



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

**BASIC ASSESSMENT REPORT
AND
ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT**

**EVANDER GOLD MINES LIMITED:
DEVELOPMENT OF A WATER TREATMENT PLANT
PART A: BASIC ASSESSMENT REPORT**

SUBMITTED FOR ENVIRONMENTAL AUTHORISATIONS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AND THE NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT, 2008 IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (MPRDA) (AS AMENDED).

NAME OF APPLICANT: Evander Gold Mines Limited

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DMR REF NUMBERS: 30/5/1/2/3/2/1/(126)MR

PREPARED BY: EXM Advisory Services (Pty) Ltd

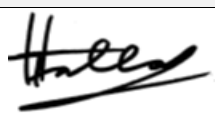

Evander Gold Mines Limited
Part A: Basic Impact Assessment Report
Development of a Water Treatment Plant

25 JANUARY 2022
DRAFT FOR PUBLIC COMMENT

DMR Ref: 30/5/1/2/3/2/1/(126) MR

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Name	Designation	Signature	Date
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Divan van der Merwe	Director		2022-01-25

EXECUTIVE SUMMARY

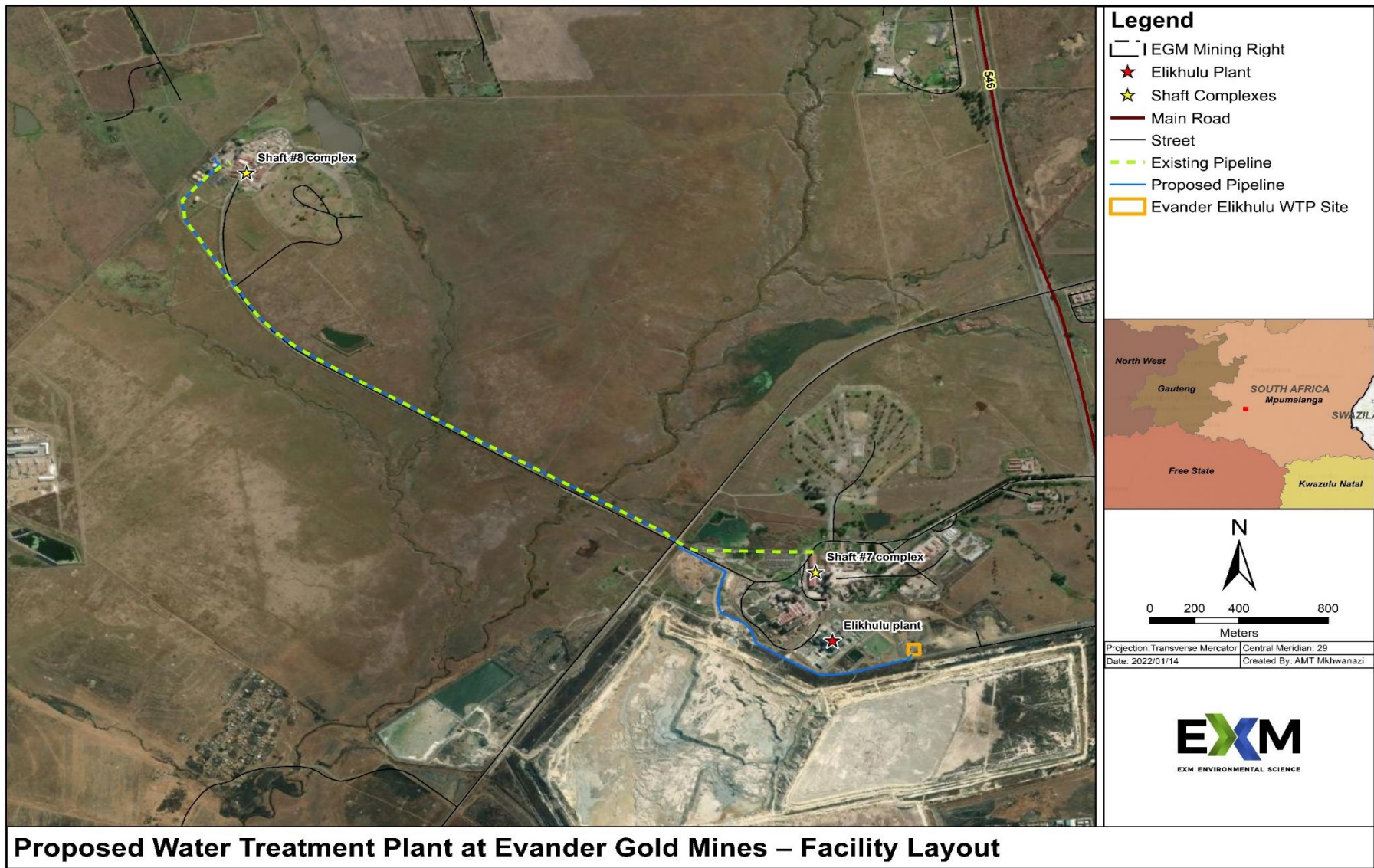
Project Background

Evander Gold Mines Limited (EGM) undertakes underground gold mining operations near the town of Evander in the Mpumalanga Province, and has been operational since 1958. EGM also conducts reprocessing of existing Tailings Storage Facilities (TSF's) to extract gold remaining in the tailings at the Elikhulu processing facility. EGM is the owner of a converted mining right (126 MR) which have been approved in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA). EGM also has an approved Environmental Authorisation (EA) and Environmental Management Programme (EMPr) for the mining operations and the Elikhulu plant.

EGM currently conduct dewatering activities at the #7 and #8 shaft complexes to abstract groundwater that accumulates underground in order to allow for the continuation of mining operations. The abstracted water is used as part of the EGM operations and a portion is discharged into the authorised Leeuwan disposal facility. The dewatering operations is included in the EGM Water Use Licence (WUL) (Ref. 08/C12D/GJAIC/6116) and is authorised in terms of Section 21 (j) of the National Water Act (No. 36 of 1998) (NWA). EGM proposes to develop a facility for the treatment of water emanating from the #7 and #8 shaft complexes on Portions 37 and 86 of the Farm Winkelhaak 135 IS. The WTP will be situated adjacent to the Elikhulu plant at EGM and will have a maximum treatment capacity of 11 000 m³/day. The treated water will be used for potable purposes and will replace the need to obtain water from the municipality supply line. This will substantially reduce pressure on the municipal water network and also provide a reliable water source for the mine.

EGM also proposes to develop a 4.5km pipeline to convey water from the WTP to the #8 shaft complex on the Remaining Extent of Farm Leeuwspruit 134 IS and Portions 37 and 93 of the Farm Winkelhaak 135 IS. The pipeline will be developed within the existing pipeline servitude and existing supports will be used to establish the pipeline. The pipeline will cross two streams and two wetlands, however these crossing is also included in the EGM Water Use Licence (WUL) (Ref. 08/C12D/GJAIC/6116) and is authorised in terms of Section 21 (c)&(i) of the NWA. As existing supports and culverts will be used to install the pipeline, no additional vegetation clearance is anticipated. The existing footprint will be utilised and no additional area will be required.

The purpose of this report is to present the results of the Basic Assessment (BA) process undertaken in support of the application for environmental authorisation (EA) in terms National Environmental Management Act (No. 107 of 1998) for the proposed WTP and pipeline at EGM.



GENERAL LAYOUT OF THE PROPOSED PROJECT

Environmental Authorisations Required

Activities triggered in terms of Listing Notices published in terms of the National Environmental Management Act (No. 107 of 1998) (NEMA) require an Environmental Authorisation (EA) prior to commencement. Activities triggered in Listing Notices 1 (GNR 983) and 3 (GNR 985) require a Basic Environmental Impact Assessment (BA) process to obtain an EA and Activities triggered in Listing Notice 2 (GNR 325) require a full Environmental Impact Assessment and Scoping process to obtain an EA prior to commencement. The development of the proposed WTP triggers the following activity listed in Listing Notice 1 (GNR 983):

Activity	Description
Activity 25	The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres.

Therefore, a BA process will be undertaken to obtain an EA for the proposed facility.

Environmental Impact Assessment Findings

A comprehensive environmental impact assessment was conducted in terms of the EIA regulations (GNR 982) to identify and assess potential environmental impacts associated with the proposed project. Mitigation measures or actions were also developed to prevent or minimise the consequences of the identified impacts. All mitigation has been incorporated into an Environmental Management Programme (EMPr) (refer to Part B of this report) to provide the proponent with a consolidated guideline to operate the site according to best practice and legal requirements.

This Basic Impact Assessment Report (BAR) was developed to provide details regarding the EIA process and findings which was conducted in conjunction with various specialist studies. The Table below contains a summary of the pertinent impacts associated with the project as well as the prescribed mitigation measures.

Activities	Phase	Impact	Significance prior to mitigation	Mitigation measures	Significance after mitigation
Establishment of pipeline	Construction	<p>Biodiversity</p> <p>Potential disturbance/trampling of vegetation during pipeline installation on existing pipeline supports. No vegetation clearance is anticipated.</p>	Moderate	<ul style="list-style-type: none"> No removal of natural vegetation during installation of pipeline – existing pipeline supports and culverts to be used. Care must be taken during installation to minimise disturbance (trampling) as a result of human and equipment movement. No access roads to be constructed. Inspect site every second week to ensure no additional vegetation is removed. No hunting/trapping or collecting of any faunal species is allowed during installation of pipeline. 	Low
Establishment of pipeline	Construction	<p>Surface Water Resources</p> <p>Potential disturbance/trampling of vegetation in wetland areas and stream crossing during pipeline installation on existing pipeline supports. No vegetation clearance is anticipated.</p>	Moderate	<ul style="list-style-type: none"> No vegetation clearance in wetland areas - existing pipeline supports and culverts to be used. Inform contractors of the presence of the wetland and streams – as well as the requirement not to disturb these areas. Limit activity within wetland and stream crossing to what is absolutely necessary. No hazardous substance or waste allowed in wetland and stream areas. If possible, indicate where the wetland area starts along the pipeline to ensure contractors are aware of the location thereof. Limit activity within wetland and stream crossing to what is absolutely necessary during maintenance. 	Low

Activities	Phase	Impact	Significance prior to mitigation	Mitigation measures	Significance after mitigation
Water Treatment Plant	Construction	<p>Water/Soil Pollution</p> <p>Storage and handling of hazardous substances during construction and operations has the potential to result in spillages and cause environmental pollution.</p>	Moderate	<ul style="list-style-type: none"> Lubricants and other hydrocarbons must be stored in a roofed building or in a dedicated area with containment measures in place. Maintenance to be undertaken in a roofed building/container or in an area (if outside) with containment measures in place. Spill kits must be readily available to clean up spillages. Contaminated soil must be managed as hazardous waste and managed accordingly. Good housekeeping practices to be implemented at the workshop. Trip trays to be placed under vehicles/equipment susceptible of leakages. Safety Data Sheets must be available for all hazardous substances stored on site. Refuelling (if any) to be conducted in a dedicated area with stormwater measures in place to capture spillages Large spills to be reported to EGM's environmental department and managed according to the internal incident procedure. 	Low
	Operations		Moderate	<ul style="list-style-type: none"> Small volumes of hazardous substances must be stored in a locked chemical cage within a roofed structure. Provide bunding for larger volumes of hazardous substances. Chemicals to be stored in compatible containers. Spill response equipment must be readily available and compatible with hazardous substances. Safety Data Sheets must be available for all hazardous substances stored on site. 	Low
Water Treatment Plant – brine management	Operations	<p>Water/Soil pollution</p> <p>Storage and handling of brine during operations has the potential to result in spillages and cause environmental pollution</p>	Moderate	<ul style="list-style-type: none"> Store brine in a sealed buffer tank Transfer brine to the Elikhulu plant for internal processing. Automatic pressure monitoring on pipeline to detect any leakages Clean up any brine spillages appropriately 	Low

Activities	Phase	Impact	Significance prior to mitigation	Mitigation measures	Significance after mitigation
Local procurement Local employment	Construction	Employment creation/socio-economic development	Moderate positive	<ul style="list-style-type: none"> Maximise benefit for local economy through local procurement/employment Employing locally will increase benefit to local households and inadvertently the local economy. 	Moderate positive
Treatment of groundwater for potable use	Operations	Reduced pressure on surface water resources Reduced pressure on municipal system	Moderate positive	<ul style="list-style-type: none"> None proposed 	Moderate positive

Summary of Environmental Impacts

The following provides a summary of the environmental impacts associated with the proposed EGM WTP.

Positive impacts

The project will contribute to socio-economic benefits in terms of employment opportunities and purchasing of local goods and services. The construction phase will require approximately 30 temporary employees and the operational phase will require approximately 7 staff members. It is anticipated that approximately 30% of the employment will be sourced locally, depending on the skills availability. The project (especially during construction) will contribute to the local economy in terms of purchasing of goods and service such as diesel and accommodation for employees.

The project will entail the treatment of groundwater abstracted as part of dewatering activities at EGM. The water will be used for potable purposes at the EGM #7 and #8 shaft complexes as well as the Elikhulu plant. The use of the treated water will result in significant cost saving and minimise the need for municipal water which will reduce pressure on the municipal system. The consumption of the treated groundwater will also reduce pressure on surface water resources.

Negative impacts

The proposed WTP will be situated on an area that was disturbed by historic activities. No impacts were assessed to have a high significance. The most significant (moderate) impacts are associated with potential disturbance of natural vegetation and the aquatic environment due to the installation of the proposed pipeline. However, existing pipeline supports and culverts will be used and no vegetation clearance is anticipated. Care must be taken during pipeline installation to prevent disturbance/trampling of vegetation in the sensitive environments (CBAs and Wetlands/Streams). Spillages and associated pollution related to the management of brine was also rated as having a moderate significance impact rating prior to mitigation and low after mitigation has been implemented.

Storage and use of hazardous substances as well as potential sewage spillages from septic tanks/temporary toilets during the development of the WTP has the potential to result in soil and stormwater pollution. The implementation of mitigation measures stipulated in the EMPr will reduce the impact significance and all impacts will have a post mitigation risk rating of low to very low significance. Other potential impacts (to a lesser extent) relate to waste

management, dust emissions during construction, noise generation, management of brine, etc.

Public Participation:

A comprehensive public participation process as described in Section 9 is undertaken in terms of the EIA regulations and applicable guidelines to inform relevant Interested and/or Affected Parties of the BA process and allow them to raise concerns or comments regarding the proposed project. The BAR document will be available for review to all I&APs for a period of 30 days prior to submission of final report to DMRE.

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ACRONYMS AND ABBREVIATIONS

Abbreviation	Explanation
BID	Background Information Document
CBA	Critical Biodiversity Area
DMR	Department of Mineral Resources
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMC	Ecological Management Class
EMPr	Environmental Management Programme
ESA	Ecological Support Area
GNR	Government Notice
IAP	Interested and Affected Party
LOM	Life of Mine
Mtpa	Million tons per annum
LSA	Late Stone Age
mamsl	Metres above mean sea level
Mbs	Metres below surface
MPRDA	Mineral and Petroleum Resources Development Act
MSA	Middle Stone Age
NAAQS	South African National Ambient Air Quality Standards
NDCR	National Dust Control Regulations
NEMA	National Environmental Management Act
NEM: AQA	National Environmental Management Air Quality Act
NEM: BA	National Environmental Management Biodiversity Act
NEM: WA	National Environmental Management Waste Act
NFEPA	National Freshwater Ecosystem Priority Areas
NHRA	National Heritage Resources Act
PES	Present Ecological Status
PM10	Particulate matter less than 10 microns
PM2.5	Particulate matter less than 2.5 microns
ROM	Run of Mine
RWD	Return Water Dam
SACNASP	South African Council for Natural & Scientific Professionals
SAHRA	South African Heritage Resource Agency
SAMRAD	South African Mineral Resources Administration (System)
SDF	Spatial Development Framework
SLP	Social Labour Plan
TOPS	Threatened or Protected Species
WML	Waste Management Licence
WUL	Water Use Licence

1. INTRODUCTION

EGM currently conduct dewatering activities at the #7 and #8 shaft complexes to abstract groundwater that accumulates underground in order to allow for the continuation of mining operations. The abstracted water is used as part of the EGM operations and a portion is discharged into the authorised Leeuwpan disposal facility. The dewatering operations is included in the EGM Water Use Licence (WUL) (Ref. 08/C12D/GJAIC/6116) and is authorised in terms of Section 21 (j) of the National Water Act (No. 36 of 1998) (NWA). EGM proposes to develop a facility for the treatment of water emanating from the #7 and #8 shaft complexes on Portions 37 and 86 of the Farm Winkelhaak 135 IS. The WTP will be situated adjacent to the Elikhulu plant at EGM and will have a maximum treatment capacity of 11 000 m³/day. The treated water will be used for potable purposes and will replace the need to obtain water from the municipality supply line. This will substantially reduce pressure on the municipal water network and also provide a reliable water source for the mine.

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2. DETAILS AND EXPERTISE OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

Name of The Practitioner: Trevor Hallatt

Company: EXM Advisory Services (Pty) Ltd

SACNASP Registration nr: 300123/15

EAPASA Registration: 2019/1758

E-mail address: trevor@exm.co.za

TABLE 2-1: EXPERTISE OF THE EAP.

EAP	Qualification	Years' experience
Mr Trevor Hallatt	BSc Geography and Zoology (NWU)	>10 Years

	BA (hons) Environmental Management (NWU)	
	MA Environmental Management (NWU)	

CV's with experience is attached as Annexure A: CV's of the EAP Team.

3. LOCATION OF THE ACTIVITY.

A description of the property on which the proposed project will be located is provided in Table 3-1 and shown in Figure 3-1.

TABLE 3-1: LOCALITY OF THE ACTIVITY

Farm Name:	Remaining Extent of Farm Leeuwspruit 134 Portions 37, 86 and 93 of the Farm Winkelhaak 135
Application area (Ha)	Pipeline: 4.5km Waste Water Treatment Plant: 2 500 m ²
Magisterial district:	Govan Mbeki Magisterial District
Distance and direction from nearest town	~ 6 km west of Evander
21 digit Surveyor General Code for each farm portion	Portion 37 of the farm Winkelhaak 135 IS <ul style="list-style-type: none"> ○ TOIS00000000013500037 Portion 86 of the farm Winkelhaak 135 IS <ul style="list-style-type: none"> ○ TOIS00000000013500086 Portion 93 of the farm Winkelhaak 135 IS <ul style="list-style-type: none"> ○ TOIS00000000013500093 Remaining extent of Farm Leeuwspruit 134 IS <ul style="list-style-type: none"> ○ TOIS00000000013400000

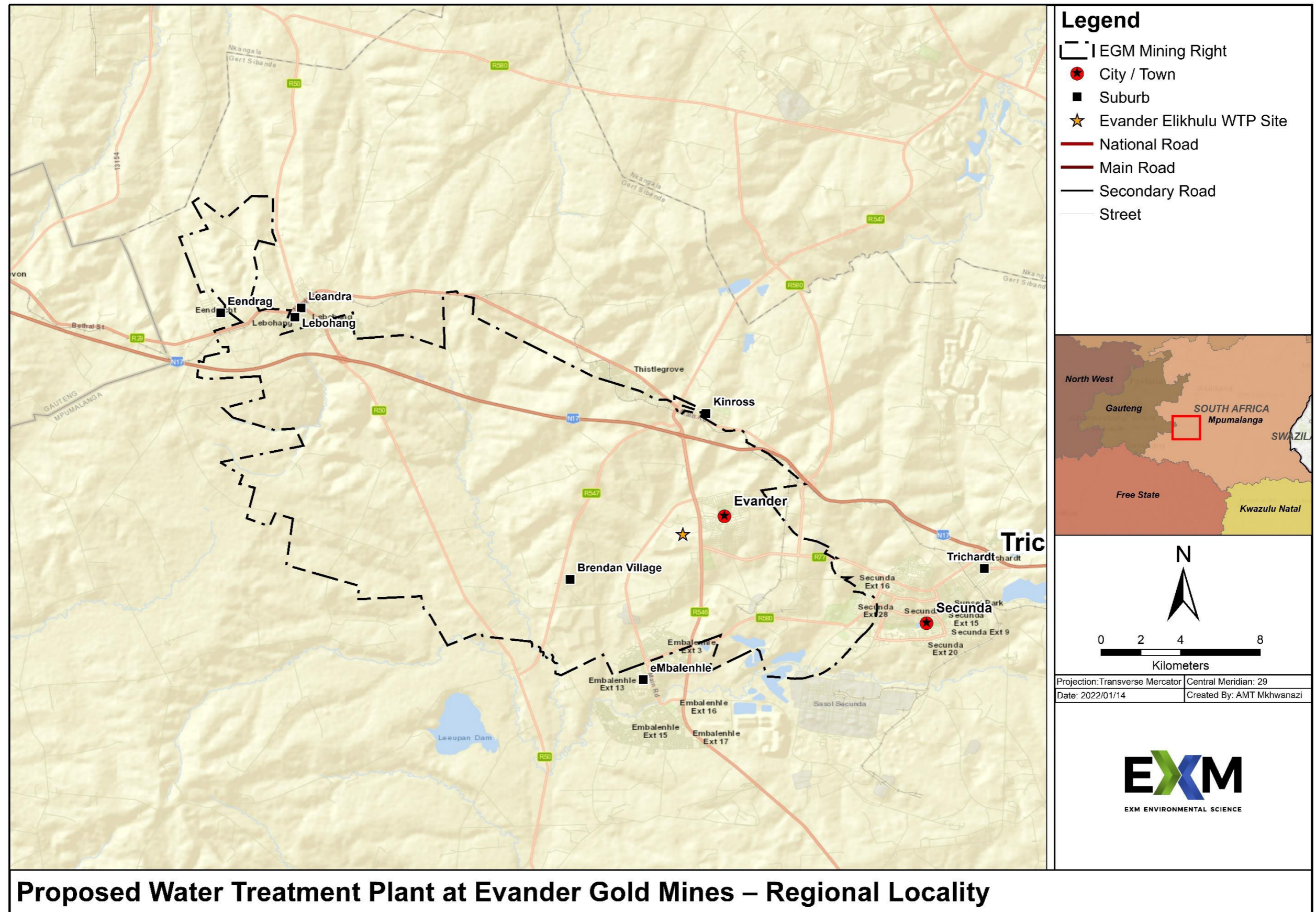


FIGURE 3-1: LOCALITY MAP OF THE PROPOSED EGM WATER TREATMENT PLANT PROJECT

4. DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY

4.1 Description of listed activities to be undertaken

The establishment of the proposed pipeline and WTP triggers the following activities listed in GNR 983 (Listing Notice 1) published in terms of the National Environmental Management Act (No. 107 of 1998) (NEMA).

TABLE 4-1: LISTED AND SPECIFIED ACTIVITIES

NAME OF ACTIVITY	EXTENT OF THE ACTIVITY	APPLICABLE LISTING NOTICE
The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres.	0.25 ha 11 000m ³ /day	Activity 25 of GNR 983 of 2017 Listing Notice 1

4.2 Description of activities to be undertaken

4.2.1 Background

Evander Gold Mines Limited (EGM) undertakes underground gold mining operations near the town of Evander in the Mpumalanga Province, and has been operational since 1958. EGM also conducts reprocessing of existing Tailings Storage Facilities (TSF) to extract gold remaining in the tailings at the Elikhulu processing facility. EGM is the owner of a converted mining right (126 MR) which have been approved in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA). EGM also has an approved Environmental Management Programme (EMPr) for the mining operations and the Elikhulu plant.

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A project description is provided in the below sections.

4.2.2 Water Treatment Plant

The approximate footprint required for the WTP and tanks will be 2500m². Preparation of the site will entail removal of the soil layer, cut to spoil, fill with compacted layers of fill and establish a concrete surface bed. The proposed plant will be fabricated in 12m containers. This will allow for ease of installation and to accommodate potential future modular expansion. It also allows for the protection of the plant equipment from environmental elements. The in-take raw water will be stored in a 2 000 m³ lined steel water tank located adjacent to the plant.

4.2.3 Treatment Technology

The process identified to achieve the required water quality includes Ultrafiltration (UF) and Reverse Osmosis (RO). The overall water recovery associated with this process is approximately 76%. A block flow diagram of the process is shown in Figure 4-1 and the process description is detailed in Section 4.2.4.

- UF includes an impenetrable barrier to filter out suspended solids, colloidal matter, bacteria and viruses. It is an essential process step to guarantee the high rejection rates of contaminants that are unsuitable for downstream processes. UF systems are fully automated, for ease of operation on-site, and skid mounted for rapid installations on-site. The UF system will be both highly efficient and include two parallel trains which will minimise water production losses during periods of cleaning and maintenance.
- RO systems utilise osmotic pressure to concentrate salts into a brine stream while producing a quality permeate. RO membranes will provide a permeate in which most of the dissolved solids have been removed. The system will be automated and containerised, which will enable the plant to be installed rapidly, scaled up through the addition of extra containers and maintained with minimal operator input.

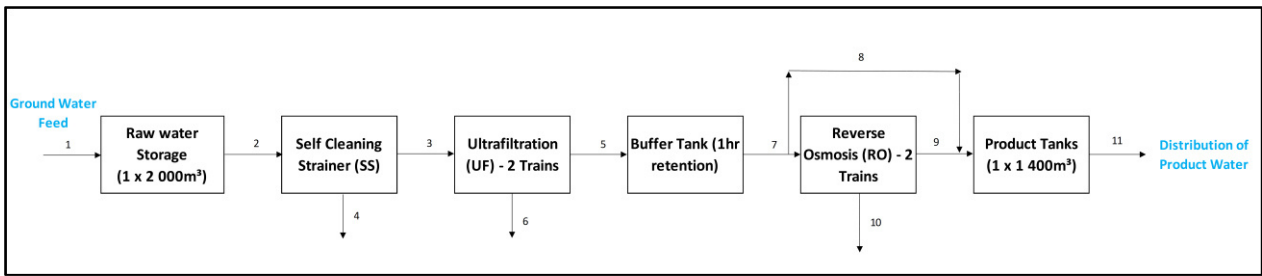


FIGURE 4-1: PROCESS FLOW DIAGRAM

4.2.4 Treatment Process

3.1.1.1 Ultrafiltration (UF) process

Raw water will be abstracted via UF feed pumps which will feed to two parallel treatment trains. The pumps will be controlled by a level sensor in the raw water tank, as well as by a level sensor in the filtered water tank. Each train is sized for a feed of 85m³/hr and will consist of feed pumps, manifold, and instrumentation. The feed to the UF process will be prefiltered to ensure that the UF system operates with minimal backwashes. An example of ultrafiltration trains is shown in Figure 4-2.



FIGURE 4-2: EXAMPLE OF AN ULTRAFILTRATION TRAIN

Filtered water will be directed to a 250 m³ filtered water tank for storage prior to feeding to the RO. The system will be fully adjustable enabling a higher recovery rate with a more favourable feed water quality. Chemicals to be utilised as part of the UF process will include Sodium Hypochlorite, Sodium Hydroxide, and Sulfuric Acid.

3.1.1.2 Reverse Osmosis (RO)

Filtered water will be pumped from the filtered water tank into the inlet of the RO system consisting of 2 trains, each with 15 pressure vessels. An example of an RO train is shown in Figure 4-3. The feed water is filtered through a filter to prevent solids entering the RO.



FIGURE 4-3: EXAMPLE OF AN RO TRAIN

The feed water will enter the RO vessels at a high pressure and the permeate will leave the system with low total dissolved solids (TDS) which is dosed for disinfection and pH correction. The product water will be stored in a 1 400 m³, steel lined, product water tank. The product water storage tank will have an 11-hour buffer capacity.

