



# **THE RECLAMATION OF THE 4L39 TAILINGS STORAGE FACILITY IN EKURHULENI, GAUTENG PROVINCE**

**DRAFT SCOPING REPORT – Non-Technical Summary**

**23 February 2023**

## Draft Scoping Report Information

<b>PROJECT:</b>	<b>THE RECLAMATION OF THE 4L39 TSF</b>
<b>Report Title:</b>	The Reclamation of the 4L39 Tailings Storage Facility in Ekurhuleni, Gauteng Province
<b>DMRE Reference No.</b>	to be confirmed
<b>DWS Reference No:</b>	WU25681
<b>Client:</b>	Ergo Mining (Pty) Ltd
<b>Project No:</b>	DRDG#018
<b>Compilation Date:</b>	23 February 2023
<b>Status of Report:</b>	Draft Scoping Report Non-Technical Summary

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## Public Review Period for the Draft Scoping Report

The Draft Scoping Report (DSR) will be made available to stakeholders on the Kongiwe Environmental website and in public places for a 30-day comment period from **Thursday, 23 February to Monday, 27 March 2023**. Notification of the availability of the documentation for review has been distributed on **Friday, 17 March 2023**. The report will be made available at the following locations:

**Table 1: Where Draft Scoping Report can be accessed.**

Location	Physical Address	Contact person
<b>Hard Copies</b>		
A non- technical summary of the Draft Scoping Report has been compiled and will be distributed through community representatives and couriered to stakeholders who send a request to the stakeholder engagement team. A hard copy of the full report can be viewed at the Germiston Public Library.		
Germiston Public Library	14 Queen St, Germiston, 1400	Ms Edith Kruger, Tel: (011) 999 1737
<b>Electronic copies</b>		
Kongiwe Environmental website	<a href="http://www.kongiwe.com/publications-view/public-documents/">http://www.kongiwe.com/publications-view/public-documents/</a>	Phumla Mngwengwe / Vanessa Viljoen
An electronic copy (CD) of the DSR will be made available upon a request directed to the stakeholder engagement team. Stakeholders are encouraged to contact the stakeholder engagement team (Phumla Mngwengwe / Vanessa Viljoen), Tel: (012) 003 6627, Email: <a href="mailto:stakeholders@kongiwe.com">stakeholders@kongiwe.com</a> should they require assistance with accessing the DSR/ have queries regarding the Proposed Project.		

Comments received from the public throughout the public review process will be addressed and included in the Final Scoping Report.

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## Non-technical Summary:

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Kongiwe Environmental (Pty) Ltd has been appointed by Ergo Mining (Pty) Limited (Ergo), as the Independent Environmental Service Provider and tasked with conducting the Scoping and Environmental Impact Assessment (S&EIA) process which is aimed at critically evaluating the potential environmental and social impacts of the proposed **Reclamation of the 4L39 Tailings Storage Facility (TSF)** (hereafter the Proposed Project).

The Application for Environmental Authorisation (EA) was submitted to the Department of Mineral Resources and Energy (DMRE), which is the Competent Authority (CA) for the Proposed Project, on **Thursday, 16 February 2023**. The Draft Scoping Report (DSR) will be made available for public review Thursday, 23 February to Monday, 27 March 2023.

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## Project Introduction and Background

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Ergo, a wholly owned subsidiary of DRDGOLD - within which the Group's Eastern surface retreatment assets are consolidated, is a major surface gold tailings retreatment operation that focuses on old and abandoned TSFs. Ergo holds various Mining Rights (MR) in respect of slimes dams and sand dumps extending 65 km from western Johannesburg to eastern Ekurhuleni, with most activities occurring on the central and eastern sections of the Witwatersrand mining belt. Ergo is the owner and operator of the Knights plant and has focused reclamation activities within the proposed project area, this includes 4L2, 4L25 and the Elsburg reclamation project.

