

**SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS
REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE
ENVIRONMENTAL SENSITIVITY**

EIA Reference number: New Application

Project name: Harmony Nooitgedacht Tailings Storage Facility

Project title: Proposed Construction of a new mega tailings storage facility located in Welkom

Date screening report generated: 23/03/2023 11:55:39

Applicant: Harmony

Compiler: EIMS

Compiler signature:



Application Category: Transformation of land | Indigenous vegetation

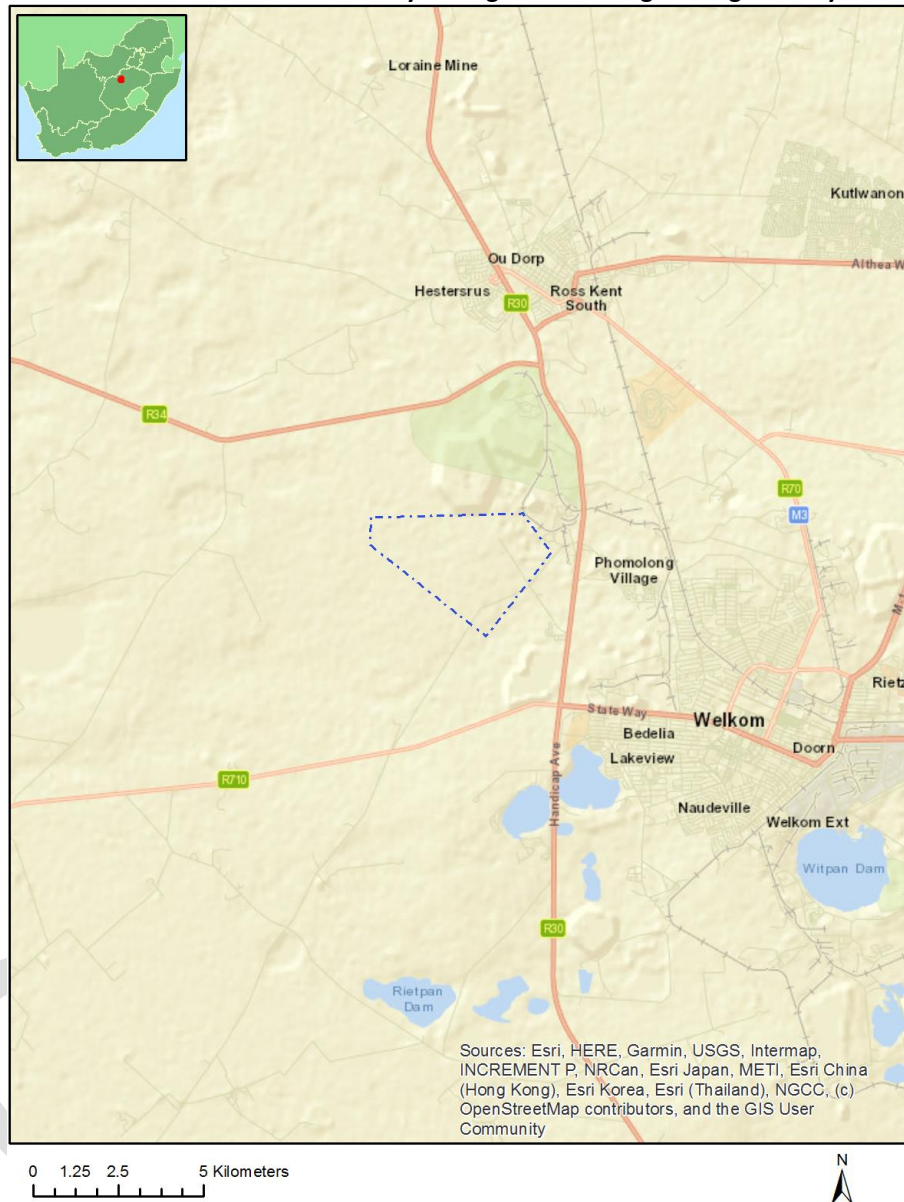
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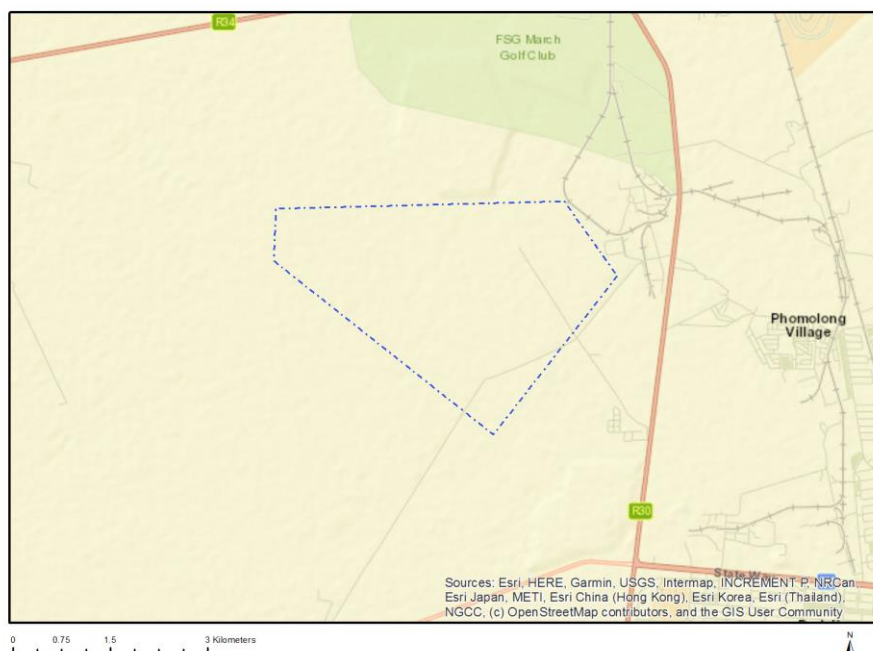
Proposed Project Location

Orientation map 1: General location

General Orientation: Harmony Nooitgedacht Tailings Storage Facility



Map of proposed site and relevant area(s)



Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1	EUREKA	146	0	27°54'33.82S	26°38'58.02E	Farm
2	RIETPAN	17	0	27°55'5.39S	26°40'39.52E	Farm
3	JACOBSDAL	37	0	27°56'15.57S	26°39'1.4E	Farm
4	RIETPAN	17	0	27°55'2.6S	26°40'40.22E	Farm
5	RHEEDERS DAM	31	0	27°56'26.49S	26°40'42.48E	Farm
6	MIJANNIE	66	0	27°56'8.11S	26°41'9.62E	Farm
7	OULDERS GIFT	48	0	27°54'58.27S	26°39'47.07E	Farm
8	NOOITGEDACHT	50	0	27°56'17.31S	26°40'3.88E	Farm
9	GOEDGEDACHT	53	0	27°57'7.27S	26°40'13.9E	Farm
10	RIETPAN	17	0	27°55'7.69S	26°40'46.82E	Farm Portion
11	RIETPAN	17	0	27°55'25.36S	26°40'42.17E	Farm Portion
12	RHEEDERS DAM	31	0	27°56'23.42S	26°40'48.35E	Farm Portion
13	OULDERS GIFT	48	0	27°54'58.54S	26°39'51.09E	Farm Portion
14	MIJANNIE	66	0	27°55'56.85S	26°40'59.01E	Farm Portion
15	JACOBSDAL	37	0	27°56'15.57S	26°39'1.4E	Farm Portion
16	GOEDGEDACHT	53	0	27°57'7.27S	26°40'13.9E	Farm Portion
17	EUREKA	146	0	27°54'33.82S	26°38'58.02E	Farm Portion
18	NOOITGEDACHT	50	0	27°56'17.31S	26°40'3.88E	Farm Portion

Development footprint¹ vertices:

¹ “development footprint”, means the area within the site on which the development will take place and includes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

No development footprint(s) specified.

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No	EIA Reference No	Classification	Status of application	Distance from proposed area (km)
1	14/12/16/3/3/1/644	Solar PV	Approved	24.8
2	14/12/16/3/3/1/1472	Solar PV	Approved	2.2
3	12/12/20/2669	Solar PV	Approved	25.3
4	14/12/16/3/3/1/1444	Solar PV	Approved	7.6
5	12/12/20/2669/A	Solar PV	Approved	25.3
6	14/12/16/3/3/1/1471	Solar PV	Approved	0

Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is:

Transformation of land | Indigenous vegetation.

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

Incentive, restriction or prohibition	Implication
Strategic Transmission Corridor-Central corridor	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_EGI.pdf

Proposed Development Area Environmental Sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
-------	-----------------------	------------------	--------------------	-----------------

Agriculture Theme		X		
Animal Species Theme		X		
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme		X		
Defence Theme				X
Paleontology Theme		X		
Plant Species Theme				X
Terrestrial Biodiversity Theme	X			

Specialist assessments identified

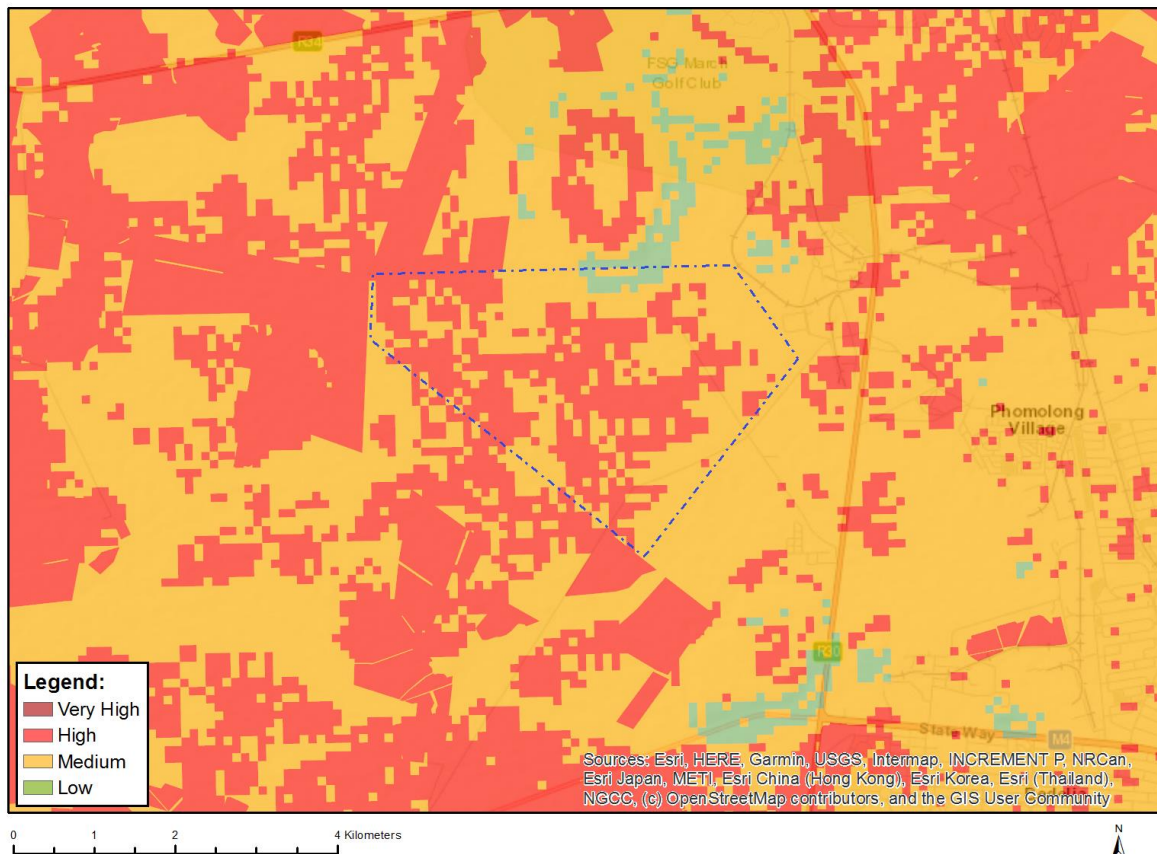
Based on the selected classification, and the known impacts associated with the proposed development, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

No	Specialist assessment	Assessment Protocol
1	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
2	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
3	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
4	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf
5	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf
6	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
7	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf
8	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf

Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

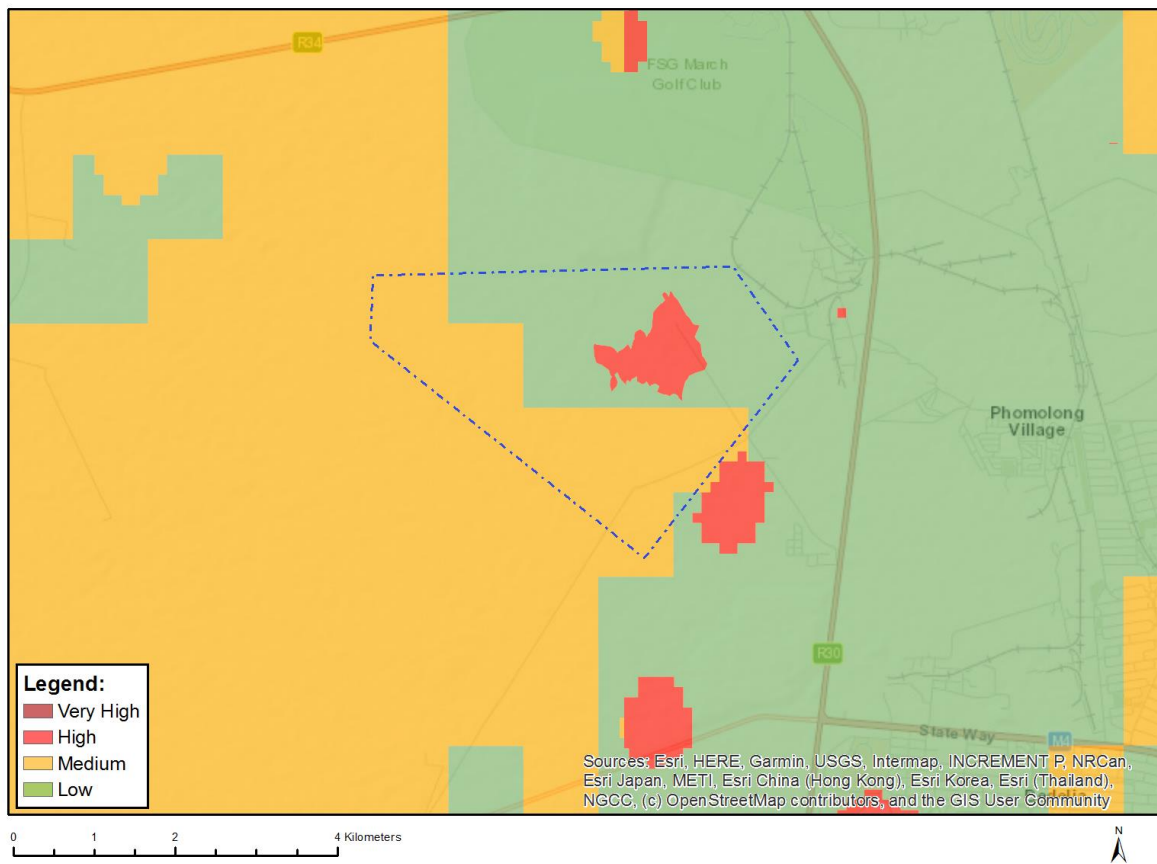


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Land capability;09. Moderate-High/10. Moderate-High
High	Old Fields;Land capability;09. Moderate-High/10. Moderate-High
High	Old Fields;Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate
Low	Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low
Medium	Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



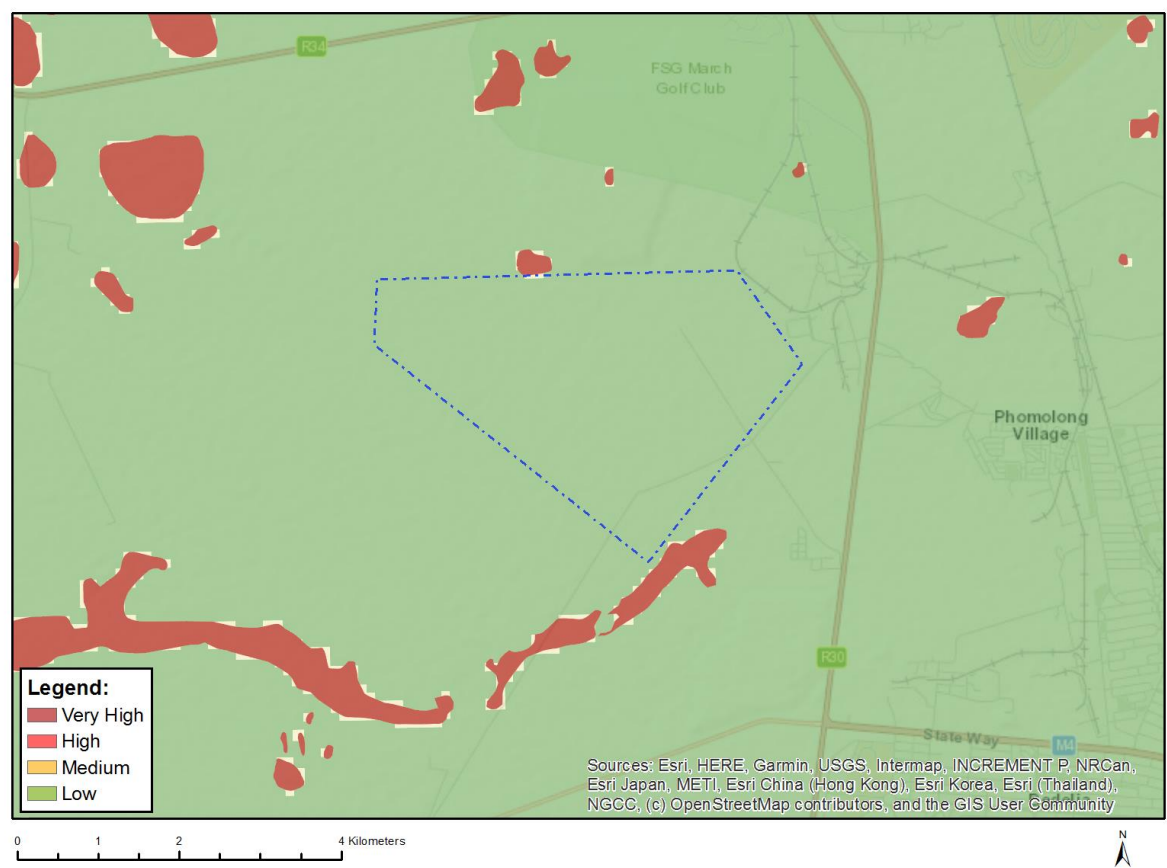
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Sensitive species 15
Low	Subject to confirmation
Medium	Sensitive species 15

