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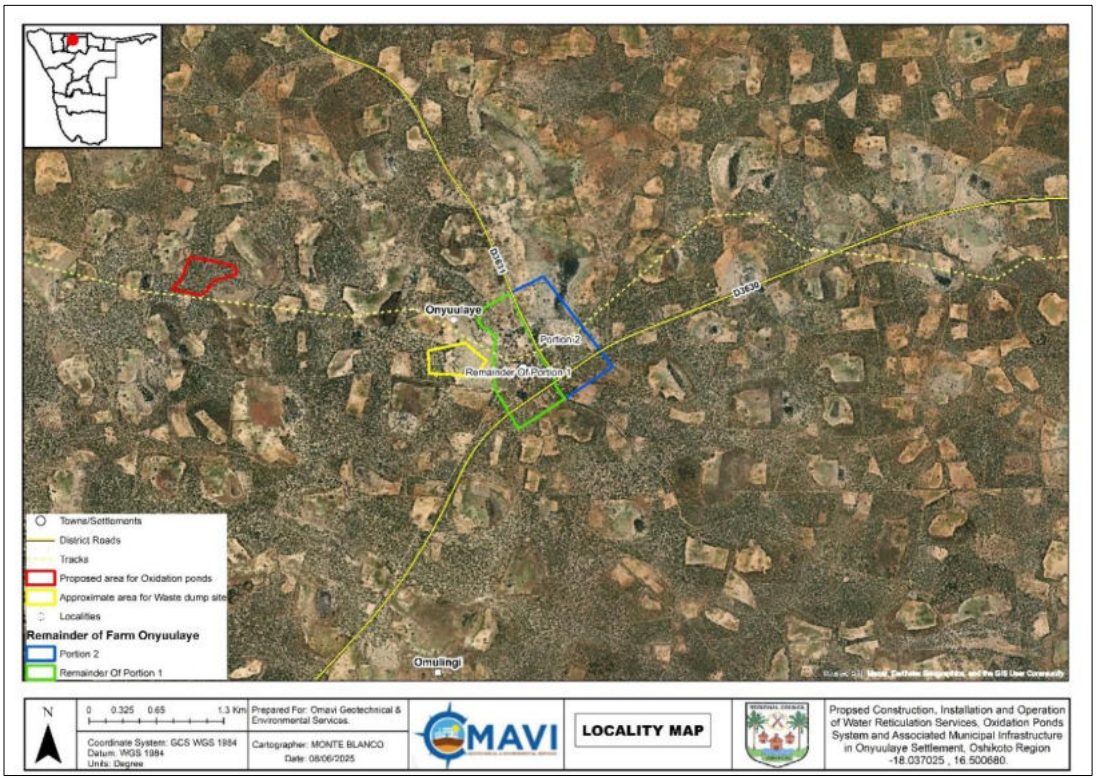

Environmental Scoping Assessment (ESA) Report

NEW APPLICATION for Environmental Clearance Certificate (ECC) - The Proposed Development of Municipal Infrastructure in Onyuulaye Settlement, Oshikoto Region

ECC APPLICATION NO.	APP- **005776**
ENVIRONMENTAL ASSESSMENT PRACTITIONER	**OMAVI Geotechnical & Environmental Services (OMAVI)** P.O Box 1642, Windhoek Email: enviro1@omavi.com.na and info@omavi.com.na Tel: +264814786303
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EXECUTIVE SUMMARY

The Oshikoto Regional Council (Proponent) intends to develop (construct, install, and operate) municipal infrastructure in Onyuulaye Settlement. The proposed municipal infrastructure development will be carried out in Onyuulaye Settlement and will cover water reticulation services, sewer reticulation services, wastewater treatment (oxidation ponds), electrical Infrastructure, roads, and stormwater, including access road to oxidation ponds, and solid waste management. The oxidation ponds (under Phase 1A of the development) are planned about 2km northwest of the Settlement's Remainder of Farm Onyuulaye Portion 1 boundary. Onyuulaye Settlement falls within the Okankolo Constituency, about 40km north of Omuthiya Town in the Oshikoto Region. The GPS coordinates of the proposed oxidation ponds are at -18.067432, 16.501543.

Following the Environmental Management Act (EMA) of 2007 and the accompanying Environmental Impact Assessment (EIA) Regulations, 2012, the proposed activities are classified as activities that require an Environmental Clearance Certificate (ECC).

To facilitate the ECC application, the Proponent has appointed OMAVI Geotechnical & Geo-Environmental Consultants CC (hereinafter referred to as OMAVI Consultants or OMAVI) to undertake the required Environmental Impact Assessment (EIA) process and apply for the ECC to support the proposed project activities. As part of the application, an Environmental Scoping Report (ESR) (this report) will be submitted to the competent authorities for decision-making.

The ESR report contains all the information that was gathered from the EIA process. This includes description of the proposed project activities and alternatives, legal requirements, the receiving environment baseline conditions, Public Participation Process (PPP), identified potential impacts (both by the Consultants and registered interested and affected parties), and provision of the necessary practical measures to manage, avoid and or minimize each impact's significance. The mitigation measures will further be contained in the Environmental Management Plan (EMP), which will be the binding document that the proponent will adhere to as an agreement with the authorities. Although the EMP is a standalone document, it should be read in conjunction with this scoping report for a more detailed overview.

Public consultation, key issues raised, and identified potential impacts.

- A preliminary list of pre-identified relevant stakeholders was compiled
- An email notification was shared with all identified stakeholders on the 12th of May 2025, announcing the commencement of the EIA process and as an invitation to the public to register as I&AP for the project and provide inputs regarding the proposed municipal infrastructure development. The BID, comments register, and EIA site notice were attached to that email for reference.
- Official public notices were issued to announce the initiation of the Environmental Assessment process, inviting the public to register as Interested and Affected Parties (I&APs) and participate in the public engagement meeting were placed in the *Namibian Sun*, *the Rebublikein* and *Allgemeine Zeitung* newspapers on the 14th and the 21st of May 2025.
- Public site notices were placed at various public locations in Onyuulaye, Onankali, Okankolo, and Omuthiya between the 15th and 23rd of May 2025 to raise public awareness of the ongoing EIA process for this project.
- In addition, provision was made for the BID to be distributed on request to any I&APs during the public participation period, which ran until the 13th of June 2025.

- A stakeholder consultation meeting was held in Onyuulaye on the 23rd of May 2025.

Some inputs and key issues raised during the ESA consultation meeting are summarized below:

Inputs

- A request was made to have monthly progress meetings by the councillor's office about the project to keep the community up to date with the project's progression.
- A suggestion was made for all skilled and semi-skilled members of the community to submit their work testimonials and CVs, plus specifications of key skills, to the Councillor's office for consideration in upcoming work opportunities.
- A request was generally made by the community to implement the project promptly and without delay
- The community requested a transparent mode of communicating the commencement of the project to ensure that they do not miss out on employment or procurement opportunities. The councillor's office will hold a public notification meeting and announce on the radio to notify the community.

Key issues

- There was a concern raised on whether homesteads in the surroundings of the dumpsite or the oxidation ponds will need to be relocated, or fences shifted, and whether any compensation will be given for any pipelines running through someone's field.
- A representative from the Oshikoto Regional Council assured that relocation is highly unlikely as both sites are in unoccupied open field areas. Provision has been made in the project budget for any compensation under circumstances where fences need to be shifted. No compensation will be given if pipelines are running through someone's field, as this is a community development project, but the Oshikoto Regional Council will take the necessary corrective measures to leave any earthworks done on someone's field fully rectified.
- In case of the proposed access roads to the dumpsite or the oxidation ponds passing through someone's field, there will be compensation. The routes of these roads will be finalized upon issuance of the ECC, and all affected parties will be consulted soon thereafter

Despite the issues raised above, there were no objections or major issues from the stakeholders or interested & affected parties (I&APs) that may hinder or halt the proposed municipal infrastructures in the settlement.