Water will be pumped from the product water tank into the 7 Shaft reticulation network, at a point approximately 150m from the product tank. The transfer pump system will consist of two pumps, each sized for a delivery of 175m³/h. Chemicals to be utilised as part of the RO process include Anti-scalant, Sulfuric Acid, Alkaline CIP chemical and Acid CIP chemical.

The brine emanating from the RO treatment process will be stored in buffer tanks before it is either conveyed via a pipeline or transported via tankers to the Elikhulu plant for recycling back into the process. The brine will be used as make up water for the operations at the Elikhulu plant. The pipeline will be developed within the existing site and not within any natural areas.

4.2.5 Shaft #8 Pipeline

A pipeline of approximately 4.5 km will also be developed to convey water from the WTP to the shaft #8 complex for the conveyance of water. The pipeline will have a diameter of approximately 125 mm and will have a maximum flow of 25 liters per second. The pipeline will run on existing pipeline supports and will use existing culverts for all road crossings outside the mine, therefore no additional disturbance is anticipated. The original pipeline infrastructure was developed as part of the Shaft 8# complex and approved in the mines existing EMPr. The pipeline will cross two streams and two wetlands, however these crossing is also included in the EGM Water Use Licence (WUL) (Ref. 08/C12D/GJAIC/6116) and is authorised in terms of Section

21 (c)&(i) of the NWA. The transfer pump system will consist of 2 pumps, each sized for a delivery of 75m³/h. The water which will flow to 8 Shaft will be stored in a 400 m³ storage tank. This will allow for approximately 12 hours of retention time at the site.

5. POLICY AND LEGISLATIVE CONTEXT

This document has been prepared in accordance with the DMRE Report template format and was informed by the guidelines posted on the official DMRE website. This is in accordance with the requirements of the Minerals and Petroleum Resources Development Act (MPRDA, No. 28 of 2002). In addition, this report complies with the requirements of the National Environmental Management Act (NEMA) (Act 107 of 1998) and the EIA Regulations (2014 as amended in 2017). This section outlines the key legislative requirements applicable to the project.

5.1 Mineral and Petroleum Resources Development Act (No. 28 of 2002)

The MPRDA regulates the requirements for a mining right in order to mine a mineral and undertake associated activities. Mining can either include removal of an underground mineral or mineral occurring in a residue deposit or residue stockpile. The MPRDA requires the holder of a mining right not to cause any significant pollution or environmental degradation. The WTP will be located on the EGM mining right boundary and is therefore subject to the requirements as stipulated in the MPRDA.

5.2 National Environmental Management Act (No. 107 of 1998)

Section 24 of NEMA provides for the Minister of Environmental Affairs to promulgate activities in a list that require environmental authorisation before commencement. This has resulted in the promulgation of Listing Notices 1 (GN. 983), 2 (GN. 325) and 3 (GN. 985) (as amended in 2017) with the Environmental Impact Assessment (EIA) Regulations (GN. 982) of December of 2014, guiding the requirements to undertake an EIA and apply for an environmental authorisation should a listed activity be triggered. As of 4th of December 2014, activities at mining operations are also to be authorised under NEMA, with the DMRE acting as the Competent Authority.

Activities under Listing Notice 1 (GN. 983) are triggered and therefore the application for environmental authorisation requires completion of a Basic Impact Assessment (BA) process in support of environmental authorisation of listed activities (Table 5-1).

TABLE 5-1: NEMA ACTIVITIES TRIGGERED BY THE PROJECT

Applicable Regulation		Project Infrastructure triggering the Listed Activity
Listing Notice 1 (GN R. 983 of 2017)		
Activity 25	The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres.	Water Treatment Works Capacity: 11 000m ³ /day

Authorisation is being sought for activities applicable to the EGM WTP Project in terms of the EIA Listing Notices 1 of GNR. 983, as amended.

5.3 National Environmental Management: Waste Act (No. 59 of 2008)

The National Environmental Management Waste Act (NEM:WA) provides the legal framework for the management of general and hazardous waste in South Africa to protect the health, wellbeing and environment by providing reasonable measures for waste management. The measures contained in the NEM:WA provides a sound framework for waste management that must be implemented at the proposed facility, i.e. requirements for storage, disposal, transportation, littering etc.

In terms of the NEM: WA, waste management activities that are listed in regulations published under NEM:WA may not be undertaken without a Waste Management License (WML). The listed activities for which a WML is required are contained in Government Notice (GN 921). Category A activities require a Basic Impact Assessment (BA) process, and Category B activities require a full Scoping and EIA process to be conducted in support of the WML application. In terms of Schedule 3 of NEM: WA, mining waste (residue stockpiles and deposits) are defined wastes falling under Category A – Hazardous Wastes of NEM: WA which includes waste rock.

The brine is a waste stream that will be produced as part of the treatment process and will form part of the internal processes of the mine at the Elikhulu plant and will not be disposed. Therefore, the reprocessing of the brine back into the Elikhulu process will not require a WML as it forms part of the internal processing.

The project will not require a Waste Management Licence in term of NEMWA as per scope of work provided.

5.4 National Environmental Management Act: Air quality Act (No. 39 of 2004)

The National Environmental Management: Air Quality Act (NEMA: AQA) controls and regulates atmospheric emissions and provides for Listed Activities (GN. 893, November 2010) which have or may have a significant effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage. Any activity captured under this list require the person undertaking the activity to apply for an Atmospheric Emission Licence (AEL).

Applicability: The project will not trigger any activities listed in the NEMAQA regulations and there is therefore no need for an AEL

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

Section 57 of NEM: BA restricts certain activities involving threatened and protected species (as listed in Regulation GN. 151 and 152, February 2007) without a permit. Restricted activities applicable to the project are limited to the potential removal of Threatened or Protected Species (TOPS) and plants during the clearance of vegetation. No impacts are foreseen on biodiversity and sensitive environment as infrastructure will be established on existing footprints. However, care must be taken during the installation of the pipelines to not cause disturbance as a result of human movement/trampling.

5.6 National Water Act (No. 36 of 1998)

The purpose of this National Water Act (NWA) is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled. Section 21 of the NWA contains a list of activities that require a WUL prior to commencement. The proposed development will include water uses as defined in terms of Section 21 of the NWA and will include the following.

The pipeline that will be established to convey water to the #8 shaft complex will cross the Grootspuit river and a secondary tributary thereof (as well as the associated valley bottom wetlands). However, the supports and culverts of existing pipeline will be used to establish the proposed pipeline which has been authorised under the approved EGM WUL (Ref. 08/C12D/GJAIC/6116) in terms of Section 21(c)&(i) of the NWA. No additional disturbance is therefore anticipated or authorisations required for the pipeline. The dewatering activities that will supply the proposed WTP with groundwater has also been authorised under the EGM WUL in terms of Section 21 (j) of the NWA.

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

The National Heritage Resources Act (NHRA) controls and regulates the interaction with heritage, archaeological, and paleontological artefacts and structures. Sections 34, 35 and 36 require that no person may demolish or alter any structure which is older than 60 years without a permit issued by the relevant provincial heritage resources agency. The NHRA further requires any person that disturbs any archaeological site, paleontological site or grave cannot do so without a permit. The proposed facility will be developed on a disturbed area and the proposed pipeline will be situated on existing pipeline support. No impacts on heritage resources are anticipated.

5.7.1 National Noise Control Regulations (GN R154 of 1992)

In terms of section 25 of the ECA, the National Noise Control Regulations (GN R 154 of 1992) were promulgated. The NCRs were revised under Government Notice Number R. 55 of 14 January 1994 to make it obligatory for all authorities to apply the regulations.

Subsequently, in terms of Schedule 5 of the Constitution of South Africa of 1996 legislative responsibility for administering the noise control regulations was devolved to provincial and local authorities. Provincial noise control regulations exist in the Free State, Gauteng and Western Cape provinces.

6. NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES

6.1 Importance of the Water Treatment Works from a Strategic Perspective

The proposed plant will treat groundwater abstracted by the mining operations to a potable water standard (SANS 241) and will be used for potable purposes at the Elikhulu plant, #7 shaft and #8 shaft complexes. The treatment of groundwater for potable purposes will be substantially cost effective compared to the purchasing of municipal water which has the potential to result in significant operational cost saving. In addition, the project will provide enhanced water security to EGM and reduce burden/pressure on the municipal water supply system. The proposed WTP can also be transferred to a third party post closure to supply water to communities/businesses.

6.2 Environmental perspective

The proposed WTP will be situated on an area historically disturbed and no clearance of natural vegetation will be required. The proposed pipeline that will be utilised to convey water to the #8 shaft complex will utilise supports and culverts of the existing pipelines and no additional vegetation clearance is anticipated. The treatment of the water will reduce the current volume of water that is being discharged into the authorised Leeuwpans facility. The treatment of groundwater will also reduce pressure on surface water resources.

6.3 Socio-economic contribution of the project

The project will contribute to socio-economic benefits in terms of employment opportunities and purchasing of local goods and services. The construction phase will require approximately 30 temporary employees and the operational phase will require approximately 7 staff members, either supporting the project on a monthly basis or permanent on site operators. It is anticipated that approximately 30% of the employment will be sourced locally, depending on the skills availability. The project (especially during construction) will contribute to the local economy in terms of purchasing of goods and service such as diesel and accommodation for employees.

7. MOTIVATION FOR THE OVERALL PREFERRED SITE, ACTIVITIES AND TECHNOLOGY ALTERNATIVE.

The location proposed WTP has been selected due its close proximity to the EGM #7 shaft complex where the dewatering activities are undertaken. An existing pipeline will be used to convey water from the #8 complex to the treatment plant. The site has also been chosen due to its close proximity to the Elikhulu plant and EGM plant where the majority of product water will be utilised for potable purposes. The proposed WTP will be located on an area previously disturbed by historic activities and the pipeline will be developed on existing pipeline support which will keep potential disturbance to a minimum.

The technology (combination of Reverse Osmosis and Ultrafiltration) that was selected for the treatment of water at the facility is based on its ability to obtain the required water quality in line with relevant standards. The technology is also cost effective and more efficient compared to conventional treatment technology. The no-go alternative is not preferred as it will entail the non-continuation of the proposed WTP and the pressure on the municipal system and surface water resources will remain as is.

8. DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED ALTERNATIVES

8.1 Details of the development footprint alternatives considered.

8.1.1 The property on which or location where it is proposed to undertake the activity

No location alternative was proposed for the project. The site is located on an area previously disturbed and approved by mining activities. It's also in close proximity to where the groundwater (in-take water) is abstracted and also where the majority of the product water will be utilised for potable purposes. The alignment and route of the pipeline towards the #8 shaft complex has been selected due to the fact that the existing pipeline supports will be utilised to ensure minimal if any disturbance. Hence, no alternative alignment has been proposed.

8.1.2 The Type of activity to be undertaken

The activity pertains to the treatment of groundwater abstracted as part of dewatering at EGM. No alternative activity has been identified which will serve a similar purpose as the proposed WTP.

8.1.3 Alternative layout/design

The proposed plant will be fabricated in 12m containers. This will allow for ease of installation and to accommodate potential future modular expansion. It also allows protection of the plant equipment from environmental elements. The alternative would be to establish the WTP in a fixed/stationary building. However, this is not a preferred alternative as the input cost will be high and will restrict future modular expansion, and also increase rehabilitation liability.

An alternative has been identified to establish the pipeline adjacent to the existing pipeline, but utilising the same route. This will entail the removal of natural vegetation and disturbance of wetlands/riparian habitat, as well as a ¹Critical Biodiversity Area (CBA). The preferred alternative is to establish the pipeline on the existing pipeline supports which will prevent/minimise disturbance of vegetation and associated impacts on biodiversity/aquatic environment.

8.1.4 The technology to be used in the activity

Even though various kinds of traditional technologies have been recognized for domestic and industrial water treatment, these methods are limited to a certain level. Traditional technology is not effective in removing pollutants like various metals, organic and inorganic compounds, and pathogens from water.

Conventional techniques/technology for removing dissolved heavy metals include chemical precipitation, carbon adsorption, ion exchange, evaporations and membrane processes. Conventional methods for removing metals from waste water are either becoming inadequate to meet current stringent regulatory limits or are increasing in cost. As a result, alternative, cost effective technologies are in high demand. The selection of a particular treatment technique primarily depends on a variety of factors, e.g. waste type and concentration, effluent heterogeneity, required level of clean-up, as well as economic factors.

The combination on RO and UF treatment has been identified as the preferred technology alternative due to the capability thereof to treat the water to potable standards as well as the cost effectiveness thereof.

8.1.5 The operational aspects of the activity

The operation of the facility will be conducted strictly according to operating procedures by competent staff. No alternative operational aspects were identified or assessed.

8.1.6 The option of not implementing the activity

In accordance with the NEMA Regulations, the no-go alternative is required to be investigated and assessed. The no-go alternative will entail the non-continuation of the proposed WTP and the status quo will remain. The socio-economic benefits associated with the project will be negated and local economic development pertaining to job creating and capital investment will not proceed. EGM will not be able to treat groundwater and the pressure on the municipal system as well as consumption of surface water resources will remain as is currently. The potential benefit of increased water security at EGM will not be realised.

¹ 1A CBA is an area considered important for the survival of threatened species and includes valuable ecosystems such as wetlands, untransformed and ridges.

The status quo of the baseline environment will remain, and the insignificant negative impacts associated with the project will not be realised. The EIA found that the project will not result in significant adverse environmental consequences, especially taking into account the mitigation measures proposed.

9. DETAILS OF THE PUBLIC PARTICIPATION PROCESS FOLLOWED

A public participation process is conducted in-line with the requirements of Chapter 6 of the NEMA Environmental Impact Assessment Regulations, GNR 982. Refer to **Annexure B** of this report for the proof of public participation conducted thus far. The process entails the following:

- Identification of Interested and Affected Parties (IAPs);
- Notification of IAPs regarding the proposed project;
- Gathering comments, issues and concerns from IAPs;
- Responding to IAP comments, issues and concerns;
- Providing IAPs with the opportunity to review and comment on the BAR.

9.1 Identification of Interested and Affected Parties

The existing EGM database was used for the purposes of identifying Interested and Affected Parties (IAPs). The databases were updated and expanded based on data available. New IAPs which will register as part of the notification will also be added to the database.

In terms of the EIA Regulations the following were also identified as IAPs for the project:

- Landowners or tenants adjacent to the proposed study area.
- Representatives of the local municipality/ward councillor with jurisdiction in the area.
The office of the mayor of the Govan Mbeki Municipality and the Gert Sibande District Municipality as well as the respective municipal managers have been included.
- Representatives of the local rate payers association.
- Authority or organ of state having jurisdiction in respect of any aspect of the activity.

The following organs of state have been notified:

- Department of Water and Sanitation Mpumalanga
- Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs
- Mpumalanga Tourism and Parks Agency (MTPA)
- Mpumalanga Department of Economic Development and Tourism
- Department of Health and Social Services

- Department of Local Government and Housing
 - Department of Roads and Transport
 - Department of Labour
 - Mpumalanga Provincial Heritage Resource Authority (MPHRA)
 - Mpumalanga Provincial Government Department of Public Works, Roads and Transport
- Persons who responds to posters or press advertisements.

Refer to **Annexure B1** for the list of I&APs

9.2 Notification of Interested and Affected Parties

In accordance with the Section 41(2)(b) of Chapter 6 of the EIA Regulations (GN. 982 of 2017), written notifications (including BID document by email and SMS) has been given to:

- Surrounding landowners;
- Representatives of local government and the local municipalities;
- Ratepayer's association; and
- Organs of state.

Refer to **Annexure B2** for a copy of the BID and **Annexure B3** for proof of distribution.

Other forms of notification included the placement of Site Notices (as per the Regulation required size) at various locations. Five site notices site notices were placed at the following locations:

- Evander Shoprite Checkers;
- Magistrates Court; and
- 3 at Access Roads.

The site notices were placed whereby IAPs can register to be provided with more information on the project. Refer to **Annexure B4** for proof of site notice placement.

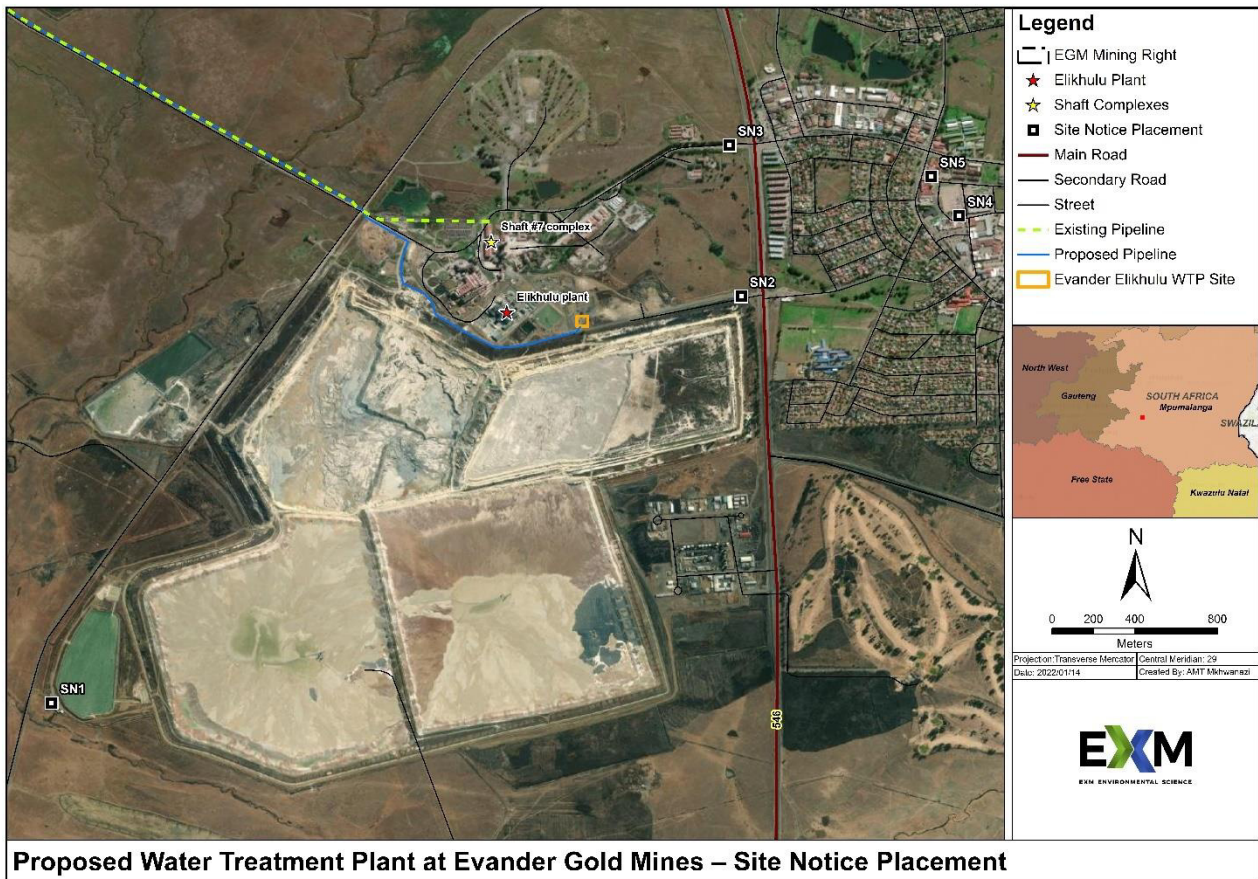


FIGURE 9-1: SITE NOTICE LOCATIONS

Press advertisements were placed in the following newspapers:

- The Ridge Times on the 21st of January 2022 in English.

Refer to **Annexure B5** for proof of advertisement placement.

9.3 Gathering Comments, Issues and Concerns from IAPs

IAPs were provided with the opportunity to register as IAPs and raise initial issues and concerns.

9.4 Review and Commenting on the BAR and IWWMP

All I&APs were provided access to the draft BAR for review. Proof of circulation will be included in the final BAR.

9.5 Comments and response report

The below table contains the comments received thusfar and the comments/communication has been included in **Annexure B6**.

TABLE 9-1: COMMENTS AND RESPONSE TABLE

DATE	NAME	CORRESPONDENCE RECEIVED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT
Municipality (district and local)			
17/01/2022	M Tebogo	<p>Good morning</p> <p>Thank you for your email.</p> <p>This serves as acknowledgement of the email as sent.</p> <p>Regards,</p> <p>Tebogo</p>	<p>Noted. All further communication and reports will be provided for comment.</p>
Interested Parties			
17/01/2022	Buyi Welleminah	<p>CV received</p>	<p>Good day,</p> <p>Thank you for the communication received. The Environmental Authorisation (EA) application currently conducted for the Water Treatment Plant at Evander Gold Mines (EGM) does not relate to procurement processes. I have however communicated the attached document to EGM for their database.</p> <p>Kind regards Trevor</p>
18/01/2022	Sabelo Mthimunye	<p>I can work with valves, pressure pipes, pumps and hydrants</p> <p>CV Provided</p>	<p>Good day,</p> <p>Thank you for the communication received. The Environmental Authorisation (EA) application currently conducted for the Water Treatment Plant at Evander Gold Mines (EGM) does not relate to procurement processes. I have however communicated the attached document to EGM for their database.</p> <p>Kind regards Trevor</p>
23/01/2022	Sonto Gushu Hushu Holdings	<p>Issues, Concerns and Questions:</p> <p>Safety assessment and management</p> <p>Working at heights</p> <p>Lifting operations</p> <p>Permit to work</p> <p>Is the access controlled to the work area with positive barricading signs?</p>	<p>Good day,</p> <p>Thank you for the communication received (as attached). The application for Environmental Authorisation (EA) does not deal directly with safety requirements for the proposed facility. However, the construction and operations of the proposed Water Treatment Plant (WTP) is to be undertaken according to relevant safety procedures which will be in line with relevant safety legislation. Evander Gold Mines follow strict policies with regards to safety requirements.</p>

DATE	NAME	CORRESPONDENCE RECEIVED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT
		<p>Is a temporary storage in safe condition? Furniture equipment covered to prevent damage. Was the work area inspected to ensure it is free from potential falling objects hazards that may have existed before the commencement of the current task.</p> <p>Are there any product or process leaks that can lead to exposure from hazardous dust, steam and etc? Are there any exposed hot or cold surfaces? Is there any hazard from moving equipment (Ex Machinery, Vehicles and etc.) Do you follow all the required road safety rules?</p>	<p>Please inform me should you have any further comments.</p> <p>Kind regards Trevor</p>
19/01/2022	Nompumelo Promise	CV received	<p>Good day,</p> <p>Thank you for the communication received. The Environmental Authorisation (EA) application currently conducted for the Water Treatment Plant at Evander Gold Mines (EGM) does not relate to procurement processes. I have however communicated the attached document to EGM for their database.</p> <p>Kind regards Trevor</p>
20/01/2022	Tekela Xaba	<p>Greetings I would like to apply for semi skilled labour jobs. All my documents are attached in this email. I am type of person who always like to experience new things. I do believe in creativity and time management. I do not give up or quit on things I want. I promise you won't regret hiring me for this job. I can relocate to any place. Please if there are no jobs available hold on to my cv until they are available</p>	<p>Good day,</p> <p>Thank you for the communication received. The Environmental Authorisation (EA) application currently conducted for the Water Treatment Plant at Evander Gold Mines (EGM) does not relate to procurement processes. I have however communicated the attached document to EGM for their database.</p> <p>Kind regards Trevor</p>
20/01/2022	Lazarus Kutumela	<p>Hi Received with thanks.</p> <p>Sincerely</p>	Noted

DATE	NAME	CORRESPONDENCE RECEIVED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT
	Planatorium Solutions	Lazarus	
20/01/2022		<p>Good day TRevor</p> <p>Reference is made to the notice of a basic environmental impact assessment for the development of a water treatment plant, placed in the Ridge Times of 21 January 2022. It will be appreciated if you could confirm the property/properties involved, to allow us to establish its proximity to Sasol's operations?</p> <p>Thank you and kind regards Anneke</p>	<p>Good day Anneke,</p> <p>Please find attached the land tenure map as well as the BID for the proposed project.</p> <p>Please inform me if you have any further comments.</p> <p>Kind regards Trevor</p>
20/01/2022	Anneke Conradie Sasol	<p>Good morning Trevor</p> <p>Thank you for your email. I notice that the SG office GIS system also only indicates Ptn 54, but if you refer to comp sheets ISNV34 and 32, and Windeed, it appears that there are more properties involved, and that Portions 37, 93 and possibly 86 are affected in your project?</p> <p>Attached please find various compsheets and a windeed search for your information. I also added a screenshot from our GIS.</p> <p>Kind regards Anneke</p>	<p>A meeting was held with Anneke Conradie on the 24th of January 2024 to clarify the matter. It was found that the Surveyor General (SG) data as well as maps on Windeed that was used for the property description provided was not correct. She indicated that this is the first time that she has seen such an omission on these databasis. Anneke indicated that the property data she provided was previously extracted from information obtained from Windeed. These properties were confirmed on title deeds and the BAR has been amended with the correct property descriptions (prior to circulation to IAPs for comment).</p>
Affected Parties			
Landowners/Lawful Occupiers of Adjacent Properties			
Commenting authorities o			
19/01/2022	Asanda Mnyaka	May you please provide me with the actual EIA document for proper comments from the department of Water and Sanitation	Good day,

DATE	NAME	CORRESPONDENCE RECEIVED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT
	Department of Water and Sanitation		<p>The Basic Assessment Report will be distributed for comment once finalised, most probably during next week.</p> <p>Kind regards Trevor</p>

10. ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE STUDY AREA

This section provides a description of the baseline environmental features within the study area.

10.1 Climate

Evander falls within the Mpumalanga region, which is characterized generally by a cool-temperature climate with hot summers and mild to cool winters. The average daily maximum temperature in Evander is around 25.8°C in January and 17.1°C in July, rising to 34.7°C and 25.8°C respectively in extreme cases. The area can thus be characterized with having extremes between maximum summer and minimum winter temperatures. The wind speed remains relatively stable throughout the year at 10km/h, except in summer months where there is a 2-4km/h increase. The dominant wind direction is from a north easterly direction. Seasonal variation of winds for EGM for the period January 2013 - December 2015 (as provided by Rayten, 2017) is provided in Figure 10-1.