Ergo intends to reclaim and reprocess gold residue from the tailings storage facility (TSF), generally referred to as slimes dam or mine dump, No. 4L39. This TSF is situated 3 km east of Germiston CBD, in the City of Ekurhuleni Metropolitan Municipality (CoE) and was created prior to the promulgation of the Mineral and Petroleum Resources Development Act, 2002 (Act No 28 of 2002) (MPRDA). This TSF is a historical mineral storage deposit and it has been confirmed in various High Court judgements that such a TSF is moveable property. As such, it is accordingly not regulated by the MPRDA. Similarly, it is not a "residue deposit" or "residue stockpile" as contemplated in the Environmental Impact Assessment Regulations, 2014, as amended. As such the reclamation activity does not require a Mining Right, but does still require approval in terms of National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)(NEM: WA) and an integrated Water Use Licence (IWUL) in terms of the National Water Act, 1998 (Act No.36 of 1998) (NWA).

Surface gold retreatment is a largely mechanised process with a risk profile that is significantly lower than that of conventional underground mining. The TSF will be reclaimed by hydraulic reclamation. During hydraulic reclamation, a water monitor blasts the sides of the TSF, the process water mixes with the unconsolidated tailings material, resulting in what is known as a slurry. The slurry reports to a pump station, located at the lowest point of the TSF, from where it will then be conveyed to the Ergo Processing Plant for reprocessing. Existing pipelines along existing pipeline routes within valid pipeline servitudes and

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Surface Right Permits (SRPs) will be used to convey the generated slurry. Final deposition of the tailings after processing will be on the existing Brakpan/Withok TSF.

The process water pipeline route will pump process water to the reclamation site (TSF No 4L39) from Ergo's Central Water Facility (CWF) to be used in the reclamation process. This pipeline will be located within existing surface rights held by Ergo and follow existing and operational pipelines. The new process water pipeline from the CWF will be approximately 1,5 km long and 500 mm in diameter.

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## Locality

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In terms of regional locality, the TSF is situated approximately 3 km east of the Germiston CBD, in the CoE. Delmore Park is situated 400 m east of the 4L39 TSF. The community of Ulana Park is located approximately 300 m to the north of the TSF and the community of Good Hope is located 70 m west of the TSF. A community of Germiston South is located 250 m south of the TSF. Affected communities are located in Ward 21, Ward 33, Ward 35 and Ward 93. This is illustrated by Figure 1 below.

The reclamation area is surrounded by open areas to the east and the south east, historical mining areas to the north, industrial development to the south west and the Good Hope informal settlement the west. The lower Bokburg road is located to the south of the TSF and the railway is located to the north of the TSF. A disturbed wetland is located to the east of the TSF. The pipelines will be situated within existing pipeline rights (Surface Right Permits (SRPs), servitudes and wayleave agreements) held by Ergo. Where Ergo does not possess surface rights these will be acquired.

The extent of the TSF is 32 Ha.