Potential identified impacts of the project

Positive impacts:

- Potential socio-economic development through job (employment) creation, skills development, and procurement of local services and goods during construction.
- Access to reliable, clean water to improve the quality of life by providing safe drinking water for residents and future businesses.
- The availability of a proper sewage system in the Settlement can help prevent contamination of water sources by ensuring that untreated sewage is not being discharged into the environment. Thus, reducing the risk of waterborne diseases and improving overall community and environmental health in the Onyuulaye area.

- The availability of essential services (such as clean water and sewer) can potentially attract investors into the Settlement, which would make it appealing to both current and potential residents and investors, leading to increased property values and the growth of local businesses.
- The improvement of infrastructure within the Settlement, such as roads, stormwater management, as well as proper management of solid waste, will put the Settlement in a better position in terms of attracting investment and boost the local socio-economy, whereby the presence of up-to-standard municipal services is crucial.

Negative impacts:

- Possible physical land (soil) disturbance and soil erosion during the construction and installation of proposed municipal infrastructure/services and associated activities.
- There is also a potential property displacement (relocation) of homesteads that are close to the proposed oxidation pond site.
- Potential soil and groundwater pollution from waste products during construction. Installation (hydrocarbons and wastewater spillage) and operational phase (in case of sewer pipeline breakages) that may affect the environment and human health.
- Potential over-abstraction of water resources owing to the required additional volumes to supply the Settlement may result in the depletion of available water resources.
- General environmental pollution (littering) through mishandling of project-related waste.
- Air pollution by potential dust from machinery and excavations during construction.
- Potential occupational and community health and safety issues stemming from improper handling of materials and equipment during project implementation.
- Potential impact of inadvertently disturbing archaeological or cultural heritage sites.

Conclusion

This environmental scoping assessment aimed to identify the potential impacts associated with the proposed development of municipal infrastructure in Onyuulaye Settlement, Oshikoto Region. Additionally, the report also recommended practical mitigation measures to address the identified impacts, as is required by the EMA and its 2012 EIA Regulations.

The public was informed of the ongoing EIA process via newspaper adverts in three local newspapers, site notices at public locations, and the identified I&APs were notified via email and telephonically.

A stakeholder consultation meeting took place on the 23rd of May 2025 at the Community Hall in Onyuulaye (time: 12:15 p.m.). I&APs raised their concerns and provided their inputs on the proposed project. The detailed discussion from the stakeholder consultation meeting is presented herein. EIA/ESA public notices were placed at strategic locations in Onyuulaye, Onankali, Okankolo, and Omuthiya between the 15th and 23rd of May 2025.

The identified impacts can be easily mitigated to acceptable levels upon the implementation of the mitigation measures provided.

Based on the above merits and the residual risk or significance level of the impacts which are likely to remain after implementing the proposed mitigation measures, it is recommended that an Environmental Clearance Certificate can be issued for the proposed activities, with conditions that the various impact management and mitigation/enhancement measures outlined in this report as well as in the accompanying EMP are fully implemented and their effectiveness monitored during the implementation phase.

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LIST OF ABBREVIATIONS

BID: Background Information Document

DEAF: Department of Environmental Affairs and Forestry

EAP: Environmental Assessment Practitioner

ECC: Environmental Clearance Certificate

EIA: Environmental Impact Assessment

EMA: Environmental Management Act

EMP: Environmental Management Plan

ESA: Environmental and Social Assessment

I&APs: Interested and Affected Parties

MEFT: Ministry of Environment, Forestry, and Tourism

MME: Ministry of Mines and Energy

MAFWLR: Ministry of Agriculture, Fisheries, Water, and Land Reform

MURD: Ministry of Urban and Rural Development

NHC: National Heritage Council

ORC: Oshikoto Regional Council

PPE: Personal Protective Equipment

1 INTRODUCTION

1.1 BACKGROUND

The Oshikoto Regional Council (Proponent) intends to develop (construct, install, and operate) municipal infrastructure in Onyuulaye Settlement. The proposed municipal infrastructure development will be carried out in Onyuulaye Settlement and will cover water reticulation services, sewer reticulation services, wastewater treatment (oxidation ponds), electrical Infrastructure, roads, and stormwater, including access road to oxidation ponds, and solid waste management. The oxidation ponds (under Phase 1A of the development) are planned about 2km northwest of the Settlement's Remainder of Farm Onyuulaye Portion 1 boundary. Onyuulaye Settlement falls within the Okankolo Constituency, about 40km north of Omuthiya Town in the Oshikoto Region.

This report summarises the following:

- Relevant local Policy and legal framework;
- Approach adopted for the ESA process;
- Summary of the envisaged/ proposed project activities;
- Characteristics of the receiving environment;
- Assessment of potential impacts of the proposed project; and
- Mitigation and management measures proposed to avoid or reduce, or enhance, potentially significant impacts.

1.2 OBJECTIVES OF THIS DOCUMENT

The objectives of this Environmental Scoping Assessment (ESA) report are as follows:

- To comprehensively detail the planned activities for the project, including associated developments and infrastructure;
- To delineate the scope of activities that will fall under the Terms of Reference (ToR) of the Environmental Clearance Certificate (ECC) being applied for;
- To establish baseline conditions of the biophysical, socio-economic, geological, geomorphological, and water resource environments, while also assessing the current land-use dynamics within the project area.
- To conduct a systematic evaluation of potential impacts that may arise from the proposed activities, analysing their intensity, duration, likelihood, and spatial extent, and subsequently develop the Terms of Reference for the site-specific Environmental Management Plan (EMP).
- Ultimately, to provide the office of the Environmental Commissioner with a comprehensive set of documents to support the application for an ECC to construct and operate the proposed municipal infrastructures.

1.3 NEED FOR AN ENVIRONMENTAL SCOPING ASSESSMENT (ESA)

Activities relating to energy generation and distribution are classified as requiring an Environmental Clearance Certificate (ECC) as per the Environmental Management Act (EMA) of 2007 and its accompanying Environmental Impact Assessment (EIA) Regulations of 2012.

To facilitate the ECC application, reports such as an Environmental Scoping Assessment and an Environmental Management Plan (EMP) must be submitted to the environmental custodian (Department of Environmental and Forestry Affairs (DEAF) in the Ministry of Environment, Forestry and Tourism (MEFT)) for evaluation, and to help the Environmental Commissioner make an informed decision on the rejection or granting of the ECC application. This process allows the DEAF to make an informed, evidence-based decision on whether the project aligns with the environmental and social sustainability objectives of the Competent Authority (Ministry of Urban and Rural Development (MURD)) as well as those of the country at large.