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

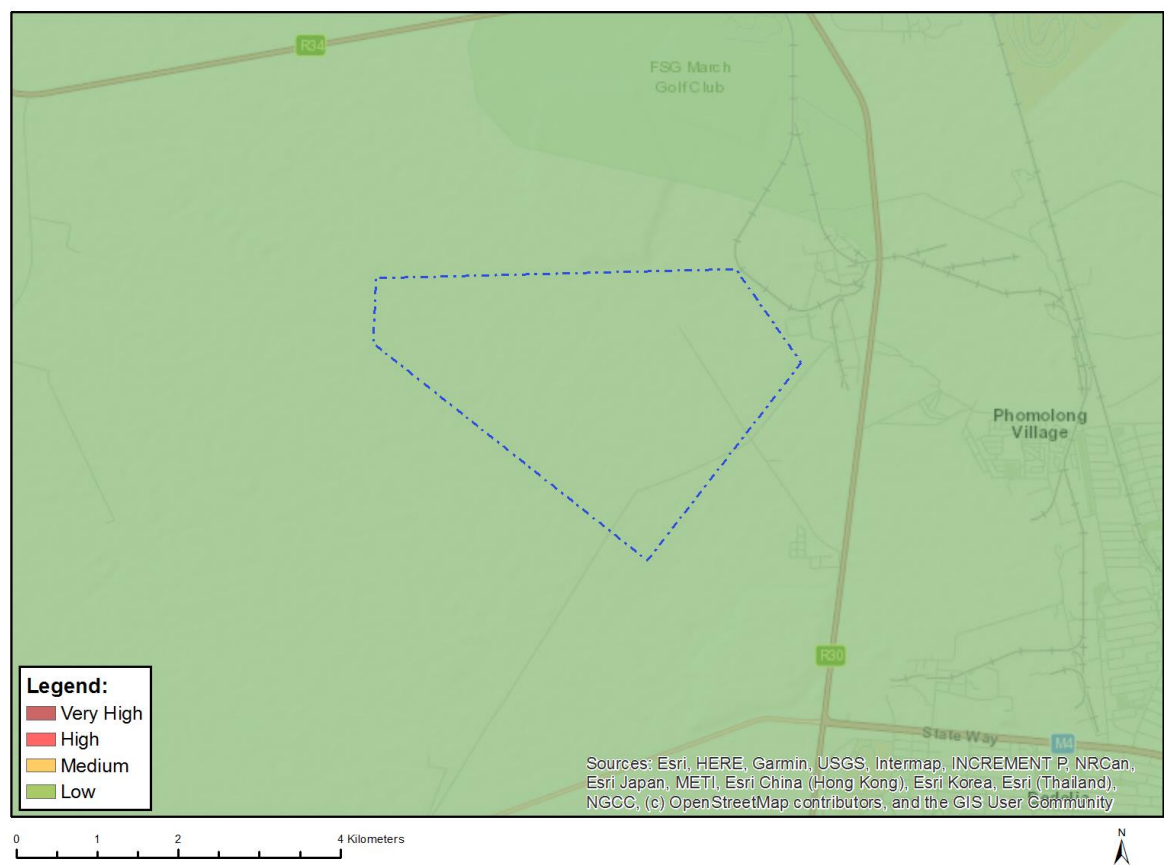


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity
Very High	Wetlands and Estuaries