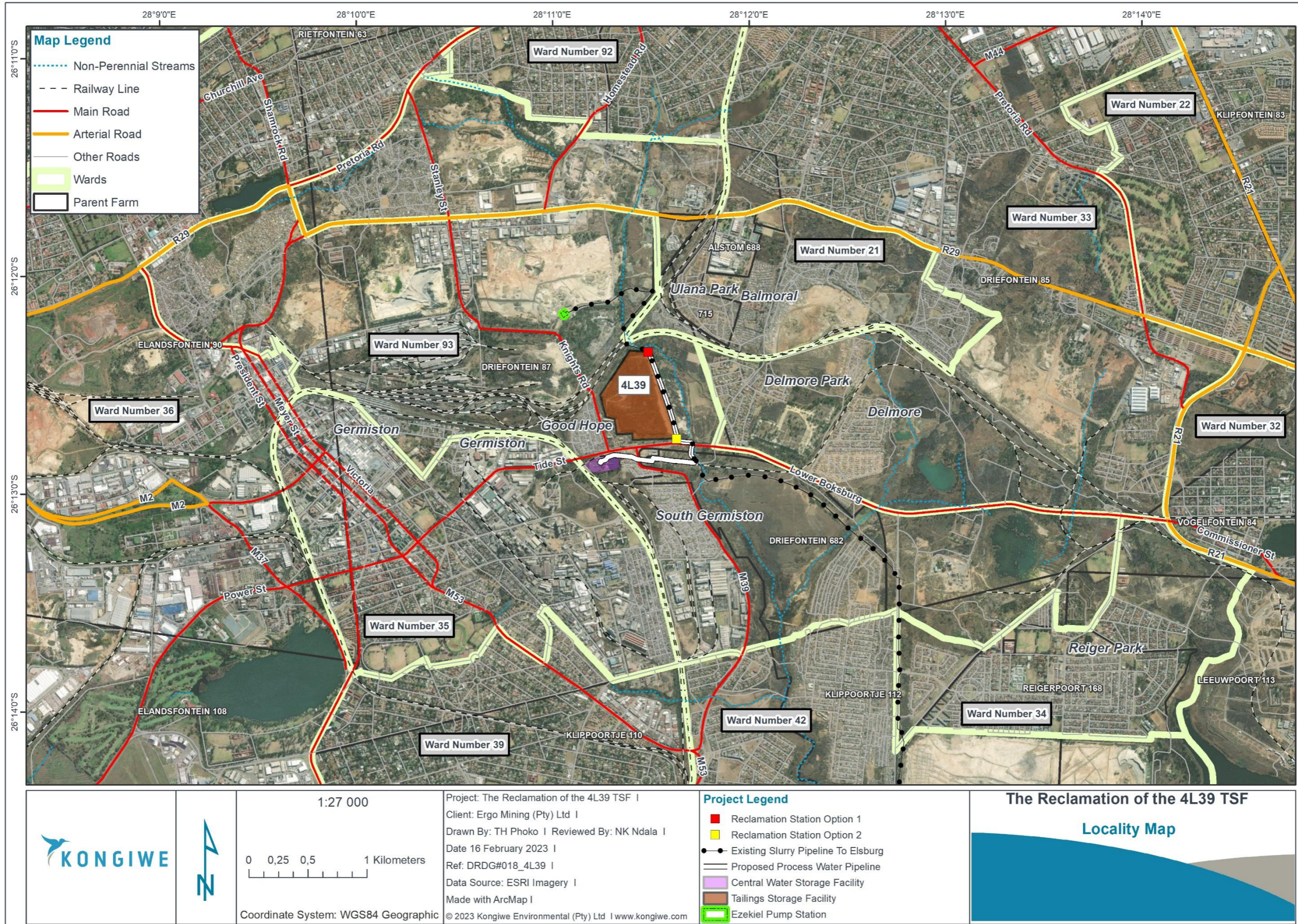


Figure 1: Locality Map

## Method of Reclamation

The proposed reclamation method which will be used to remove the TSF is referred to as top-down hydraulic reclamation. This technique uses high-pressure water monitors/canons to deliver a high-pressure water jet to excavate unconsolidated tailings material within the TSF hydraulically. The water from the cannon mixes with the tailings and forms a slurry with a high solids content. The slurry then flows under gravity along trenches at the base of the TSF to a collection sump which is positioned at the lowest elevation of the bench being mined.

At the sump, finger screens remove any debris that may impact pumping operations, and a penstock will control water flow into the sump. The position of the collection sump will change as the reclamation progresses. From the collection sump, the slurry reports to a reclamation station. To control the volume of water reporting to the reclamation station, flapper valves are used to hold, and release slurry contained in the collection sump. This slurry is then pumped via existing pipelines to the Elsburg pump station and then to the Ergo Processing Plant. At the Ergo Plant, the slurry is prepared and treated for gold extraction and beneficiation. The reclaimed slurry will be deposited on the existing Brakpan/Withok TSF.