In terms of the Environmental Management Act (EMA) of 2007 and the Environmental Impact Assessment Regulations of 2012, all waste management activities are classified as listed activities, which may not be undertaken without a valid Environmental Clearance Certificate (ECC) issued by the office of the Environmental Commissioner. The provision of such listed activities in the EMA is as follows:

- **Activity 1 (Energy Generation, Transmission and Storage Activities):** *The construction of facilities for - (b) the transmission and supply of electricity.* ***This bears relevance to the concerned project because the planned services installation will, at a later stage, include the transmission and supply of electricity to the newly installed reticulation services and future structures to cater for the proposed Settlement services development.***

- **Activity 2.1 (Waste Management, Treatment, Handling and Disposal Activities):** *The construction of facilities for waste sites, the treatment of waste, and the disposal of waste.* ***This bears relevance to the concerned project because the planned services installation and operations entail handling, storage, and management of sewage (waste).***

- **Activity 5.1 (Land Use and Development Activities):** *The rezoning of land from (d) use for nature conservation or zoned open space to any other land use.* ***This bears relevance to the concerned project because some areas of the Settlement will need to be converted from open spaces to other land uses (to make provision for the installation of oxidation ponds and reticulation services such as water).***

- **Activity 8.1 (Water Resources Development):** *The abstraction of ground or surface water for industrial or commercial purposes.* ***This bears relevance to the concerned project because water resources would be piped from existing water supply sources (from Okankolo Scheme) by the Settlement to supply residents and the future business community, to meet domestic water requirements during the services installation and subsequent operation phases.***

- **Activity 10.1a (Infrastructure development):** *oil,* ***water****, gas and petrochemical, and other bulk supply pipelines.* ***This bears relevance to the concerned project because water pipelines will be installed to provide clean water to the Settlement's new building structures and services, such as sewage management sites.***

- **Activity 10.1b (Infrastructure development):** *The construction of public roads and motor vehicle tracks.* ***This bears relevance to the concerned project because roads will be established to provide access to the new infrastructure and structures in the Settlement.***

To support the application for an ECC, an Environmental Scoping Assessment (ESA) study must be carried out to understand how the planned project activities will interact with the current and future biophysical and socio-economic environment, and what positive and negative impacts those activities may trigger in the environment. After the ESA study, a project-specific EMP shall be compiled, which provides the necessary and appropriate impact management measures for all significant impacts that could be generated by the project. The two reports shall then be submitted to the Department of Environmental Affairs and Forestry (DEAF) for scrutiny to allow the DEAF to make an informed and knowledge-based decision on the issuance of an ECC.

1.4 ABOUT THE PROJECT PROPONENT

The Oshikoto Regional Council (hereinafter referred to as the Proponent) was established through the Regional Councils, 1992 (Act No. 22 of 1992), to plan and develop the Region sustainably for the benefit of the residents and inhabitants of the Oshikoto Region and the Namibian people at large. Oshikoto is one of the fourteen regions of Namibia, named after Lake Otjikoto, with the capital Town being Omuthiya.

1.5 ABOUT THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

OMAVI Geotechnical & Environmental Services was appointed by the Oshikoto Regional Council to undertake an Environmental Scoping Assessment (ESA) and prepare the project-specific Environmental Management Plan (EMP) for the proposed invasive and non-invasive prospecting activities, following the Environmental Management Act of 2007 and its 2012 Environmental Impact Assessment (EIA) Regulations. OMAVI Geotechnical & Environmental Services is a specialist environmental consulting entity, with considerable industry experience in environmental compliance and environmental management of township establishment and municipal infrastructure projects. Our team of scientists possesses the right set of interpersonal, technical, and analytical skills, which holistically ensure that we understand, in an integrated manner, how a set of planned activities would interact with the biophysical, socio-economic, and political landscape within which such activities are envisioned to take place.

At OMAVI, we are grounded in the idea that a balance between socio-economic development and environmental protection can be achieved through proactive and integrated planning whereby project activities are designed, planned, and implemented with due consideration to minimize adverse environmental and socio-economic impacts, as well as with closure and rehabilitation principles in mind.

1.6 NEED AND DESIRABILITY OF THE PROJECT

The proposed project is justified based on the following key benefits:

- Basic services and infrastructures in local authorities play a crucial role in ensuring convenience, hygiene, health, and safety for residents and businesses. In the case of the proposed services in Onyuulaye Settlement, the installation of a sewer system (which includes oxidation ponds and associated infrastructure) will ensure that the sewer systems carry away waste and wastewater from the Settlement, preventing the contamination of the environment and the spread of disease. Without sewer reticulation, waste would need to be disposed of through septic tanks or other methods, which may not be sustainable or hygienic in the long run. Proper sewer systems also help avoid pollution of groundwater, rivers, and other natural water bodies, protecting the surrounding environment and the local ecosystems.

- Added to that, water reticulation services would mean that the Onyuulaye community has access to clean, potable water for daily activities in residential and commercial (business) communities. Water reticulation would also be needed to have the necessary pressure. Thus, proper water reticulation helps maintain hygiene and public health.
- The Settlement would also need electrical reticulation, i.e., having a power supply (electricity lines) to the residential, office, and business areas. This is to ensure that there is a reliable supply of electricity. Electricity is essential for modern homes, business activities, and associated supporting infrastructure. Thus, a proper electrical network ensures that the power supply is safely distributed across the building or development. Therefore, a proper electrical infrastructure ensures the smooth operation of these services.
- It is therefore crucial for this proposed project to be implemented for the provision of services to the Onyuulaye Settlement. This will also create some temporary employment opportunities for the locals during the construction phase, as well as the ultimate benefits associated with the operational phase of the services in the Settlement (investment opportunities).

1.7 THE ENVIRONMENTAL ASSESSMENT PROCESS

Under the "Namibian EIA guidelines", the "Namibian reporting guidelines for environmental assessment of 2018", the Environmental Impact Assessment (EIA) regulations No. 30 of 2012, and the Environmental Management Act (EMA) of 2007 (Act No. 7 of 2007) the process followed in undertaking this environmental assessment can be summarized as follows, in sequential order:

- **Project Screening Process:** Included identification of potential stakeholders and desktop assessment of historical and current land uses of the concerned project site.
- **Background Information Document (BID):** A BID was created to provide an overview of the project's location, activities, and requirements. The BID served as a non-technical document that could be circulated to Interested and Affected Parties (I&APs) to participate in the Environmental Impact Assessment (EIA) process by offering suggestions on how the design, construction, and operation of the proposed municipal infrastructures could be optimized. It, along with the Environmental Clearance Certificate (ECC) application, will be submitted to the Department of Environmental Affairs and Forestry (DEAF) for review and recommendations. The ECC application was also registered on the Ministry of Environment, Forestry, and Tourism (MEFT) EIA online portal (Application No. APP-005776). The BID and a comment register form were shared with all identified I&APs for their input.
- **Engagement of I&APs and Public Notification**: Identified I&APs and the general public were invited to participate in the environmental assessment process through local newspaper ads, direct emails, phone calls, and strategically placed site notices. Key stakeholders, including line ministries (MME, MEFT, MAWLR), regional and local governments, and affected communities, were targeted to raise awareness about the project.
- **Site Survey and Consultative Meeting:** A site reconnaissance survey and stakeholder consultations were conducted on the 23rd of May 2025. These activities assessed the geomorphology, landscape, geology, ecology, biodiversity, air quality, hydrology, archaeology, demographics, and socio-economic characteristics of the project area. It also included gathering and reviewing baseline environmental and social data, engaging with stakeholders, and assessing potential impacts.

