

# Northam Platinum Mine: EIA and EMPR Proposed 3 Shaft

*Zondereinde*

*PRISM EMS*

**04 November 2019**





# AGENDA

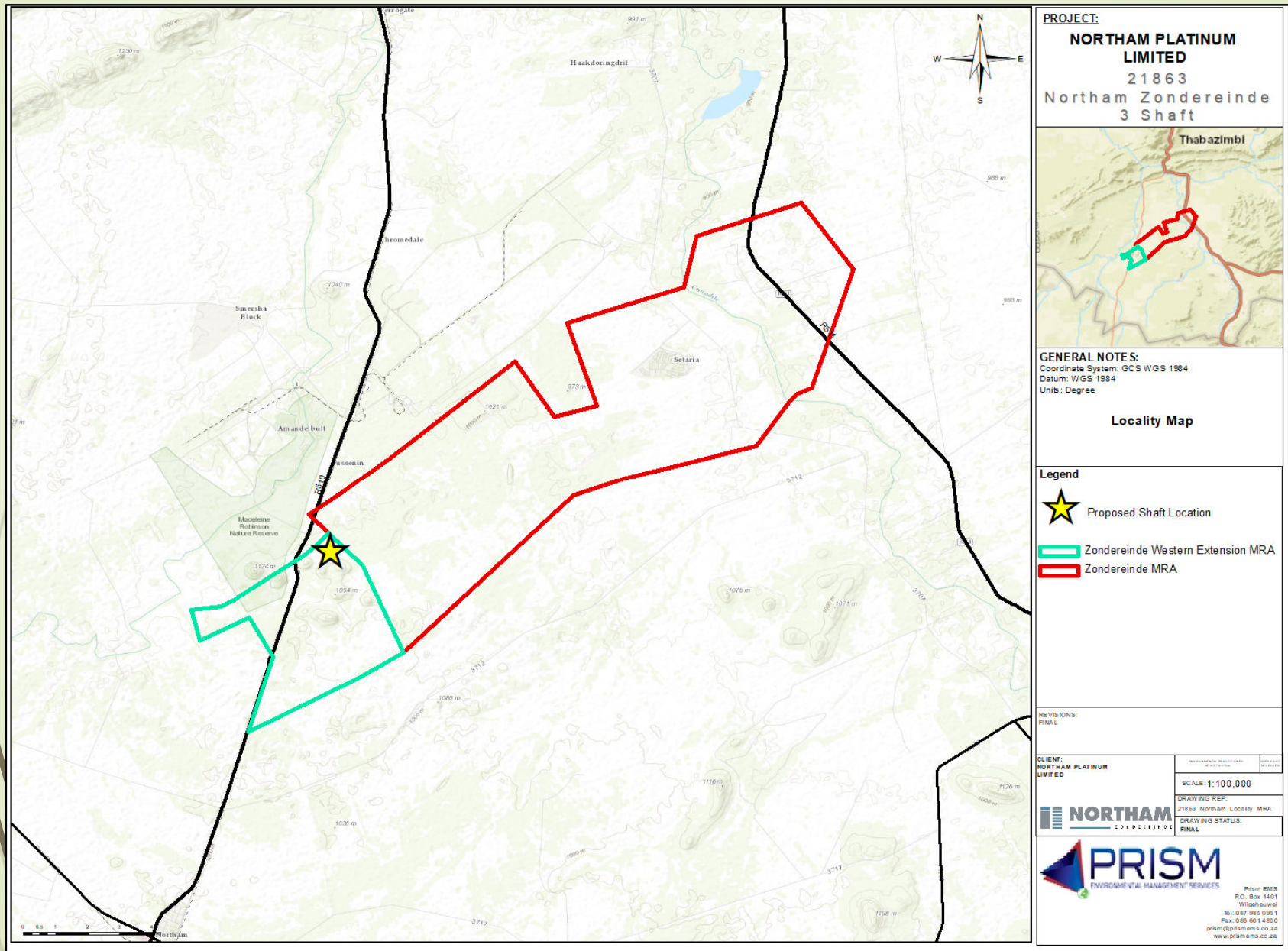
- **Welcome and Introductions**
- **Mining Right and Mining Right Area**
- **Locality of the Proposed 3 Shaft**
- **Overview of the Project**
- **Overview of the Environmental Authorisation Process**
- **Specialist Studies Findings**
- **Alternatives**
- **Impact Assessment**
- **Environmental Management Programme**
- **Way Forward**
- **Questions and Discussion**
- **Contact Details**