**Figure 2: Mobile tracked hydraulic monitor on a tailing's facility in South Africa.**

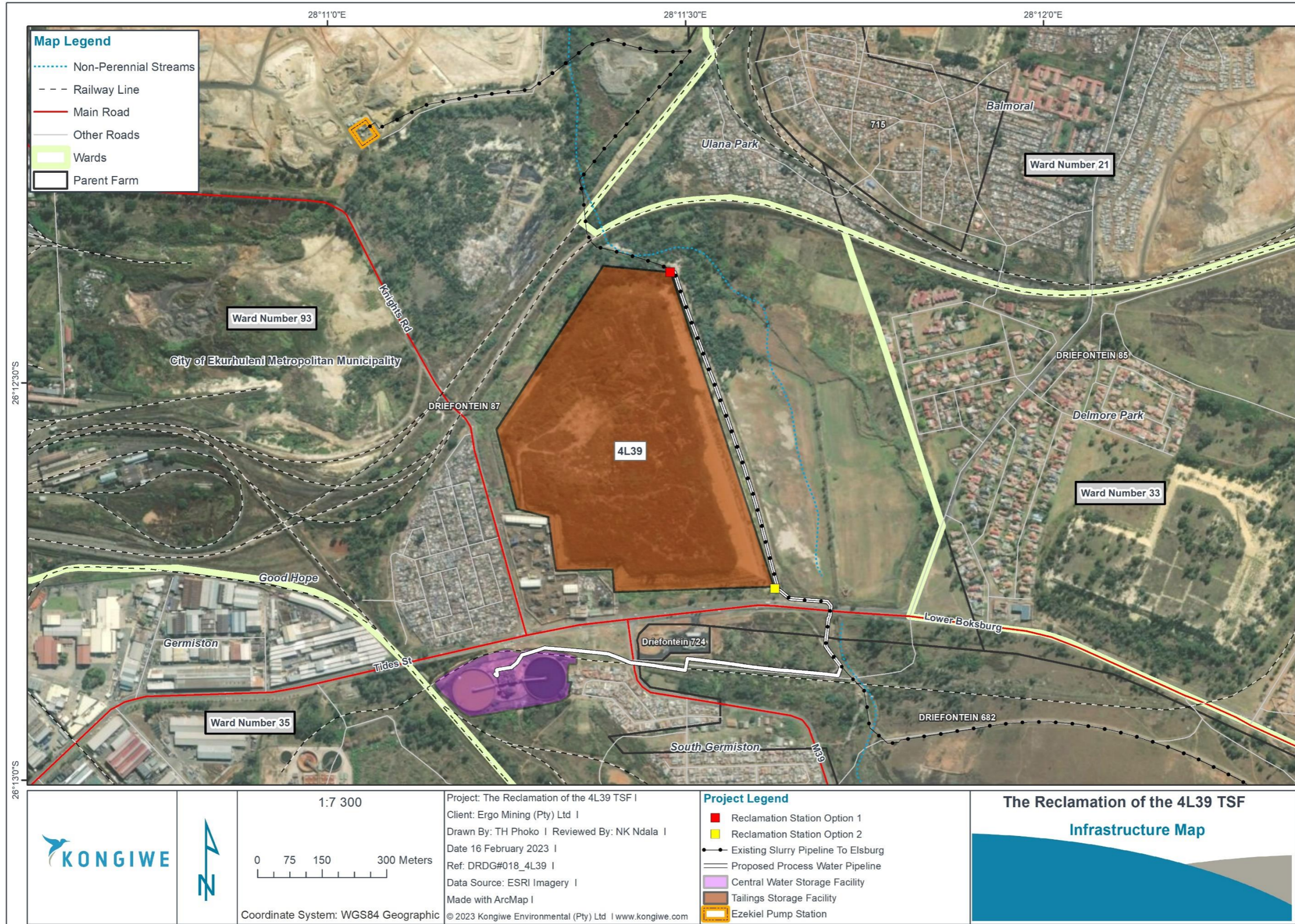


Figure 3: Infrastructure Map.