- **Draft Reports Preparation:** The Draft Environmental Scoping Assessment (ESA) report and EMP were compiled. These reports integrated findings from public consultations, project data from the proponent, literature reviews, and field observations. The ESA summarized the public participation process, baseline environmental data, impact assessment methodologies, and key impacts. The EMP outlined proposed measures to mitigate and enhance the project's impacts.
- **Circulation of Draft Reports:** The draft ESA and EMP reports were shared with the proponent for final review and input before submission to the DEAF.
- **Submission to DEAF:** The ESA and EMP reports, along with all appendices, will be submitted via the MEFT online portal. This fulfilled the requirements of the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 and the Environmental Management Act (EMA) of 2007 (Act No. 7 of 2007) for ECC application.
- **Notification of Submission:** Registered I&APs were notified that the ESA and EMP reports had been submitted to the MEFT EIA portal for final public review and evaluation.
- **Report Evaluation and Decision:** MEFT will evaluate the submitted reports and issue a Record of Decision regarding the granting of the ECC.
- **Outcome Communication**: If the ECC is approved, all I&APs will be informed of the outcome. Conversely, if the ECC is denied, I&APs will also be notified.

The overall environmental assessment process followed is outlined schematically in Figure 1-1

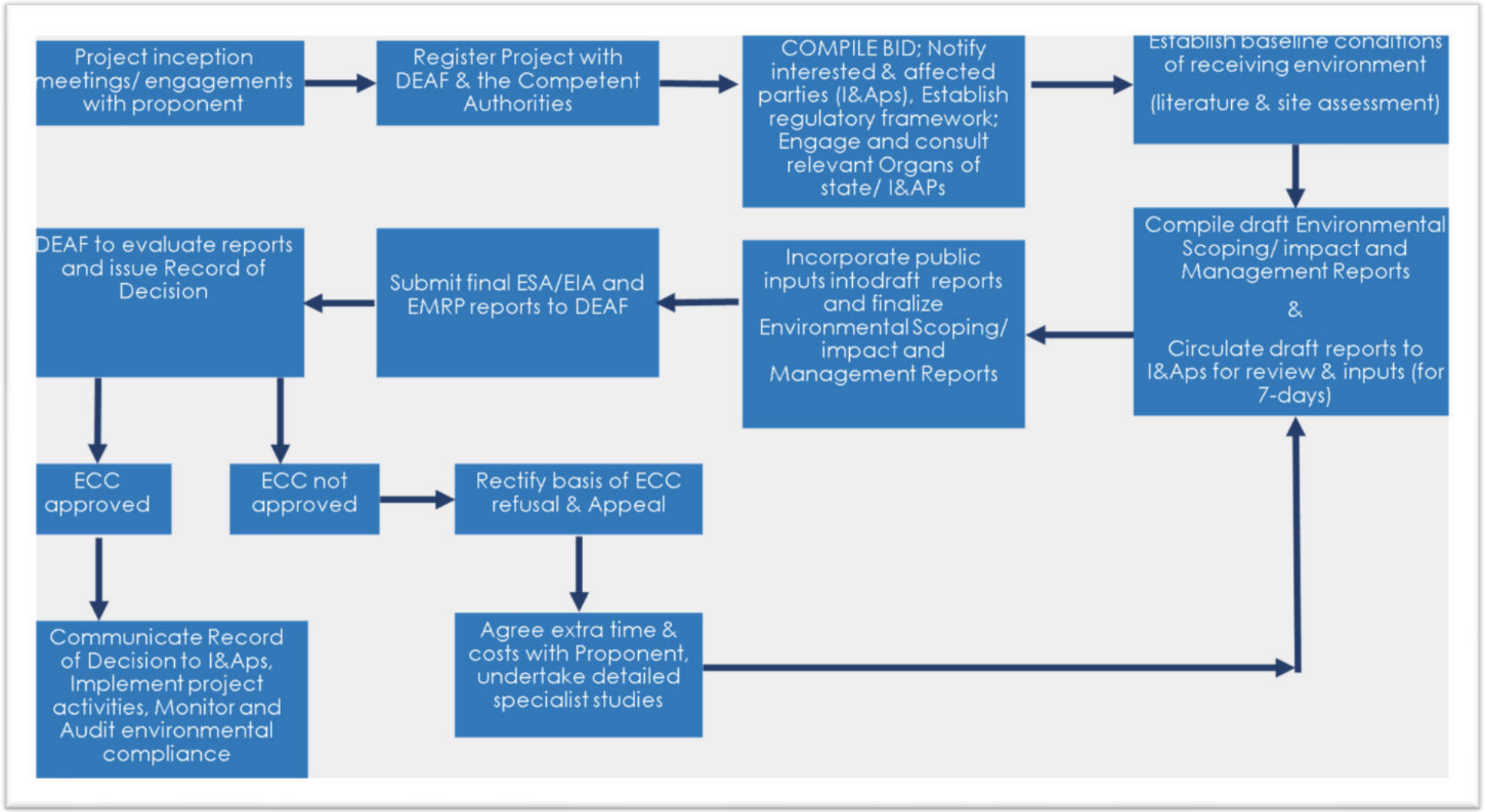

Figure 1-1. The schematic process flow of the Environmental Assessment Process is followed.

2 BACKGROUND AND DESCRIPTION OF CURRENT AND PLANNED ACTIVITIES

2.1 PROJECT LOCATION

The planned infrastructure in Onyuulaye, including the oxidation ponds (under Phase 1A of the development), is planned about 2km northwest of the Settlement's Remainder of Farm Onyuulaye Portion 1 boundary. Onyuulaye Settlement falls within the Okankolo Constituency, about 40km north of Omuthiya Town in the Oshikoto Region. The GPS coordinates of the proposed oxidation ponds are at -18.067432, 16.501543, as portrayed in Figure 2-1 and Figure 2-2.