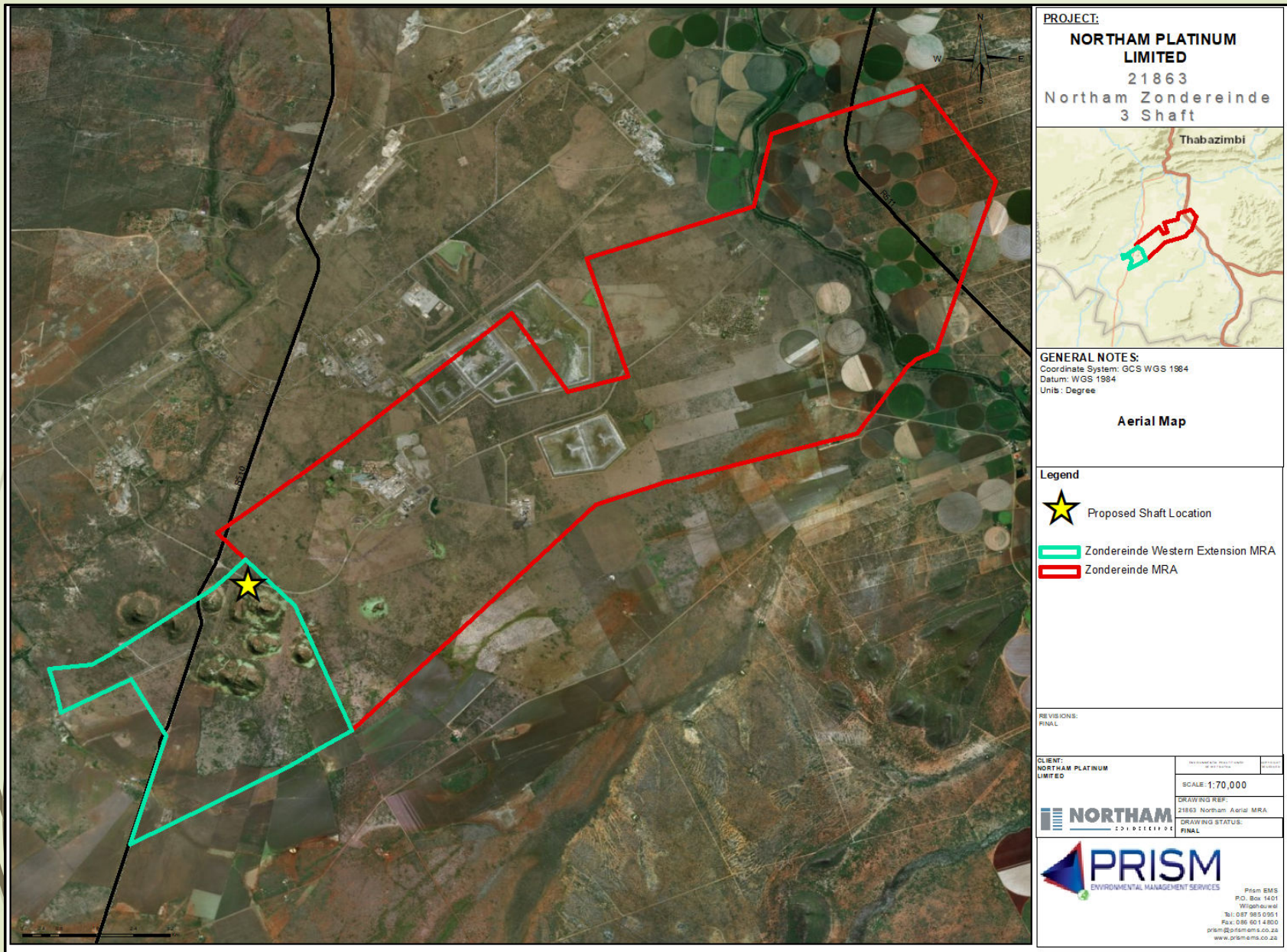
# Mining Right

- ▶ **Northam Platinum Limited is the holder of a mining right**
  - ▶ DMR ref: LP30/5/1/2/2/37MR
    - ▶ Consisting of the sole and exclusive right to mine certain minerals in, on and under the properties listed in the mining right and Annexure A thereto, situated in the Magisterial District of Thabazimbi.

