – Namibia) 01/2019 – 02/2020 *Visual Impact Specialist* Create Landscape Architecture and Consulting was appointed by Aurecon South Africa to do a visual impact assessment for the 400kV overhead transmission power line, with a total length of approximately 390 km from the Kunene substation in Namibia (currently under construction) to the proposed Lubango substation in Angola. (SAPP cc (South African Power Pool) via Aurecon South Africa)

Eskom KZN northern strengthening Visual Impact Assessment (Kwazulu – Natal, South Africa) 07/2016 – 11/2017 *Visual Impact Specialist*
The Northern KZN Strengthening project consists of the construction of the new Iphiva Substation situated near Mkuze, approximately 20km west of the Mkuze Game Reserve, a new feeder bay at the Normandie Substation (situated approximately 18km south east of the town of Piet Retief) and a 120km Transmission Line will also be constructed, connecting these 2 substations. (Eskom)

Amandelbult Visual Impact Statement (North West Province, South Africa) 01/2017 – date *Visual Impact Specialist.* Rustenburg Platinum Mines Limited (RPM), owned by Anglo American Platinum (Pty) Ltd proposes the mining of shallow reefs for Platinum Group Elements (PGE) through the proposed Haakdoorndrift Opencast pit at its Amandelbult Section within its Mining Right boundary. A visual statement was compiled on order to measure the visual impact of the proposed development on the receiving environment. (Anglo American Platinum)

BOSA Visual Impact Assessment 06/2016 – date (North West Province South Africa – Botswana) *Visual Impact Specialist*
Aurecon has been appointed to undertake an Environmental and Social Impact Assessment (ESIA) study to assess and address environmental and social impacts associated with the Botswana-South Africa (BOSA) Transmission Interconnection Project. A visual impact assessment of the study area is required to inform the ESIA of the potential impacts posed by the construction and operational activities of the proposed project.

Nuclear 1 specialist review 08/2015 *Visual Impact Specialist.* Aurecon South Africa has been appointed by GIBB to conduct an external specialist study review for the proposed Nuclear 1 power plant. (GIBB)

Olifants Water Reclamation Project (Limpopo Province, South Africa) 07/2015 –12/2015 *Visual Impact Specialist.* The Olifants River Water Resource Development Project (ORWRDP) is an

extensive water resource development project which will supply water for domestic and industrial use in the Limpopo province. The DWA appointed the Trans –Caledon Tunnel Authority (TCTA) as project implementer to oversee the project funding, planning and construction of phases 2B to 2F, whilst at the same time taking account of environmental obligation compliance. The project involves the construction of bulk water transfer pipelines between Flag Bashiolo Dam and Pruissen Reservoir near Mokopane (total length 72km) and between De Hoop dam and Olifantspoort (total length 120km). The project will deliver water to the domestic as well as the mining sector. (TCTA).

Sibanye Gold PV plant Visual Impact Assessment (Carletonville, South Africa) 07/2014 –2016
Visual Impact Specialist

Aurecon South Africa was appointed by Sibanye Gold to conduct a site screening, scoping and final EIA study for their proposed 200MW photovoltaic energy facility. (Sibanye Gold)

Saldanha tank farm (Western Cape Province, South Africa) 03/2012 - 03/2013. *Visual Impact specialist.* Aurecon was appointed as visual sub consultant on both the scoping and environmental impact assessment phase for an extension to the existing oil tank farm located close to Saldanha Bay. Responsible for the visual impact assessment. (Worley Parsons).

Eskom: Sigma - Theta power station power line (KwaZulu-Natal Province, South Africa) 12/2010 – 06/2011. *Visual Specialist.* Aurecon was appointed to complete an environmental impact assessment (EIA) and environmental management plan (EMP) for the proposed power line from Albert Falls in the Natal Midlands to Empangeni for the establishment of two 400 kV power lines, approximately 150 km in length, to link the Sigma substation and the Theta substation. Responsible for the visual impact assessment (VIA). (Eskom).

Kriel Power Station (Mpumalanga Province, South Africa) 11/2009 - 04/2015. *Environmental Specialist.* Aurecon was appointed to compile an environmental impact assessment (EIA) and environmental management plan (EMP) for an extension to the existing ash dam facilities. Responsible, as a member of the specialist team, for compiling a visual impact assessment (VIA) focusing on two alternative sites. (Eskom).

Document prepared by:

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2017/500866/07

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forestry, fisheries & the environment

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SPECIALIST DECLARATION FORM – AUGUST 2023

Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE

LANDSCAPE AND VISUAL IMPACT ASSESSMENT - PHASE 2F FOR SPECIFIC INFRASTRUCTURE ELEMENTS

OLIFANTS MANAGEMENT MODEL PROGRAMME BULK RAW WATER STUDY PHASE (OMMP-BRWSP): PROPOSED PHASE 2F PIPELINE RE-ALIGNMENT AND ASSOCIATED INFRASTRUCTURE, IN THE CAPRICORN AND GREATER SEKHUKHUNE GREATER DISTRICT MUNICIPALITIES, WITHIN THE TUBATSE AND LEPELLE NKUMPI LOCAL MUNICIPALITIES, IN THE LIMPOPO PROVINCE.

Kindly note the following:

1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
2. This form is current as of August 2023. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.dffe.gov.za/documents/forms>.
3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
4. The specialist must be aware of and comply with 'the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation - GN 320/2020', where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Landscape and Visual Impact Assessment, Phase 2F for specific infrastructure
Specialist Company Name	Create Landscape Architecture and Consulting
Specialist Name	Elmie Weideman
Specialist Identity Number	8409280101085
Specialist Qualifications:	Master's in landscape architecture
Professional affiliation/registration:	SACLAP 20223
Physical address:	Gift Acres Estate no. 13
Postal address:	Same as above
Postal address	Same as above
Telephone	N/A
Cell phone	079 499 3227
E-mail	elmie@lcreate.co.za

SPECIALIST DECLARATION FORM – AUGUST 2023

2. DECLARATION BY THE SPECIALIST

I, Elmie Weideman declare that –

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols") and in Government Notice No. 1150 of 30 October 2020.
- 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 the specialist report relevant to this application, 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 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;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.

Elmie Weideman

Signature of the Specialist

CREATE Landscape Architecture and Consulting

Name of Company:

Click or tap to enter a date. 13/11/2024

Date

SPECIALIST DECLARATION FORM – AUGUST 2023

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Elmie Weideman, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

E. Weideman
Signature of the Specialist

CREATE Landscape Architecture and Consulting
Name of Company

Click or tap here to enter text. 13-11-2024
Date

Click or tap here to enter text.
Signature of the Commissioner of Oaths

Click or tap to enter a date. 13-11-2024
Date

[Signature]
Ex Officio COMMISSIONER OF OATHS (RSA)
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CERTIFIED FINANCIAL PLANNER®
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