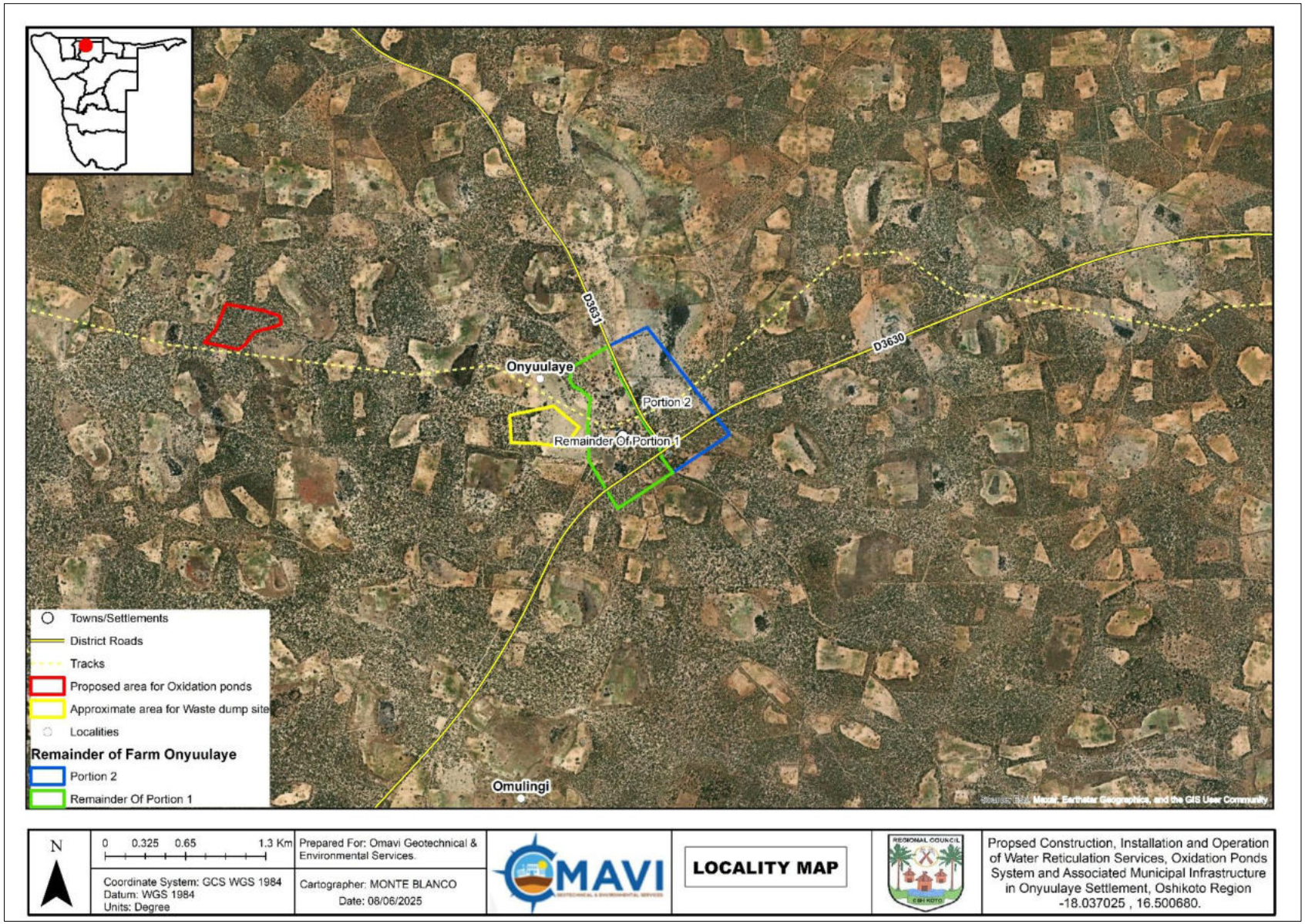

Figure 2-1. The locality map showing the proposed oxidation ponds site, planned solid waste dumpsite and the Remainder of Portion 1 and Portion 2 of Farm Onyuulaye in Onyuulaye Settlement in the Oshikoto Region

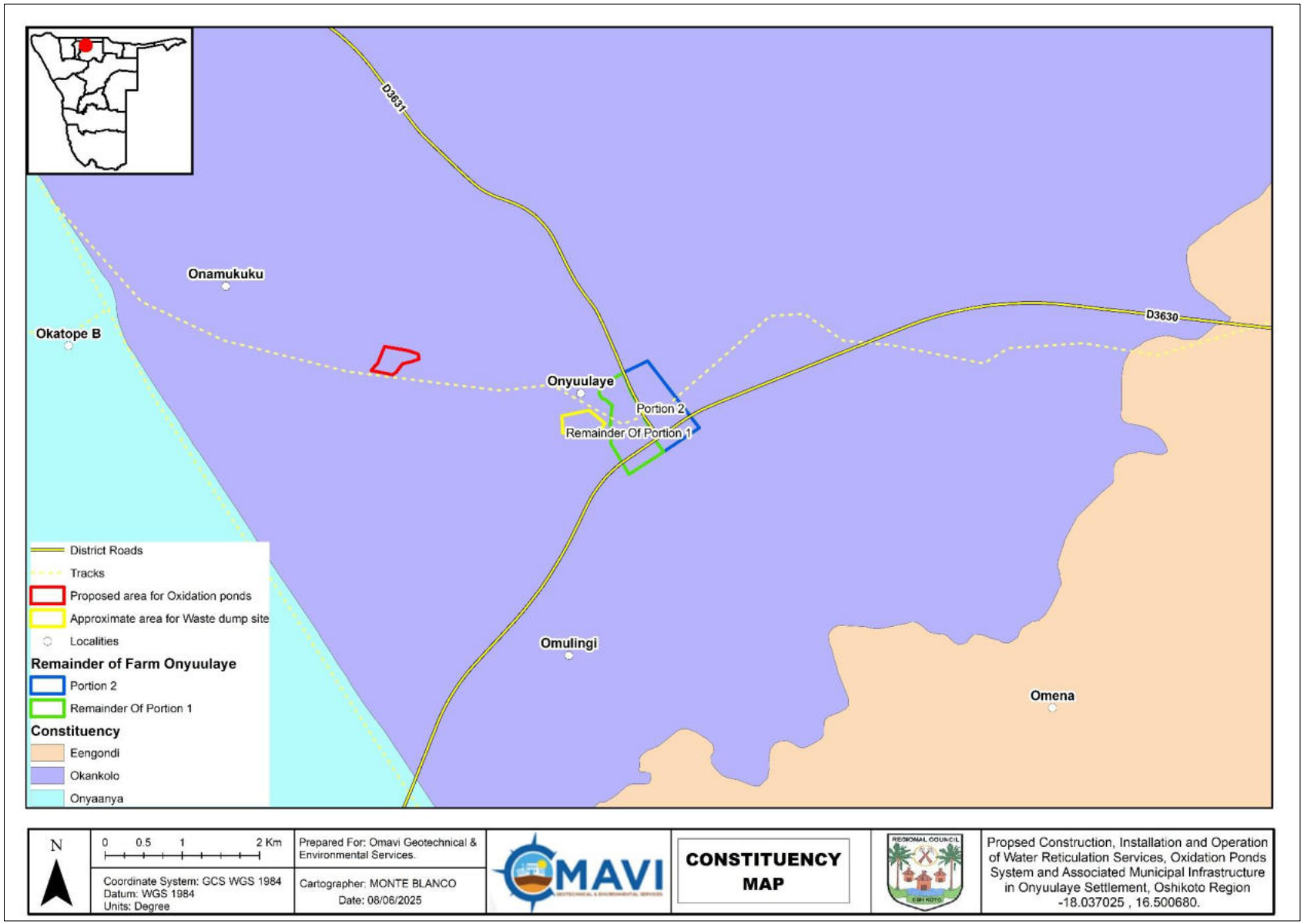

Figure 2-2. The project site map with the Okankolo constituency in the Oshikoto Region

2.2 PLANNED PROJECT ACTIVITIES

The proposed development of municipal infrastructure (services) establishment is triggered by the fact that the settlement lacks centralized municipal infrastructure, for instance, whereby the settlement relies instead on individual septic tanks for wastewater management. Added to that, according to the 2025 Onyuulaye Settlement Sewer Master Plan prepared by AIJ Consulting Engineers & Infrastructure Managers, the Settlement needs to have a reliable municipal infrastructure to cater for the expected population growth from 980 to 5,159 over 20 years. Thus, the phased infrastructure development is necessary to serve the two Remainders of the Settlement Portions of the Settlement (Remainder of Portion 1 and Portion 2). Although there is no approved town planning division, a draft town planning layout for the Remainder of Portion 1 (comprising 264 erven) was used to guide future development and population growth in the Settlement. Unlike Portion 1, a Town Planning Layout for Portion 2 was approved by all the statutory bodies and comprises 286 erven, with the land use presented in Table 2-1.

Table 2-1. The land uses of demarcated erven on Remainder of Portion 1 and Portion 2 in Onyuulaye (edited after AIJ Consulting Engineers & Infrastructure Managers, 2025).