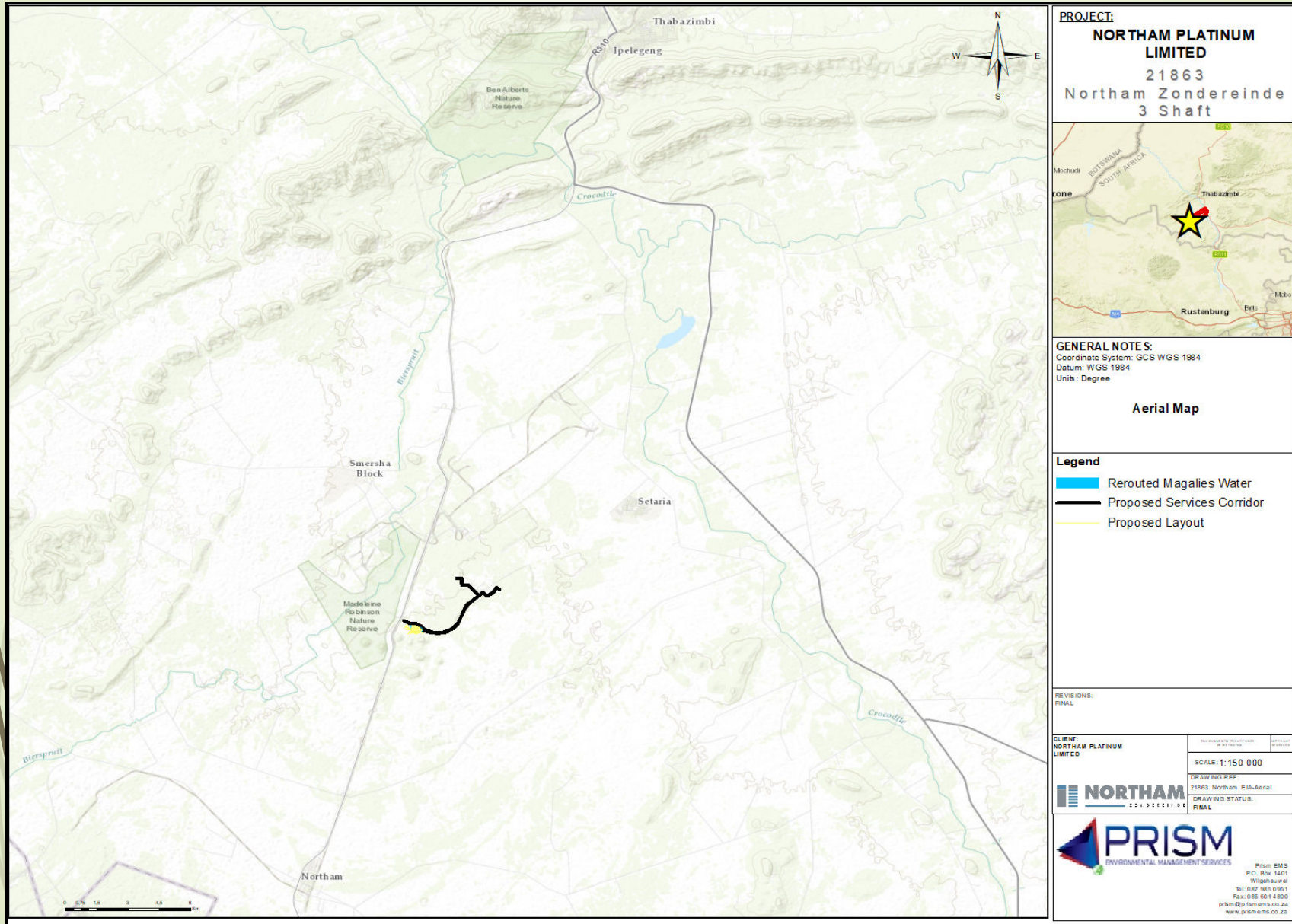
# Mining Right Area



# Mining Right Area



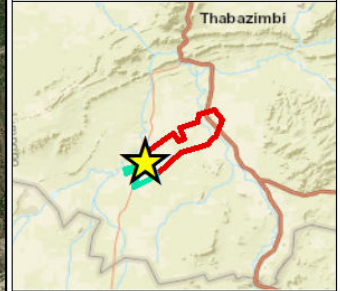
# Locality Map



# Locality Map






**PROJECT:**  
**NORTHAM PLATINUM LIMITED**  
21863  
Northam Zondereinde  
3 Shaft



**GENERAL NOTES:**  
Coordinate System: GCS WGS 1984  
Datum: WGS 1984  
Units: Degree

**Aerial Map**

**Legend**

-  Rerouted\_Magalies\_Water
-  Proposed Services Corridor
-  Proposed Layout

REVISIONS:  
FINAL

CLIENT:  
NORTHAM PLATINUM LIMITED

SCALE: 1:25,000

 **NORTHAM**  
CORPORATE

DRAWING REF:  
21863 Northam\_E3A-Aerial  
DRAWING STATUS:  
FINAL

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# Overview of Project

- ▶ To sustain production from the Zondereinde Western Block that has been acquired and recently included in mining right
- ▶ 3 Shaft Complex will be developed on the Western Block
- ▶ This to improve access to the Western Block of the mine
- ▶ Securing economic viability of the mine
- ▶ Further extend the LoM with approximately 35 years
- ▶ Sustain work opportunities associated with maintained production
- ▶ Ensure continuation of the socio-economic contributions made by the mine to its employees and the local community



# Overview of Project

- ▶ Five shafts in total
- ▶ Positioned on two terraces
- ▶ Terrace 1 : two raise bored access shafts from surface to 5 level (1520mb collar) and 1 downcast ventilation shaft as well as the full support infrastructure to operate the shafts
- ▶ Terrace 2 : two upcast ventilation shafts
- ▶ Servitude between terraces for buried electricity cables
- ▶ Servitude between Terrace 1 and existing operations for service water, sewerage, backfill slurry, power cables, mud return pipeline and overhead power lines.
- ▶ Overhead powerlines (132 kV) from existing Eskom high voltages overhead lines
- ▶ Two existing water pipelines to be diverted around Terrace 1
- ▶ Paved road diverted around Terrace 1 and additional unpaved road to Terrace 2



# Overview of the Environmental Authorisation Process

National Environmental Management Act (NEMA)  
Act No.107 of 1998, as amended  
[Section 24 and 24D]

Environmental Impact Assessment (EIA) Regulations, 2014  
[As Amended]

**Listing Notice 1**

Basic Assessment

**Listing Notice 2**

Scoping and EIA

**Listing Notice 3**

Geographical Areas

# Overview of the Environmental Authorisation Process

## Listed Activities – LN 1(GNR 983)

Activity No	Listed Activity	Applicability
9	The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or storm water— (i) with an internal diameter of 0,36 metres or more;	The bulk water pipeline will be rerouted for approximately 1000 metres in length and will be 0.40 metre in diameter.
11	The development of facilities or infrastructure for the transmission and distribution of electricity- (i) Outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts.	The line to be installed for electricity will have a capacity of 132 kilovolts.
12	The development of infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs within a water course	The installation of services will cross a drainage line and a wetland with a physical footprint of 100 square metres or more

# Overview of the Environmental Authorisation Process

## Listed Activities – LN 1(GNR 983)

Activity No	Listed Activity	Applicability
19	The dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse	The installation of services will cross a drainage line and a wetland and will require the removal or moving of 10 cubic metres or more of soil, sand, shells, shell grit pebbles or rock from the watercourses
27	Clearing of indigenous vegetation of more than 1 Ha, but less than 20 Ha	The area that will be cleared from vegetation is bigger than 1 hectare (approximately 5 Ha) in size, but less than 20 Ha
28	Industrial development where land was used for game farming on or after 01 April 1998 in an area outside an urban area where the total land to be developed is bigger than 1 hectare	The proposed activities constitute industrial development where land may have been used for game farming on or after 01 April 1998 in an area outside an urban area where the total land to be developed is bigger than 1 hectare