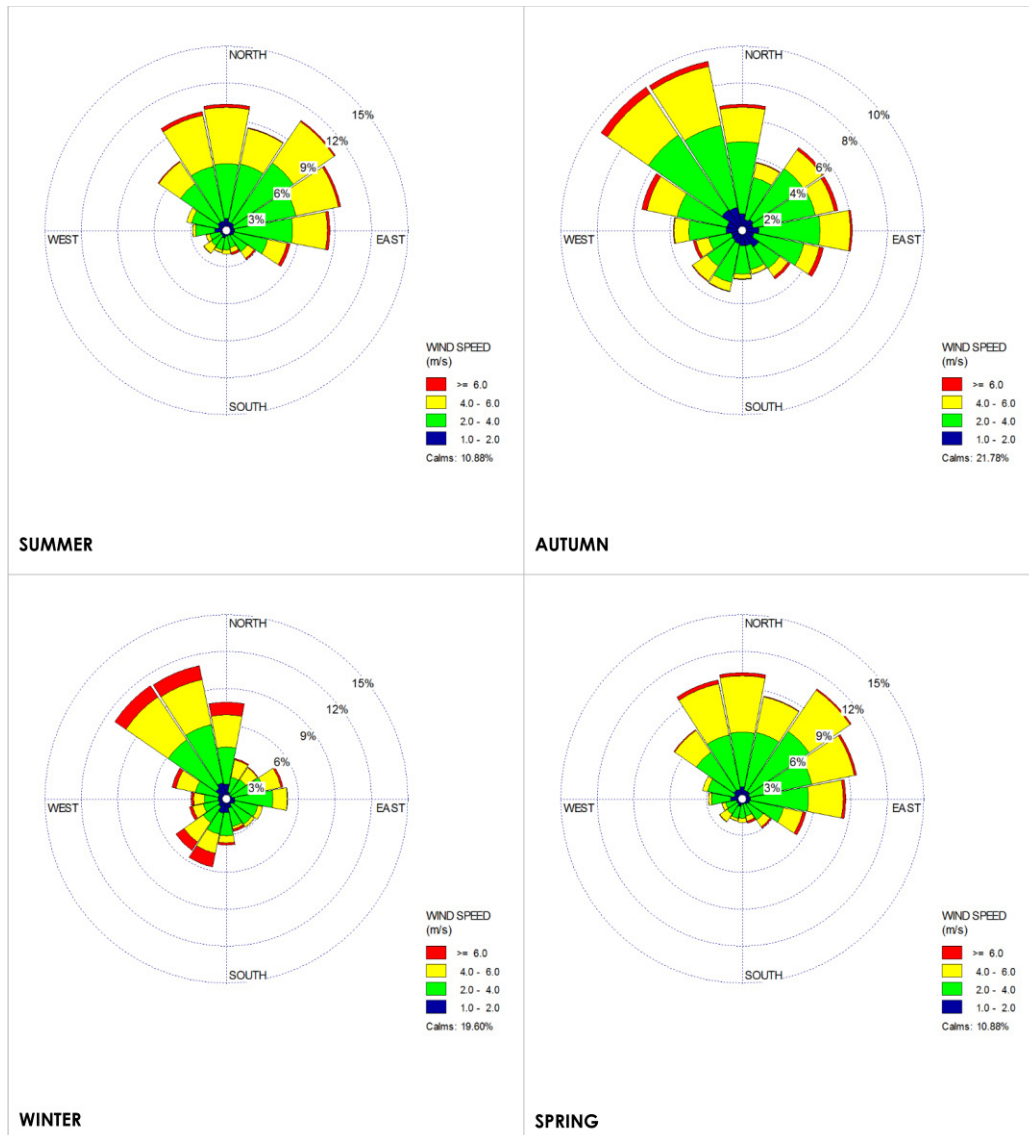


FIGURE 10-1: SEASONAL VARIATION OF WINDS FOR THE PROJECT SITE FOR THE PERIOD

JANUARY 2013- DECEMBER 2015 (RAYTEN, 2017)

The highest percentage of wind speed is above 6m/s as depicted in Figure 10-1. The highest wind speed from the north easterly direction is experienced during summer and spring and north westerly during winter.

The summer months, between October to March, are defined as the rain season with the highest rainfall occurring over December in the form of thunderstorms. The average annual rainfall is 700mm and 85% of the annual rainfall occurs in the summer months. The period in which frost is likely to form lasts on the average for about 120 days from May to September. The below Table summarises the precipitation and temperature of Evander, Mpumalanga.

TABLE 10-1: MEAN REGIONAL CLIMATIC DATA

Month	Precipitation (mm)	Evaporation (mm)	Min Temperature (°C)	Max Temperature (°C)	Mean Temperature (°C)
January	145	155	11.1	29.6	20.4
February	76	145	11.1	29.2	20.2
March	61	141	9.1	26.6	18.2
April	60	100	3.6	25.2	14.3
May	21	90	0.9	20.9	11.8
June	6	70	-0.9	18.6	8.6
July	7	79	-3.4	17.2	8.4
August	12	116	-1	23.5	10.9
September	24	149	0.4	24.8	14.7
October	78	173	2.6	28.1	16.5
November	110	140	4.6	28.4	18.5
December	103	171	11.2	30	20.3
Total	704	1530			

10.2 Air Quality

The air quality in Evander and in Mpumalanga in general is of concern due to mining activities, agricultural activities and industrial/power generation activities in the area. A wide variety of both natural and anthropogenic sources of air pollution exist in Mpumalanga, ranging from veld fires to industrial processes, agriculture, mining activities, power generation, paper and pulp processing, vehicle use and domestic use of fossil fuels. Different pollutants are associated with each activity, ranging from volatile organic compounds and heavy metals through to dust and odours.

The area where the proposed pipeline and WTP will be developed is mostly surrounded by mining activities and dust monitoring on site indicates that no levels exceed the alert threshold due to maximum dust fallout rates for all the sites ranging from approximately 709 – 3500 mg/m²/day. Other sources of air pollution surrounding the project site are identified as industrial /power generation, agricultural activities, biomass burning, vehicle dust entrainment on unpaved roads and wind erosion from exposed areas such as eroded land in the area, tailing facilities, stockpiles, open-storage piles and cultivated land. It is highly unlikely that the project will contribute to any air pollution.

10.3 Noise

Existing sources of noise pollution in and around the site relate to mining operations and the development of the proposed pipeline and WTP will not be of any concern in terms of noise generation to the surrounding environment. Environmental noise related to the EGM operations have been sampled as per the requirements of the National Noise Regulation. Monitoring results indicate that activities related to the EGM operation do not result in significant noise generation and the limits stipulated in the regulations are not exceeded.

10.4 Biodiversity

The vegetation type in which EGM is located has previously been classified as Soweto Highveld. This vegetation type occurs on gently to moderately undulating landscape on the Highveld plateau supporting short to medium-high, dense, tufted grassland dominated almost entirely by *Themeda triandra* and accompanied by a variety of other grasses such as *Elionurus muticus*, *Eragrostis racemosa*, *Heteropogon contortus* and *Tristachya leucothrix*. In undisturbed areas, some scattered small wetlands, narrow stream alluvia, pans and occasional ridges, or rocky outcrops interrupt the continuous grassland cover. The area proposed in which the WTP will be developed has been historically disturbed and no vegetation clearance will be conducted.

A portion of the proposed pipeline will extend over a natural area of which a section has been classified as a ²Critical Biodiversity Area as per Figure 10-2. However, the pipeline will be established on existing pipeline supports and no additional vegetation clearance will be undertaken/is anticipated.

² A CBA is an area considered important for the survival of threatened species and includes valuable ecosystems such as wetlands, untransformed and ridges.

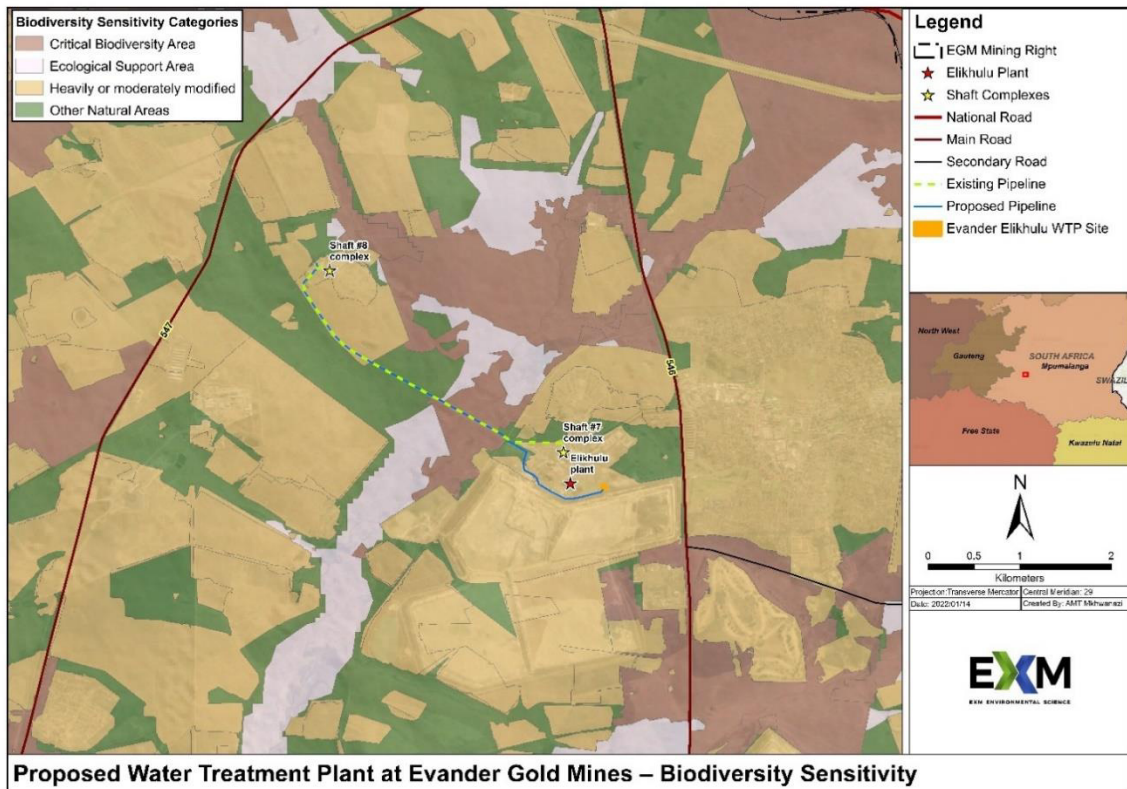


FIGURE 10-2: PROPOSED PIPELINE IN RELATION TO BIODIVERSITY SENSITIVE AREAS

10.5 Surface Water Resources

EGM falls within the Upper Vaal Management Area (WMA 8), and the C12D Quaternary Catchment. The Mean Annual Evaporation for the area is estimated to be 1529.5 mm (Letsolo, 2017).

10.5.1 Streams

Five main rivers or streams are associated with the C12D quaternary catchment, including the Grootspuit, Winkelhaakspuit, Trichardspruit, Wildebeesspruit and the Waterval rivers.

The largest contributors to pollution of these rivers/streams are mining and industrial activities. Pollutants are also introduced into the Winkelhaakspuit by means of sewage spills from the nearby town of Evander (Letsolo, 2017). The aquatic resources within the quaternary catchment have also been affected due to sedimentation and erosion as a result of human induced activities such as agriculture and mining. Riparian zones and stream banks have furthermore been impacted due to informal settlements expanding onto the banks and floodplains, resulting in a high occurrence of alien plant species due to disturbed soil.

The proposed pipeline will cross two streams, namely the Grootspuit and a tributary stream that flows into the Grootspuit as indicated in Figure 10-3. According to the most recent biomonitoring report compiled by Scientific Aquatic Services (SAS, 2021), the stream at site KM2 (Grootspuit) was described as having a slow flow during the September 2021 assessment. The riparian zone of the Grootspuit is characterised as being very narrow due to the incised nature of the stream. The stream is dominated by grass and even though the water seemed clear it has a strong sewage odour. The stream is ranked category E/F meaning that it is seriously to critically modified.

Water quality monitoring results show that the Electrical Conductivity (EC) did not exceed the Resource Water Quality Objectives (RWQO's) of the Upper Vaal catchment, however the long-term EC trend shows a significant increase. The pH was furthermore considered to be largely neutral. The Grootspuit stream is identified as already largely impacted prior to any potential direct impacts from mining activity that would be present. The latest quarterly surface water monitoring report shows that the water quality in the Grootspuit up and downstream of the EGM operations is compliant with the in-stream resource quality objectives for the CD12 catchment.

10.5.2 Wetlands

A Freshwater Assessment was undertaken by the Scientific Aquatic Services (SAS) in 2018 as part of the EGM wetland offset strategy. The assessment focussed on wetlands within the Grootspuit River system associated with the study area. The fresh water resources located within the area relates to the following:

TABLE 10-2: FRESHWATER RESOURCES IN STUDY AREA



Freshwater Resource	Landscape unit	Hydrogeomorphic (HGM) unit
Grootspuit River system	Valley floor: The base of a valley, situated between two distinct valley side-slopes	Channelled valley-bottom wetland: a valley-bottom wetland with a river channel running through it

The proposed pipeline will cross two separate unchanneled valley bottom wetlands (See Figure 10-3) as identified by SAS. The pipeline will be installed on existing pipeline supports and no additional vegetation clearance is anticipated.

SAS found that the study area has historically been impacted by agricultural activities, and latterly by mining-related activities, including the presence of infrastructure such as road and pipeline crossings, and increased runoff entering the Grootspuit wetland system as a result of increased impermeable surfaces. Table 10-3 provides a summary of results of the assessment of the channelled valley bottom wetland system associated with the Grootspuit River. See Figure 10-3 for the watercourses in relation to the proposed new pipeline.

According to the Biodiversity Company (2018), the Grootspuit wetland system, where the proposed pipeline will be established, is generally impacted by erosion and canalisation which is expected to have resulted in a lowering of the water table and consequently a loss of wetland habitat. Agricultural activities in the catchment, overgrazing and burning have resulted in loss of vegetation cover compounding the erosion along the watercourse. Sewage spills from the town of Evander appear to regularly contribute to the input of pollutants to the Grootspuit.

TABLE 10-3: SUMMARY OF RESULTS OF THE ASSESSMENT OF THE CHANNELLED VALLEY BOTTOM WETLAND SYSTEM ASSOCIATED WITH THE GROOTSPRUIT RIVER.

Site photos	
	
<p>Present Ecological Status: Category: B/C (Moderately modified)</p> <p>Modifications to the wetland include alterations to hydraulic and geomorphological processes due to increased impermeable surfaces in the catchment area, soil disturbances and grazing by domestic livestock, and altered water quality as a result of contamination in runoff (e.g. hydrocarbons from road surfaces, discharge of domestic effluent upstream of the study area etc.) In addition, artificial canals were observed during the site visit and on digital satellite imagery.</p>	<p>Ecoservice provision</p> <p>The portion of the valley bottom wetland system within the study area is considered to provide moderate levels of ecological services such as streamflow regulation, sediment trapping and assimilation of nutrients and toxicants, flood attenuation and biodiversity maintenance. Should the ecological integrity of the wetland be improved as a result of the proposed rehabilitation activities which will form the focus of the offset initiative, it is the opinion of the ecologist that such ecoservice provision will increase.</p>
<p>Watercourse characteristics:</p> <p>a) Hydraulic regime</p> <p>The hydraulic regime of the portion of the Grootspruit wetland within the study area has been altered as a result of the placement of infrastructure such as bridge</p>	<p>Ecological Importance and Sensitivity (EIS) discussion</p> <p>Moderate</p> <p>The assessed portion of the Grootspruit wetland system was considered of moderate ecological importance in terms of provision of hydrological services (flood attenuation, streamflow regulation etc) as well as on a landscape scale</p>

and pipeline crossings within the active channel, and increased inputs of water as a result of increased impermeable surfaces in the catchment. Additional runoff from the PCD adjacent to the wetland is also anticipated, and there was evidence during the site assessment of informal discharge of domestic effluent into the northern portion of the wetland originating from the informal settlement in this area.

b) Water quality

Comprehensive water quality testing did not form part of the scope of work of this study; however, testing of basic parameters (pH, temperature, Electrical Conductivity [EC]) indicate that water quality is generally slightly impaired, most likely due to contaminants contained in stormwater runoff and domestic effluent originating from the informal settlements further upgradient in the landscape.

c) Geomorphology and sediment balance

The primary modifier to the geomorphology of the wetland is bank incision, which in turn is likely to increase sedimentation of the channel, leading to altered vegetation profiles and contributing to impaired water quality. Soil disturbances due to trampling by domestic livestock and the influence of mining activities (e.g. dust pollution and increased vehicular movement) in the catchment, are expected to contribute to increased sedimentation of the wetland.

d) Habitat and biota Ecoservice provision

The establishment of alien invasive floral species is considered low within the study area, although some alien species such as *Cirsium vulgare* were noted. Although the study area is utilised for grazing of livestock by neighbouring communities, overgrazing is not widespread within the study area and appears to be isolated in occurrence. Nonetheless, floral species diversity is considered fairly low within only a few species identified during the site assessment. Vegetation cover is however good, thus habitat for avifauna, amphibians reptiles and small mammals is available. Improvement of the habitat during the rehabilitation process may result in increased floral and faunal species diversity, in turn increasing the overall biodiversity maintenance, recreational and educational potential of the wetland.

– the portion of the wetland within the study area is a small portion of the overall system – and in terms of biodiversity support. Furthermore, the wetland is likely to be moderately sensitive to changes in low flows.

Recommended Ecological Category (REC) Category

Category B/C (Largely Natural / Moderately Modified)

At minimum, the ecological integrity of the wetland must be retained at the PES Category C; however the aim of the offset initiative is to improve the ecological condition and thus overall functionality of the wetland.

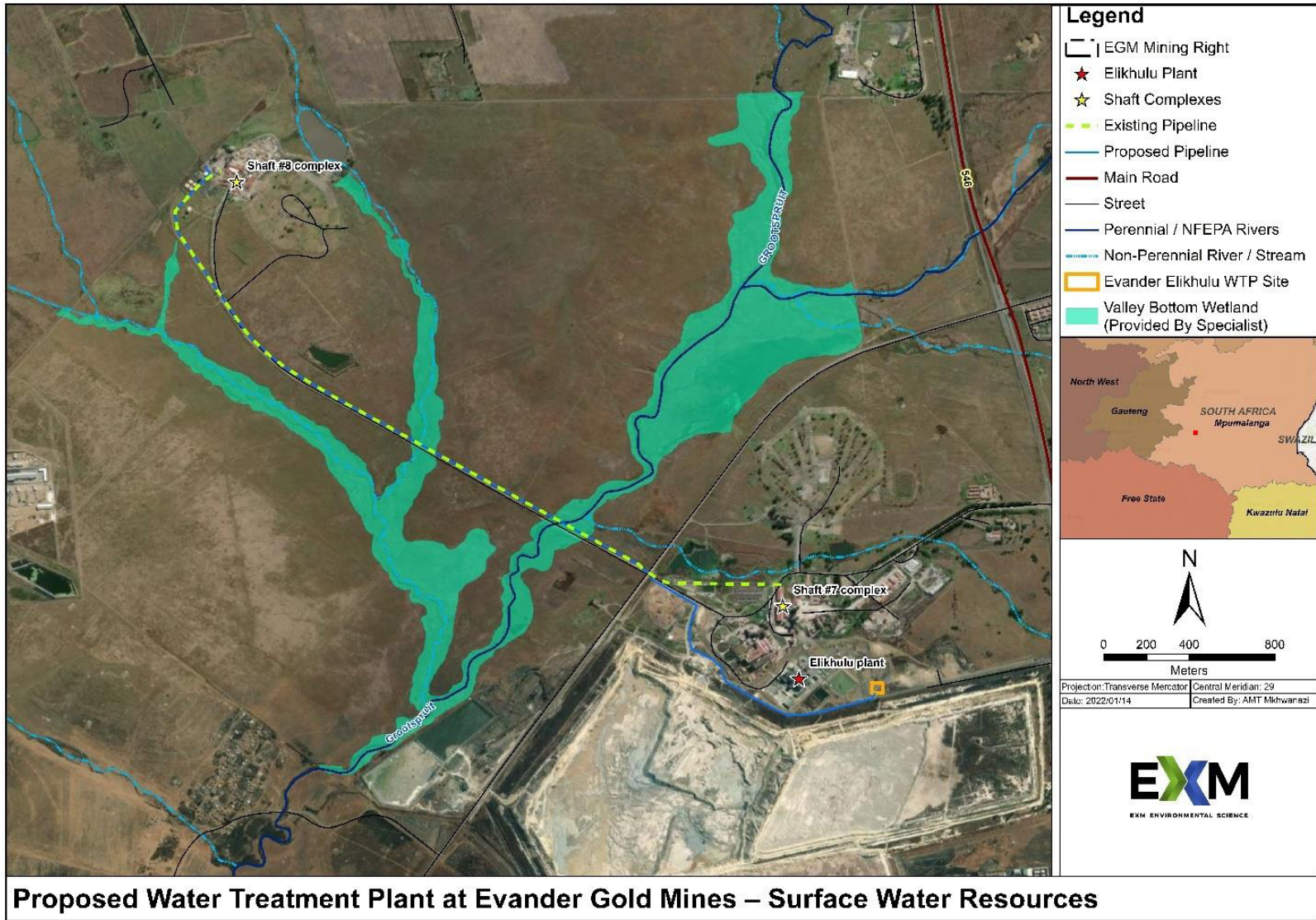


FIGURE 10-3: PROPOSED PIPELINE IN RELATION TO WATERCOURSES.

10.6 Groundwater

The site is situated in a typical Karoo setting, with a shallow weathered aquifer overlying a fractured aquifer consisting of sedimentary and intrusive rocks, part of the Ecca Group. According to the Regional Aquifer Classification Map of South Africa, the Karoo aquifer is identified as a minor aquifer with good quality water, medium to high vulnerability and susceptibility to contamination. EGM have undertaken water quality monitoring since 1992, monitoring 46 monitoring boreholes on a biannual basis, however the latest water quality results indicate exceedances compared to the water quality criteria. Current groundwater quality results show contaminant plumes have migrated to the areas surrounding the TSF footprints.

Water levels range from 0 mbgl to 34 meters below ground level (mbgl) mbgl, but average at 3.7 mbgl which indicates a shallow water table. A good correlation is observed between the water level and surface elevations indicating that the water table follows the surface topography. Recharge values for the Karoo lithologies are generally low, ranging between 1 % and 3 % of the mean annual precipitation. Gold mining can be defined as the main source affecting the aquifers and the surrounding environment.

10.7 Geology

The predominant geology of the area has been characterized to have five major units, which includes the Karoo Sediments, the Transvaal Sediments, the Ventersdorp Lavas, the Witwatersrand Quartzite and the Archean Basement (Groundwater Consulting Services, 1998). EGM is currently mining the Kimberly Reef, which is included in the Witwatersrand Quartzites and sediments of the Witwatersrand Supergroup can be found overlying the Achaean Basement, which are in turn overlain by the Ventersdorp Supergroup and the Transvaal Karoo Sequences.

According to the Geomeasures Group (2020), the site where the new pipeline and WTP will be constructed is underlain by the Madaringwe Formation, which is part of the Karoo supergroup and contains Siliciclastic rocks, in the middle. The starting point and end of the proposed pipeline at the new water treatment plant is underlain by the Karoo Dolerite Suite, which contains fine grained felsic rocks. The Geomeasure Group (2020) further states that the sediments of the Karoo Supergroup are essentially secondary or fractured rock aquifers with negligible primary storage and permeability. See Figure 10-4 for the regional geology around the proposed project.

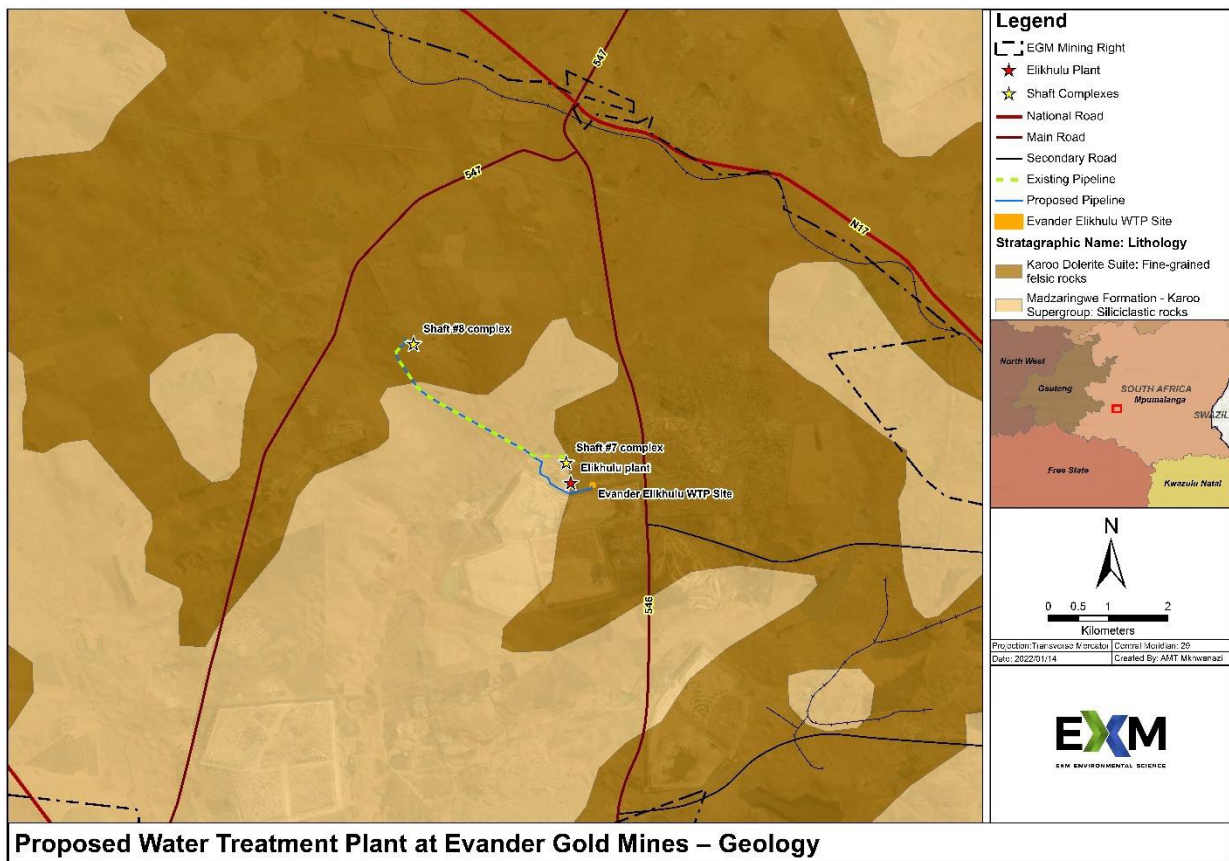


FIGURE 10-4: REGIONAL GEOLOGY

10.8 Soil

The majority of the area in which EGM is located falls within the land type Ea. 20 and Bb3 and the soils are characterized as mostly loamy to sandy loams. The soil is somewhat susceptible to wind erosion and low to moderately susceptible to water erosion. The soil type where the WTP and pipeline will be established is underlain with soil type VR and classified as a strongly structured cracking soil. It is mainly dark coloured and dominated by swelling clays. See Figure 10-5 for the soil types surrounding the proposed pipeline.