Reminder of Portion 1			**Reminder of Portion 2**	
Land Use	**Number of erven**		**Land Use**	**Number of erven**
Residential	190		Residential	216
General Residential	6		General Residential	4
Business	39		Business	32
Light Industrial	3		Light Industrial	9
Institutional	8		Institutional	6
Government	10		Government	7
Local Authority	2		Local Authority	5
Public Open Space	6		Public Open Space	7
TOTAL	**264**		**TOTAL**	**286**

The implementation strategy prioritizes immediate actions, including constructing oxidation ponds and essential sewer infrastructure, followed by systematic expansion to accommodate future growth as follows:

- Phase 1A: Oxidation ponds & Fencing (with alternative site that was considered). Option 3 is considered suitable. Option 3 is preferred due to its location far from the Settlement. However, this would mean the relocation of six homesteads, if they are within 500m of the oxidation ponds (as per Namibia's Department of Water Affairs (DWA) Regulations and Code of Practice Volume 2: 2008, which provides guidelines for wastewater and effluent disposal, the following distance requirement is that for septic tanks and sludge disposal sites, no boreholes, dwellings, or occupied buildings shall be allowed within 500m of the nearest wastewater and sludge disposal site (this includes oxidation ponds). Therefore, the relocation (displacement) of the homesteads will trigger compensation costs for the Proponent to resettle affected homesteads in proximity to the ponds' site.
- Phase 1B: Evaporation Pond & Access Road
- Phase 2: Sewer pump station at Onyuulaye Proper and a rising main to oxidation ponds, as well as the sewer reticulation network for the erven currently serviced with water. Phase 3: Sewer Reticulation Network for the entire Portion 2
- Future Phases: Pump station, Rising Main, and Sewer reticulation network for the future Remainder of Portion 1 extension and the school, and oxidation pond expansion.
- Other future development as part of the municipal infrastructure will include electrical Infrastructure, roads, and stormwater, including access road to oxidation ponds, and solid waste management.

The proposed project activities will involve the installation (construction) of water and sewer services in Onyuulaye. The services will entail a network of pipes, pumps, and other associated

infrastructure required to supply water (from the Settlement's central water source to homes and businesses, on the Remainder of Portion 2 and Portion 1). A typical water reticulation system would consist of pipes, valves, fittings, storage tanks, and pumping stations to ensure the water reaches the end-users reliably and safely.

In terms of the proposed sewer reticulation service, this would involve the removal of wastewater from residential and commercial (business) areas. The collection and transportation of wastewater (including sewage) from homes and businesses to oxidation ponds. The sewer system will involve a network of sewer pipes, manholes, pumping stations, and, when deemed feasible and sustainable, a wastewater treatment plant may be constructed.

The proposed services will likely include electrical reticulation, which will comprise the connection to the grid, metering, distribution boards, main distribution board, and circuit breakers/fuses, as well as internal wiring and cable routing. Further components for the electrical reticulation system contain lighting and power circuits, outlets, and switches, as well as grounding earthing systems.

The proposed municipal services are aimed at establishing a sustainable sewer infrastructure plan to support the current and projected population, mitigating environmental contamination and health risks associated with unregulated wastewater disposal. Furthermore, the planned services are aimed at ensuring compliance with national environmental and water resource regulations and promoting economic efficiency and long-term infrastructure sustainability (AIJ Consulting Engineers & Infrastructure Managers, 2025).

2.2.1 Installation and Construction Phase

The Oshikoto Regional Council will appoint a contractor for the construction (installation) of the services and associated infrastructures. The construction crew will be housed in Onyuulaye with local labourers commuting from their own houses. The number of workers for construction is unknown at this stage. However, the number of people anticipated for employment will prioritize local employment for locally available skills.

The estimated duration of the construction period is approximately 12 months (1 year) or more. However, this might be adjusted depending on local conditions (factors), such as, but not limited to, the availability of funds throughout the construction period for each phase.

2.2.2 Construction Services and Utilities

The services and utilities required during the construction phase include:

- Water supply: water required for the installation works will be sourced from the Settlement's water supply scheme. The amount of water required will not be significant, but the volume is not yet known.
- Electricity (power supply): A diesel generator will be used for the installation works. The generator will be provided by the appointed contractor.
- Sewage (toilets): Portable toilets will be supplied by the appointed contractor on site for the workers. The contractors will remove the toilets upon completion of construction works.
- Solid waste management: The waste will be collected in a secure central place onsite, removed from the area, and disposed of at the local waste management site (in Omuthiya) as the nearest major town that is likely to have an approved solid waste site.
- Hazardous waste: Any fuels, grease, or oil (hydrocarbons) that will be used during the project will be handled and stored in designated containers onsite. Waste hydrocarbons will be transported to the appropriate and approved waste management facility in Windhoek.
- Occupational health and safety: all project workers will be supplied with appropriate and adequate personal protective equipment (PPE) such as helmets, gloves, safety

harnesses, and insulated tools while carrying out work onsite. A fully furnished first aid kit will be availed at each construction site for any onsite emergencies.

- Accidental fire outbreaks: The working sites will be equipped with fire extinguishers and suppression systems for electrical fire safety (and in case of accidental fire outbreaks during installation (construction) work).
- Road access: The project-related vehicles will use the existing access roads in the Settlement to gain access to the site area. Where additional access roads will be required, these will be established to be used for construction and operations.
- Equipment and vehicles: These will include, but not be limited to, the following:
    - 4x4-wheel support vehicles
    - earth-moving plants such as tractor loader backhoe (TLB), excavators, tipper trucks, and loaders to be used for land clearing, grading, and trenching for cable and pipeline installation. Trucks will also be used to transport and haul topsoil, fill, and other materials for site preparation
    - Bulldozers to assist in levelling and grading the land to create a stable and easier working ground for various structures.
    - Water tankers to carry water to the different sites of the project.
    - Diesel truck and/ or temporary on-site above-ground fuel storage tanks for transporting diesel to the site and storage to ensure an uninterrupted supply of fuel to equipment and vehicles onsite at different stages of the project.
- Site safety and security: The construction sites will be temporarily fenced off to control access to the sites and prevent vandalism as well as unauthorized access by both people (particularly children) and local animals. For security reasons during the operational phase, oxidation ponds and dumpsite areas will be fenced off to prevent unauthorized access.

During the construction phase, some vegetation clearing would be required to pave the way for construction activities. Where possible, vegetation would be left uncleared to limit disturbance, to mitigate erosion and dust, and to encourage natural rehabilitation of the surrounding areas onsite. Some excavation would be required to install services and municipal infrastructures. The soil material excavated during construction will be reused onsite for backfilling as part of post-construction rehabilitation of disturbed site areas, owing to construction works.

2.2.3 Operational and Maintenance Phase

This is the phase during which the installed water, sewer (including oxidation ponds), electrical reticulation services, and other municipal infrastructures are operational, and maintenance is done by the Proponent. When needed or if the maintenance work cannot be done by the Proponent, this will be outsourced to an external maintenance contractor. This is also the stage during which the improved Onyuulaye Settlement is fully established and operational, and all the services are serving the residential and business properties.

3 PROJECT ALTERNATIVES

This section examines the various alternatives that were evaluated and compared, highlighting those considered the most viable. The feasibility of the selected options is determined by their minimal environmental impact while optimizing potential benefits from the proposed activities.

According to the 2012 EIA Regulations, the definition of the "alternatives", about a proposed activity, refers to different means of generally meeting the same purpose and objectives as the proposed activity.

3.1 LOCATION AND INFRASTRUCTURE ALTERNATIVES CONSIDERED

Alternatives for this project were considered and evaluated in terms of the following:

- **Project location alternatives:** The project is aimed at improving municipal services and infrastructure in Onyuulaye; thus, the settlement and selected sites and routes for the planned municipal infrastructure are suitable locations for the proposed development.