# Overview of the Environmental Authorisation Process

## Listed Activities – LN 2 (GNR 984)

Activity No	Listed Activity	Applicability
6	The development of facilities or infrastructure for any process or activity which requires a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent	This activity is triggered by the development of the stormwater dam into which waste or water containing waste will be disposed into, for which a water use licence or an amendment to a water use licence will be required in terms of Section 21 of the National Water Act (Act. No 36 of 1998)
17	Any activity including the operation of that activity which requires a mining right as contemplated in section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including— (a) associated infrastructure structures and earthworks directly related to the extraction of a mineral resource	The shaft complex is associated infrastructure structures and earthworks directly related to the extraction of a mineral resources



# Overview of the Environmental Authorisation Process

## **Scoping EIA Process**

- ▶ Pre-application Meeting with DMR – 5 Feb 2019
- ▶ Notification of Interested and Affected Parties – 28 Jun 2019
- ▶ Submission of Application – 10 Jul 2019
- ▶ Review of the Scoping Report – 10 Jul 2019– 11 Aug 2019
- ▶ Submission of the Scoping Report – 22 Aug 2019
- ▶ Scoping Report Acceptance – 16 Oct 2019
- ▶ Review of the EIA / EMPR report – 28 Oct – 26 Nov 2019
- ▶ Public Meeting – 04 Nov 2019
- ▶ Submission of Final EIA / EMPR report – Dec 2019
- ▶ Authority Evaluation and Decision Making
- ▶ Notification of I&APs



# Overview of the Environmental Authorisation Process

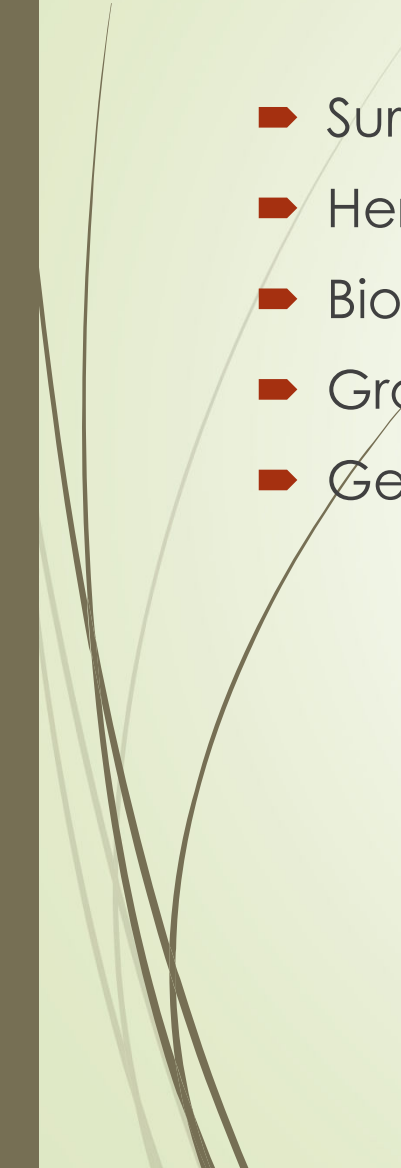
## Other Authorisations

- ▶ National Water Act, 1998 (Act No. 36 of 1998)
  - ▶ Section 21 c) and i) water uses
  - ▶ Services corridor crossing a drainage line and wetland
  - ▶ Full WULA and not a General Authorisation registration, due to sewage pipeline
  - ▶ Application in process at DHSWS
- ▶ National Heritage Resources Act, 2004 (Act No 10 of 2004)
  - ▶ Section 35 of the Act | Archaeological Resources
  - ▶ Extensive Iron Age stonewalled settlement
  - ▶ High significant areas avoided – no authorisation required
  - ▶ Medium significant areas cannot be avoided – requires authorisation
  - ▶ Mitigation includes test pits (in process) and permit application from SAHRA





# Specialist Studies Findings

- ▶ Surface Water Impact Assessment
  - ▶ Heritage Impact Assessment
  - ▶ Biodiversity Impact Assessment
  - ▶ Groundwater Assessment
  - ▶ Geotechnical Study and Deep drilling study
- 

# Surface Water Impact Assessment



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 21863  
 Northam Zondereinde  
 3 Shaft

**GENERAL NOTES:**  
 Coordinate System: GCS WGS 1984  
 Datum: WGS 1984  
 Units: Degree

**Surface Water Sensitivity**

**Legend**

- Rerouted Magalies Water
- Proposed Services Corridor
- Medium-high
- Low-Medium
- Proposed Layout