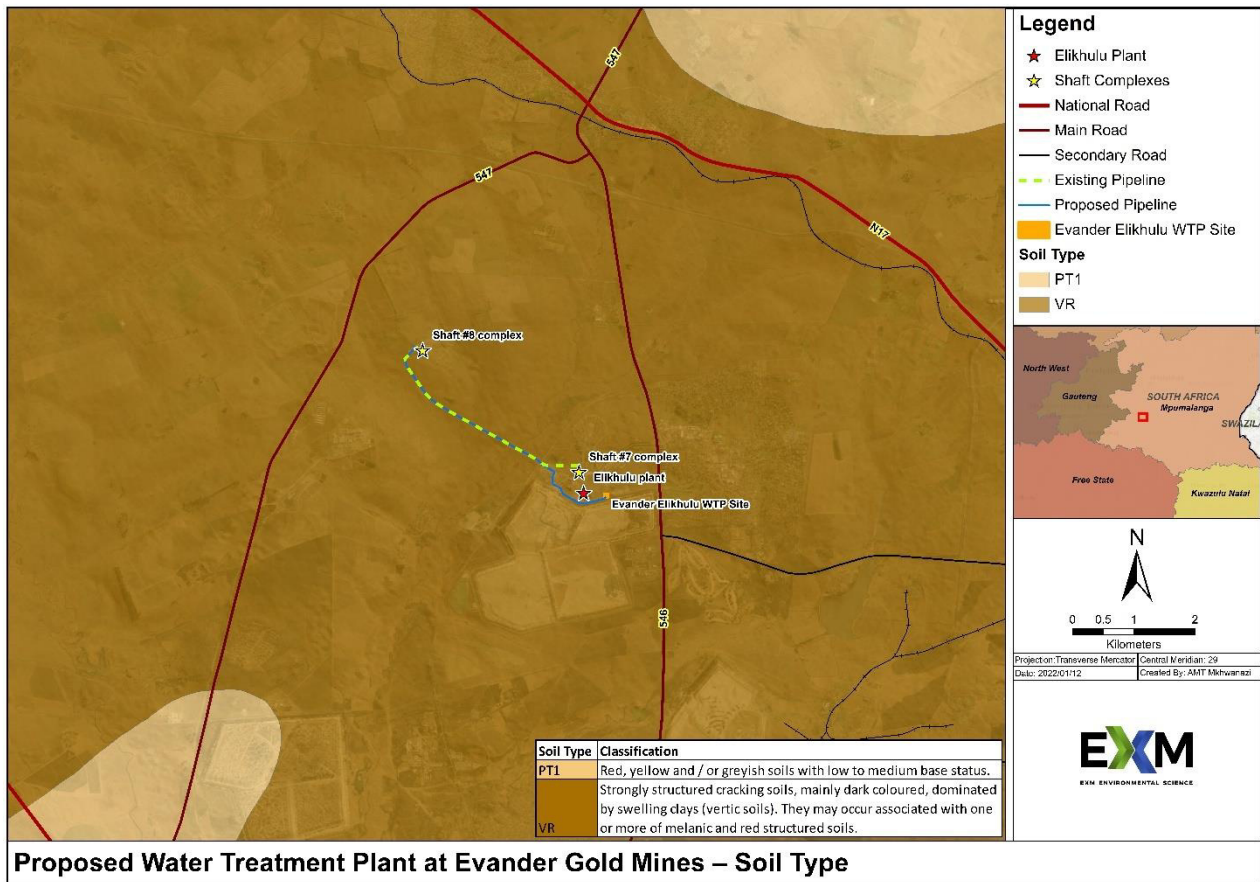


FIGURE 10-5: SOIL TYPES

10.9 Topography

The EGM mining right lies in a morphological division called the interior plains and are described as having slightly undulating grasslands and flat grasslands. The elevations in the mining right area ranges between 1,600 meters above mean sea level (mamsl) to 1,617 mamsl, compared to the area where the pipeline will be constructed where it ranges from 1,625 mamsl to 1,642 mamsl. The area where the pipeline crosses over is however characterized as having a gradual decline as it crosses over the wetland in the first 1,77km to a low point of 1, 590 mamsl are whereafter the elevation increases with 52m over 3,57km. The total distance covered is 4,35km with an elevation gain of 61m. See Figure 10-6 for the elevation profile of the proposed new pipeline and Figure 10-7 for the topography surrounding the proposed pipeline.



FIGURE 10-6: ELEVATION PROFILE OF PROPOSED PIPELINE

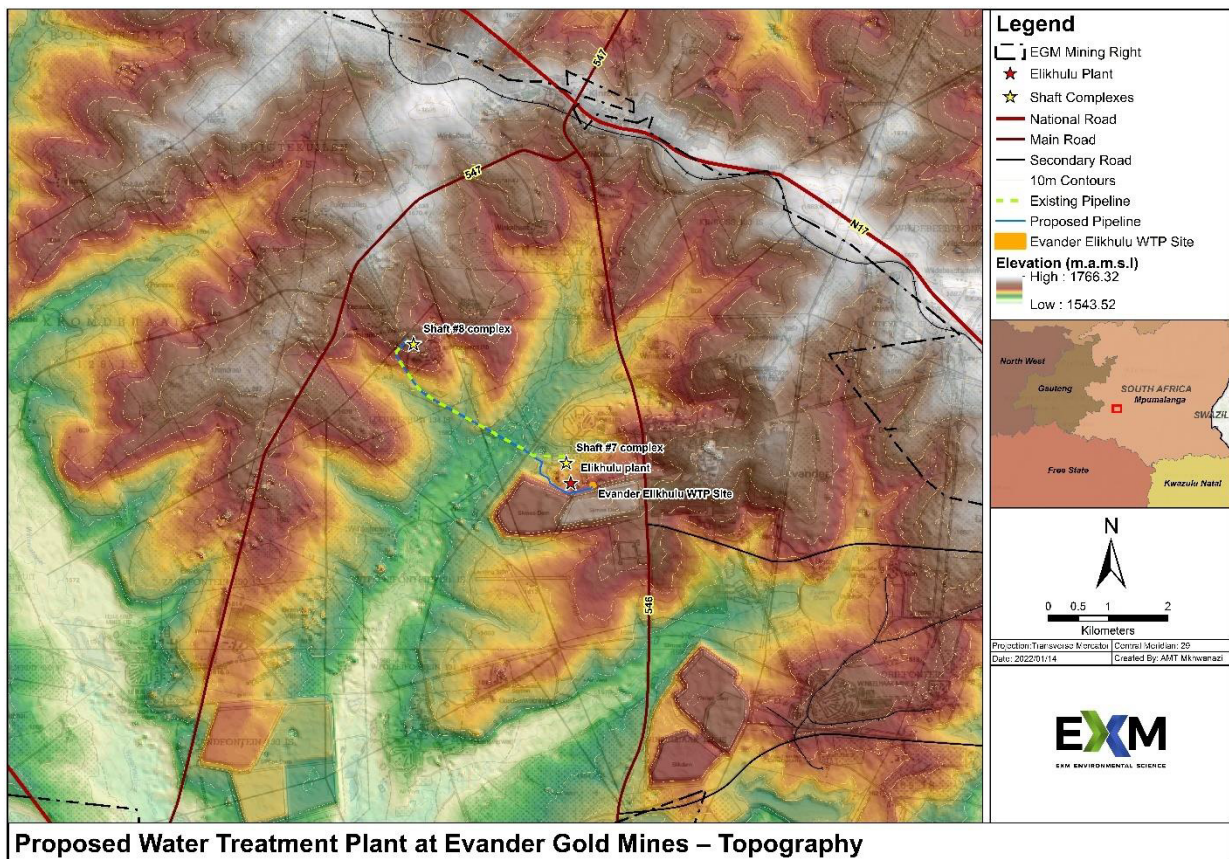


FIGURE 10-7: TOPOGRAPHY SURROUNDING PROPOSED PIPELINE

10.10 Cultural Heritage and Palaeontological resources

There are heritage residue's that remains on the EGM property; however, no areas of cultural significance or historical importance will be disturbed with the development of the proposed WTP and pipeline. The heritage resources previously identified at EGM are as follow:

- Thirteen informal cemetery sites containing approximately 300 graves;
- One official mine cemetery containing in the order of 1,030 graves;
- Two memorial sites;
- A variety of foundations and remains of farmyards
- Remains of a large formal 'township; and
- A special site yearly utilised for initiation practices.

It needs to be noted that the graves appear to be tampered with and that there are extensive diggings found surrounding the farmhouse, suggesting 'fortune hunters' hoping to find information for the intent of fraudulent land claims. No impacts to palaeontological records are expected.

10.11 Land Tenure

The installation of the proposed pipeline will be undertaken on the Remaining Extent of Farm Leeuwspuit 134 and Portions 37 and 93 of the Farm Winkelhaak 135 IS. The proposed WTP will

be developed on Portions 37 and 86 of the Farm Winkelhaak 135 IS. All the properties on which the facility and pipeline will be developed are owned by EGM.

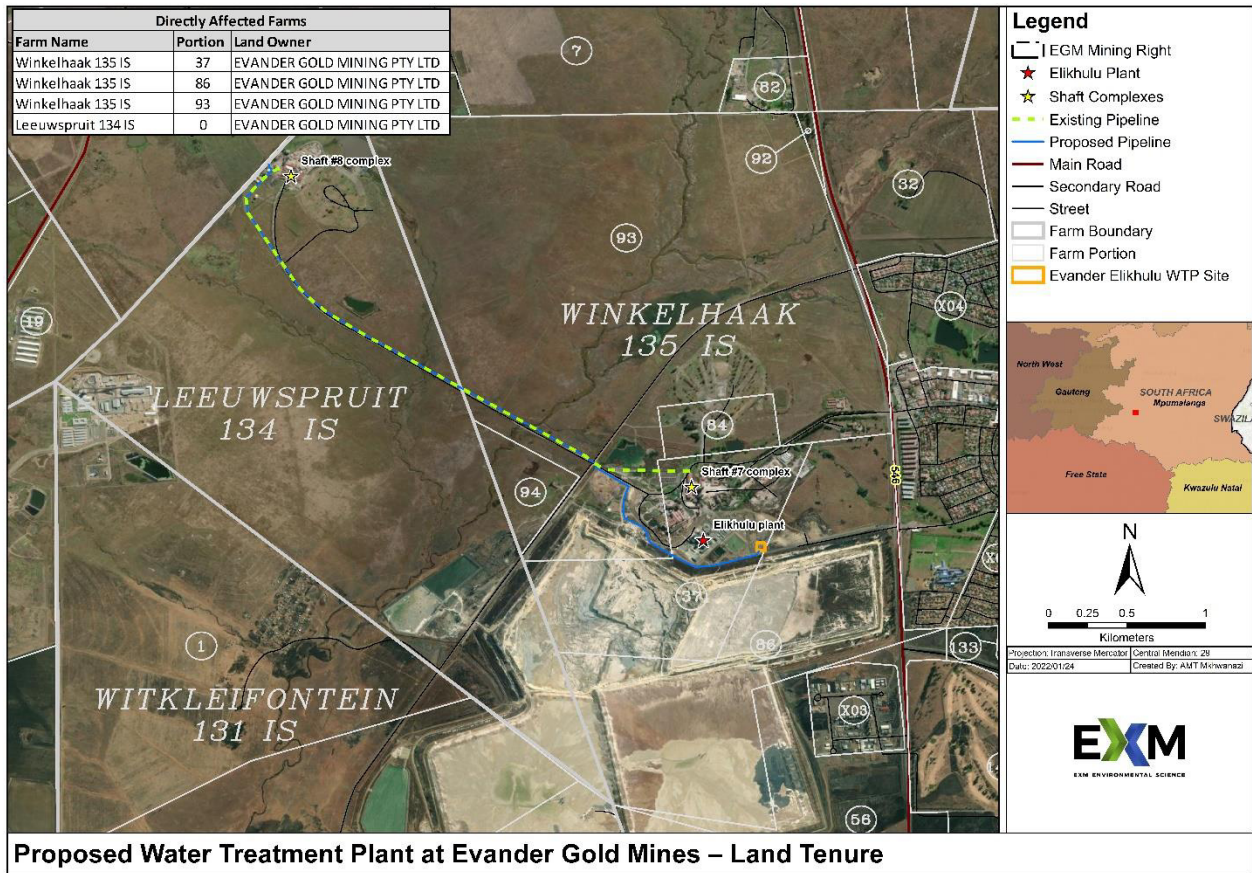


FIGURE 10-8: LAND TENURE AFFECTED PROPERTIES

10.12 Socio-Economic Environment

Demographic Profile

Evander was established as a town in 1955 with the discovery of gold in the area as a means to accommodate the mining personnel. The town falls within the Govan Mbeki Local Municipality, Gert Sibande District Municipality and approximately 90% of the residents in Evander are employees of the surrounding mining companies. According to EGM's latest employee figures in November 2018, 174 Permanent labours and 974 contractor labours are employed at the mine.

The following information is largely abstracted from the Govan Mbeki Spatial Development Framework 2014 – 2034 and summarises the relevant demographics of the Govan Mbeki Local Municipality. Between 2001 – 2011, the population grew at a rate of 2.84% per annum most likely due to provincial migration as a result of mining activities. The Govan Mbeki Local Municipality has a population of 294 538 people, approximately 28.2% of the district population. Only 4.5% of the population is associated with the mining villages and farms within the area. The number of households within the local municipality is 83 874 (average of 3.3 people per household). The gender ratio over the period 2001 – 2011 indicates more males than females in the area indicating the presence of migrant workers and the unemployment rate of 25.2% in The Govan Mbeki Municipality is higher than the provincial rate of 24.5%, but lower than the district rate of 30.0%.

Economy

The Govan Mbeki Local Municipality has a major influence on the Mpumalanga and the Gert Sibande District Municipality economies. It contributes 19.8% to the Mpumalanga and 63.3% to the district economy. Within the sub region (Govan Mbeki, Emalahleni, Steve Tshwete, Msukaligwa, Victor Khanye, Dipaleseng and Lekwa), the contribution of Govan Mbeki is 33.1%. Mining and manufacturing are the dominant sectors within the Local Municipality, due to the strong petrochemical industry provided by Sasol and gold mining activities in the area. The expansion of these sectors as well as agricultural, tourism and finance within the Govan Mbeki Local Municipality, has been identified as future leading sectors to support economic and socio-economic development in the area.

10.13 Description of current land uses in the area

Current land uses in the area range from mining to agricultural. The mining activities have contributed to the relatively low agricultural land capability. However, due to the area having a marginal potential for arable farming it might support dryland cropping.

The majority of the land around the mining area is used for commercial crop cultivation (mostly corn) by using pivot irrigation systems. Even though the grazing capacity for this area is characterized as low, the grasslands are mostly used for cattle grazing due to the mining activities in the area being mostly underground gold/coal mining. The area where the proposed new pipeline will be developed runs over a grassland containing two wetlands. Refer to Figure 10-9 for the land use map.

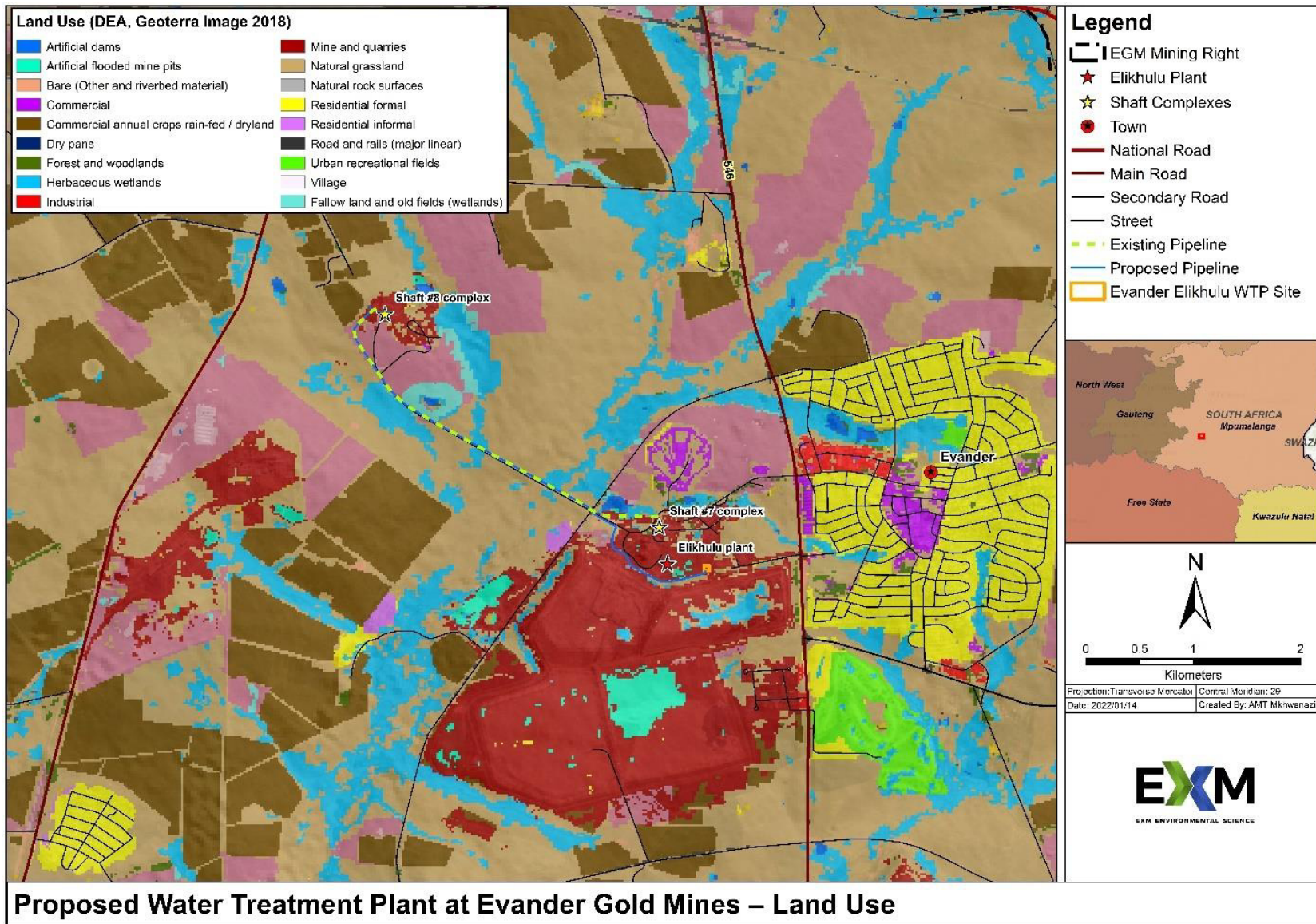


FIGURE 10-9: LAND USE MAP

10.14 Overall Site Sensitivity

The map below shows the sensitive environmental features related to the project, including the CBA, streams and wetlands.

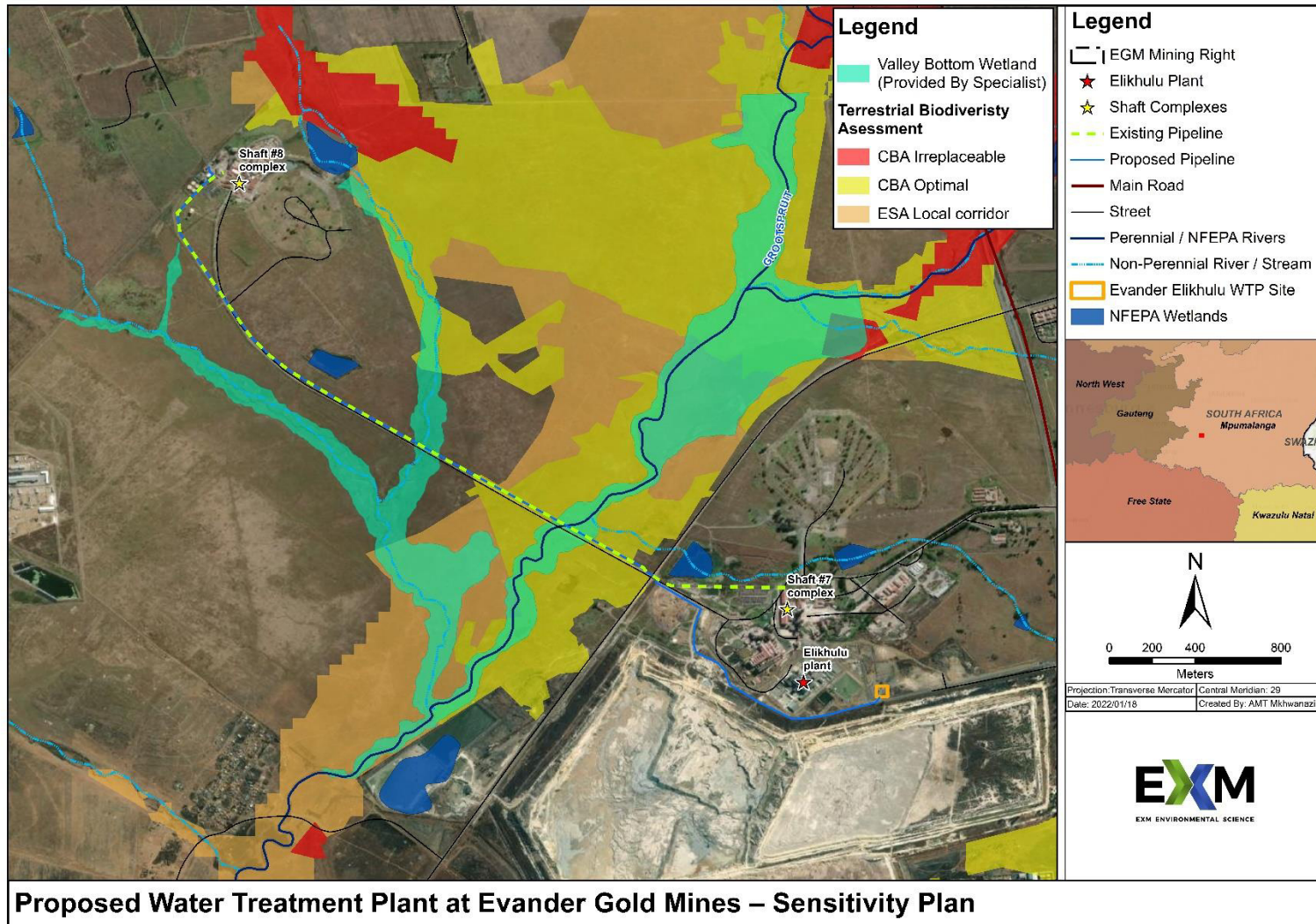


FIGURE 10-10: OVERALL SENSITIVITY MAP

11. IMPACTS IDENTIFIED

The list of the potential impacts of the activities that will be undertaken, as described in the site layout are included below. This list of impacts has been informed by both the typical known impacts of such activities.

11.1 Methodology used in determining the significance of environmental impacts

11.1.1 Impact Ranking Criteria

The impact assessment method used in this assessment takes into account the current environment, the details of the proposed amendment activities and the findings of the specialist studies. Cognisance has been given to both positive and negative impacts that may result from the developments. The significance of the impact is dependent on the consequence and the probability that the impact will occur.

$$\text{impact significance} = (\text{consequence} \times \text{probability})$$

Where:

$$\text{consequence} = (\text{severity} + \text{extent})/2$$

and

$$\text{severity} = [\text{intensity} + \text{duration}]/2$$

Each criterion is given a score from 1 to 5 based on the definitions given below. Although the criteria used for the assessment of impacts attempts to quantify the significance, it is important to note that the assessment is generally a qualitative process and therefore the application of this criteria is open to interpretation. The process adopted will therefore include the application of scientific measurements and professional judgement to determine the significance of environmental impacts associated with the project. The assessment thus largely relies on experience of the environmental assessment practitioner (EAP).

Where the consequence of an event is not known or cannot be determined, the "precautionary principle" has been applied and the worst-case scenario assumed. Where possible, mitigation measures to reduce the significance of negative impacts and enhance positive impacts will be recommended. The significance of the impact in light of the mitigation measures has also been rated based on a confidence rating of the mitigation measures.

Consideration will be given to the phase of the project during which the impact occurs. The phase of the development during which the impact will occur will be noted to assist with the scheduling and implementation of management measures.

11.1.2 Criteria for Assessing the Impact Significance

Severity Criteria

INTENSITY = MAGNITUDE OF IMPACT	RATING
Insignificant: impact is of a very low magnitude	1
Low: impact is of low magnitude	2
Medium: impact is of medium magnitude	3
High: impact is of high magnitude	4
Very high: impact is of highest order possible	5

DURATION = HOW LONG THE IMPACT LASTS	RATING
Very short-term: impact lasts for a very short time (less than a month)	1
Short-term: impact lasts for a short time (months but less than a year)	2
Medium-term: impact lasts for the for more than a year but less than the life of operation.	3
Long-term: impact occurs over the operational life of the proposed mine.	4
Residual: impact is permanent (remains after mine closure)	5

EXTENT = SPATIAL SCOPE OF IMPACT/ FOOTPRINT AREA / NUMBER OF	RATING
Limited: impact affects the mine site	1
Small: impact extends to the whole farm portion	2
Medium: impact extends to neighbouring properties	3
Large: impact affects the surrounding community	4
Very Large: The impact affects an area larger the municipal area	5

Probability

PROBABILITY = LIKELIHOOD THAT THE IMPACT WILL OCCUR	RATING
Highly unlikely: the impact is highly unlikely to occur	0.2
Unlikely: the impact is unlikely to occur	0.4
Possible: the impact could possibly occur	0.6
Probable: the impact will probably occur	0.8
Definite: the impact will occur	1

Impact Significance

NEGATIVE IMPACTS

≤1	Very low	Impact is negligible. No mitigation required.
>1≤2	Low	Impact is of a low order. Mitigation could be considered to reduce impacts. But does not affect environmental acceptability.
>2≤3	Moderate	Impact is real but not substantial in relation to other impacts. Mitigation should be implemented to reduce impacts.
>3≤4	High	Impact is substantial. Mitigation is required to lower impacts to acceptable levels.
>4≤5	Very High	Impact is of the highest order possible. Mitigation is required to lower impacts to acceptable levels. Potential Fatal Flaw.

POSITIVE IMPACTS

≤1	Very low	Impact is negligible.
>1≤2	Low	Impact is of a low order.
>2≤3	Moderate	Impact is real but not substantial in relation to other impacts.
>3≤4	High	Impact is substantial.
>4≤5	Very High	Impact is of the highest order possible.

11.2 The possible mitigation measures that could be applied and the level of I risk.

The mitigation measures for each of the identified impacts are included in Section 12 and in the EMPr in part B.

The significance of the impact with mitigation has been weighted by multiplying the significance rating without significance by the following depending on the confidence placed in the successful implementation of the mitigation measures or the effectiveness of those measures in reducing the impact.

1	Very low	Measures are very difficult or expensive to implement or are not expected to be effective in reducing the impact (No Confidence)
0.8	Low	Measures are difficult or expensive to implement or are expected to have limited effectiveness in reducing the impact (20% Confidence)
0.5	Moderate	Measures can be implemented with some effort and cost and/or the measures can be effective in mitigating the impact if implemented (50% Confidence)
0.2	High	There is high confidence that mitigation measures can be implemented and can be effective in mitigating the impact (80% Confidence)

11.3 The positive and negative impacts that the proposed activity (in terms of the initial site layout) and alternatives will have on the environment and the community that may be affected.

Note: A comprehensive assessment of all impacts is given in section 12 and Annexure C.

11.3.1 Biodiversity and surface water resources

The area in which the WTP will be established has been disturbed by historic activities and no impacts on biodiversity is anticipated. A large portion of the proposed pipeline (approximately 2.7km) will be established outside the mine footprint in natural areas. The pipeline will cross a ³Critical Biodiversity Area (CBA). The pipeline will be established on existing pipeline supports and existing culverts will be used. It is anticipated that no additional vegetation clearance will be undertaken during the establishment of the pipeline. The impact assessment however revealed that the process to install the pipeline may result in some disturbance (trampling) due to human movement within the CBA/other natural areas. The impacts on biodiversity were assessed to have a moderate significance prior to the implementation of mitigation measures and low after the implementation of mitigation. Potential impacts can be easily mitigated by limiting the timeframe and human movement within the sensitive areas.

11.3.2 Surface water resources

The proposed pipeline will cross two streams and two wetlands. The pipeline will be established on existing pipeline supports and existing culverts will be used. The existing wetland/stream crossings have been authorised in terms of EGM's approved IWUL (section 21c&l of the NWA). It is anticipated that no additional vegetation clearance will be undertaken in the wetlands/streams during the establishment of the pipeline. The impact assessment however revealed that the process to install the pipeline may result in some disturbance (trampling) in a relatively small area due to human movement within the wetlands. The impacts on the aquatic environment were assessed to have a moderate significance prior to the implementation of mitigation measures and low after the implementation of mitigation. Potential impacts can be easily mitigated by limiting the timeframe and human movement within the sensitive areas.