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## Project Alternatives

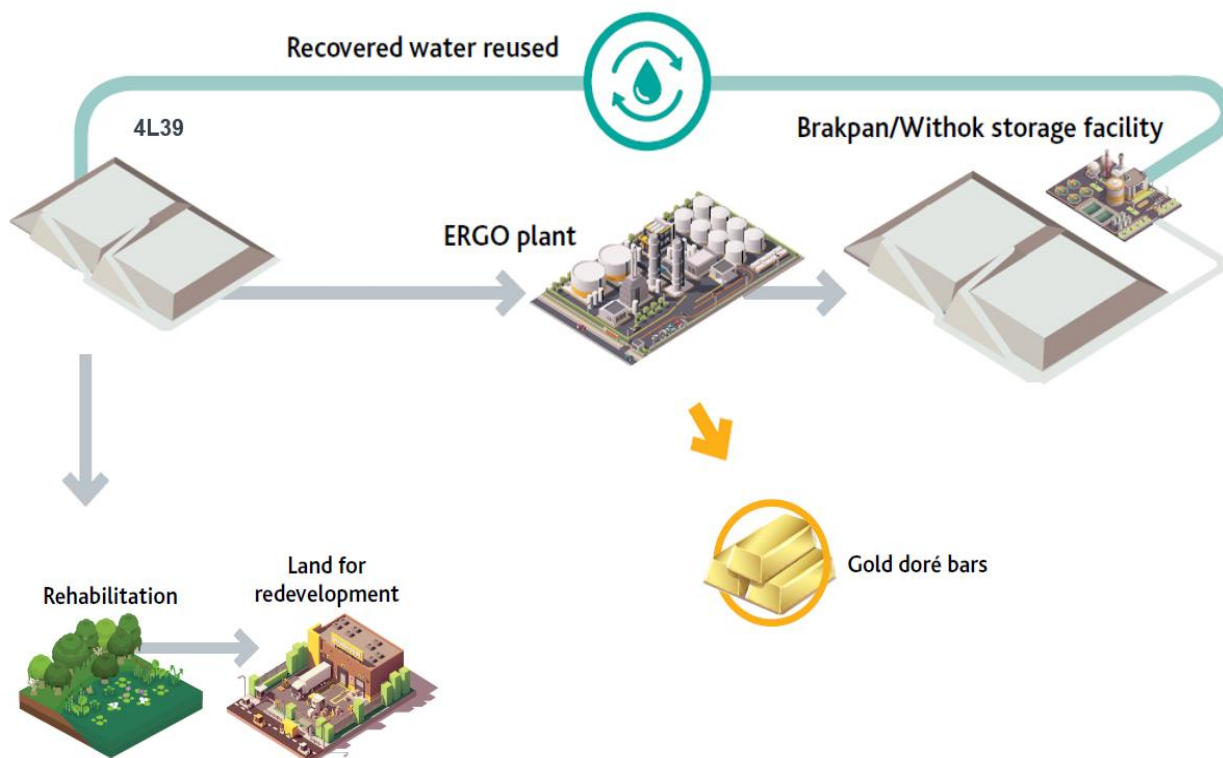
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The Proposed Project will investigate one pipeline route to convey process water from Ergo's CWF to the reclamation station to be used in the proposed activity.

The process water pipeline route which will pump process water to the reclamation site (TSF No 4L39) will be located within existing surface rights held by Ergo and follow existing and operational pipelines. The new process water pipeline from the CWF will be approximately 1,5 km long and 500 mm in diameter. The pipeline route is secured by SRPs, wayleaves and servitudes.

The reclamation station required for the activity will be connected into an existing and operational pipeline, along which slurry will be transported to the Elsburg pumpstation, and then onward to the Ergo plant for beneficiation.

The proposed reclamation activity will require 3kVA of electricity. This will be transmitted via a new 11 kV powerline from a transformer located at the 4A6 dump. This powerline will follow existing servitudes. This powerline will not require authorisation in terms of NEMA. The pipelines and the proposed reclamation activity will require authorisation in terms of the National Water Act (Act No. 36 of 1998) (NWA) for Section 21 water uses, the National Environmental Management Act (Act No 107 of 1998) (NEMA) and the National Environmental Management: Waste Act (Act No 59 of 2008) (NEM:WA) for category B activities. An Integrated Water Use Licence Application (IWULA) will be prepared and submitted in accordance with the Water Use Licence Application and Appeals Regulations 2017 published in GNR 267 on 24 March 2017 and will be supported by a Technical Report and Integrated Water and Waste Management Plan (IWWMP).



**Figure 4: TSF 4L39 proposed process diagram.**

### Environmental Impact Process

The Department of Forestry and Fisheries and Environment (DFFE), in consultation with the DMRE identified the need for the alignment of Environmental Authorisations (EAs) and promulgated a single environmental system under the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA). This has resulted in simultaneous decisions in terms of NEMA, NEM:WA and other specific environmental management Acts<sup>1</sup>.