REVISIONS:  
 FINAL

CLIENT:  
 NORTHAM PLATINUM LIMITED

SCALE: 1:15,000

DRAWING REF:  
 21863 Northam EM-SurfaceWater

DRAWING STATUS:  
 FINAL

**NORTHAM**  
 CONSTRUCTION

**PRISM**  
 ENVIRONMENTAL MANAGEMENT SERVICES

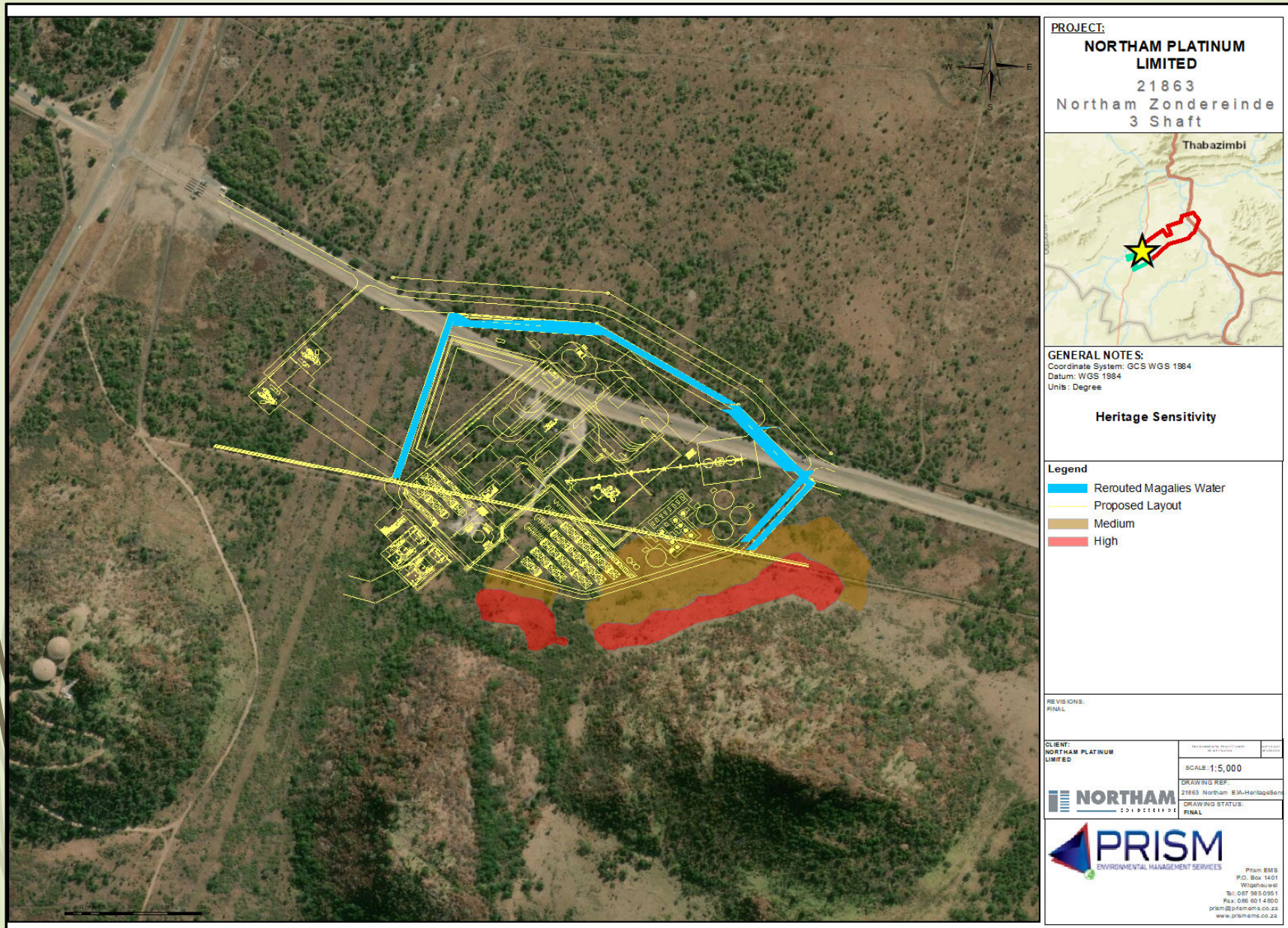
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# Surface Water Impact Assessment

- ▶ Drainage line and Wetland delineated
  - ▶ Mitigation includes 32 m buffer zone
  - ▶ Service pipelines to be encased
  - ▶ High pressure pipelines at crossings
  - ▶ Rehabilitation Plan and Monitoring Plan to be approved and implemented