11.3.3 Soil and stormwater impacts

The storage and use of hazardous substances during the construction and operational phases may cause spillages and soil/stormwater pollution. The handling of cement (premix or mixing on site) as well as the storage and conveyance of brine has the potential to result in spillages

³ A CBA is an area considered important for the survival of threatened species and includes valuable ecosystems such as wetlands, untransformed and ridges.

and potential soil/stormwater pollution. Adequate containment measures and good housekeeping practices must be implemented to prevent spillages

11.3.4 Reduced pressure on municipal system and natural resources

The project will entail the treatment of groundwater abstracted as part of dewatering activities at EGM. The water will be used for potable purposes at the EGM #7 and #8 shaft complexes as well as the Elikhulu plant. The use of the treated water will result in significant cost saving and minimise the need for municipal water which will reduce pressure on the municipal system. The consumption of the treated groundwater will also reduce pressure on surface water resources.

11.3.5 Socio-economic impacts

The proposed project will result in temporary employment opportunities during the construction phase and some (to a lesser extent) permanent employment during the operational phase. Local goods and services such as petrol and accommodation will also be purchased as part of project development.

11.4 Motivation where no alternative sites were considered.

No site alternative sites were proposed for the location of the WTP. The location of the WTP was selected due to the proximity to the dewatering activities (intake water) and the Elikhulu/EGM plants where most of the product water will be consumed. The site has been previously disturbed and is located in the approved mining area. The route/position of the proposed pipeline is also fixed due to the location of the existing pipeline to prevent additional impacts.

11.5 Statement motivating the alternative development location within the overall site.

The areas included in the infrastructure were identified through methods listed in Section 7.

11.6 Full description of the process undertaken to identify, assess and rank the impacts and risks the activity will impose on the preferred site (In respect of the final site layout plan) through the life of the activity.

Please refer to Section 11.1 for the methodology used in the ranking of impacts. Please also refer to Section 11.1 for the methodology used for the application of a mitigation confidence ranking to the impact ranking.

12. ASSESSMENT OF EACH IDENTIFIED POTENTIALLY SIGNIFICANT IMPACT AND RISK

12.1 Summary of Impact Assessment Results

A summary of the impact assessment results for each phase of the proposed project is provided below for the construction phase (Table 12-1), operational phase (Table 12-2) and decommissioning and closure phase (Table 12-3). Refer to Annexure C for the full impact assessment tables.

The assessment of the impacts and recommended mitigation measures have been identified through the utilisation of the baseline environmental conditions (Section 10), summary of the impacts which stipulate the nature thereof (Section 11.3), including the impact assessment methodology provided in section 11.1 and the methodology used for the application of a mitigation confidence ranking provided in section 11.1.

TABLE 12-1: CONSTRUCTION PHASE IMPACTS FOR THE PROPOSED WTP AND PIPELINE

IMPACT CATEGORY	ACTIVITY	ASPECT	POTENTIAL IMPACT	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION	SIGNIFICANCE WITH MITIGATION
Soil	Earth works	Removal of topsoil	Loss of soil and land capability	Low	<ul style="list-style-type: none"> Store topsoil in a demarcated area during construction. Care must be taken to prevent erosion on stockpiles. Redistribute topsoil over the footprint (not used for foundation establishment) after the concrete foundation has been completed. 	Very low
Soil and stormwater	Storage and use of hazardous substances	Potential spillages	Soil/stormwater pollution	Moderate	<ul style="list-style-type: none"> Hazardous substances containers must be clearly marked and must be stored in an area with containment measures in place. Spill response equipment must be readily available. Large spills must be reported as incidents and managed accordingly. Drip trays are to be in placed under vehicle susceptible to leakages 	Low
Soil and water	General waste generation	Storage and management of general waste (building rubble, domestic waste)	Litter in adjacent areas Soil pollution Stormwater pollution	Low	<ul style="list-style-type: none"> Store general waste in a designated area in marked containers. Littering must be prohibited. Dispose general waste that cannot be recycled at a licenced facility. Provide bins for separate waste streams. 	Very low
Soil	Hazardous waste generation	Storage and management of hazardous waste (contaminated rags and PPE, used oil)	Environmental pollution	Low	<ul style="list-style-type: none"> Store hazardous waste in a designated area in marked containers with containment in place. Any spillages must be cleaned up appropriately. Dispose hazardous waste at a licenced facility 	Very low
Air quality	Construction activities (earth works, moving equipment)	Soil disturbance Vehicles traveling on unpaved surfaces	Increased dust fall. Nuisance conditions	Very low	<ul style="list-style-type: none"> Watering of exposed surfaces, i.e., by using a water bowser if increased dust levels are detected. 	Very low

IMPACT CATEGORY	ACTIVITY	ASPECT	POTENTIAL IMPACT	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION	SIGNIFICANCE WITH MITIGATION
Noise	Construction activities (earth works, moving equipment, vehicles travelling)	Increased noise levels	Nuisance conditions for receptors in the area.	Low	<ul style="list-style-type: none"> All diesel-powered equipment and plant vehicles should be kept at a high level of maintenance. Implement strict speed limits 	Very low
Biodiversity - Flora and Fauna	Construction of WTP facility	Vegetation clearance Encroachment of invader plant species	Impact on Habitat and Diversity	Very low	<ul style="list-style-type: none"> Clearly demarcate construction site not to encroach on adjacent areas. 	Very low
Biodiversity - Flora and Fauna	Construction of WTP facility	Vegetation clearance Encroachment of invader plant species	Impact on Habitat and Diversity	Very low	<ul style="list-style-type: none"> Clearly demarcate construction site. 	Very low
Biodiversity - Flora and Fauna	Establishment of pipeline	Disturbance of vegetation	Impact on Habitat and Diversity	Moderate	<ul style="list-style-type: none"> No removal of vegetation during installation of pipeline – existing pipeline supports and culverts to be used. Care must be taken during installation to minimise disturbance (trampling) as a result of human and equipment movement. No access roads to be constructed. Inspect site on a weekly basis to ensure no additional vegetation is removed. No hunting/trapping or collecting of any faunal species is allowed. 	Low
Surface Water Resources	Establishment of pipeline	Disturbance of stream (aquatic environment) and wetlands	Impact on streams and wetlands	Moderate	<ul style="list-style-type: none"> No vegetation clearance in wetland areas - existing pipeline supports and culverts to be used. Inform contractors of the presence of the wetland and streams – as well as the requirement not to disturb these areas. Limit activity within wetland and stream crossing to what is absolutely necessary. No hazardous substance or waste allowed in wetland areas. 	Low
Surface water	Storage and use of hazardous substances	Potential spillages of hazardous substances.	Pollution of surface water resources	Low	<ul style="list-style-type: none"> Refer to section related to soil pollution 	Very low

IMPACT CATEGORY	ACTIVITY	ASPECT	POTENTIAL IMPACT	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION	SIGNIFICANCE WITH MITIGATION
Surface water	Soil disturbance	Runoff from exposed surfaces	Erosion and sedimentation of water courses	Low	<ul style="list-style-type: none"> Protect soil stockpiles from erosion. Disturbance limited to demarcated construction footprint. 	Very low
Surface Water Resources	Management of sewage system	Spillages	Pollution of surface water resources	Moderate	<ul style="list-style-type: none"> Any sewage spillages must be reported and cleaned appropriately. Good housekeeping practices must be implemented at the temporary toilets to prevent nuisance conditions. The conservancy tank system (if not mobile) must be adequately maintained by competent personnel. In addition, the installation of proper overflow drainage will aid in reducing the risk of contamination. Installation of the conservancy tank must be supervised by a registered engineer or adequately competent person. 	Low
Surface Water Resources	Establishment of footprint	Runoff from exposed surfaces	Erosion and sedimentation of water courses	Low	<ul style="list-style-type: none"> Erosion control measures must be implemented 	Very low
Groundwater	Use of hazardous substances, including hydrocarbons	Spillages - seepage	Potential pollution of groundwater	Low	<ul style="list-style-type: none"> Refer to section related to hazardous substances, 	Very low
Heritage	Footprint construction	Encroachment of heritage sites	Impact on archaeological sites	Very low	<ul style="list-style-type: none"> None proposed. No additional disturbances in natural areas anticipated. Establish pipeline on existing supports and develop WTP within disturbed area adjacent to the Elikhulu plant. 	Very low
Visual	Establishment of footprint	Visual appearance of airport	Visual intrusion of facility	Very low	<ul style="list-style-type: none"> Establish pipeline on existing supports and develop WTP within disturbed area adjacent to the Elikhulu plant. 	Very low
Socio-economic	Construction of WTP facility	Employment opportunities Purchasing of local goods and services	Contribution to socio-economic development	Moderate Positive	<ul style="list-style-type: none"> A portion of the employment opportunities must be sourced locally. Maximise purchasing of local goods and services. 	Moderate Positive

TABLE 12-2: OPERATIONAL PHASE OF THE WTP AND PIPELINE

IMPACT CATEGORY	ACTIVITY	ASPECT	POTENTIAL IMPACT	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION	SIGNIFICANCE WITH MITIGATION
Soil and water	General waste generation	Storage and management of general waste (building rubble, domestic waste)	Litter in adjacent areas Soil pollution Stormwater pollution	Low	<ul style="list-style-type: none"> • Store general waste in a designated area in marked containers. • Littering must be prohibited. • Dispose general waste that cannot be recycled at a licenced facility. • Provide bins for separate waste streams. 	Very low
Soil and water	Production of brine from treatment process	Brine spillages	Water/Soil pollution	Moderate	<ul style="list-style-type: none"> • Store brine in a sealed buffer tank • Transfer brine to the Elikhulu plant for internal processing. • Automatic pressure monitoring on pipeline to detect any leakages • Clean up any brine spillages appropriately 	Low
Biodiversity - Flora and Fauna	Maintenance of pipeline	Disturbance of vegetation	Impact on Habitat and Diversity	Moderate	<ul style="list-style-type: none"> • No vegetation clearance allowed during maintenance of pipeline. • Limit activity within wetland and stream crossing to what is absolutely necessary during maintenance. 	Low
Surface Water Resources	Maintenance of pipeline	Disturbance of stream (aquatic environment) and wetlands	Impact on streams and wetlands	Moderate		Low
Surface water	Storage and use of hazardous substances	Potential spillages of hazardous substances.	Pollution of surface water resources	Moderate	<ul style="list-style-type: none"> • Small volumes of hazardous substances must be stored in a locked chemical cage within a roofed structure. • Provide bunding for larger volumes of hazardous substances. • Chemicals to be stored in compatible containers. • Spill response equipment must be readily available and compatible with hazardous substances. • Safety Data Sheets must be available for all hazardous substances stored on site. 	Very low

IMPACT CATEGORY	ACTIVITY	ASPECT	POTENTIAL IMPACT	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION	SIGNIFICANCE WITH MITIGATION
Surface Water Resources	Management of sewage system	Spillages	Pollution of surface water resources	Moderate	<ul style="list-style-type: none"> Any sewage spillages must be reported and cleaned appropriately. The conservancy tank system must be adequately maintained by competent personnel. In addition, the installation of proper overflow drainage will aid in reducing the risk of contamination. 	Low
Groundwater	Use of hazardous substances, including hydrocarbons	Spillages - seepage	Potential pollution of groundwater	Low	<ul style="list-style-type: none"> Refer to section related to hazardous substances, 	Very low
Heritage	Footprint construction	Encroachment of heritage sites	Impact on archaeological sites	Very low	<ul style="list-style-type: none"> None proposed. No additional disturbance in natural areas anticipated. 	Very low
Visual	Establishment of footprint	Visual appearance of airport	Visual intrusion of facility	Very low	<ul style="list-style-type: none"> Establish pipeline on existing supports and develop WTP within disturbed area adjacent to the Elikhulu plant. 	Very low
Natural resources Municipal services	Treatment of groundwater	Reduce consumption of municipal water	<p>Reduced pressure on natural resources</p> <p>Reduce pressure on municipal system</p>	Moderate Positive	<ul style="list-style-type: none"> A portion of the employment opportunities must be sourced locally. Maximise purchasing of local goods and services. 	Moderate Positive
Socio-economic	Construction of WTP facility	Employment opportunities	Contribution to socio-economic development	Moderate Positive	<ul style="list-style-type: none"> A portion of the employment opportunities must be sourced locally. 	Moderate Positive

TABLE 12-3: DECOMMISSIONING PHASE IMPACTS FOR THE PROPOSED WTP AND PIPELINE

IMPACT CATEGORY	ACTIVITY	ASPECT	POTENTIAL IMPACT	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION	SIGNIFICANCE WITH MITIGATION
Soil	Removal of infrastructure	Runoff from disturbed areas	Soil erosion	Low	Appropriate sloping of areas to reflect natural landscape. Monitor site after closure and decommissioning for erosion problems	Low
Soil	Movement of vehicles	Soil compaction	Affect soil characteristics and fertility/	Low	Rip all compacted areas prior to seeding.	Low
Soil	General waste generation	Storage and management of general waste (building rubble, domestic waste)	Litter in adjacent areas Environmental pollution	Low	Store general waste in designated areas in marked containers. Littering must be prohibited. Construction footprint and adjacent areas must be inspected regularly to detect and clean up any litter. Dispose general waste at a licenced facility.	Low
Soil	Hazardous waste generation	Storage and management of hazardous waste (contaminated rags and PPE, used oil)	Environmental pollution	Low	Store hazardous waste in designated areas in marked containers with containment in place. Any spillages must be cleaned up appropriately. Dispose hazardous waste at a licenced facility	Low
Biodiversity - Flora and flora	Decommissioning of infrastructure	Earth works - edge effects	Impact on habitat	Low	Clearly demarcate area for decommissioning Rehabilitate footprint with indigenous floral species. Implement follow up and monitoring to ensure sustained vegetation growth.	Low
Land use	Closure and rehabilitation of facility.	Return site to reflect baseline environment.	Restoration of ecosystems Return land to	Low Positive	Implement rehabilitation plan upon decommissioning.	Low Positive

IMPACT CATEGORY	ACTIVITY	ASPECT	POTENTIAL IMPACT	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION	SIGNIFICANCE WITH MITIGATION
			predevelopment state.			
Socio-economic	Decommissioning	Non-continuation of facility	Job losses	Moderate	Engage with employees timeously prior to closure. Investigate the reallocation of resources.	Low

12.2 Environmental Impact Statement

Summary of the key findings of the environmental impact assessment.

12.2.1 Positive impacts

The project will contribute to socio-economic benefits in terms of employment opportunities and purchasing of local goods and services. The construction phase will require approximately 30 temporary employees and the operational phase will require approximately 7 staff members. It is anticipated that approximately 30% of the employment will be sourced locally, depending on the skills availability. The project (especially during construction) will contribute to the local economy in terms of purchasing of goods and service such as diesel and accommodation for employees. The WTP can also be transferred to a third party for water supply to communities/businesses.

The project will entail the treatment of groundwater abstracted as part of dewatering activities. The water will be used for potable purposes at the EGM #7 and #8 shaft complexes as well as the Elikhulu plant. The use of the treated water will result in significant cost saving and minimise the need for municipal water which will reduce pressure on the municipal system. The consumption of the treated groundwater will also reduce pressure on surface water resources.

12.2.2 Negative impacts

The proposed WTP will be situated on an area that was disturbed by historic activities. No impacts were assessed to have a high significance. The most significant (moderate) impacts are associated with potential disturbance of natural vegetation and the aquatic environment due to the installation of the proposed pipeline. However, existing pipeline supports and culverts will be used and no vegetation clearance is anticipated. Care must be taken during pipeline installation to prevent disturbance/trampling of vegetation in the sensitive environments (CBAs and Wetlands/Streams). Spillages and associated pollution related to the management of brine was also rated as having a moderate significance impact rating prior to mitigation and low after mitigation has been implemented.

Storage and use of hazardous substances as well as potential sewage spillages during the development of the WTP has the potential to result in soil and stormwater pollution. The implementation of mitigation measures stipulated in the EMPr will reduce the impact significance and all impacts will have a post mitigation risk rating of low to very low significance. Other potential impacts (to a lesser extent) relate to waste management, dust emissions during construction, noise generation, management of brine, etc.

12.3 Final Site Map

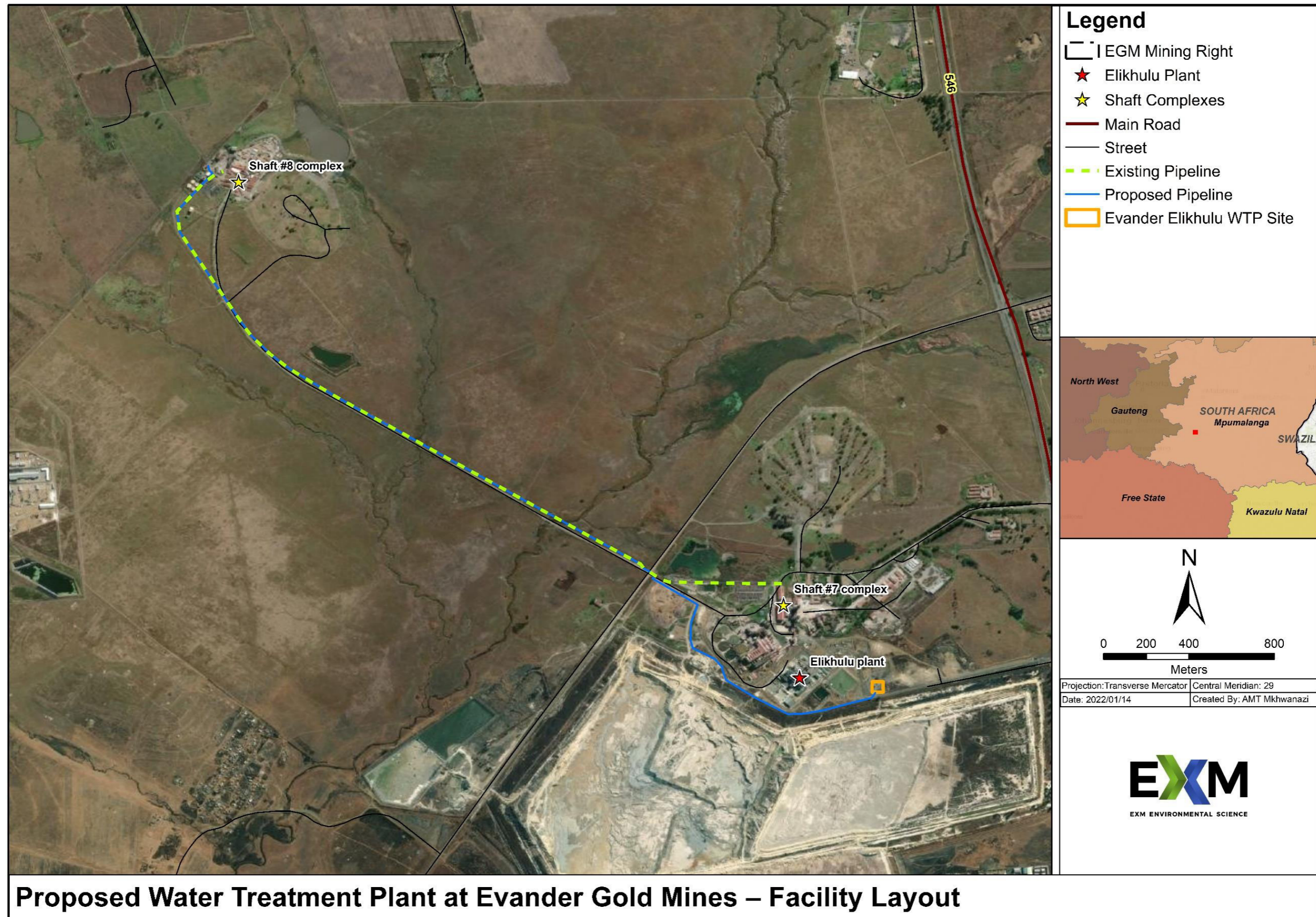


FIGURE 12-1: FINAL SITE LAYOUT PLAN

12.4 Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives

The key risks related to the project are summarised in the Table below:

Activities	Phase	Impact	Significance prior to mitigation	Mitigation measures	Significance after mitigation
Establishment of pipeline	Construction	<p>Biodiversity</p> <p>Potential disturbance/trampling of vegetation during pipeline installation on existing pipeline supports. No vegetation clearance is anticipated.</p>	Moderate	<ul style="list-style-type: none"> No removal of natural vegetation during installation of pipeline – existing pipeline supports and culverts to be used. Care must be taken during installation to minimise disturbance (trampling) as a result of human and equipment movement. No access roads to be constructed. Inspect site every second week to ensure no additional vegetation is removed. No hunting/trapping or collecting of any faunal species is allowed during installation of pipeline. 	Low
Establishment of pipeline	Construction	<p>Surface Water Resources</p> <p>Potential disturbance/trampling of vegetation in wetland areas and stream crossing during pipeline installation on existing pipeline supports. No vegetation clearance is anticipated.</p>	Moderate	<ul style="list-style-type: none"> No vegetation clearance in wetland areas - existing pipeline supports and culverts to be used. Inform contractors of the presence of the wetland and streams – as well as the requirement not to disturb these areas. Limit activity within wetland and stream crossing to what is absolutely necessary. No hazardous substance or waste allowed in wetland areas. If possible, indicate where the wetland area starts along the pipeline to ensure contractors are aware of the location thereof. No vegetation clearance allowed during maintenance of pipeline. Limit activity within wetland and stream crossing to what is absolutely necessary during maintenance. 	Low

Activities	Phase	Impact	Significance prior to mitigation	Mitigation measures	Significance after mitigation
Water Treatment Plant	Construction	Water/Soil Pollution Storage and handling of hazardous substances during construction and operations has the potential to result in spillages and cause	Moderate	<ul style="list-style-type: none"> Lubricants and other hydrocarbons must be stored in a roofed building or in a dedicated area with containment measures in place. Maintenance to be undertaken in a roofed building/container or in an area (if outside) with containment measures in place. Spill kits must be readily available to clean up spillages. Contaminated soil must be managed as hazardous waste and managed accordingly. Good housekeeping practices to be implemented at the workshop. Trip trays to be placed under vehicles/equipment susceptible of leakages. Safety Data Sheets must be available for all hazardous substances stored on site. Refuelling (if any) to be conducted in a dedicated area with stormwater measures in place to capture spillages Large spills to be reported to EGM's environmental department and managed according to the internal incident procedure. 	Low
	Operations		Moderate	<ul style="list-style-type: none"> Small volumes of hazardous substances must be stored in a locked chemical cage within a roofed structure. Provide bunding for larger volumes of hazardous substances. Chemicals to be stored in compatible containers. Spill response equipment must be readily available and compatible with hazardous substances. Safety Data Sheets must be available for all hazardous substances stored on site. 	Low
Water Treatment Plant – brine management	Operations	Water/Soil pollution Storage and handling of brine during operations has the potential to result in spillages and cause environmental pollution	Moderate	<ul style="list-style-type: none"> Store brine in a sealed buffer tank Transfer brine to the Elikhulu plant for internal processing. Automatic pressure monitoring on pipeline to detect any leakages Clean up any brine spillages appropriately 	Low

Activities	Phase	Impact	Significance prior to mitigation	Mitigation measures	Significance after mitigation
Local procurement Local employment	Construction	Employment creation/socio-economic development	Moderate positive	<ul style="list-style-type: none"> Maximise benefit for local economy through local procurement/employment Employing locally will increase benefit to local households and inadvertently the local economy. 	Moderate positive
Treatment of groundwater for potable use	Operations	Reduced pressure on surface water resources Reduced pressure on municipal system	Moderate positive	<ul style="list-style-type: none"> None proposed 	Moderate positive

12.5 Proposed impact management objectives and the impact management outcomes for inclusion in the EMPr

12.5.1.1 The objectives of impact mitigation and management are to:

- Primarily pre-empt impacts and prevent the realisation of these impacts - **prevention**.
- To ensure activities that are expected to impact on the environment are undertaken and controlled in such a way so as to minimise their impacts – **modify and/or control**.
- To ensure a system is in place for treating and/or rectifying any significant impacts that will occur due to the proposed activity – **remedy**.
- Implement an adequate monitoring programme to:
 - Ensure that mitigation and management measure are effective.
 - Allow quick detection of potential impacts, which in turn will allow for quick response to issue/impacts.
 - Reduce duration of any potential negative impacts.

12.5.1.2 The environmental impact management outcomes are:

- Prevent impacts on sensitive environmental features, including CBAs and wetland systems.
- Effective management of hazardous substances to prevent potential soil and stormwater pollution.
- Conduct construction activities responsibly to prevent detrimental environmental impacts and ensure operation is compliant with legislative requirements.
- Protect the biophysical environment as far as possible, specifically wetlands and riverine areas and any sensitive areas on and adjacent to the site.
- Maximise benefits to local economy, where possible.

12.5.1.3 Aspects for inclusion as conditions of Authorisation.

- No clearance of natural vegetation to be undertaken during the installation of the pipeline, especially with reference to the CBA and Wetland/Streams crossing.
- Adequate containment measures must be implemented to prevent spillages of hazardous substances.
- All mitigation as listed in the EMPr must be adhered to.
- Compliance audits will be submitted bi-annually during construction and annually during operations.
- Appoint an Environmental Control Officer to conduct inspections of the site to ensure the conditions of the EA/EMPr are adhered to.

12.5.1.4 Description of any assumptions, uncertainties and gaps in knowledge.

This report was written on the assumption (as per communication received) that no additional

vegetation clearance will be undertaken as part of the pipeline installation, especially in the water courses and CBA area.

The assessment of the environmental impacts is by nature a very quantitative assessment based on the assessor's experience and knowledge. The assessment also attempts to predict what might likely result in future as a result of the proposed activities.

The conclusions and recommendations made in this report, especially the impact assessment and proposed management measures have to be routinely checked through monitoring programmes during the construction and operational phases. Management measure to address impact identified through monitoring needs to be adequately managed to address any shortcoming identified during the various phases of the project.

12.6 Reasoned opinion as to whether the proposed activity should or should not be authorised

12.6.1.1 Reasons why the activity should be authorised or not.

- The project will contribute to socio-economic benefits in terms of employment opportunities and purchasing of local goods and services. The construction phase will require approximately 30 temporary employees and the operational phase will require approximately 7 staff members, either supporting the project on a monthly basis or permanent on site operators.
- The project will not result in significant/detrimental impacts on the environment as the WTP will be located in a previously disturbed area and existing pipeline supports will be used for the installation of the water conveyance pipeline. No vegetation clearance is anticipated in natural areas.
- Impacts associated with the project pertaining to potential impacts on biodiversity and the aquatic environment can be easily mitigated by the implementation of management actions stipulated in the EMPr.
- The project will entail the treatment of groundwater emanating from dewatering activities and will reduce pressure on the municipal system and surface water resources.
- The proposed project does not pose detrimental risks that may cause significant environmental damage.

There is no reason why this activity should not be authorised. The risks pertaining to the development can easily be mitigated by following the actions stipulated in the EMPs, which will reduce impacts to acceptable levels which will easily recover.

12.6.1.2 Conditions that must be included in the authorisation

Refer to section 12.2.5

12.7 Period for which the Environmental Authorisation is required.

It is estimated that the current Mineral Reserve will be depleted by the end of 2038. However, it

is anticipated that the WTP could be used post closure for the treatment of groundwater.

12.8 Rehabilitation Plan

A draft Final Rehabilitation, Decommissioning and Mine Closure Plan (2021) has been developed for the EGM operations. Section 9 of the plan specifies the preferred closure options and associated actions to achieve the closure objectives. The preferred closure option for the proposed water treatment plant and associated pipeline as per Section 9 of EGM's closure plan is as follows:

"utilisation of existing service infrastructure, including water/sewage treatment plants, pipelines, electrical lines etc., to supply additional services to nearby towns"

It is therefore anticipated that the WTP and pipelines will be utilised post closure as part of the end land use scenario and will not be removed post closure and therefore no rehabilitation will be required. Due to the fact that existing pipeline supports will be used to establish the pipelines, no additional rehabilitation other than that already included in the closure plan will be required if the pipelines will not be used post closure.