As from 2 September 2014 the statutory dispensation regarding environmental management on mines changed with the implementation of the One Environmental System and the commencement of the National Environmental Management Laws Amendment Act (Act No. 25 of 2014) (NEMLAA). In line with the One Environmental System the Environmental Impact Assessment Regulations (EIA 2014 Regulations) were promulgated and came into force on 8 December 2014. The EIA 2014 Regulations have subsequently been amended on the 7th of April 2017 and again on 11 June 2021. With reference to the aforementioned, this S&EIA, prepared in support of the EA application, will comply with the requirements of the EIA 2014 Regulations, as amended.<sup>2</sup>

<sup>1</sup> NEMA and NEM:WA were amended by the National Environmental Laws Amendment Act, 2022 (Act No 2 of 2022) dated 24 June 2022 but this Act is not yet in force.

<sup>2</sup> The most recent amendment is GN R517 of 11 June 2021. This S&EIA takes these amendments into account.

The Proposed Project therefore requires EA in terms of the NEMA and the NEM:WA and will follow a S&EIA process in terms of the EIA 2014 Regulations, as amended. The aforesaid Regulations enforce a strict timeframe and require a decision by the competent authority, the DMRE, within **300 days** from submission of the EA application.

The nature and extent of the Proposed Project, as well as the potential environmental impacts associated with the construction, operation, decommissioning and rehabilitation of a facility of this nature is assessed and presented in this DSR.

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## Legal Background and Requirements

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This DSR has been compiled in terms of the provisions of Appendix 2 of the EIA Regulations 2014, as amended, and the Directive set out in the template prescribed by the DMRE.

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## Environmental Considerations

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The Proposed Project will adopt the standards as set out in the Ergo's Environmental Policy. The Policy states that Ergo is committed to the responsible management of the environment in which it operates, adopting and implementing environmental practice as outlined in the National Environmental Management Act, 1998 (Act No. 108 of 1998) (NEMA). Recognising that the environment is held in trust for the people, the policy commits to:

- ❖ Complying with relevant environmental legislation as a minimum, and adopting and applying the best practicable environmental option with respect to current activities as well as prospective projects;
- ❖ Evaluating, through a process of monitoring, auditing and reviewing by management, the success of the management and mitigation measures applied; and
- ❖ Ensuring that environmental risks and potential emergencies are identified and managed through effective controls and procedures as identified in the applicable Environmental Management Programmes.

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## Key Findings of the Scoping Report

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The DSR provides a scoping-level identification of potential environmental impacts (physical, biological and social) associated with the Proposed Project, as well as a strategy for how these impacts will be investigated and assessed further in the EIA Phase. The baseline environmental information provided in this DSR was compiled as a high-level desktop investigation, and the project information is sourced from existing background information, relevant to the Proposed Project. The preliminary environmental impacts identified in Table 2 will be further refined, calculated and assessed for all the feasible alternatives identified. Mitigation and management measures will also be suggested by the specialists for all impacts identified. The potential positive and negative impacts which may arise because of the Proposed Project have also been summarised in the Table 2 overleaf.