# Heritage Impact Assessment

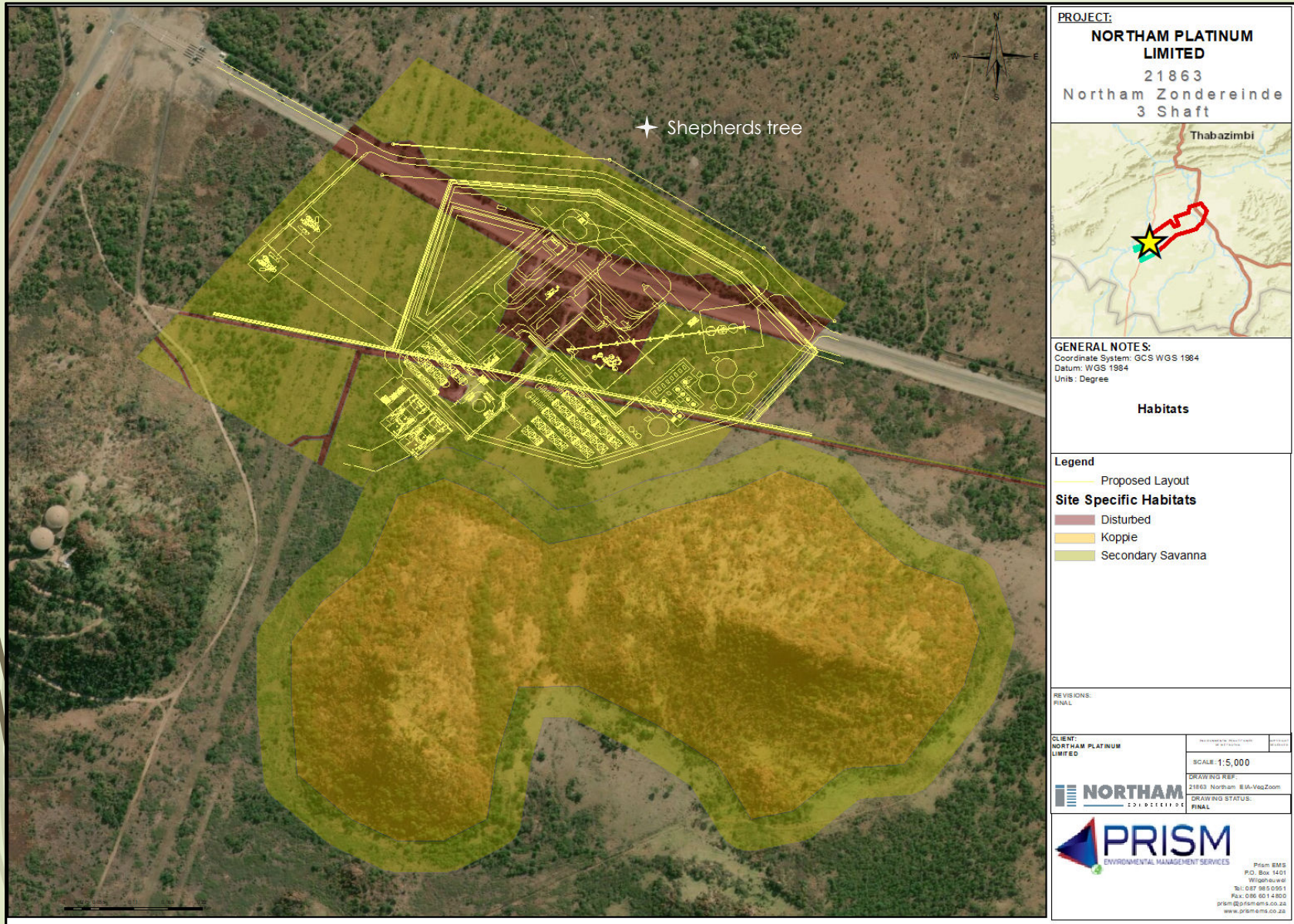




# Heritage Impact Assessment

- ▶ Extensive Iron Age stonewalled settlement
  - ▶ Including stone packed kraals and middens
  - ▶ Artefacts include bone, midden, stone walling, undiagnostic ceramics
  - ▶ High significant areas avoided – no authorisation required
  - ▶ Medium significant areas cannot be avoided – requires authorisation
  - ▶ Mitigation includes test pits and permit application from SAHRA

# Biodiversity Impact Assessment





# Biodiversity Impact Assessment

- ▶ Sensitive Koppie Habitat
  - ▶ Mitigation includes avoidance of Koppie and 50 m buffer zone
  - ▶ Shepherds tree protected. Road realignment avoids the tree.




# Groundwater Assessment

- ▶ No measurable impact expected on groundwater levels
- ▶ No privately owned boreholes around the development area will be impacted
- ▶ No impact expected on groundwater qualities
- ▶ The lining and maintenance of the access shafts, waste and ore silos and the stormwater dam will prevent any impact on water quality