It is however recommended that EGM approach third parties proactively during the LOM to ensure that contracts are in place for the transfer of infrastructure that can be utilised post closure. It is recommended that the WTP and pipelines must be included in the annual update of the closure plan to ensure that the infrastructure are accounted for as part of the closure strategy.

12.9 Financial Provision

As per the above discussion and according to the EGM closure plan, it is envisioned that the WTP and pipelines will remain post closure. The project will therefore not require the submission of financial provision as no additional rehabilitation will be required for the proposed infrastructure. The quantum can be adjusted during annual updates if no post closure utilisation of the infrastructure can be established.

12.10 Specific Information required by the competent Authority

None specified thus far.

12.11 Other matters required in terms of sections 24(4)(a) and (b) of the Act

Section 24(4)(b)(i) of the Act requires the EAP to conduct an investigation of the potential consequences of impacts of alternatives to the activity on the environment and assessment of the significance of those potential consequences. No alternative sites were considered due to the position of the coal reserve and geological constraints.

13. UNDERTAKING

The EAP herewith confirms

- a) the correctness of the information provided in the reports
- b) the inclusion of comments and inputs from stakeholders and I&APs;
- c) the inclusion of inputs and recommendations from the specialist reports where relevant;
and
- d) that the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by I&AP's are correctly reflected herein.



Signature of the environmental assessment practitioner:

EXM Advisory Services (Pty) Ltd

Name of company:

2022/01/25

Date:

14. REFERENCES

Cabanga Environmental, 2017. Evander Gold Mines Environmental Management Programme.

Digby Wells. 2019. Evander Gold Mine Hydrogeological Model Update: Hydrogeological Report

EXM Advisory Services. 2020. Integrated Water And Waste Management Plan for Evander Gold Mines Limited

Shangoni, 2013. Evander Gold Mines Environmental Management Programme for Elikhulu.

Scientific Aquatic Services. 2018. Wetland Offset Alternative Identification Study for the Proposed Expansion of the Evander Gold Mine's Kinross Tailings Storage Facility: Offset Analyses and Implementation

15. ANNEXURES

Annexure A
EAP CV

Curriculum Vitae Trevor Hallatt



Profession: Environmental Consultant

Education: Masters Degree in Environmental Management

Registrations/
Affiliations: South African Council for Natural Scientific Professions
Registration nr. 300123/15

Experience 9 years

ID number: 8706245033083

Contact nr. +27 82 674 1392

E-mail address twhallatt@gmail.com

Specialisation: Environmental Impact Assessments; Environmental Management Programmes; Waste Licence Applications; Water Use Licence Applications; Atmospheric Emissions Licence Applications; Environmental Legal Auditing; Environmental Management System Implementation and Audits.

1. Expertise

Trevor Hallatt has been involved in the field of environmental management for the past 9 years. His expertise includes:

- Environmental Impact Assessment, including full EIA and Scoping as well as Basic Assessments;
 - Generation of Environmental Management Programmes;
 - Water Use Licence Applications, Waste Management Licence Applications and Atmospheric Emissions Licence Applications;
 - Legal Compliance Management and Environmental Control Officer related duties;
 - Auditing of Environmental Authorisations;
 - Working Experience in Geographical Information Systems;
 - Environmental Management System (ISO 14001) Audits and Implementation;
 - Environmental Risk Assessment;
 - Public and government consultation; and
 - Short course development and presentation.
-

2. Employment Record

- 2015 – present:

Zantow Environmental Consulting Services (Senior Environmental Consultant)

- 2010 – 2014

Centre for Environmental Management (North-West University) (Junior Environmental Consultant)

3. Education

- B.Sc. Degree in Geography, Zoology and Tourism
- Honours degree in Environmental Management (obtained best student award)
- Masters Degree in Environmental Management (*Cum Laude*)
- Short courses (Risk Assessment, Environmental Control Officer, EMS, Auditing, Environmental Legislation, Rehabilitation)

4. Publications:

HALLATT, TW, RETIEF, FP and SANDHAM, LA. (1989): "The Quality of Biodiversity Inputs to EIA in Areas with High Biodiversity Value — Experience from the Cape Floristic Region, South Africa". *Journal of Environmental Assessment Policy and Management (JEAPM)* 2015; 17(3): 1-26.

5. Experience

5.1 Environmental Assessment Practitioner

Acted as Environmental Assessment Practitioner (EAP) for the legal processes to obtain Environmental Authorisations for the following projects:

- Vereeniging Refractories Elgin Operations Waste Management Licence;
- Vereeniging Refractories Hammanskraal Waste Management Licence and EMPr amendment;
- ArcelorMittal full EIA and Scoping as well as BAR for the decommissioning of the Existing Metallurgical Disposal Site and the Construction of a New Class B Disposal Site;
- Pinnacle Metals Waste Management and AEL application;
- Bumatech Expansion Project Basic Impact Assessment Process;
- TerraNova Ceramics Atmospheric Emissions Licence and full EIA;
- Ceramic Industries Warehouse Development Basic Impact Assessment;
- Ceramic Industries Phoenix Factory Atmospheric Emissions Licence and full EIA;
- ArcelorMittal Vanderbijlpark Galvanising Line Conversion to Combi-Line Basic Impact Assessment;
- Universal Oil Solutions Waste Management Licence Application;
- Review of Various Mining Prospecting Basic Assessment Applications;
- NEMA Section 24G Applications for the Eco Energy Trading Roodekop and Brakpan Sites;
- Basic Assessment for the Development of a Coal Siding near Bronkhorstspuit;
- Full EIA for a Photovoltaic Solar facility near Middleburg, Eastern Cape;
- Involved in 15 Waste Management Licence Applications for landfill sites across the North-West Province;
- Involved in the Atmospheric Emissions Licence Application and full EIA for a Medical Waste Incinerator in Waltloo, Pretoria.
- Columbus Stainless Basic Assessment for the Storage of Hazardous Substances (current); and
- SA Tank Terminals Waste Management Licence Application.

5.2 Water Use Licence Applications

- Ceramic Industries Phoenix, Samca and Gryphon Factories (respective);
- Cape Gate Vanderbijlpark; and
- Danone Southern Africa (current).

5.3 Environmental Compliance Auditing

Conducted audits to assess compliance to a variety of Environmental Authorisations for the following organisations:

- ArcelorMittal Vanderbijlpark, Vereeniging and New Castle;
- AfriSam Vanderbijlpark;
- Retromin Refractories in Meyerton;
- Cape Gate;
- Bumatech;
- Future Coal;
- Mooiriver Mall in Potchefstroom; and
- North-West University.

5.3 Environmental Management System (EMS) Auditing and Implementation

Conducted EMS Audits in terms of ISO 14001:2004/15 for the following organisations:

- AfriSam Vanderbijlpark and Roodekop;
- Camden and Tutuka Power Stations; and
- M-Tec Vanderbijlpark.

Involved in EMS implementation projects for the following organisations:

- Sishen Iron Ore Mine;
- AfriSam Vanderbijlpark and Roodekop (new ISO 14001:2015 standard); and
- Ceramic Industries Vereeniging.

5.4 Environmental Risk Assessment

- Assistance with closing out of risk/impact/aspect related findings (Camden Power Station)
- SHERQ risk register review and rectification for Assmang - Beeshoek Iron Ore Mine
- Environmental Risk Assessment in the Banking Sector (ABSA)
- Assisted in chemical risk assessments for Sishen Iron Mine and Koffiefontein Diamond Mine

5.5 Short Course Development and Delivery

Development of course material (presentations, programmes, course information sheets etc.) for various environmental management short courses and duties included the following:

- Acted as technical coordinator for short courses; and
- Presented on various topics at short course including
 - Biodiversity, soil, hazardous substances management
 - EMS and environmental risk assessment
 - Corporate governance
 - Environmental management tools

5.6 Geographical Information Systems

- Utilisation of ArcMap software to generate maps for EIA projects;
- Google Earth Pro;
- GIS database management.

Annexure B – Public Participation

Annexure B1: IAP Database

Name and surname	Organisation/Farm and portion	Designation	Tel	Cell	Email	Address	Notification method
Surrounding Landowners							
P F Louwrens Trust	Kafferspruit 527 IR						SMS and email
H B Louwrens Trust	Kafferspruit 527 IR Rietkuil 531 IR Leeuwpan 532 IR						SMS and email
F C De Vos Familie Trust	Wildebeestspuit 356 IR remaining extent, ptn 4; Kafferspruit 527 IR ptn 3, ptn 7						Registered post
Plooy Jacobus Stephanus Du	Rietfontein 313 IR ptn 0, ptn 10, ptn 11						SMS and email
Rossouw Pluimvee-Eiers Pty Ltd (Naude Rossouw)	Rietfontein 313 IR ptn 8						SMS and email
Holspruit Boerdery Cc (Johannes Hendrik Schoeman)	Rietfontein 313 IR ptn 12						SMS and email
Masilela Bhatajje Willem	Rietfontein 313 IR ptn 13						SMS and email
Lange Izak Daniel De	Rietfontein 313 IR ptn 14, ptn 15						SMS and email
Erasmus Casper Jan Hendrik	Kafferskuilen 349 IR ptn 0						SMS and email
Andries Jacobus Van Niekerk	Kafferspruit 527 IR ptn 1, ptn 12						SMS and email
Bakenlaagte Boerdery Pty Ltd (Johannes Hendrikjacobs)	Kafferspruit 527 IR ptn 11						SMS and email
Urquhart Dion Archie	Leeuwpan 532 IR ptn 10						SMS and email
Klopper Lucas Cornelius Johannes	Leeuwpan 532 IR ptn 16						SMS and email
Sasol Gas Pty Ltd	Leeuwpan 532 IR ptn 17						SMS and email
Abraham Hermanus De La Rey (Braum De La Rey Trust)	Rietkuil 356 IR ptn 3, WILDEBEESTSPRUIT 356 ptn 3 GROUWWATER 353 ptn 4 Kromdraai 128 IS ptn 12, Rietkuil 356 IR ptn 3						SMS and email
Transnet Ltd (Lauriette Sesoko)	Rietfontein 313 IR ptn 1, ptn 6, ptn 20, ptn 21						Email
Plaaslike Oorgangsraad Van Leandra	Rietfontein 313 IR ptn 4, ptn 5						SMS and email
Andries Jacobus Van Niekerk	Kafferspruit 527 IR ptn 0						SMS and email
Niekerk Thomas Arnoldus Van	Rietkuil 531 IR ptn 10						SMS and email
Du Preez, Roelf Theunis	Springbokdraai 277 IS 1						SMS and email
Govan Mbeki Municipality	Springbokdraai 277 IS 2						SMS and Email
Springbokdraai Boerdery Pty Ltd	Springbokdraai 277 IS 3						Registered post
Hughpat Pty (Ltd)	Springbokdraai 277 IS 6						SMS and email
M.Wienand SP Van Niekerk	Winkelhaak 135 IS RE3						Email
Red Coral Inv 125 Pty (Ltd)	Winkelhaak 135 IS Ptn 32, Ptn 49, Ptn 50						SMS and email
Michail Lindeque Family Trust	Winkelhaak 135 IS Ptn 82						SMS and email
Steve Shabangu, Communal Prop Association Sakhisizwe	Witkleifontein 131 IS Ptn 1						SMS and email
Carel Dirker, Brendan Village Cc	Zandfontein 130 IS Ptn 2, Ptn 5						SMS and email
Zandfontein MMC Eiendomme Cc	Zandfontein 130 IS Ptn 6						SMS and email
Sasol	Sasolskraal 289 IS Ptn 1 and 11						SMS and email
Gegana Business Enterprises Cc (Malahleka David Mthombeni)	Brakspruit 359 IR 4						SMS and email
Babra	135 Winkelhaak Farm						SMS and email
DU PLOOY Stephanus	Rietfontein 313 Ptn 0						SMS and email

Name and surname	Organisation/Farm and portion	Designation	Tel	Cell	Email	Address	Notification method
Rossouw Plumvee-Eiers Pty Ltd (Naude Rossouw)	Rietfontein 313 Ptn 8						SMS and email
Du Plooy Eugene	Brakspruit 359 Ptn 2						SMS and email
Urquhart Dion Archie	Kaalspruit 528 Ptn 7, Roodebank 323 Ptn 16, De Bank Of Vaalbank 280 Ptn 6						SMS and email
Republic Of South Africa	Rietkuil 531 Ptn 7, Brakspruit 359 Ptn 16						Various Departments
Urquhart Archibald Alexander	Roodebank 323 Ptn 20, Kaalspruit 528 Ptn 4						SMS and email
Klipbeeste Pty Ltd (Johannes Christiaan Bezuidenhout)	Klipfontein 357 Ptn 3						SMS and email
Van Niekerk Thomas Arnoldus	Brakspruit 359 Ptn 12						SMS and email
H P F Becker Boerdery Pty Ltd (Francois Becker)	Brakspruit 359 Ptn 13						SMS
Goudveld Boerdery Pty Ltd (Hendrik Daniel Basson)	Paardefontein 526 Ptn 8						SMS and email
Kense Izak Johannes	Paardefontein 526 Ptn 4						SMS
Pistorius Martinus Izak	Paardefontein 526 Ptn 5						SMS and email
Holspruit Boerdery Cc (Johannes Hendrik Schoeman)	Holspruit 303 Ptn 0						SMS and email
De Lange Izak Daniel	Holspruit 303 Ptn 1						SMS and email
Kuilwater Landgoed Cc	Kuilwater 347 Ptn 0						Registered post
Du Preez Roelf Theunis	Springbokdraai 277 Ptn 1						SMS and email
Vosstoffel Pty Ltd (Christiaan Johannes Jacobus De Vos)	Vlakplaats 348 Ptn 1, Ptn 2						SMS
Klopper Lucas Cornelius Johannes	Uitspan 529 Ptn 0						SMS and email
Authorities							
Masala Mulaudzi	Department of Water and Sanitation Mpumalanga	Acting Chief Director					SMS and email
T Rasiuba	IUCMA						Email
Robyn Luyt							Email
O.G. Xaba	Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs	Acting Director: Gert Sibande District					Email
Jan Venter							Email
BJ Nobunga		Acting CEO					Email
Lorraine Oosthuizen	Mpumalanga Tourism and Parks Agency (MTPA)	Executive Secretary					Email
K Nkambule							Email
Pumla Nkosi							Email
NM Sebitso	Mpumalanga Department of Economic Development and Tourism	Acting-Head of Department					Email
N Thwala		Secretary					Email
David Phayane	Department of Health and Social Services						SMS and email
Angelina Makmela	Department of Health	Environmental Health Officer					SMS and email
James Mtsweni	Department of Local Government and Housing	Regional Manager					Email
Ben Viljoen	Department of Roads and Transport						SMS and email
Themba Richard Milanzi	Department of Labour	Assistant Manager					SMS and email
Benjamin Moduka	Mpumalanga Provincial Heritage Resource Authority						Email
Hein Geldenhyus	Mpumalanga Wetland Forum						Email
NO INFO	Mpumalanga Provincial Government Department of Public Works, Roads and Transport						Email
Samuel Mathavhela	Department of Mineral Resources Mpumalanga						Email
	Dept. of Water Affairs & Sanitation (CMA)						Email
							Email
Frans	Mpumalanga Tourism and Parks Agency						Email
Violet Siwela	Dept. of Human Settlements						Email

Name and surname	Organisation/Farm and portion	Designation	Tel	Cell	Email	Address	Notification method
KM Mohlaseedi	Dept. of Public Works, Roads & Transport		[REDACTED]		[REDACTED]		Email
David Nkambule	Dept. of Public Works, Roads & Transport		[REDACTED]		[REDACTED]		Email
Dumisile Hlengethwa	Dept. of Public Works		[REDACTED]		[REDACTED]		Email
Regional Manager	Dept. of Economic Development, Environment & Tourism		[REDACTED]		[REDACTED]	[REDACTED]	Email
Sam Nkosi	Dept. of Land Affairs- Land Restitution Support				[REDACTED]		Email
Maximiliaan De Kock	Dept. of Rural Development & Land Reform		[REDACTED]		[REDACTED]	[REDACTED]	Email
Mr Lucky Legodi			[REDACTED]		[REDACTED]	[REDACTED]	
Mrs Zanele Sihlangu			[REDACTED]		[REDACTED]	[REDACTED]	Email
Mr Bheki Nyathikazi	Dept. of Agriculture, Forestry & Fisheries		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	SMS and email
Jan Venter	Dept. of Agriculture, Forestry & Fisheries		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	SMS and email
Francois Koegelenberg	Dept. of Agriculture, Forestry & Fisheries		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	SMS and email
Mr Steve Galane	Dept. of Agriculture, Forestry & Fisheries		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	SMS and email
Freddy Ngobe	Dept. of Human Settlements		[REDACTED]		[REDACTED]	[REDACTED]	Email
Mr SEB Matshebula	Dept. of Human Settlements		[REDACTED]		[REDACTED]	[REDACTED]	Email
Nomsa Mtsweni	Department of Social Development		[REDACTED]		[REDACTED]		Email
Gillion Mashego	Department of Health		[REDACTED]		[REDACTED]		Email
Sikhumbuzo Kholwane	Department of Finance, Economic Development and Tourism		[REDACTED]		[REDACTED]		Email
Thulane Mdakane	Department of Economic Development & Tourism		[REDACTED]		[REDACTED]		Email
Vusi Shongwe	Department of Community Safety, Security and Liaison		[REDACTED]		[REDACTED]		Email
Andries Gamede	Department of Agriculture, Rural Development, Land and Environmental Affairs		[REDACTED]		[REDACTED]		Email
Refilwe Mtsweni	Department of Co-Operative Governance and Traditional Affairs		[REDACTED]		[REDACTED]		Email
Municipalities & Traditional Council							
	Gert Sibande- District Municipality	Municipal Manager	[REDACTED]		[REDACTED]	[REDACTED]	Email
	Gert Sibande- District Municipality	Environmental Services	[REDACTED]	[REDACTED]	[REDACTED]		Email and SMS
Chief MJ Mthimunya					[REDACTED]		Email
Nonkqubela Mvumvu	Gert Sibande- District Municipality				[REDACTED]		Email
M Tebogo	Gert Sibande- District Municipality				[REDACTED]		Email
	Govan Mbeki Local Municipality	Municipal Manager	[REDACTED]	[REDACTED]	[REDACTED]		Email and SMS
Nick Van Der Merwe	Govan Mbeki Local Municipality		0176206061		[REDACTED]		Email
	Govan Mbeki Local Municipality	Environmental Services			[REDACTED]		Email
Michel Melato	Govan Mbeki Local Municipality				[REDACTED]	[REDACTED]	Email
Cllr. Nomgqibelo Ethel Nkosi	Govan Mbeki Local Municipality (mmc community services)			[REDACTED]	[REDACTED]	[REDACTED]	SMS and email
Cllr. Yvonne Thandiwe Ngxonono	Govan Mbeki Local Municipality	mmc planning and development		[REDACTED]	[REDACTED]	[REDACTED]	SMS and email
Ntokozo Ntombela	Govan Mbeki Local Municipality	Speaker			[REDACTED]	[REDACTED]	Email
Lindiwe Maria Mbonani		Ward 1		[REDACTED]			SMS
Themba Abram Morajane		Ward 2		[REDACTED]			SMS
Mariaan Chamberlain		Ward 5		[REDACTED]	[REDACTED]		SMS and email
Sifiso Isaac Sibanyoni		Ward 6		[REDACTED]			SMS
Vilakazi Elphus Albert		Ward 7		[REDACTED]			SMS
Ndhlani Philemon Mahlangu		Ward 8		[REDACTED]			SMS
Mahlangu Buti Douglas		Ward 9		[REDACTED]			SMS
Simangele Riitta Ntuli	Govan Mbeki Local Municipality Ward Councillors	Ward 10		[REDACTED]			SMS
Eunice Dudu Mahlangu		Ward 11		[REDACTED]			SMS
Mantoa Emmah Motloug		Ward 12		[REDACTED]			SMS
Innocent Mandla Thabethe		Ward 13		[REDACTED]			SMS
Zulu Thandiwe Sesiky		Ward 14		[REDACTED]			SMS
Mtsweni Mabus Joseph		Ward 15		[REDACTED]			SMS
Esther Rose Nkabinde		Ward 16		[REDACTED]			SMS
Makola Mamokgekge Ben		Ward 17		[REDACTED]	[REDACTED]		SMS and email

Name and surname	Organisation/Farm and portion	Designation	Tel	Cell	Email	Address	Notification method
Estelle Pedro Swart		Ward 18					SMS and email
Lindiwe Elizabeth Sithole		Ward 19					SMS
Nonkosinathi Mency Ndoda		Ward 20					SMS
Van Rooyen Engela Johanna		Ward 21					SMS and email
Brenda Dorcas Mahlangu		Ward 23					SMS
Khehla Daniel Mazibuko		Ward 24					SMS
Ciska Botha		Ward 25					SMS
Bufesi David Mokoena		Ward 26					SMS
Ncane Gloria Malaza		Ward 27					SMS
Margareth Elizabeth Fourie		Ward 28					SMS
Aaron Vusumuzi Mbokazi		Ward 29					SMS
Tim Denny		Ward 30					SMS
Nkosi Mfanufikile Johan		Ward 31					SMS
Isaya Lukhele		Ward 32					SMS
Alfred Mangema	Govan Mbeki Local Municipality						SMS and email
Nomsa Thabethe							SMS and email
Interested Parties							
Jaco Linde	Sasol Synfuels (Pty) Ltd						SMS and email
Tennyson Naidoo							
SIBUSISO MOGOADUBA	IZAZI ELECTRICAL ENGINEERING						
Roland Myeni							
Raymond Hlungwane							
Gail Nussey -Vos	Sasol Mining						SMS and email
Hael Mndane	Robust Consulting Engineers						Email
Pretty Jiyane	New Age Engineering						Email
Helen Hugo	Jorons Nu Vac						Email
Bianca Lues	Phambili Hydraulics						SMS and email
Ambe v Rensburg	Walkerpark Golf Club						SMS and email
Andre Viljoen	FFS Refiners						SMS and email
Oosthuizen	Scrapoore Scrapyard						Email
Muhammed Noorbhal	Averda South Africa						Email
Joas	HVA						SMS
Selna Boucher	Janelle Huis						SMS and email
Madaleen Coetzee	Adullam School						Email
Johannes	Govan Mbeki Local Municipality						Email
Johannes	Baskop						SMS
Carel D.	Brendan Village						SMS and email
Dries Venter	Brendan Village						SMS and email
Martin van Schalkwyk	PHP Elektries						SMS and email
E. Verry	Daybreak						SMS and email
Chris	Tshepo Transport						SMS and email
Andrew	Residential Area						SMS and email
Zimitri	Residential Area						SMS
Xeliswa	Residential Area						SMS
Vinessa	Residential Area						SMS and email
Thulone	London Street						SMS and email
Faren	London Street						SMS
NH Tinta	8 Nottingham Street						SMS
Maarten	9 Nottingham Street						SMS
AK Riley	17 Nottingham						SMS
Jabulani	Sasol						SMS

Name and surname	Organisation/Farm and portion	Designation	Tel	Cell	Email	Address	Notification method
Johan Roslee	Nanini CC			██████	██████████		SMS and email
Marzelle Veldman				██████			SMS
	Mpumalanga Wetland Society		██████		██████████	██████████	Email
Attie Jankowitz	Farmers with Riparian Rights on the Waterval river			██████	██████████		SMS and email
Xolani Mahlangu	Govan Mbeki Forum			██████	██████████		SMS and email
Monde Nqjwa	Govan Mbeki Forum			██████	██████████		SMS and email
Sakhile Nahlangu	Quatro SA Pty Ltd			██████	██████████		SMS and email
Elma	I&AP			██████	██████████		SMS and email
Phillia Maseko	I&AP			██████			SMS
Raphael Botha	Pensioner in residential area			██████	██████████		SMS and email
Sakhile Moshlangu	Black Business Youth Council			██████	██████████		SMS and email
Smanga Lephoto	Black Business Youth Council			██████	██████████		SMS and email
Cobus Carpenter	Qhambalala			██████	██████████		SMS and email
Pieter Fourie	Mocosteel Secunda			██████	██████████		SMS and email
Josia Zwane	Sakhisizwe Farm			██████			SMS
Mbulelo Vilakazi	Sakhisizwe Farm			██████	██████████		SMS and email
Muzikayise Zandi	Kunjelo Kunje Trading			██████	██████████		SMS and email
Jeffrey Matjaola	Matjoaola TE			██████	██████████		SMS and email
Sabelo Mahlangu	Mayihlasele Izazi			██████	██████████		SMS and email
Nkosikho Khontsiwe	Nkhontsiwe Construction			██████	██████████		SMS and email
Sindiso Mathebula	Ngcondobeza General Trading (Pty) Ltd				██████████		SMS and email
Menzi Hlakukane	Issama (Pty) Ltd				██████████		SMS and email
Patsa Lehlohonolo	Interested party				██████████	██████████	
Patle Mohajane	National Nuclear Regulator		██████	██████	██████████		SMS and email
Mugango Sithole	Interested Party				██████████		Email
M. Lubaxa	Interested Party				██████████		Email
Soza Raymond Hlungwane	Zavahlu Trading and Projects (Pty)Ltd			██████	██████████		SMS and email
Lazarus Kutumela	Planatorium Solutions				██████████		Email
Skhakha Daniel Sibeko	I&AP				██████████		Email
Nkuyathe Masango	I&AP			██████	██████████		SMS and email
Brandon Russel	DRA				██████████		Email
Robert Eykelhof	DRA				██████████		Email
Melody Ntshangase	DRA				██████████		Email
Khumi Mehloakulu	DRA				██████████		Email
Neo Khoza	DRA				██████████		Email

Annexure B2: Copy of the Background Information Document

EVANDER GOLD MINES (PTY) LTD

**ATTENTION: INTERESTED AND/OR AFFECTED PARTY
NOTICE OF A BASIC ENVIRONMENTAL IMPACT ASSESSMENT
DEVELOPMENT OF A WATER TREATMENT PLANT**

1. Introduction

Notice is hereby given that Evander Gold Mines (EGM) intends to develop a Water Treatment Plant (WTP) for the treatment of water emanating from underground dewatering activities. The EGM WTP will be approximately 2 500 m² in extent and will be developed on an existing disturbed area. The facility will be located adjacent to the existing EGM Tailings Storage Facility (near the Elikhulu facility) and will have a maximum processing capacity to treat 11 000 m³ of water per day. The water will be treated to a potable water standard (SANS 241) and will be used to supplement water use requirements at EGM.

The development of the proposed WTP triggers activity 25 listed as described below in Listing Notice 1 (GNR 326) published in terms of the National Environmental Management Act (No. 107 of 1998).

Activity 25: The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres.

Therefore, a Basic Environmental Impact Assessment (BA) process will be undertaken to obtain an Environmental Authorisation (EA) for the proposed facility.

A public participation process must be undertaken in terms of the EIA regulations (GNR 326 of 2017) to inform all relevant Interested and Affected Parties of the proposed project and allow the IAPs to comment. This letter serves to **notify you as a landowner, lawful occupier, interested or affected party of the EIA process that are being undertaken**. EXM Advisory Services (Pty) Ltd has been appointed as the Independent Environmental Assessment Practitioners (EAP) responsible for administering the abovementioned application process:

PURPOSE:

This document serves to:

- Notify you of the EIA process.
- Describe the application processes.
- Inform you as to how you can provide input into the process.

YOUR ROLE:

As an interested and affected party, your role is to:

- Ask questions, raise issues and concerns.
- Attend public meetings.
- Review and provide comment on environmental reports.