3.2 ALTERNATIVES FOR SUPPORT INFRASTRUCTURES

Various alternatives were evaluated for the necessary support infrastructure to achieve the intended objectives without incurring excessive costs and/ or causing excessive degradation to the land affected. This included assessing options for access roads, support buildings, the location of the water and power infrastructure, ablution facilities, and fuel storage. The selection of the most suitable option is considered technological, economic, and environmental constraints associated with each infrastructural component. The alternatives considered are summarized in Table 3-1 below.

Table 3-1. Project alternatives considered

Category of Infrastructure	Alternatives Considered	Justification for the selected option
Access roads	Create new access roads on the sites.	To minimize project costs, environmental damage, and project risk, the proposed activities should utilize existing road infrastructure as much as possible and only create additional access roads to access sites where no roads exist.
	Use existing local access roads as much as possible.	
Ablution facilities	Install a fixed facility with a septic system tank	To avoid long-term visual impacts & minimize rehabilitation costs, portable. Container facilities were selected as the best option.
	Portable facilities with septic system tanks	
Water supply	Water will be obtained from the existing NamWater Scheme pipeline in Onyuulaye from Okankolo.	Water will be sourced from the existing supply line in the Settlement. This will also save in terms of piping or carting water from elsewhere.
	Bring water from elsewhere.	
	Install fixed above-ground diesel tank on site	Install a temporary fixed above-ground diesel tank to guarantee sufficient fuel storage. The fact that the tank will be in one place will

Category of Infrastructure	Alternatives Considered	Justification for the selected option
Diesel storage	Trailer-mounted diesel tank with a containment bund	help minimize the risk of pollution that would otherwise arise from a trailer-mounted option.
Power supply	Diesel generator	The most practical & economic Option during the construction phase is to use a diesel generator to power all activities.
	Install photovoltaic solar panels.	
	Connect to the nearest 3-phase grid or substation	
Container Site Office, Storage	Erect dis-mantable prefabricated container	Favoured option due to: (a) Ease of installation, (b) Low installation costs, and (c) Ease of dismantling & moving.
	Erect Permanent buildings	Least favoured & unlikely viable due to the long-term visual impact
	Offices off-site	Not ideal or preferred as an office needs to be at the site to enable ease of responding to project demands.

3.3 THE "NO-GO/ NO-ACTION" ALTERNATIVE

The no-action alternative for this project would mean that the project does not proceed, and no municipal infrastructure is established in Onyuulaye. This alternative was not considered for this project as not all potential benefits would be realized. Considering the above potential losses, the "no-action/go" alternative was not deemed a good option for the socio-economic development of the affected area. Hence, this option was dismissed.

4 APPLICABLE REGULATORY FRAMEWORK

4.1 NATIONAL LEGISLATION

In Namibia, all aspects related to local authority development are vested in the state and are regulated by the Ministry of Urban and Rural Development (MURD), whereas sustainable exploitation and management of the environment and use of natural resources are regulated by the Ministry of Environment, Forestry and Tourism (MEFT).

The applicable local laws, regulations, policies, and guidelines are summarized in Table 4-1, below.

Table 4-1. Applicable legislation, policies, and guidelines to the proposed municipal infrastructure development and associated activities

LEGISLATION CONSIDERED	CUSTODIAN ORGAN OF STATE	ASPECT OF THE PROJECT
Relevant Acts		
The Constitution of The Republic of Namibia (1990)	Government of The Republic of Namibia	The Namibian government has adopted some policies that promote sustainable development. Most of these originate in clauses of the Constitution of the Republic of Namibia. In Article 95 (i), the State undertakes to actively promote and maintain the welfare of the people by

LEGISLATION CONSIDERED	CUSTODIAN ORGAN OF STATE	ASPECT OF THE PROJECT
Relevant Acts		
		adopting policies aimed at the utilisation of natural resources on a sustainable basis for the benefit of all Namibians. Articles 91(c) and 95(l) are also of particular relevance to sound environmental management practice, viz. In summary, these refer to: • Guarding against over-utilisation of biological natural resources. • Limiting the over-exploitation of non-renewable resources. • Ensuring ecosystem functionality. • Protecting Namibia's sense of place and character. • Maintaining biological diversity. • Pursuing sustainable natural resource use. The above, therefore, commits the State to actively promote and sustain the environmental welfare of the nation by formulating and institutionalizing. Policies to accomplish the abovementioned sustainable development objectives. Through the implementation of the mitigation measures set out in this Scoping Report and the accompanying EMP, the owner of the ECC shall advocate for sound environmental management as set out in the Constitution.
Environmental Management Act No. 7 of 2007 and its 2012 EIA Regulations, Government Notice 28-30 (Government Gazette 4878	MEFT: DEAF	Part 2 of the Act sets out 12 principles of environmental management, summarized as follows: • Community involvement in natural resources management must be promoted and facilitated. • The participation of all I&APs must be promoted, and decisions must consider the interests, needs, and values of I&APs. • Equitable access to environmental resources must be promoted, and the functional integrity of ecological systems must be considered to ensure sustainable systems. • Assessments must be undertaken for activities that may have significant effects on the environment or the use of natural resources. • Sustainable development must be promoted in all aspects relating to the environment. • Namibia's cultural and natural heritage, including its biological diversity, must be protected and respected. • The option that provides the most benefit or causes the least damage to the environment, at a cost acceptable to society, must be adopted to reduce the generation of waste and polluting substances at source. • The reduction, re-use, and recycling of waste must be promoted.

LEGISLATION CONSIDERED	CUSTODIAN ORGAN OF STATE	ASPECT OF THE PROJECT
Relevant Acts		
		• A person who causes damage to the environment must pay the costs associated with the rehabilitation of damage to the environment and human health caused by the pollution. • Where there is sufficient evidence that establishes there are threats of serious or irreversible damage to the environment, lack of full scientific certainty may not be used as a reason for postponing cost-effective measures to prevent environmental degradation; and • Damage to the environment must be prevented, and activities that cause such damage must be reduced, limited, or controlled. • In terms of the terms and conditions attached to the current ECC, the proponent is required to renew the ECC after every 3 years. Such a renewal process is expected to review the current conditions of the environment, document ongoing and planned activities, evaluate how the ongoing and planned activities will likely alter the current conditions of the environment, and formulate impact management measures that speak to the current and future status quo of the affected project area. The proponent has the responsibility to ensure that the proposed activities, as well as the proposed impact management measures, conform to the principles of this Act. In developing this Scoping Report, OMAVI has been cognizant of these requirements, and accordingly, the process that was adopted has been undertaken in conformance with this Act and the EIA Regulations (2012). Several listed activities in terms of this Act will be triggered by the proposed activities as set out in the latter sections of the report.
Electricity Act No. 4 of 2007	MIME	Part II outlines the establishment of the Electricity Control Board and its objectives, which are: (a) to exercise control over and regulate the provision, use, and consumption of electricity in Namibia (b) to oversee the efficient functioning and development of the electricity industry and the security of electricity provision (c) to ensure the efficient provision of electricity (d) to ensure a competitive environment in the electricity industry in Namibia, with such restrictions as may be necessary for the security of electricity provision and other public interests (e) to promote private sector investment in the electricity industry,