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

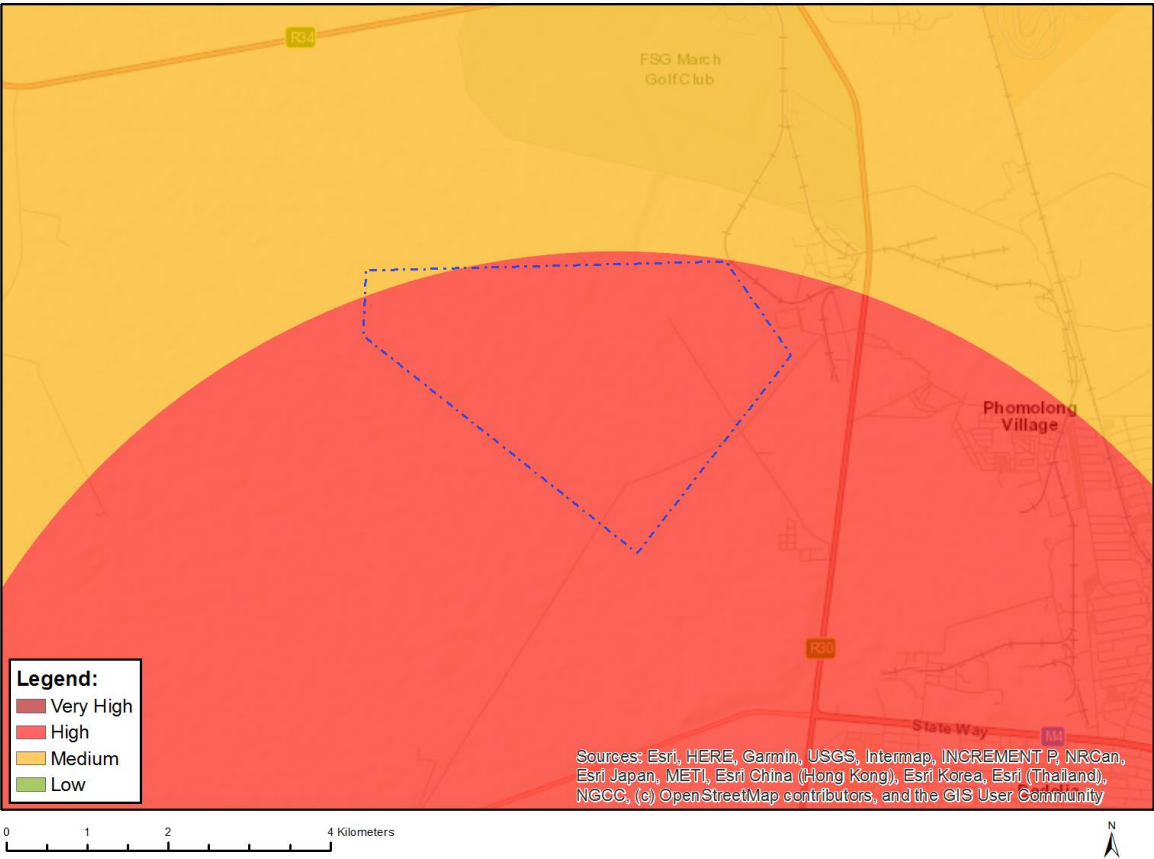


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY

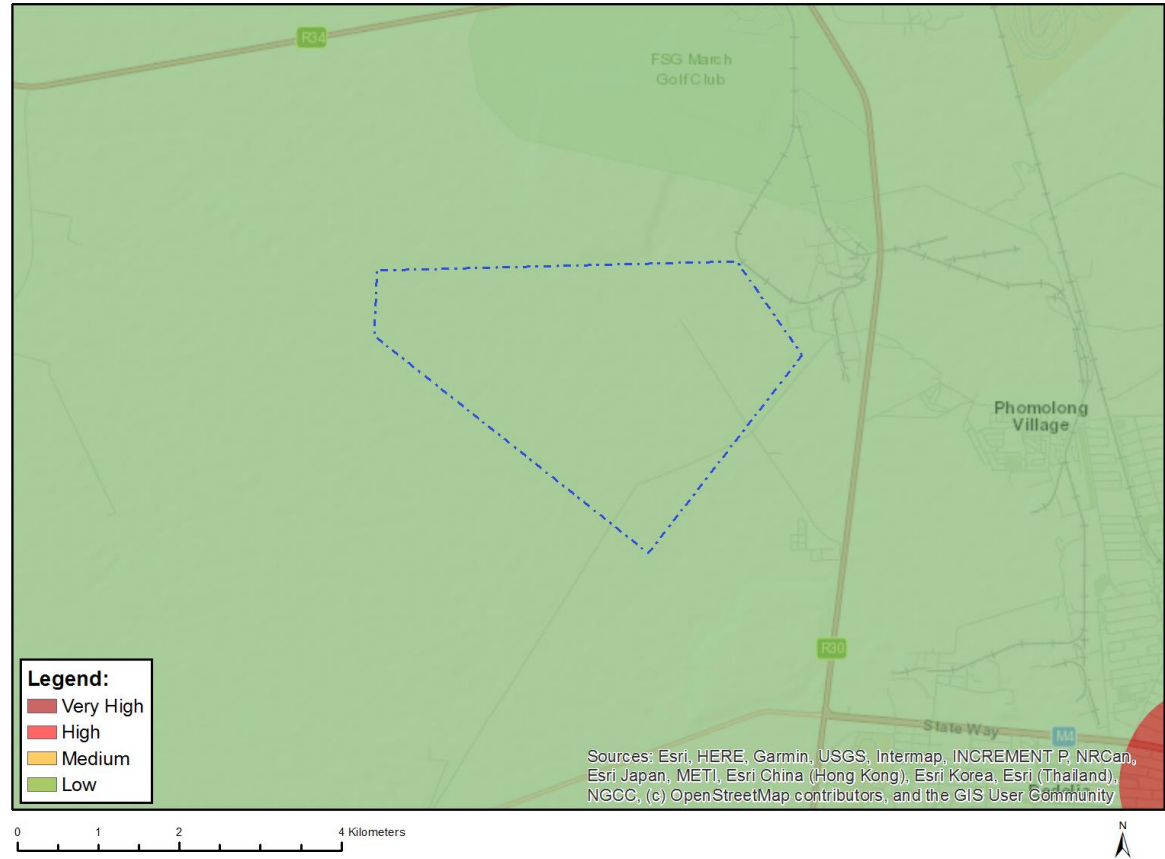


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Within 8 km of other civil aviation aerodrome
Medium	Within 5 km of an air traffic control or navigation site
Medium	Between 8 and 15 km of other civil aviation aerodrome