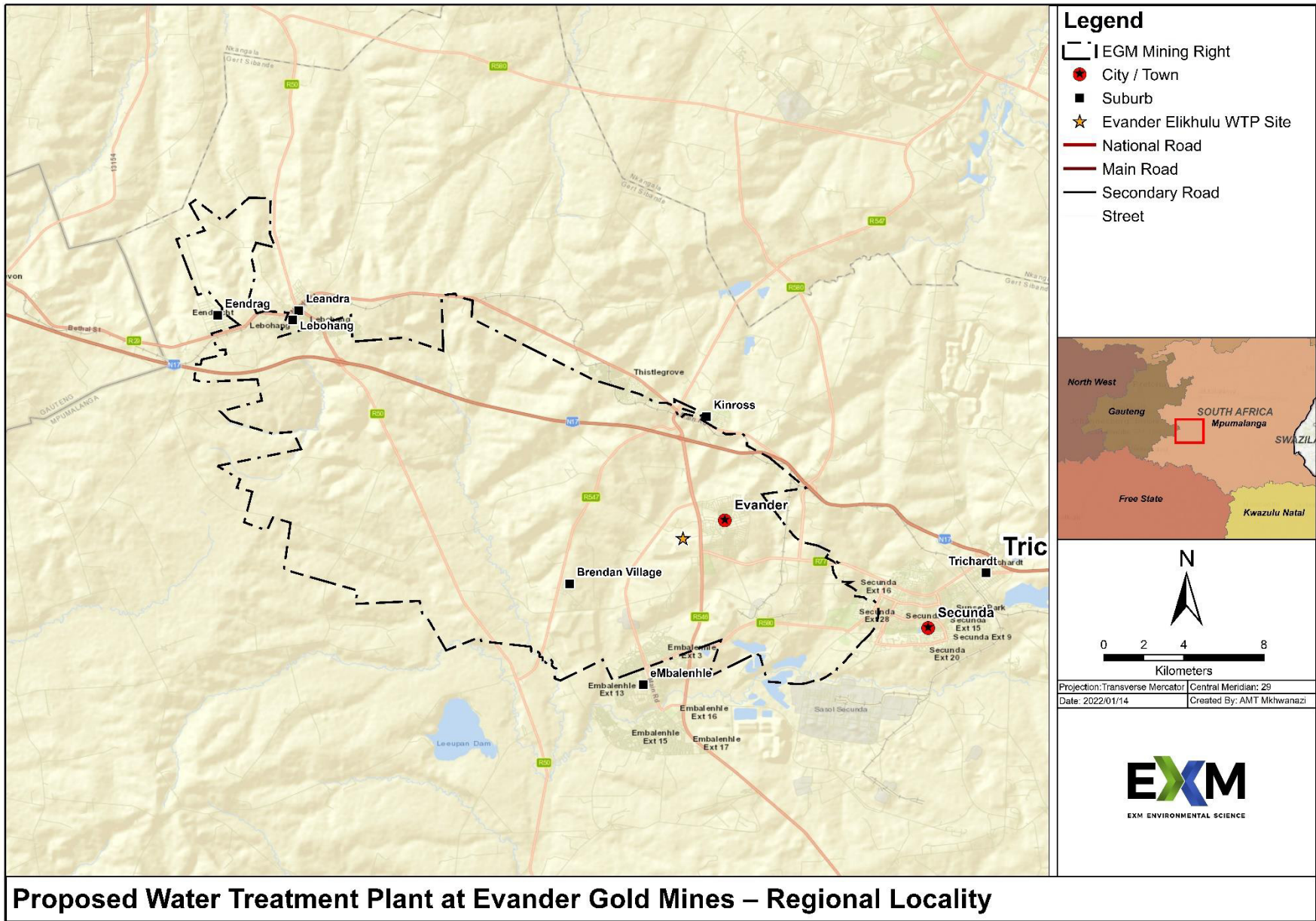


FIGURE 1: GENERAL LOCATION OF THE PROPOSED WATER TREATMENT PLANT

2. Preliminary Overview of the of the proposed Water Treatment Plant

Evander Gold Mines (Pty) Ltd (EGM) undertakes underground gold mining operations near the town of Evander in the Mpumalanga Province. EGM also conducts reprocessing of existing Tailings Storage Facilities (TSF) to extract gold remaining in the tailings at the Elikhulu processing facility. EGM is the owner of a converted mining right (126MR) and has also obtained an Environmental Authorisation (EA) (MP 30/5/1/2/2 (126) EA) for the development of the Elikhulu plant and reprocessing of the existing TSFs which is done as part of the overall EGM mining operations. EGM also has an approved Environmental Management Programme (EMPr) for the mining operations and the Elikhulu plant.

EGM proposes to develop a Water Treatment Plant (WTP) for the treatment of water emanating from underground dewatering activities. The EGM WTP will be approximately 2 500 m² in extent and will be developed on an existing disturbed area. The facility will be located adjacent to the existing EGM Tailings Storage Facility (near the Elikhulu facility) and will have a maximum processing capacity to treat 11 000m³ of water per day. The water will be treated to a potable water standard (SANS 241) and will be used to supplement water use requirements at EGM and the Elikhulu facility and reduce pressure on natural resources and the municipal supply.

A pipeline of approximately 4.3km will also be developed from the WTP to the shaft #8 complex for the conveyance of water. The pipeline will have a diameter of approximately 125mm and will have a maximum flow of 25 liters per second. The pipeline will run on existing pipeline supports and will use existing culverts for all road crossings outside the mine, therefore no additional disturbance is anticipated.

Apart from the pipeline, the proposed project will entail the development of the following infrastructure:

- Raw water and processing tanks;
- Pumps and piping;
- Concrete foundation;
- Flow meters and valves; and
- Electrical infrastructure.

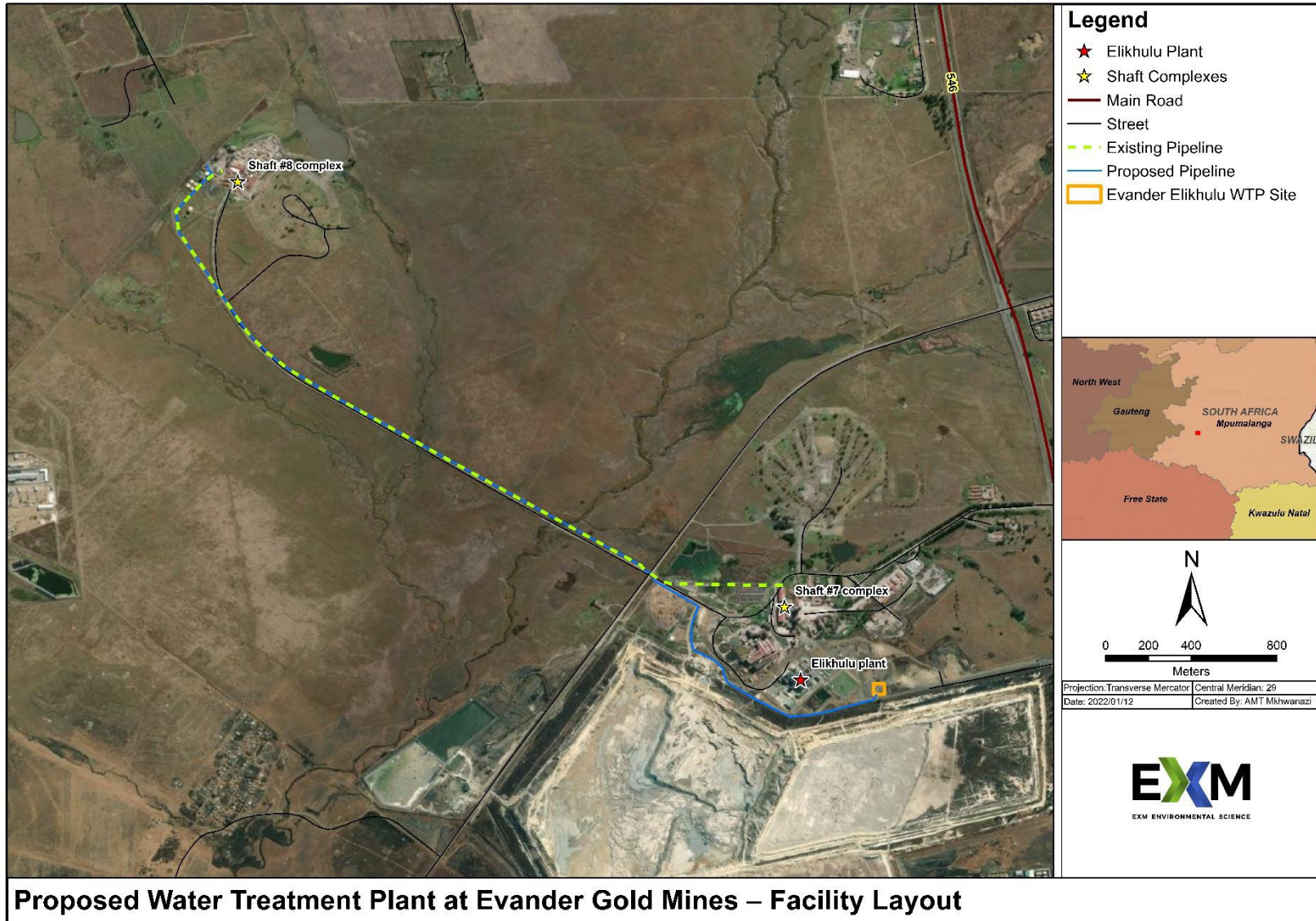


FIGURE 2: INITIAL CONCEPTUAL LAYOUT

3. Environmental Approvals Required

3.13.2 National Environmental Management Act (No. 107 of 1998) (NEMA)

Activities triggered in terms of Listing Notices published in terms of the National Environmental Management Act (No. 107 of 1998) require an Environmental Authorisation (EA) prior to commencement. Activities triggered in Listing Notices 1 (GNR 327) and 3 (GNR 324) require a Basic Environmental Impact Assessment (BA) process to obtain an EA and Activities triggered in Listing Notice 2 (GNR 325) require a full EIA and Scoping process to obtain an EA prior to commencement. The development of the proposed WTP triggers the following activity listed in Listing Notice 1 (GNR 327):

Activity	Description
Activity 25	The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres.

Therefore, a BA process will be undertaken to obtain an EA for the proposed facility. The regulated timeframes for the completion of the BA process, as provided in the EIA Regulations, are provided in Figure 3 below.



FIGURE 3: Basic Assessment Process

4. Public Participation Process

A public participation process is being undertaken as part of the applications. The process is conducted in terms of the NEMA EIA regulations (GNR. 326 of 2017). Stakeholders are offered the opportunity to be informed about the application, raise comments, issues or concerns and provide input into the application and reports.

Interested & affected parties are invited to participate in the environmental process. You can provide input by:

- Registering as an interested & affected party (IAP);
- Asking questions and raising initial concerns by completing and returning the response sheet (attached); and
- Reviewing and providing comment on reports.

All I&APs will be informed when all the documents will be available for review.

Should you have questions or require more information, **please contact:**

Trevor Hallatt

EXM Advisory Services (Pty) Ltd

Cell: 071 689 2229

Fax: 086 479 4750

Email: trevor@exm.co.za

Postnet Suite 211 Private Bag x0001, Ballito, 4420

Yours sincerely

Trevor Hallatt

Environmental Assessment Practitioner

EXM Advisory Services (Pty) Ltd

EVANDER GOLD MINES (PTY) LTD
BASIC ENVIRONMENTAL IMPACT ASSESSMENT: DEVELOPMENT OF A WATER TREATMENT PLANT
Name:
Address:
Telephone/cell phone:
Fax:
E-mail:
Date:
Signature:

If you know of others who should be informed of this application, please provide us with their contact details:

Name:
Address:
Telephone/cell phone:
Fax:
E-mail:
ISSUES, CONCERNS AND QUESTIONS

EXM Advisory Services (Pty) Ltd

Cell: 071 689 2229 Fax: 086 479 4750 Postnet Suite 211 Private Bag x0001, Ballito, 4420 email: trevor@exm.co.za

Annexure B3: Proof of Distribution - Background Information Document

Phonenumber	Status	SubmittedDate	SentData
27607442375	SUBMITD	1/14/2022 12:12:18 PM	
27611814720	SUBMITD	1/14/2022 12:12:17 PM	
27621327643	SUBMITD	1/14/2022 12:12:17 PM	
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27733970046	DELIVRD	1/14/2022 12:12:18 PM	

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27760872019	DELIVRD	1/14/2022 12:12:18 PM
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27828501567	DELIVRD	1/14/2022 12:12:18 PM
27828518119	DELIVRD	1/14/2022 12:12:18 PM

A Basic Environmental Impact Assessment is conducted by EXM Advisory Services for the development of a Water Treatment Plant at Evander Gold Mines, near Evander. Please contact Trevor Hallatt at 0716892229 or trevor@exm.co.za if you wish to register as an Interested/Affected Party (IAPs) or provide initial comments. All reports will be made available shortly to IAPs for review and comment.

27828567163	DELIVRD	1/14/2022 12:12:18 PM
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27844688556	DELIVRD	1/14/2022 12:12:18 PM
27845587974	DELIVRD	1/14/2022 12:12:18 PM

From: [Trevor Hallatt](mailto:Trevor.Hallatt@exm.co.za)
Bcc: hblboerderye@gmail.com; susanlouwrens15@gmail.com; KDUPLOOY@SECUNDA.CO.ZA; naude@hgg.co.za; johanschoeman66@gmail.com; idelange@global.co.za; idelange@global.co.za; casper.esna@gmail.com; EUGENE@MAREU.CO.ZA; bakenlaagte@telkomsa.net; dionurquhart@mweb.co.za; lucasklopper@mweb.co.za; BERNARD.KLINGENBERG@SASOL.COM; jaco.linde@sasol.com
Subject: Public Notification - Basic Environmental Assessment - Development of a Water Treatment Plant at Evander Gold Mines
Date: Friday, 14 January 2022 11:26:00
Attachments: [EGM WTP Basic Assessment BID.pdf](#)
[Commenting sheet.docx](#)

ATTENTION: INTERESTED AND AFFECTED PARTY / COMMENTING AUTHORITY

APPLICANT: EVANDER GOLD MINES LIMITED

PROJECT: BASIC IMPACT ASSESSMENT FOR THE DEVELOPMENT OF A WATER TREATMENT PLANT AT EVANDER GOLD MINES

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The draft Basic Impact Assessment Report (BAR) will be made available/communicated to all IAPs shortly for review and comment.

Please do not hesitate to contact me at any stage if you have any questions or queries.

Kind regards

Trevor



TREVOR HALLATT
ENVIRONMENTAL SCIENTIST
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This email is confidential, may also be legally privileged and is intended for the exclusive use of the recipient to whom it is addressed. If you are not the intended recipient, any disclosure, copying, distribution or any action taken or omitted to be taken in reliance on it, is prohibited and may be unlawful.

From: [Trevor Hallatt](mailto:Trevor.Hallatt)
Bcc: jaco.linde@sasol.com; goodboy556@yahoo.com; tennyson@gan.co.za; info@izazienergy.com; muziwokuthulamyeni@gmail.com; sozaraymond.hlungwane@gmail.com; carel@brendanvillage.com; gail.nussey@SASOL.com; info@robustengineers.co.za; admin@newage-eng.com; helen.jtcs@vodamail.co.za; bianca@treq.co.za; walkerparkgc@mweb.co.za; andreV@ffs.co.za; 0829219828@vodamail.co.za; mnoorbhai@wasteman.co.za; selna.bouwers456@gmail.com; adullamaca@secunda.co.za; johannes.m@govanmbeki.gov.za; carel@brendanvillage.com; brendanlodge@wol.co.za; martynvs@PHPgroupp.co.za; esme.veringa@daybreak.za.com; chris@tshepotransport.co.za; mamelaar@yahoo.com; myburghvinessa@gmail.com; thuleoi@icloud.com; jr@lakeumuzi.co.za; hanneswetlands@gmail.com; ABeetge@environment.gov.za; adie@cleanstreams.co.za; DStryd@environment.gov.za; jankowitz@secunda.co.za; mpumalangacentral@gmail.com; monde.ngiwa@gmail.com; ndumisoprosp@secunda.co.za; elma.private@gmail.com; botha610@outlook.com; molumisoprosp@secunda.co.za; smangalph8@gmail.com; cobuscarpenter@gmail.com; pieter@mocoeng.co.za; bremcetvilakazi@gmail.com; nzikayisez@gmail.com; matjaola.kj@gmail.com; smahlangu197@gmail.com; nkhontsiweconstruction@gmail.com; Sindiso.Mathebula@sasol.com; Chiwanza.Chiwanja@sasol.com; crazycopyss@secunda.co.za; pemohajane@nnr.co.za; mubangosithole@gmail.com; m.lubaxa@gmail.com; sozaraymond.hlungwane@gmail.com; planatoriumsolutions@gmail.com; skhakha.d.sibeko@gmail.com; izihibe@gmail.com; Brandon.Russell@draglobal.com; Robert.Eykelhof@draglobal.com; Melody.ntshangase@DRAGlobal.com; KZADBP00125@draglobal.com; khumi.mehlomakulu@draglobal.com; neo.khoza@draglobal.com
Subject: Public Notification - Basic Environmental Assessment - Development of a Water Treatment Plant at Evander Gold Mines
Date: Friday, 14 January 2022 11:43:00
Attachments: [Commenting sheet.docx](#)
[EGM WTP Basic Assessment BID.pdf](#)

ATTENTION: INTERESTED AND AFFECTED PARTY / COMMENTING AUTHORITY

APPLICANT: EVANDER GOLD MINES LIMITED

PROJECT: BASIC IMPACT ASSESSMENT FOR THE DEVELOPMENT OF A WATER TREATMENT PLANT AT EVANDER GOLD MINES

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Please do not hesitate to contact me at any stage if you have any questions or queries.

Kind regards

Trevor

From: [Trevor Hallatt](mailto:Trevor.Hallatt@exm.co.za)
Bcc: marinda@gsibande.gov.za; dan.hlanyane@gsibande.gov.za; NMvumvu@environment.gov.za; TebogoM@gsibande.gov.za; lynette.m@govanmbeki.gov.za; office.mm@govanmbeki.gov.za; nic.vdm@govanmbeki.gov.za; sabeth.n@govanmbeki.gov.za; melato.m@govanmbeki.gov.za; ethel.n@govanmbeki.gov.za; bussie.l@govanmbeki.gov.za; lindsay.n@govanmbeki.gov.za; mariaanchamberlain@gmail.com; makola1@vodamail.co.za; estelle.gosh4cancer@gmail.com; ena.vr@vodamail.co.za; alfred.m@govanmbeki.gov.za; NomsaT@gsibande.gov.za
Subject: FW: Public Notification - Basic Environmental Assessment - Development of a Water Treatment Plant at Evander Gold Mines
Date: Friday, 14 January 2022 11:41:00
Attachments: [Commenting sheet.docx](#)
[EGM WTP Basic Assessment BID.pdf](#)

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Bcc: "MulaudziM@dws.gov.za"; "rasiubat@iucma.co.za"; "rluyt@mpg.gov.za"; "goxaba@mpg.gov.za"; "GXaba@mpg.gov.za"; "Jventer@mpg.gov.za"; "jan.agric@gmail.com"; "abe@mtpa.co.za"; "lorraine.oosthuizen@mtpa.co.za"; "kholo@mtpa.co.za"; "Phumla.Nkosi@mtpa.co.za"; "ntwala@mpg.gov.za"; "tsnxumalo@mpg.gov.za"; "ntwala@mpg.gov.za"; "davidp@social.mpu.gov.za"; "angelinama@social.mpu.gov.za"; "vamesmtsweni@mpg.gov.za"; "bviljoen@wit.mpu.gov.za"; "temba.milanzi@labour.gov.za"; "bmoduka@mpg.gov.za"; "lenviro@telkomsa.net"; "Communicationdpwrt@mpg.gov.za"; "Samuel.Mathavhela@dmr.gov.za"; "maceveles@dws.gov.za"; "khorommbit@dws.gov.za"; "frans@mtpa.co.za"; "zaneles@mpg.gov.za"; "fngobe@mpg.gov.za"; "kmohlasedi@mpg.gov.za"; "dnkambule@mpg.gov.za"; "gmashego@mpg.gov.za"; "dnkambule@mpg.gov.za"; "records@gsibande.gov.za"; "JaniceN@gsibande.gov.za"; "sam.nkosi@drdlr.gov.za"; "max.dekock@drdlr.gov.za"; "LMLegodi@ruraldevelopment.gov.za"; "ZSSihlangu@ruraldevelopment.gov.za"; "nyathikazibw@mpg.gov.za"; "jventer@mpg.gov.za"; "jan.agric@gmail.com"; "francoisk@mpg.gov.za"; "SteveGAL@daff.gov.za"; "fngobe@mpg.gov.za"; "SEMatshabela@mpg.gov.za"; "tshililon@dsdmpu.gov.za"; "ronnieM@dsdmpu.gov.za"; "steynm@mpuhealth.gov.za"; "Dumisanemala@mpuhealth.gov.za"; "mecfedt@mpg.gov.za"; "lajonas@mpg.gov.za"; "jmarakala@mpg.gov.za"; "mohauram@mpg.gov.za"; "ujismail@mpg.gov.za"; "emabuzza@mpg.gov.za"; "nndlanya@mpg.gov.za"; "shabanguzi@mpg.gov.za"; "jtmaseko@mpg.gov.za"; "gpmthethwa@mpg.gov.za"
Subject: Public Notification - Basic Environmental Assessment - Development of a Water Treatment Plant at Evander Gold Mines
Date: Friday, 14 January 2022 11:40:00
Attachments: [Commenting sheet.docx](#)
[EGM WTP Basic Assessment BID.pdf](#)

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Kind regards

Trevor

From: [Trevor Hallatt](mailto:Trevor.Hallatt@exm.co.za)
Bcc: braamdelarey@gmail.com; LAURIETTE.SESOKO@TRANSNET.NET; EUGENE@MAREU.CO.ZA; LOCKNERANDRE@GMAIL.COM; roelf.dupreez@gmail.com; hugh@dewfresh.co.za; sam1@vhslaw.co.za; adelange163@gmail.com; chris@tshopotransport.co.za; steveshabangu5@gmail.com; bvadmin@vodmail.co.za; carel@brendanvillage.com; furstenburg.nadine@gmail.com; jaco.linde@sasol.com; gegana747@gmail.com; frikkiejamie@gmail.com; KDUPLOOY@SECUNDA.CO.ZA; naude@hgg.co.za; EUGENEDP@SELECTPPE.CO.ZA; dionurquhart@mweb.co.za; dionurquhart@mweb.co.za; jgebezuide@gmail.com; LOCHNERANDRE@GMAIL.COM; GOUDVELD@LANTIC.NET; tinuspistorius@absamail.co.za; johanschoeman66@gmail.com; idelange@global.co.za; roelf.dupreez@gmail.com; lucasklopper@mweb.co.za
Subject: Public Notification - Basic Environmental Assessment - Development of a Water Treatment Plant at Evander Gold Mines
Date: Friday, 14 January 2022 11:37:00
Attachments: [Commenting sheet.docx](#)
[EGM WTP Basic Assessment BID.pdf](#)

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MA ENVIRONMENTAL MANAGEMENT

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Annexure B4: Proof of Site Notice Placement

Site notice at main EGM entrance



Site notice at Elikhulu entrance

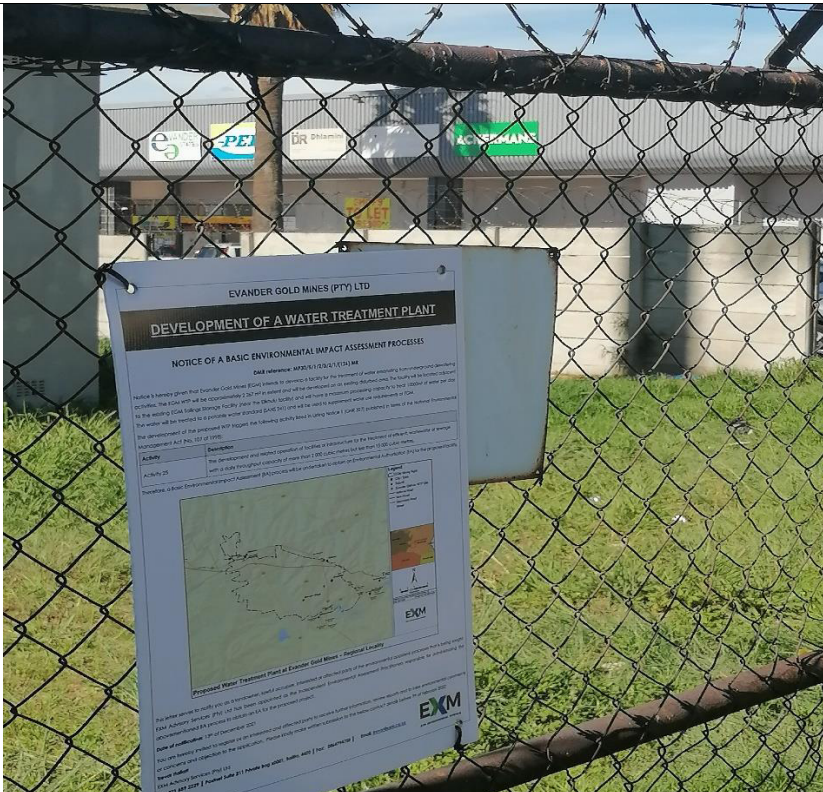


Site Notice at Elikhulu TSF Entrance



C

Site notice at Shoprite Checkers



Site notice the Evander Magistrate Court



Annexure B5
Proof of advertisement placement

Vacancies



PLANT DESIGN AND PROJECT SERVICES (PTY) LTD

PDPS is an engineering design and construction company providing a comprehensive range of technical, engineering, maintenance and project management services to the petrochemical, power generation and related industries. Currently the following vacancy exist within the company:

Mechanical Draughtsman

Requirements (Must):

Qualified Mechanical Draughtsman

(2 – 5 years' experience)

Matric with Maths (N3), Science (N3),

Drawings, Own Transport & Valid Driver's License.

Requirements:

Solid works/Micro station/AutoCAD Knowledge.

Pressure vessel/Tank design experience.

Experience working in Oil & Gas Industries

Closing date for applications is 4 February 2022

Advert Ref Nr: PL202203

If you are ambitious and meet the above requirements email or fax your CV to: careers@pdps.co.za



GRANTED in the Magistrate Court, Secunda on the 10TH OF NOVEMBER 2021. And in succession of the Warrant of Execution all goods below will be sold in execution for cash to the highest bidder on WEDNESDAY 9 FEBRUARY 2022 at 10H00 at address LAKE UMUZI, KIEWIET STREET, SECUNDA: 1X DEFY DOUBLE DOOR FRIDGE 1X 3 ROOM DIVIDER 1X BLACK CUPBOARD 1X BROWN TABLE 1X WHITE CHEST DRAWER WITH MIRROR 2X WHITE CUPBOARDS 1X BLACK LOUNGE SUITE SET 1X TERMECH LAWN MACHINE 1X YELLOW LAWN MACHINE 1X KID PARK SIGNED AT SECUNDA ON THIS 13th DAY OF DECEMBER 2021 MR JORDAAN JNR JORDAAN & COETZER ATTORNEYS 1 ALB ASINI STREET SECUNDA REF: MR JORDAAN JNR/EG /M2485

0953 SALES IN EXECUTION

IN THE MAGISTRATE'S COURT FOR THE DISTRICT OF GOVAN MBEKI HELD AT SECUNDA CASE NUMBER: SEC 1910/2021 In the matter between JEAN MARIUS PEPLER (N.O.) AND KATHLEEN MARY PEPLER (N.O.) AND RUARK PEPLER (N.O.) As Trustees of KATHY TRUST REGISTRATION NO: IT3301/99 PLAINTIFF AND JUAN-PIERRE DREYER ID NO: 880522 5060 080 1st DEFENDANT NICOLENE NEETHLING ID NO: 890728 0077 080 2ND DEFENDANT NOTICE OF SALE IN EXECUTION AS A JUDGMENT WAS



PRECAUTION



- Wash your hands often with soap and water
- Avoid touching your eyes, nose or mouth with unwashed hands
- Avoid close contact with people who are sick



OUR SCHOOLS

HRPS welcomes Grade 1's



All smiles and ready for Grade 1 is Cooper Joubert of Highveld Ridge Primary School.