**Table 2: Potential identified impact because of the Proposed Project**

Environmental Component	Component Type	Potential Impact	Specialist Study Planned for EIA
<b>Physical Environment (non-living)</b>	Hydrology (including wetlands, surface water and ground water)	<ul style="list-style-type: none"> <li>❖ Potential for further acid mine drainage (AMD), increased heavy metal concentrations and increased sulphate concentrations in local surface water and groundwater if runoff from operations is not adequately managed through efficient storm water management structures;</li> <li>❖ Water and ground contamination due to pipeline leaks/spillages if inadequate preventative measures are not implemented;</li> <li>❖ Improved surface and ground water quality around the project area due to the removal of the TSF;</li> <li>❖ Changes in natural surface water flow parameters as a result of the removal of the TSF;</li> <li>❖ Potential impact on drainage lines from access runoff during the operational phase of the project;</li> <li>❖ Improved visual aesthetics of the area after the removal of the TSF.</li> </ul>	<p>Surface Water Impact Assessment</p> <p>Groundwater Impact Assessment</p> <p>Wetland Impact Assessment</p>
<b>Biological Environment (living)</b>	Ecology and Biodiversity	<ul style="list-style-type: none"> <li>❖ Displacement of animal habitat by removing the TSF;</li> <li>❖ Removal of invasive species from the TSF;</li> <li>❖ Long-term improvement of ecosystem health and functioning of the project area following rehabilitation.</li> </ul>	Biodiversity Impact Assessment
<b>Cultural Environment</b>	Heritage Resources	<ul style="list-style-type: none"> <li>❖ Should heritage resources be present in the area, they could potentially be impacted by the reclamation project;</li> <li>❖ Destruction of a heritage resource, if the TSF is older than 60 years, by reclaiming the TSF. The significance of the TSF will be assessed.</li> </ul>	Heritage Impact Assessment
	Employment	<ul style="list-style-type: none"> <li>❖ Continued employment and job security;</li> </ul>	Social Impact Assessment

Environmental Component	Component Type	Potential Impact	Specialist Study Planned for EIA
Social and Economic Environment		<ul style="list-style-type: none"> <li>❖ Continued investment in local economy;</li> </ul>	
	Land-use	<ul style="list-style-type: none"> <li>❖ Land use will change to an active reclamation site;</li> <li>❖ Restoration and unlocking of land for future land uses;</li> </ul>	Social Impact Assessment
	Air Quality	<ul style="list-style-type: none"> <li>❖ Possible increase in dust levels in some areas during operations;</li> <li>❖ Overall removal of an air pollution source after the removal of the TSF;</li> </ul>	Air Quality Impact Assessment

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## Overall Conclusions

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At this stage, the findings of this DSR indicate that the Proposed Project and its associated infrastructure would pose minimal and short-term negative environmental impacts if adequate and appropriate mitigation measures are implemented; and positive long-term environmental impacts when the project has been completed. Most importantly, the removal of the TSF would assist with the alleviation of a major pollution source.

According to the Way Forward and the Plan of Study, contained in the report, impacts associated with the Proposed Project need to be considered further during the EIA Phase. It is important to take note of the current conditions of the Proposed Project area and the environment around it. The TSF is a source of pollution and causes other direct and indirect nuisances to the surrounding environment.

The Proposed Project is also in line with the Gauteng Mine Residue Area Strategy (2012), Ekurhuleni Metropolitan Spatial Development Framework (2011) and the Ekurhuleni Environmental Management Framework's (2014) objectives to remove the TSF scattered on Gauteng landscape.

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## Way Forward

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The DSR has been undertaken with the aim of identifying potential positive and negative impacts on the environment and gathering comments on concerns and queries from stakeholders. It documents the process followed, the findings and recommendations of the Scoping Phase study, and the proposed Plan of Study for the EIA Phase to follow. The overarching objectives of the EIA process will be to:

- ❖ Prepare integrated sensitivity maps for the study area based on the findings of specialist assessments as input into the project design process;
- ❖ Identify and assess the significance of potential impacts associated with the project activities; and
- ❖ Recommend mitigation and enhancement measures to ensure that the development is undertaken in such a way as to promote the positive impacts and to minimise the negative impacts.

The future procedure for this study is as follows:

- ❖ Submit the finalised Scoping Report to the CA for permission to undertake the EIA Phase of the project;
- ❖ Upon the decision to approve or refuse the final Scoping Report, all stakeholders will be notified. If approved, stakeholders will also be notified of the conditions of the CA (the DMRE) for proceeding with the EIA Phase of the project;
- ❖ In the case of approval of the final scoping, execute the Plan of Study for the Impact Assessment during the EIA Phase of the project;

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- ❖ Incorporate and address comments and issues raised during the consultation period on the Scoping Report into the EIA, and make changes to the report where relevant;
  - ❖ Make the EIA Report and Environmental Management Programme report (EMPr) available to the public, stakeholders and authorities;
  - ❖ Finalise the EIA Report and submit the final EIA Report to the CA; and
  - ❖ Authority review period and decision-making for 107 calendar days.