MAP OF RELATIVE DEFENCE THEME SENSITIVITY

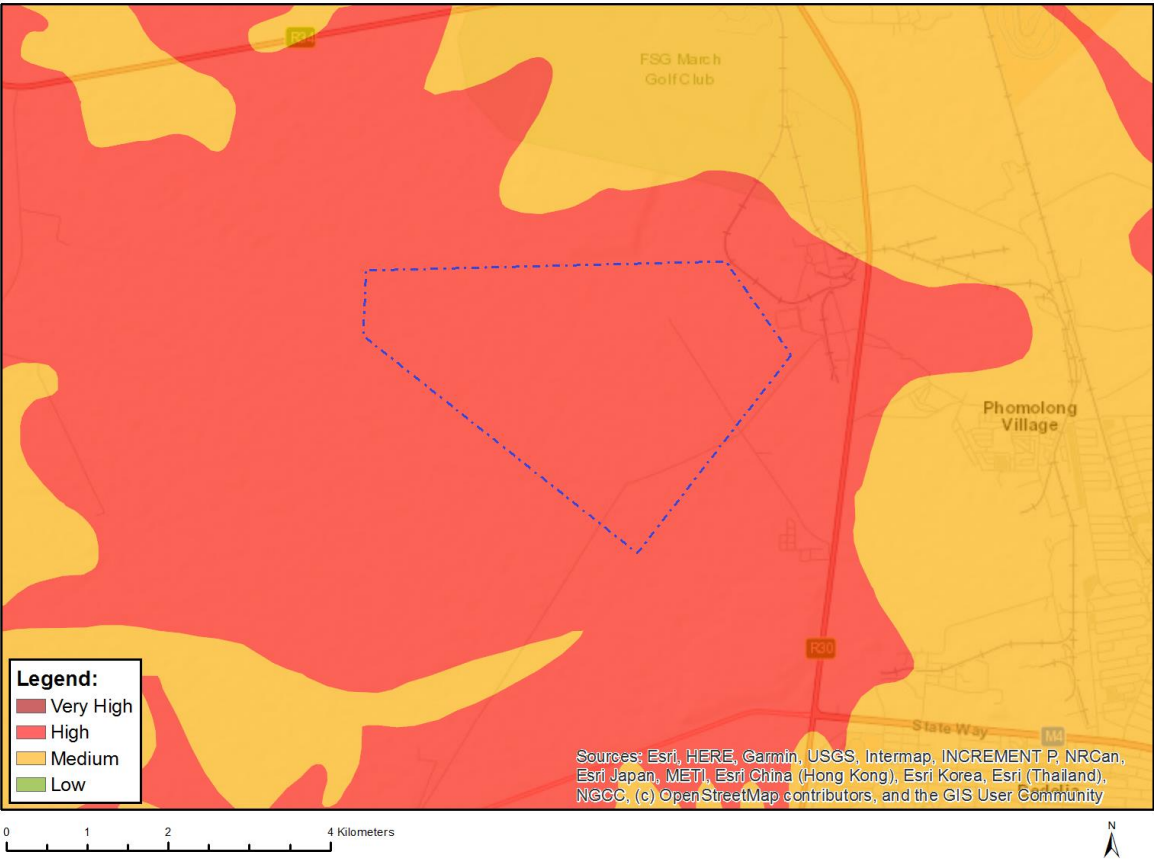


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

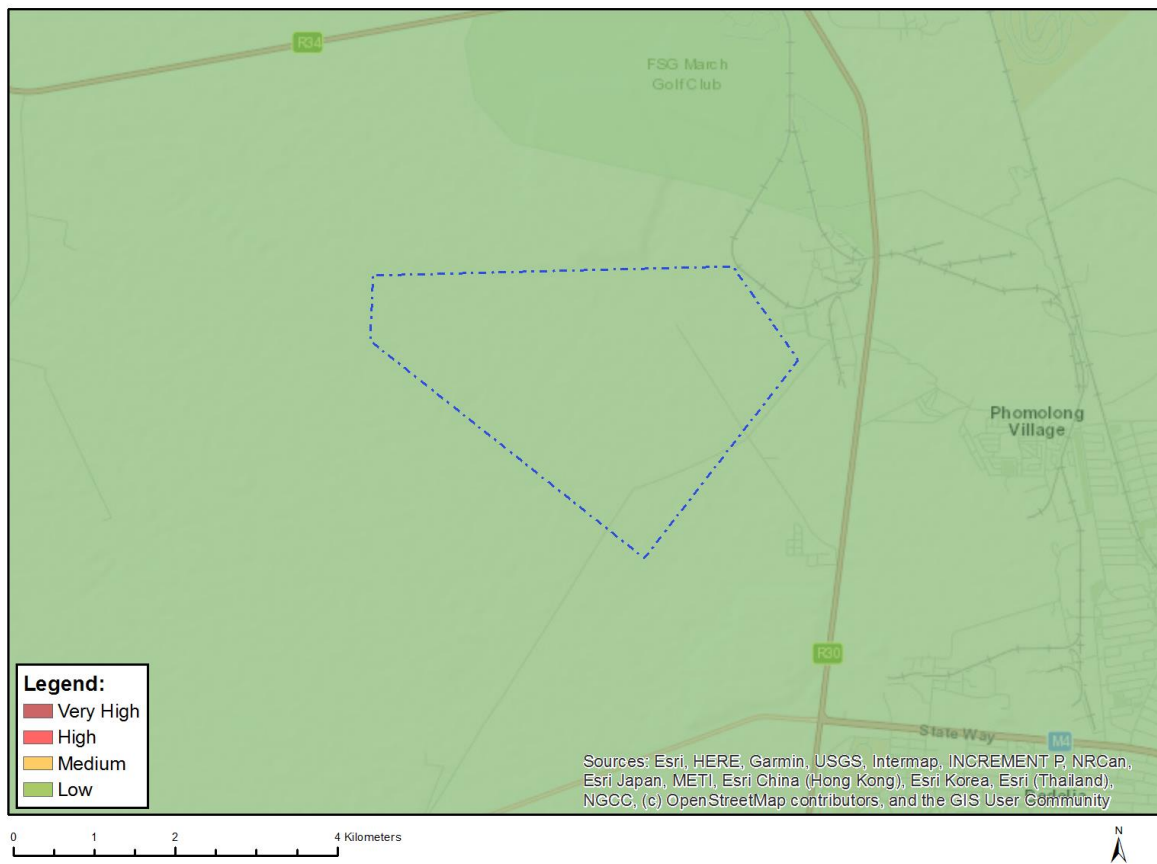


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Features with a High paleontological sensitivity
Medium	Features with a Medium paleontological sensitivity

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



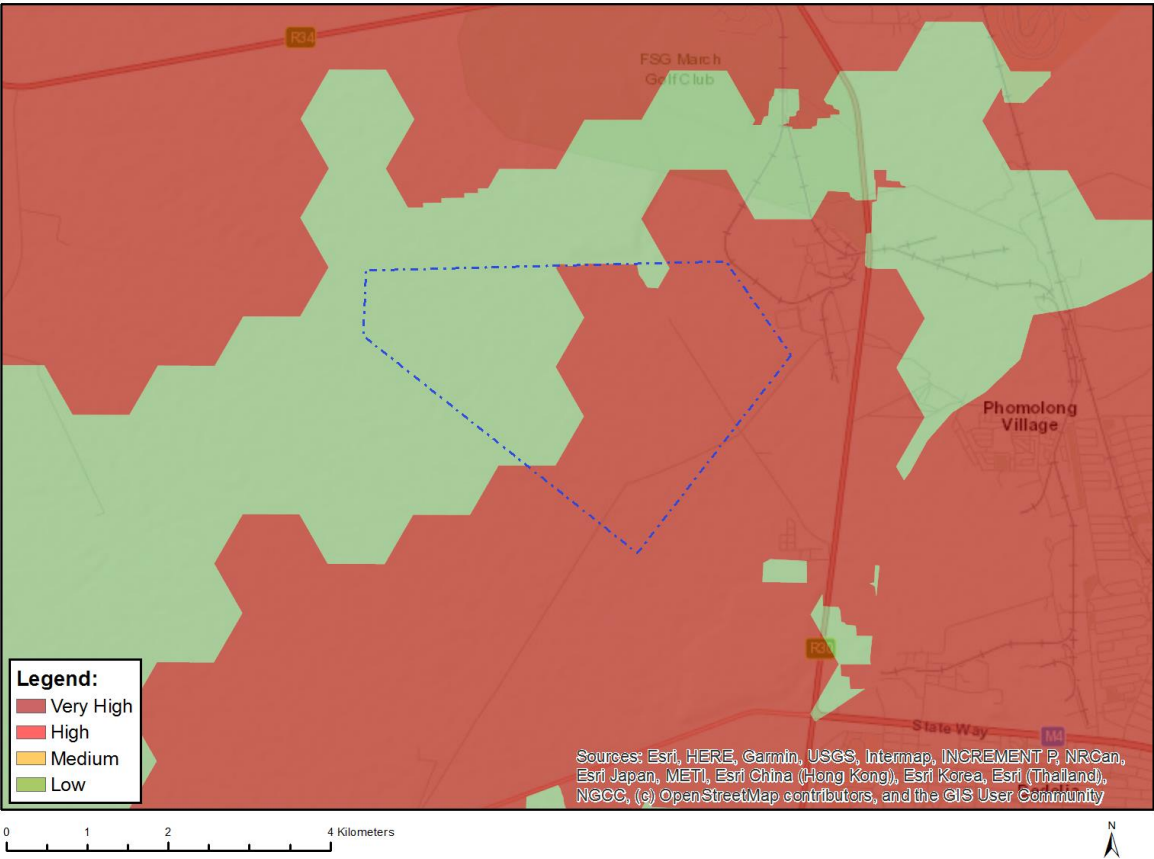
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	Critical biodiversity area 1
Very High	Ecological support area 1
Very High	Ecological support area 2

PREPARED FOR:

PREPARED BY:

Harmony Gold Mining Company



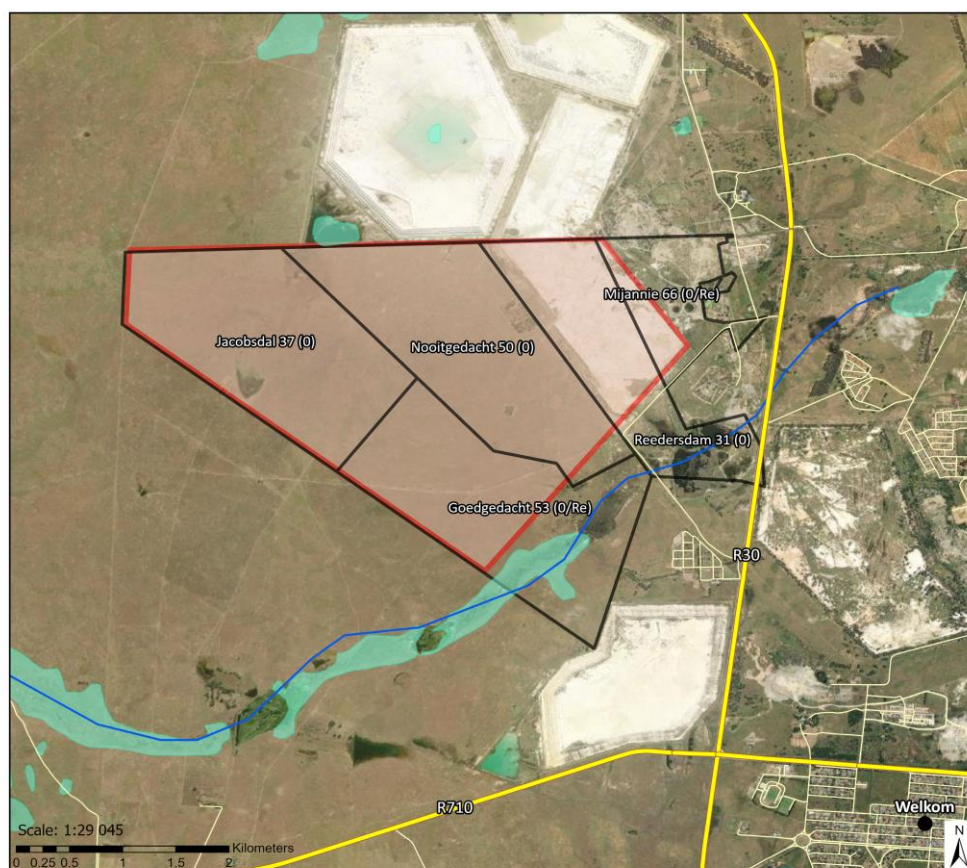
Pre-disturbance Environmental Site Assessment and Site Specific EMP