On the bridge of education and ready to take on Grade 1 is Phiwokuhle Madi of Highveld Ridge Primary School.

Kruinpark greets new Grade 1's



Laerskool Kruinpark's Amily Obermeyer is all smiles for her first day in Grade 1.

With his school bag on his back, Audun Sutherland of Laerskool Kruinpark is all ready for his first day of Grade 1.

TP Stratten Primary welcomes Grade 1's for 2022



Twins Lwandle and Sihle Ncubuka on their first day at "big school" at TP Stratten Primary School.



All kitted out in school uniform and ready to take on Grade 1 are TP Stratten Primary School's twins Zwivhuya and Zwavhudi Mathagu.

NOTICE OF BASIC ASSESSMENT AND PUBLIC PARTICIPATION

PROCESS PROPOSED DEVELOPMENT OF THE 19.99MWac BECRUX SOLAR PHOTOVOLTAIC (PV) ENERGY FACILITY, NEAR SECUNDA, MPUMALANGA PROVINCE

Applicant: Becrux Solar PV Project One (Pty) Ltd

Proposed Activity: The development of a 19.99MWac Solar Photovoltaic (PV) Energy Facility and associated infrastructure to generate electricity for exclusive use by Sasol Limited. Infrastructure associated with the Solar PV Energy Facility will include the following:

- Solar PV array comprising PV modules and mounting structures.
- Inverters and transformers.
- Cabling between the panels.
- E-house containerised or non-containerised substation.
- 11kV overhead power line for the distribution of the generated power, which will be connected to the existing Goedeheop Substation.
- Laydown area.
- Access gravel road (existing) and internal gravel roads.
- Security booth, O&M building, workshop, storage area and site office.

Project Location: ~7km south-east of Secunda and 15km east of eMbaleni, with in jurisdiction of the Govan Mbeki Local Municipality, which forms part of the Gort Sibande District Municipality, on the following farm property: Portion 6 of the Farm Goedeheop No. 290.

Basic Assessment Process: In terms of Sections 24 and 24D of the National Environmental Management Act, 1998 (Act No 107 of 1998), as read with Government R327, as amended, a Basic Assessment (BA) process is required in support of the application for Environmental Authorisation for the proposed Becrux Solar PV Energy Facility. Savannah Environmental has been appointed as the independent environmental consultant responsible for undertaking the required BA and public participation process for the project.

Basic Assessment Report available for public review and comment: The BA Report and associated documentation will be made available for download, review, and comment on the Savannah Environmental website (<https://savannahsa.com/public-documents/energy-generation/>). The 30-day public review and commenting period of the BA Report will be from Friday, 21 January 2022 until Monday, 21 February 2022. The final day to submit comment is Monday, 21 February 2022.

To obtain further information and register on the project database, please submit your name, contact information and interest in the project to the contact person below:

Lehlogonolo Mashego at Savannah Environmental
P.O. Box 148, Sunninghill, 2157
Tel: 011 656 3237
Mobile: 060 979 8396
Fax: 086 684 0547
Email: publicprocess@savannahsa.com
Website: www.savannahsa.com



EVANDER GOLD MINES NOTICE OF A BASIC ENVIRONMENTAL IMPACT ASSESSMENT Development of a Water Treatment Plant

Notice is hereby given that Evander Gold Mines (EGM) intends to develop a Water Treatment Plant (WTP) for the treatment of water emanating from underground dewatering activities. The EGM WTP will be approximately 2 500m² in extent and will be developed on an existing disturbed area. The facility will be located adjacent to the existing EGM Tailings Storage Facility (near the Elikhulu facility) and will have a maximum processing capacity to treat 11 000m³ of water per day. The water will be treated to a potable water standard (SANS 241) and will be used to supplement water use requirements at EGM. The development of the proposed WTP triggers Activity 25 listed as described below in Listing Notice 1 (GNR 327 of 2017) published in terms of the National Environmental Management Act (No. 107 of 1998).

Activity 25: The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres.

Therefore, a Basic Environmental Impact Assessment (BA) process will be undertaken to obtain an Environmental Authorisation (EA) for the proposed facility.

You are hereby invited to register as an Interested or Affected Party to receive further information, review reports and to raise environmental comments or concerns and objection to the application. Please kindly make written submission within 30 days of this notification to the below contact details:

Trevor Hallatt EXM Advisory Services (Pty) Ltd
Tel: 071 689 2229 | Post: Postnet Suite 211 Private Bag x0001, Ballito, 4420
Fax: 0864794750 | Email: trevor@exm.co.za

RSMS
ROVING SPECIALISED MAINTENANCE SERVICES
VACANCIES UNDERGROUND

- Millwright
- Electricians

Must have the following qualifications and experience:

- Valid Trade Certificate.
- Gas Testing and Flame Proof.
- School & N Subject Qualifications.
- All relevant equipment and training course certificate.
- More than 5 years underground coal production and maintenance experience.

EMAIL CV & QUALIFICATIONS TO georg@rsms.co.za

Annexure B6 Comments and responses

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RE: Public Notification - Basic Environmental Assessment - Development of a Water Treatment Plant at Evander Gold Mines

Tebogo Mogakabe <TebogoM@gsibande.gov.za>
 To Trevor Hallatt
 Cc Lindokuhle Magagula

Reply Reply All Forward

Mon 2022/01/17 10

Good morning
 Thank you for your email.

This serves as acknowledgement of the email as sent.

Regards,
 Tebogo

From: Trevor Hallatt [mailto:trevor@exm.co.za]
Sent: Friday, January 14, 2022 11:42 AM
Subject: FW: Public Notification - Basic Environmental Assessment - Development of a Water Treatment Plant at Evander Gold Mines

ATTENTION: INTERESTED AND AFFECTED PARTY / COMMENTING AUTHORITY

APPLICANT: EVANDER GOLD MINES LIMITED

PROJECT: BASIC IMPACT ASSESSMENT FOR THE DEVELOPMENT OF A WATER TREATMENT PLANT AT EVANDER GOLD MINES

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Re: Public Notification - Basic Environmental Assessment - Development of a Water Treatment Plant at Evander Gold Mines

 Mnyaka Asanda (GAU) <MnyakaA@dws.gov.za>
To Trevor Hallatt

Reply Reply All Forward

Wed 2022/01/19 13:57

You replied to this message on 2022/01/19 13:59.

 Commenting sheet-signed.pdf
150 KB

Good Day Mr Hallat

Kindly find the attached commenting sheet.

Kind Regards
Asanda Mnyaka

From: Trevor Hallatt <trevor@exm.co.za>
Sent: Friday, 14 January 2022 11:40
Subject: Public Notification - Basic Environmental Assessment - Development of a Water Treatment Plant at Evander Gold Mines

ATTENTION: INTERESTED AND AFFECTED PARTY / COMMENTING AUTHORITY

APPLICANT: EVANDER GOLD MINES LIMITED

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Re: Public Notification - Basic Environmental Assessment - Development of a Water Treatment Plant at Evander Gold Mines

 planatorium planatorium <planatoriumsolutions@gmail.com>
To Trevor Hallatt

Reply Reply All Forward

Thu 2022/01/20 10:47



Hi
Received with thanks.

Sincerely
Lazarus

On Fri, 14 Jan 2022, 11:43 Trevor Hallatt, <trevor@exm.co.za> wrote:

ATTENTION: INTERESTED AND AFFECTED PARTY / COMMENTING AUTHORITY

APPLICANT: EVANDER GOLD MINES LIMITED

PROJECT: BASIC IMPACT ASSESSMENT FOR THE DEVELOPMENT OF A WATER TREATMENT PLANT AT EVANDER GOLD MINES

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Comments for EGM Water Treatment Plant

Trevor Hallatt
To Silk Thamana

Reply Reply All Forward

Tue 2022/01/25 06:09

GUSHU HOLDINGS.pdf
2 MB

Good day,

Thank you for the communication received (as attached). The application for Environmental Authorisation (EA) does not deal directly with safety requirements for the proposed facility. However, the construction and operations of the proposed Water Treatment Plant (WTP) is to be undertaken according to relevant safety procedures which will be in line with relevant safety legislation. Evander Gold Mines follow strict policies with regards to safety requirements.

Please inform me should you have any further comments.

Kind regards
Trevor

From: Silk Thamana <slkthamanaholdings@gmail.com>
Sent: Sunday, 23 January 2022 15:58
To: Trevor Hallatt <trevor@exm.co.za>
Subject:

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RE: SScan 22012111130.pdf

 Trevor Hallatt
To: Buyi Welleminah

 SScan 22012111130.pdf
1 MB

Reply Reply All Forward

Tue 2022/01/25 08:32

Good day,

Thank you for the communication received. The Environmental Authorisation (EA) application currently conducted for the Water Treatment Plant at Evander Gold Mines (EGM) does not relate to procurement processes. I have however communicated the attached document to EGM for their database.

Kind regards
Trevor

From: Buyi Welleminah <buyiwelleminah@gmail.com>
Sent: Friday, 21 January 2022 13:30
To: Trevor Hallatt <trevor@exm.co.za>
Subject: SScan 22012111130.pdf

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RE: Application for possible work opportunities

 Trevor Hallatt
To  Tekela Xaba



 Reply  Reply All  Forward  

Tue 2022/01/25 08:35

Good day,

Thank you for the communication received. The Environmental Authorisation (EA) application currently conducted for the Water Treatment Plant at Evander Gold Mines (EGM) does not relate to procurement processes. I have however communicated the attached document to EGM for their database.

Kind regards

Trevor

From: Tekela Xaba <tekelaxaba@gmail.com>

Sent: Thursday, 20 January 2022 10:22

To: Trevor Hallatt <trevor@exm.co.za>

Subject: Application for possible work opportunities

Greetings

I would like to apply for semi skilled labour jobs. All my documents are attached in this email. I am type of person who always like to experience new things. I do believe in creativity and time management. I do not give up or quit on things I want. I promise you won't regret hiring me for this job. I can relocate to any place. Please if the are no jobs available hold on to my cv until they are available

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RE: SABELO'S RESUMES

 Trevor Hallatt
To: Sabelo Mthimunye

 consent[1].pdf
75 KB

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Tue 2022/01/25 08:37

Good day,

Thank you for the communication received. The Environmental Authorisation (EA) application currently conducted for the Water Treatment Plant at Evander Gold Mines (EGM) does not relate to procurement processes. I have however communicated the attached document to EGM for their database.

Kind regards

Trevor

From: Sabelo Mthimunye <mthimunyesabelo78@gmail.com>

Sent: Tuesday, 18 January 2022 12:31

To: Trevor Hallatt <trevor@exm.co.za>

Subject: SABELO'S RESUMES

I CAN WORK WITH VALVES, PRESSURE PIPES, PUMPS AND HYDRANTS

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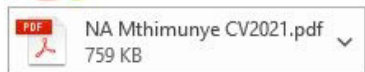
Add-in

RE: ADT



Trevor Hallatt

To: 'Nompumelelo Promise'



Reply Reply All Forward

Tue 2022/01/25 08:37

Good day,

Thank you for the communication received. The Environmental Authorisation (EA) application currently conducted for the Water Treatment Plant at Evander Gold Mines (EGM) does not relate to procurement processes. I have however communicated the attached document to EGM for their database.

Kind regards
Trevor

From: Nompumelelo Promise <promisenompumelelo918@gmail.com>

Sent: Wednesday, 19 January 2022 18:58

To: Trevor Hallatt <trevor@exm.co.za>

Subject: ADT

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RE: Legal notice Ridge Times 21 Jan 2022


 Trevor Hallatt
 To Conradie, Anneke (A)

Reply Reply All Forward

Thu 2022/01/20 08:24

Land tenure.pdf 2 MB	EGM WTP Basic Assessment BID.pdf 822 KB	Commenting sheet.docx 18 KB
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Good day Anneke,

Please find attached the land tenure map as well as the BID for the proposed project.

Please inform me if you have any further comments.

Kind regards

Trevor

From: Conradie, Anneke (A) <anneke.conradie@sasol.com>

Sent: Tuesday, 18 January 2022 13:25

To: Trevor Hallatt <trevor@exm.co.za>

Subject: Legal notice Ridge Times 21 Jan 2022

Good day TRevor

Reference is made to the notice of a basic environmental impact assessment for the development of a water treatment plant, placed in the Ridge Times of 21 January 2022. It will be appreciated if you could confirm the property/properties involved, to allow us to establish its proximity to Sasol's operations?

Thank you and kind regards

Anneke

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RE: Public Notification - Basic Environmental Assessment - Development of a Water Treatment Plant at Evander Gold Mines

Tebogo Mogakabe <TebogoM@gsibande.gov.za>
 To Trevor Hallatt
 Cc Lindokuhle Magagula

Reply Reply All Forward

Mon 2022/01/17 10:50

Good morning
 Thank you for your email.

This serves as acknowledgement of the email as sent.

Regards,
 Tebogo

From: Trevor Hallatt [<mailto:trevor@exm.co.za>]
Sent: Friday, January 14, 2022 11:42 AM
Subject: FW: Public Notification - Basic Environmental Assessment - Development of a Water Treatment Plant at Evander Gold Mines

ATTENTION: INTERESTED AND AFFECTED PARTY / COMMENTING AUTHORITY

APPLICANT: EVANDER GOLD MINES LIMITED

PROJECT: BASIC IMPACT ASSESSMENT FOR THE DEVELOPMENT OF A WATER TREATMENT PLANT AT EVANDER GOLD MINES

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RE: Public Notification - Basic Environmental Assessment - Development of a Water Treatment Plant at Evander Gold Mines



Trevor Hallatt

To: Mnyaka Asanda (GAU)

Reply Reply All Forward

Wed 2022/01/19 14:00

Good day,

The Basic Assessment Report will be distributed for comment once finalised, most probably during next week.

Kind regards

Trevor

From: Mnyaka Asanda (GAU) <MnyakaA@dws.gov.za>

Sent: Wednesday, 19 January 2022 13:57

To: Trevor Hallatt <trevor@exm.co.za>

Subject: Re: Public Notification - Basic Environmental Assessment - Development of a Water Treatment Plant at Evander Gold Mines

Good Day Mr Hallat

Kindly find the attached commenting sheet.

Kind Regards

Asanda Mnyaka

Annexure C Impact Assessment Tables

IMPACT CATEGORY	ACTIVITY	ASPECT	POTENTIAL IMPACT	INTENSITY	DURATION	CONSEQUENCE	EXTENT	SEVERITY	PROBABILITY	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION	MITIGATION CONFIDENCE	SIGNIFICANCE WITH MITIGATION
Soil and stormwater	Storage and use of hazardous substances	Potential spillages	Soil/stormwater pollution	3	3	3	3	3	0.7	2.1	Hazardous substances containers must be clearly marked and must be stored in an area with containment measures in place. Spill response equipment must be readily available. Large spills must be reported as incidents and managed accordingly. Dip trays are to be in place under vehicle susceptible to leakages	0.5	1.05
Soil and water	General waste generation	Storage and management of general waste (building rubble, domestic waste)	Litter in adjacent areas Soil pollution Stormwater pollution	3	3	3	3	3	0.4	1.2	Store general waste in a designated area in marked containers. Littering must be prohibited. Dispose general waste that cannot be recycled at a licensed facility. Provide bins for separate waste streams.	0.6	0.72
Soil and water	Production of brine from treatment process	Brine spillages	Water/Soil pollution	3	3	3	4	3.5	0.6	2.1	Store brine in a sealed buffer tank. Automatic pressure monitoring on pipeline to detect any leakages. Clean up any brine spillages appropriately	0.6	1.26
Biodiversity - Flora and Fauna	Maintenance of pipeline	Disturbance of vegetation	Impact on Habitat and Diversity	3	3	3	3	3	0.7	2.1	•No vegetation clearance allowed during maintenance of pipeline. •Limit activity within wetland and stream crossing to what is absolutely necessary during maintenance.	0.6	1.26
Surface Water Resources	Maintenance of pipeline	Disturbance of stream (aquatic environment) and wetlands	Impact on streams and wetlands	4	3	3.5	3	3.25	0.7	2.275		0.6	1.365
Surface water	Storage and use of hazardous substances	Potential spillages of hazardous substances.	Pollution of surface water resources	4	3	3.5	4	3.75	0.6	2.25	•Small volumes of hazardous substances must be stored in a locked chemical cage within a roofed structure. •Provide bunding for larger volumes of hazardous substances. •Chemicals to be stored in compatible containers. •Spill response equipment must be readily available and compatible with hazardous substances. •Safety Data Sheets must be available for all hazardous substances stored on site.	0.4	0.9
Surface Water Resources	Management of sewage system	Spillages	Pollution of surface water resources	3	3	3	4	3.5	0.6	2.1	•Any sewage spillages must be reported and cleaned appropriately. •The conservancy tank system must be adequately maintained by competent personnel. In addition, the installation of proper overflow drainage will aid in reducing the risk of contamination.	0.6	1.26
Groundwater	Use of hazardous substances, including hydrocarbons	Spillages - seepage	Potential pollution of groundwater	3	3	3	3	3	0.4	1.2	Refer to section related to hazardous substances.	0.7	0.84
Heritage	Footprint construction	Encroachment of heritage sites	Impact on archaeological sites	3	3	3	2	2.5	0.2	0.5	None proposed. No additional disturbance in natural areas anticipated. Establish pipeline on existing supports and develop WTP within disturbed area adjacent to the Elkhulu plant.	0.4	0.2
Visual	Establishment of footprint	Visual appearance of airport	Visual intrusion of facility	2	3	2.5	2	2.25	0.2	0.45	Establish pipeline on existing supports and develop WTP within disturbed area adjacent to the Elkhulu plant.	0.4	0.18
Natural resources Municipal services	Treatment of groundwater	Reduce consumption of municipal water	Reduced pressure on natural resources Reduce pressure on municipal system	4	3	3.5	3	3.25	0.8	2.6	A portion of the employment opportunities must be sourced locally. Maximise purchasing of local goods and services.	1	2.6
Socio-economic	Construction of WTP facility	Employment opportunities	Contribution to socio-economic development	2	3	2.5	3	2.75	0.8	2.2	A portion of the employment opportunities must be sourced locally.	1	2.2

IMPACT CATEGORY	ACTIVITY	ASPECT	POTENTIAL IMPACT	INTENSITY	DURATION	CONSEQUENCE	EXTENT	SEVERITY	PROBABILITY	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION	MITIGATION CONFIDENCE	SIGNIFICANCE WITH MITIGATION
Soil	Earth works	Removal of topsoil	Loss of soil and land capability	2	3	2.5	2	2.25	0.5	1.125	<ul style="list-style-type: none"> Store topsoil in a demarcated area during construction. Care must be taken to prevent erosion on stockpiles. Redistribute topsoil over the footprint (not used for foundation establishment) after the concrete foundation has been completed. 	0.8	0.9
Soil and stormwater	Storage and use of hazardous substances	Potential spillages	Soil/stormwater pollution	3	3	3	3	3	0.7	2.1	<ul style="list-style-type: none"> Hazardous substances containers must be clearly marked and must be stored in an area with containment measures in place. Spill response equipment must be readily available. Large spills must be reported as incidents and managed accordingly. Drip trays are to be in place under vehicle susceptible to leakages 	0.5	1.05
Soil and water	General waste generation	Storage and management of general waste (building rubble, domestic waste)	Litter in adjacent areas Soil pollution Stormwater pollution	3	3	3	3	3	0.4	1.2	<ul style="list-style-type: none"> Store general waste in a designated area in marked containers. Littering must be prohibited. Dispose general waste that cannot be recycled at a licenced facility. Provide bins for separate waste streams. 	0.6	0.72
Soil	Hazardous waste generation	Storage and management of hazardous waste (contaminated rags and PPE, used oil)	Environmental pollution	3	3	3	3	3	0.4	1.2	<ul style="list-style-type: none"> Store hazardous waste in a designated area in marked containers with containment in place. Any spillages must be cleaned up appropriately. Dispose hazardous waste at a licenced facility 	0.6	0.72
Air quality	Construction activities (earth works, moving equipment)	Soil disturbance Vehicles traveling on unpaved surfaces	Increased dust fall. Nuisance conditions	2	3	2.5	3	2.75	0.3	0.825	<ul style="list-style-type: none"> Watering of exposed surfaces, i.e., by using a water bowser if increased dust levels are detected. 	0.8	0.66
Noise	Construction activities (earth works, moving equipment, vehicles travelling)	Increased noise levels	Nuisance conditions for receptors in the area.	2	3	2.5	3	2.75	0.4	1.1	<ul style="list-style-type: none"> All diesel-powered equipment and plant vehicles should be kept at a high level of maintenance. Implement strict speed limits 	0.8	0.88
Biodiversity - Flora and Fauna	Construction of WTP facility	Vegetation clearance Encroachment of invader plant species	Impact on Habitat and Diversity	1	3	2	3	2.5	0.2	0.5	<ul style="list-style-type: none"> Clearly demarcate construction site not to encroach on adjacent areas. 	0.3	0.15
Biodiversity - Flora and Fauna	Construction of WTP facility	Vegetation clearance Encroachment of invader plant species	Impact on Habitat and Diversity	1	3	2	3	2.5	0.2	0.5	<ul style="list-style-type: none"> Clearly demarcate construction site. 	0.4	0.2
Biodiversity - Flora and Fauna	Establishment of pipeline	Disturbance of vegetation	Impact on Habitat and Diversity	3	3	3	3	3	0.7	2.1	<ul style="list-style-type: none"> No removal of vegetation during installation of pipeline - existing pipeline supports and culverts to be used. Care must be taken during installation to minimise disturbance (trampling) as a result of human and equipment movement. No access roads to be constructed. Inspect site on a weekly basis to ensure no additional vegetation is removed. No hunting/trapping or collecting of any faunal species is allowed. 	0.6	1.26
Surface Water Resources	Establishment of pipeline	Disturbance of stream (aquatic environment) and wetlands	Impact on streams and wetlands	4	3	3.5	3	3.25	0.7	2.275	<ul style="list-style-type: none"> No vegetation clearance in wetland areas - existing pipeline supports and culverts to be used. Inform contractors of the presence of the wetland and streams - as well as the requirement not to disturb these areas. Limit activity within wetland and stream crossing to what is absolutely necessary. No hazardous substance or waste allowed in wetland areas. 	0.6	1.365
Surface water	Storage and use of hazardous substances	Potential spillages of hazardous substances.	Pollution of surface water resources	3	3	3	3	3	0.4	1.2	<ul style="list-style-type: none"> Refer to section related to soil pollution 	0.5	0.6
Surface water	Soil disturbance	Runoff from exposed surfaces	Erosion and sedimentation of water courses	3	3	3	3	3	0.4	1.2	<ul style="list-style-type: none"> Protect soil stockpiles from erosion. Disturbance limited to demarcated construction footprint. 	0.4	0.48
Surface Water Resources	Management of sewage system	Spillages	Pollution of surface water resources	3	3	3	4	3.5	0.6	2.1	<ul style="list-style-type: none"> Any sewage spillages must be reported and cleaned appropriately. Good housekeeping practices must be implemented at the temporary toilets to prevent nuisance conditions. The conservancy tank system must be adequately maintained by competent personnel. In addition, the installation of proper overflow drainage will aid in reducing the risk of contamination. Installation of the conservancy tank must be supervised by a registered engineer or adequately competent person. 	0.6	1.26
Surface Water Resources	Establishment of footprint	Runoff from exposed surfaces	Erosion and sedimentation of water courses	3	3	3	3	3	0.4	1.2	<ul style="list-style-type: none"> Erosion control measures must be implemented at borrow pit if required. 	0.6	0.72
Groundwater	Use of hazardous substances, including hydrocarbons	Spillages - seepage	Potential pollution of groundwater	3	3	3	3	3	0.4	1.2	<ul style="list-style-type: none"> Refer to section related to hazardous substances. 	0.7	0.84
Heritage	Footprint construction	Encroachment of heritage sites	Impact on archaeological sites	3	3	3	2	2.5	0.2	0.5	<ul style="list-style-type: none"> None proposed. No additional disturbance in natural areas anticipated. Establish pipeline on existing supports and develop WTP within disturbed area adjacent to the Elkhulu plant. 	0.4	0.2
Visual	Establishment of footprint	Visual appearance of airport	Visual intrusion of facility	2	3	2.5	2	2.25	0.2	0.45	<ul style="list-style-type: none"> Establish pipeline on existing supports and develop WTP within disturbed area adjacent to the Elkhulu plant. 	0.4	0.18
Socio-economic	Construction of WTP facility	Employment opportunities Purchasing of local goods and services	Contribution to socio-economic development	3	3	3	3	3	0.8	2.4	<ul style="list-style-type: none"> A portion of the employment opportunities must be sourced locally. Maximise purchasing of local goods and services. 	1	2.4

IMPACT CATEGORY	ACTIVITY	ASPECT	POTENTIAL IMPACT	PHASE	INTENSITY	DURATION	CONSEQUENCE	EXTENT	SEVERITY	PROBABILITY	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION	MITIGATION CONFIDENCE	SIGNIFICANCE WITH MITIGATION
Soil	Removal of infrastructure	Runoff from disturbed areas	Soil erosion	Decommissioning and closure	4	3	3.5	3	3.25	0.6	1.95	Appropriate sloping of areas to reflect natural landscape. Monitor site after closure and decommissioning for erosion problems	0.6	1.17
Soil	Movement of vehicles	Soil compaction	Affect soil characteristics and fertility	Decommissioning and closure	3	3	3	3	3	0.6	1.8	Rip all compacted areas prior to seeding.	0.6	1.08
Soil	General waste generation	Storage and management of general waste (building rubble, domestic waste)	Litter in adjacent areas Environmental pollution	Decommissioning and closure	3	3	3	3	3	0.6	1.8	Store general waste in designated areas in marked containers. Littering must be prohibited. Construction footprint and adjacent areas must be inspected regularly to detect and clean up any litter. Dispose general waste at a licenced facility.	0.6	1.08
Soil	Hazardous waste generation	Storage and management of hazardous waste (contaminated rags and PPE, used oil)	Environmental pollution	Decommissioning and closure	4	3	3.5	3	3.25	0.6	1.95	Store hazardous waste in designated areas in marked containers with containment in place. Any spillages must be cleaned up appropriately. Dispose hazardous waste at a licenced facility	0.6	1.17
Biodiversity - Flora and flora	Decommissioning of infrastructure	Earth works - edge effects	Impact on habitat	Decommissioning and closure	2	3	2.5	3	2.75	0.6	1.65	Clearly demarcate area for decommissioning Rehabilitate footprint with indigenous floral species. Implement follow up and monitoring to ensure sustained vegetation growth.	0.8	1.32
Land use	Closure and rehabilitation of facility.	Return site to reflect baseline environment.	Restoration of ecosystems Return land to predevelopment state.	Decommissioning and closure	3	5	4	3	3.5	0.8	2.8	Implement rehabilitation plan upon decommissioning.	1	2.8
Socio-economic	Decommissioning	Non-continuation of facility	Job losses	Decommissioning and closure	3	3	3	3	3	1	3	Engage with employees timeously prior to closure. Investigate the reallocation of resources.	1	3