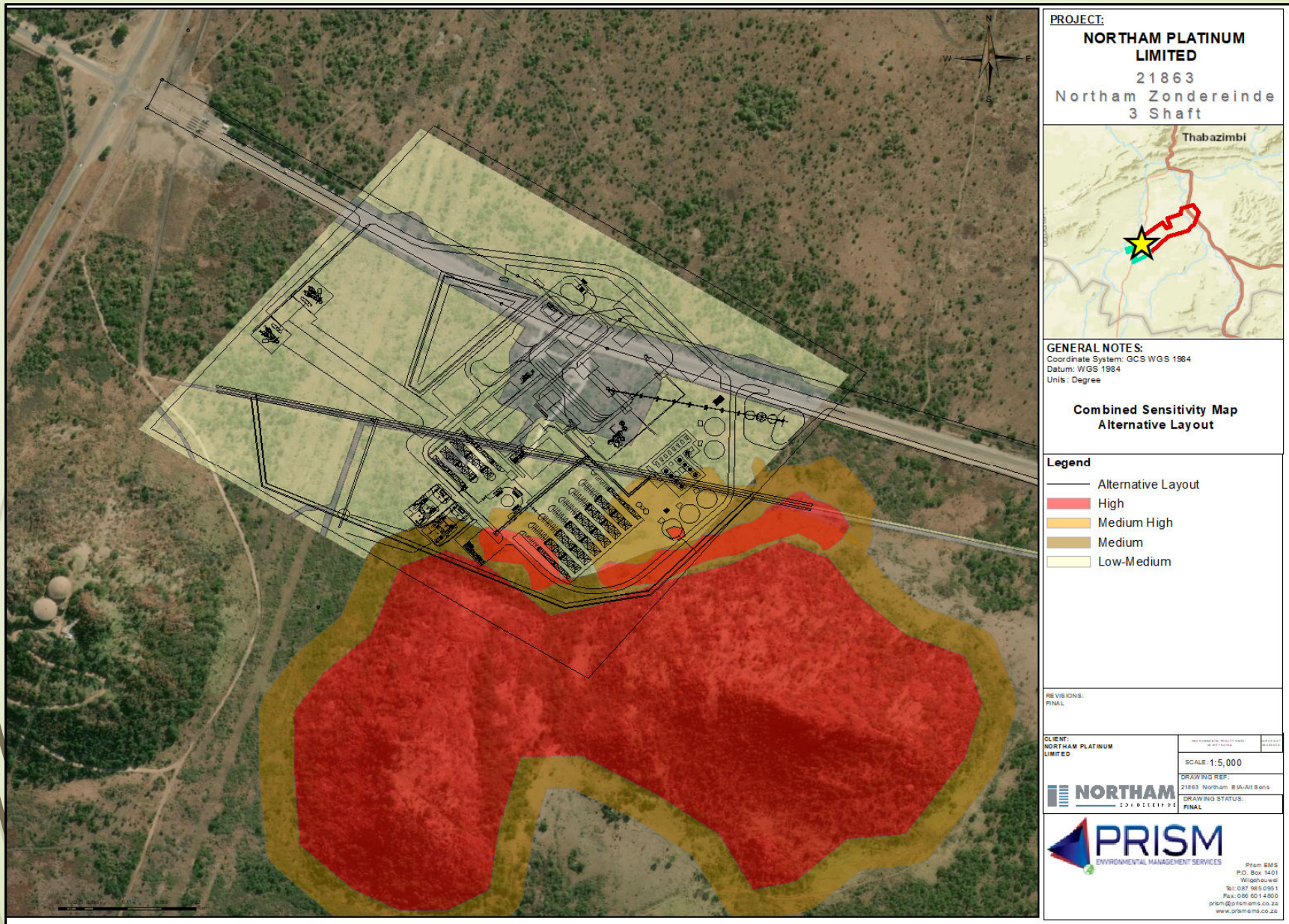


# Alternatives

- ▶ One layout alternative assessed
  - ▶ Proposed layout preferred due to sensitivities as indicated which are avoided
- 

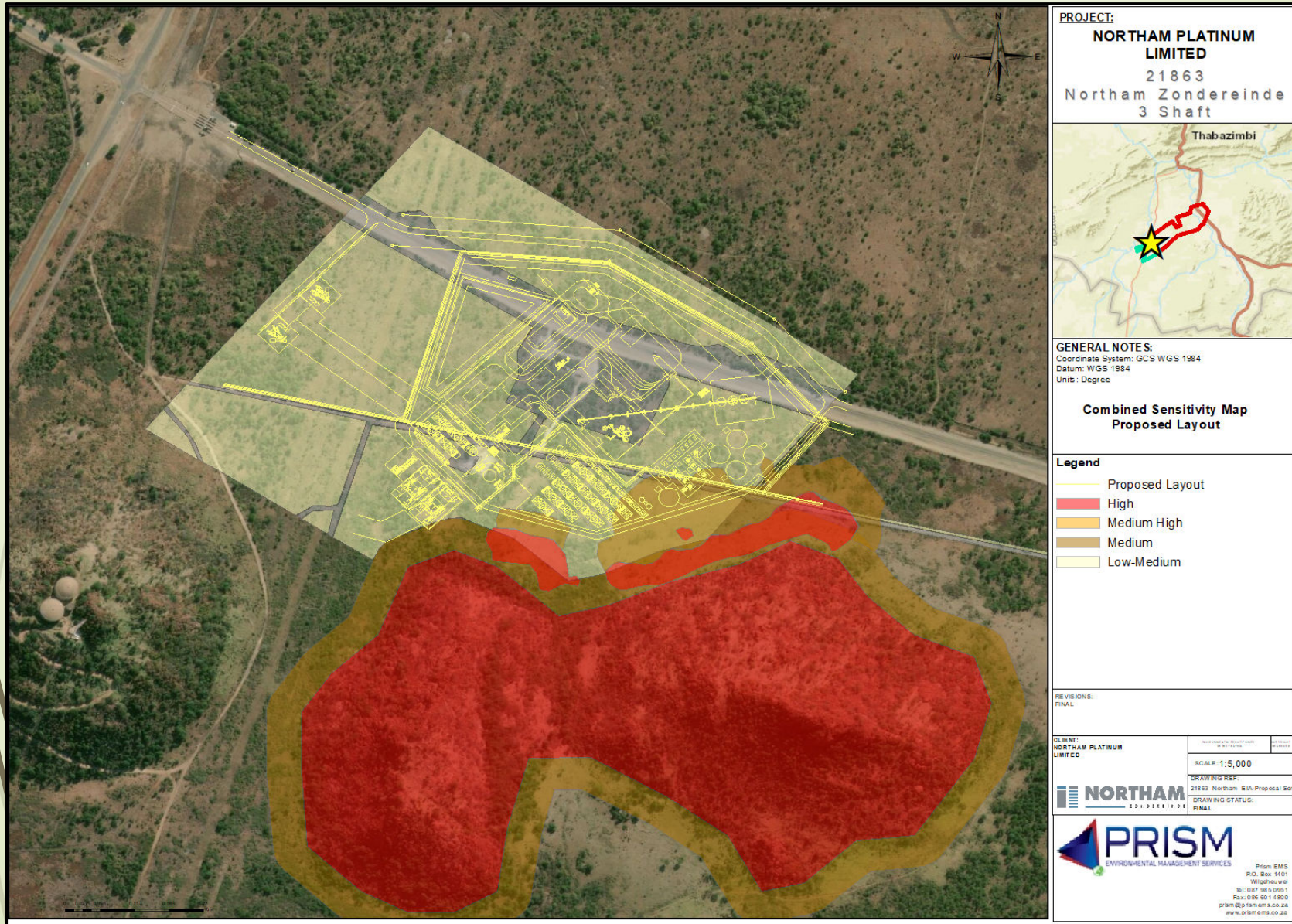


# Sensitivity Map - Alternative





# Sensitivity Map – Proposed Layout







# Impact Assessment

- Most potential impacts identified have a low significance after mitigation
- Impacts (both positive and negative) with a low-medium or higher significance are:

# Impact Assessment

## Construction Phase

Aspect	Impact	Significance
Land Capability	Loss of a small part of the land for agriculture	<b>Low-Medium after mitigation</b>
Air Quality	Emissions from vehicles and machinery (CO <sub>2</sub> , NO <sub>x</sub> , SO <sub>x</sub> , VOC's etc.).	<b>Low-Medium after mitigation</b>
Wetland and Drainage Line	Water quality, disturbance of natural system sub-surface flow and aquatic ecological systems	<b>Low-Medium after mitigation</b>
Topography	Temporary alteration of topography caused by drill rig.	<b>Low-Medium after mitigation</b>
Socio-economic	Increase in employment in the area and economic multiplier effects may improve the socio-economic circumstances of the local community.	<b>(+) High</b>



# Impact Assessment

Operational Phase		
Aspect	Impact	Significance
Land Capability	Loss of a small part of the land for agriculture	<b>Low-Medium after mitigation</b>
Air Quality	Emissions from vehicles and machinery (CO <sub>2</sub> , NO <sub>x</sub> , SO <sub>x</sub> , VOC's etc.).	<b>Low-Medium after mitigation</b>
Wetland and Drainage Line	Water quality, silt, surface water run-off	<b>(+) Medium</b>
Topography	Temporary alteration of topography caused by drill rig.	<b>Low-Medium after mitigation</b>
Noise	Noise generation by increased traffic on the surrounding roads.	<b>Low-Medium after mitigation</b>
Natural Resources	Fuel Consumption	<b>Low-Medium after mitigation</b>
Socio-economic	Increased employment in the area and economic multiplier effects will improve the socio-economic circumstances of the local community and wider region	<b>(+) High</b>



# Environmental Management Programme

- ▶ An EMPR is incorporated within the EIA Report as Part B
- ▶ The EMPR contains the following:
  - ▶ Impact Management Objectives, Outcomes and Management Statements, including Closure Objectives
  - ▶ Mitigation Measures to be implemented during the Construction Phase and Operational Phase linked to specific activities and impacts
  - ▶ Standards to be achieved and roles and responsibilities
  - ▶ Monitoring Programme to Monitor Compliance
  - ▶ Environmental Awareness Plan including waste management, spill procedures and emergency preparedness strategies

# Reasoned Opinion of EAP

Recommendation for approval based on:

- Findings of specialist studies
- Full implementation of the EMPR
- In line with EMF
- Part of the study area is already impacted on
- Services are available
- No fatal flaws identified
- No significant impacts expected, provided mitigation is implemented;
- Rehabilitation of surface water features - a medium significant positive impact;
- The proposed 3 shaft project will secure the economic viability of the Zondereinde Mine (300kozpa PGM and 9200 current staff) through providing improved access to underground mineral resources in the Zondereinde Western Block. This in turn will result in continuing the socio-economic benefits currently provided by the mine through the approved Social and Labour Plan;
- The assumptions, uncertainties and gaps are such that the impact assessment is expected to be accurate;
- The mitigation measures included in the EMPr are thought to adequately mitigate impacts so that the impact management objectives can be met; and
- The comparison of alternatives resulted in the selection of the BPEO for the site: the proposed layout.

# Recommendations

- ▶ The proposed layout should be implemented;
- ▶ An Environmental Control Officer (ECO) to be appointed to conduct environmental audits
- ▶ Construction contractors, sub-contractors and operators must ensure that no fauna taxa are unduly disturbed, trapped, hunted or killed
- ▶ An archaeological specialist appointed for the heritage (medium sensitivity area) to be impacted on and permits from SAHRA to be in place
- ▶ Equipment and/or machinery which will be used must comply with the manufacturer's specifications on acceptable noise levels
- ▶ Preparation of the footprint, civil construction activities and the construction of the roads should be limited to daytime only
- ▶ Stormwater Management Plan implemented and maintained
- ▶ Comprehensive baseline study of the koppie habitat to assist monitoring throughout the project

# Next Steps

## Immediate next steps:

- ▶ Draft EIA Report is currently circulated for comment
  - ▶ 28 October 2019 to 26 November 2019
- ▶ Minutes of meeting will be drafted and included in the Final EIA Report
- ▶ Receive and respond to new comments during the Impact Assessment Phase

## Coming soon in the EIA Process:

- ▶ Compile Final EIA Report
  - ▶ Include collated comments and response report
- ▶ Submit Final EIA Report (with incorporated comments) to DMR for evaluation and decision making
- ▶ All registered I&APs to be notified of the DMR's decision



# Questions and Discussion





# Contact Us

## Attention:

- Monica Niehof
- De Wet Botha

## Reference Numbers:

- Prism EMS: 21863
- DMR: LP 30/5/1/2/3/2/1 (37) EM

## Contact Details:

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