Site ID:	Harmony Nooitgedacht TSF	Contractor:	EIMS
Location:	Harmony Mines - Welkom	Inspector:	John von Mayer
Client representative:	N/A	Inspection Date:	5 April 2023

1. Background

Background of the project:	The applicant (Harmony) owns and operates a number of Gold Mines and plants in the Welkom region in the Free State and currently deposits tailings onto the Free State South 2 Tailings Storage Facility (TSF), St. Helena 4 TSF, St. Helena 123 TSF, Dam 23 TSF, Brand D TSF and Target 1&2 TSF. The current planned Life of Mine (LOM) of the Free State operations exceed the available deposition capacity of these TSFs and the applicant is therefore proposing to construct the proposed Nooitgedacht TSF to cater for this additional capacity. The TSF will cover an area of approximately 8.95 km ² . The proposed TSF will be located on Farm portions Mijannie 66 Ptn 0/RE, Goedgedacht 53 Ptn 0, Nooitgedacht 50 Ptn 0, Jacobsdal 37 Ptn 0 and Rheedersdam 31 Ptn 0.				
Project Aspects:	Yes	No	Details (provide specifications)	Location (DD MM SS)	
				Latitude	Longitude
❖ TSF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Expansion of Tailings Storage Facility	Centre Point 27°56'27.47"S	26°39'55.20"E
				Corner points 27°55'46.82"S 27°56'10.31"S 27°57'26.84"S 27°56'16.58"S 27°55'43.59"S	26°38'19.61"E; 26°38'18.33"E; 26°40'7.57"E; 26°41'9.61"E; 26°40'43.48"E
❖ Other:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No other project components are applicable – application is for TSF only		

2. Site Layout Plan



Locality Map

1565 Harmony Nootgedacht TSF EIA WUL

Legend

- Proposed Tailings Storage Facility
- Local Town
- Local Roads
- Rivers
- Wetlands (National Wetland Map)
- Affected Farm Portions
- Regional Roads



Data Sources:
CSG; ESRI
Coord System: GCS WGS 1984
Datum: WGS 1984
Units: Degree
Ref: 1565_Locality Map

Date: 2023/03/28
EIMS Ref: 1565
Compiled: CM
Reviewed: JP
Approved: LW



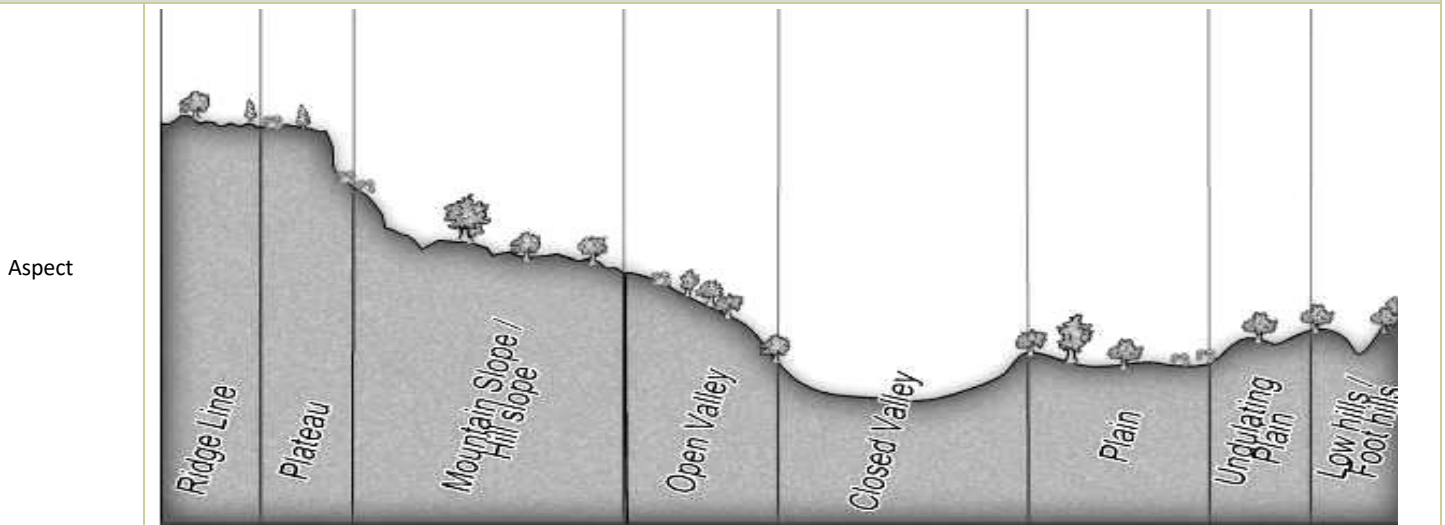
2. DEA Screening Tool Assessment

Aspect	Very High	High	Medium	Low
Agriculture		X		
Animal species		X		
Aquatic Biodiversity	X			
Civil Aviation		X		
Defense Theme				X
Archaeological and Cultural Heritage				X
Paleontology		X		
Plant Species Theme				X
Terrestrial Ecology/Biodiversity	X			



3. Site Assessment

3.1 Gradient (indicate the general gradient characteristics of site)



TSF area	site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Is the site located on or in the immediate vicinity of any of the following:

	Yes	No	Comment
Erosion Channels or areas of severe erosion/ destabilized soils	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetlands (within 32m)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Unstable slopes or geological features (rocky outcrops)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bare areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Several bare areas around site proposed for TSF
Other Sensitive or risk areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are any existing servitudes and structures directly or indirectly affected by the proposed sites and routes (e.g. Eskom, public road servitudes and restrictions- 60m from National Road, farmer's water/irrigation supplies, etc.)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

3.2 Vegetation

Which of the listed descriptions best describes the general groundcover on and around the site?

Natural veld - good condition <input type="checkbox"/>	Natural veld with scattered aliens <input checked="" type="checkbox"/>	Natural veld with heavy alien infestation <input type="checkbox"/>	Veld dominated by alien species <input type="checkbox"/>	Gardens <input type="checkbox"/>
Sport field <input type="checkbox"/>	Cultivated land <input type="checkbox"/>	Paved surface <input type="checkbox"/>	Building structure <input checked="" type="checkbox"/> or other	Bare soil <input checked="" type="checkbox"/>

Comments on vegetation composition: Site is mostly grassland with scattered areas that are disturbed and degraded due to anthropogenic activities, such as clearing of vegetation, presence of alien and invasive plant species, and fragmentation due to the presence of the mining infrastructure such as existing TSFs and access roads. Existing TSFs located to the north of the site.

Comments on weed species/type: It appears that a small amount of alien and invasive plant species are present on site. The exact type and species will be confirmed during the EIA specialist study.

Land cover/ use description: Describe the land uses on the site

**TSF area**







Bare soils with scattered vegetation cover with limited alien infestation.

4. General Comments and Recommendations

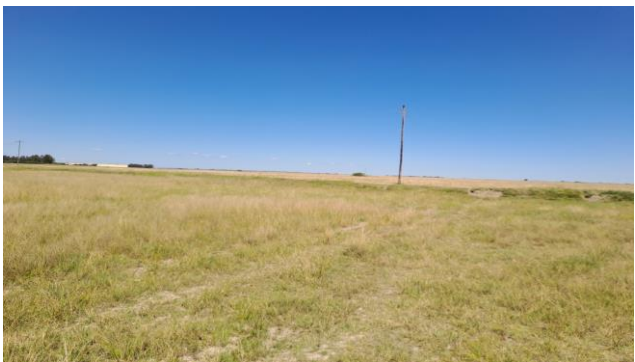

In general the site for the TSF appears to be of low ecological sensitivity due to its proximity to mining areas and disturbance and degradation to the site areas due to current mining activities. A small number of alien plants were noted in the area as well. No watercourses or wetlands were noted during the site inspection. No cultivated areas occur in the area proposed for the TSF.

Note: Two PV projects are located in very close proximity to the site (14/12/16/3/3/1/1471 and 14/12/16/3/3/1/1472)– these are both Harmony projects.

Site Photos

<p>Aspect: General TSF area</p>			
<p>Describe area and adjacent land use:</p>	<p>View north across site towards existing TSF along eastern access road. The only adjacent land use is mining. The vegetation could be described as natural vegetation and grassland with scattered aliens.</p>	<p>View northeast across site from southern access road. The only adjacent land use is mining. The vegetation could be described as natural vegetation and grassland with scattered aliens.</p>	<p>View east from central area of site. The only adjacent land use is mining. The vegetation could be described as natural vegetation and grassland with scattered aliens.</p>
<p>Aspect: General TSF area</p>			
<p>Describe area and adjacent</p>	<p>View south-east from center of site. The only adjacent land use is mining. The vegetation could be described as natural vegetation and grassland with scattered aliens.</p>	<p>View south across site from northern-most access road. The only adjacent land use is mining. The vegetation could be described as natural vegetation and grassland with scattered aliens.</p>	<p>View south-west from north of site. The only adjacent land use is mining. The vegetation could be described as natural vegetation and grassland with scattered aliens.</p>



land use:			
Aspect: General TSF area			
Describe area and adjacent land use:	View west across site from north-eastern access road. The only adjacent land use is mining. The vegetation could be described as natural vegetation with limited alien infestation.	View north-west across site from north-eastern access road. The only adjacent land use is mining. The vegetation could be described as natural vegetation with limited alien infestation.	



7. Verification findings and motivation:

Assessment for specialist studies and motivation:					
Screening Tool Specialist Study Required:	Level of Sensitivity:	Suggested Sensitivity:	Required Assessment	level of	Motivation
Aquatic Biodiversity	Very High	Unknown	None.	<input type="checkbox"/>	A full aquatic assessment is being undertaken.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input checked="" type="checkbox"/>	
			Other	<input type="checkbox"/>	
Archaeological and Cultural Heritage	Low	Unknown	None.	<input type="checkbox"/>	A full HIA is being undertaken as part of the EIA.
			Compliance Statement	<input checked="" type="checkbox"/>	
			Full Assessment	<input type="checkbox"/>	
			Other	<input type="checkbox"/>	
Paleontology	High	Unknown	None.	<input type="checkbox"/>	A full PIA is being undertaken as part of the EIA.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input checked="" type="checkbox"/>	
			Other	<input type="checkbox"/>	
Terrestrial Biodiversity	Very High	Moderate - Low	None.	<input type="checkbox"/>	Full assessment will be undertaken as part of the EIA.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input checked="" type="checkbox"/>	
			Other	<input type="checkbox"/>	
Agriculture Theme	High	Low	None.	<input type="checkbox"/>	A soils assessment is being undertaken as part of the EA.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input checked="" type="checkbox"/>	
			Other	<input type="checkbox"/>	
Animal Species	High	Unknown	None.	<input checked="" type="checkbox"/>	This will be covered as part of terrestrial



				ecology as part of the EIA.
		Compliance Statement	<input type="checkbox"/>	
		Full Assessment	<input checked="" type="checkbox"/>	
		Other		

Guidance notes:

- An applicant intending to undertake an activity identified in the scope of this protocol, on a site identified by the screening tool as being of “very high” or “high” sensitivity for terrestrial animal species must submit a Terrestrial Animal Species Specialist Assessment Report.
- An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of “medium sensitivity” for terrestrial animal species must submit either a Terrestrial Animal Species Specialist Assessment Report or a Terrestrial Animal Species Compliance Statement, depending on the outcome of a site inspection undertaken in accordance with paragraph 4.
- An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of “low” sensitivity for terrestrial animal species must submit a Terrestrial Animal Species Compliance Statement.
- Where the information gathered from the site sensitivity verification differs from the screening tool designation of “very high” or “high”, for terrestrial animal species sensitivity and it is found to be of a “low” sensitivity, then a Terrestrial Animal Species Compliance Statement must be submitted.
- Where the information gathered from the site sensitivity verification differs from the screening tool designation of “low” terrestrial animal species sensitivity and it is found to be of a “very high” or “high” terrestrial animal species sensitivity, a Terrestrial Animal Species Specialist Assessment must be conducted.
- If any part of the development falls within an area of confirmed “very high” or “high” sensitivity, the assessment and reporting requirements prescribed for the “very high” or “high” sensitivity, apply to the entire development footprint. Development footprint in the context of this protocol means, the area on which the proposed development will take place and includes the area that will be disturbed or impacted.