LEGISLATION CONSIDERED	CUSTODIAN ORGAN OF STATE	ASPECT OF THE PROJECT
Relevant Acts		
		Part IV outlines the duty to obtain a licence and stipulates in section **17, subsection 1** that, despite any law to the contrary and subject to this Act, no person may establish or carry on any undertaking for - (c) The transmission of electricity (e) The distribution of electricity (2) A separate licence is required for each of the activities mentioned in subsection (1). Section **21** outlines the Criteria for the consideration of the application. (1) The Minister, in considering an application for the issue, renewal, amendment or transfer of a licence, and the Board, in making its recommendation to the Minister on such application, must give due consideration to matters or activities which may adversely affect, or result in damage to, the environment or the rights of others, and weigh against the advantages in general that may be derived from the grant of the application. (2) Without derogating from the generality of the provisions of subsection (1), The Minister or the Board may - (a) Request the applicant to submit - (i) an environmental impact assessment study indicating the extent of any potential damage to or pollution of the environment and the steps proposed to be taken by the applicant to prevent or minimise such damage or pollution and to restore the environment generally and in terms of existing environmental legislation (ii) details of the technical and economic-financial resources available to the applicant to execute the work, to operate the system, and to carry on the business to which the application or licence relates, substantiated by documentary proof where applicable. The abovementioned provisions are all relevant to the proposed activities and were thus considered in this Scoping Assessment and EMP reporting process.
National Energy Policy of 2017	MIME	The National Energy Policy's objectives are that • All energy-related activities ensure that the environment is protected and that resources are used in a sustainable manner • Affordability is recognised as a key determinant in ensuring that the availability of and access to modern energy supplies are meaningful to individuals and industry alike • Opportunities are systematically created to increase the share of local content providers Throughout the Namibian energy industry, local participation is actively promoted across the sector's multiple value chains, and broad-based economic empowerment is integrated into the

LEGISLATION CONSIDERED	CUSTODIAN ORGAN OF STATE	ASPECT OF THE PROJECT
Relevant Acts		
		planning approaches and structures of the country's energy industry. • Both regional and international commitments are considered and actively support the development of the country's energy industry • Ambitious realism is practiced by ensuring that energy projects can attract the necessary funding and that they are implementable • Transparency and good governance are practiced in all energy-related regulatory processes, market operations, and project developments.
Pollution Control & Waste Management Bill	MEFT and others	This bill serves to regulate and prevent the discharge of pollutants to air and water, as well as provide for general waste management. The Bill repeals the Atmospheric Pollution Prevention Ordinance (11 of 1976). In terms of water pollution, it will be illegal to discharge or dispose of pollutants into any watercourse without a Water Pollution Licence (apart from certain accepted discharges). Similarly, an Air Quality Licence will be required for any pollution discharged to the air above a certain threshold. The Bill also provides for noise, dust, or odour control that may be considered a nuisance. The Bill advocates for a duty of care for waste management affecting humans and the environment, and calls for a waste management licence for any activity relating to waste or hazardous waste management. The proposed municipal infrastructure development and associated activities will likely result in localized potential soil contamination from chemical spills, such as lubricants, battery storage leaks, and panel degradation materials to pollute soil, possible runoff contamination, fuel storage leaks, or improper wastewater disposal that can pollute water, air pollution i.e. dust emissions from land clearing, road construction, and vehicular movement, as well as emissions from diesel generators used for backup power during construction, noise from construction activities, maintenance work affecting nearby residents, and local animals.
Water Resources Management Act (Act No. 11 of 2013) and its 2023 Water Regulations	Ministry of Agriculture, Fisheries, Water and Land Reform (MAFWLR)'s Department of Water Affairs	The Proponent shall prevent any potential pollution of groundwater and surface water. This Act provides a framework for managing water resources based on the principles of integrated water resources management. It provides for the management, development, protection, conservation, and use of water resources. The proponent may have to bring water from elsewhere if adequate water for the construction phase cannot be sourced near the site.

LEGISLATION CONSIDERED	CUSTODIAN ORGAN OF STATE	ASPECT OF THE PROJECT
Relevant Acts		
Forestry Act (Act No. 12 of 2001)	MEFT	The Act provides for the management and use of forests and forest products. Section 22. (1) provides: "Unless otherwise authorised by this Act, or by a licence issued under subsection (3), no person shall on any land which is not part of a surveyed erven of a local authority area as defined in section 1 of the Local Authorities Act, 1992 (Act No. 23 of 1992) cut, destroy or remove - (a) vegetation which is on a dune or drifting sand or a gully unless the cutting, destruction or removal is done to stabilise the sand or gully; or (b) any living tree, bush or shrub growing within 100 m of a river, stream or watercourse." No endangered plant species were identified on-site to warrant application of special flora removal permits.
Soil Conservation Act (Act No. 76 of 1969)	MAFWLR	The Act makes provision for the prevention and control of soil erosion and the protection, improvement, and conservation of soil, vegetation, and water supply sources and resources, through directives declared by the Minister. During the construction phase, soil will be disturbed during vegetation clearing, levelling, and landscaping, and as a result of traffic compaction.
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)	Ministry of Industries, Mines and Energy (MIME): Petroleum Affairs Division	Regulation 3(2)(b) states that "No person shall possess or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area. Fuel storage will only be done during the construction phase of the project.
National Heritage Act (Act No. 27 of 2004)	Ministry of Education, Innovation, Youth, Sports, Arts and Culture (MEIYSAC)	The Act makes provision for the protection and conservation of places and objects of heritage significance and the registration of such places and objects. Part V Section 46 of the Act prohibits removal, damage, alteration, or excavation of heritage sites or remains, while Section 48 sets out the procedure for application and granting of permits such as might be required in the event of damage to a protected site occurring as an inevitable result of development. Part VI Section 55 Paragraphs 3 and 4 require that any person who discovers an archaeological site should notify the National Heritage Council. Section 51 (3) sets out the requirements for impact assessment. There are no identified objects of heritage significance on the proposed project site, but should any objects of heritage and/ or archaeological significance be identified during construction or operation, the work must cease immediately and the necessary steps taken to seek authorisation from the Council.

LEGISLATION CONSIDERED	CUSTODIAN ORGAN OF STATE	ASPECT OF THE PROJECT
Relevant Acts		
Public Health Act (Act No. 36 of 1919)	Ministry of Health and Social Services (MHSS): Occupational Health	The Act serves to protect the public from nuisance and states that no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health. The proponent and all contractors must ensure that construction activities are operated in a way that is safe to both the employees and the public. Noise and dust emissions, which could be considered a nuisance and/ or a health risk, ought to be kept to acceptable levels so as not to endanger the health, safety, and well-being of personnel.
Labour Act, 2007	Ministry of Justice and Labour Relations (MJLR)	Sections 3, 4, 5, 11, 16, 23-27, 44, and 135 make provision for the following: • That a person may not employ a child under the age of 14 years • The forced employment of persons is prohibited • That an employee is entitled to monetary remuneration daily, weekly, fortnightly, or monthly in cash, cheque, or direct deposit into a bank account • That the work hours of an employee are 45 hours in a week, over and above which an employee is entitled to additional payment, overtime wage • That employees are entitled to (a) annual leave based on the average number of days worked over the year, (b) a day's sick leave for every 26days worked, (c) compassionate leave for a period of 5days in 12 months which is fully paid, and (d) leave on public holidays, • Female employees who have completed 6 months of employment are entitled to 12 weeks of maternity leave, which can be extended for a further period of one month • That the minister is empowered to make regulations concerning the safety, health, hygiene, sanitation, and welfare of persons employed in or about mines, including sea-bed operations The proponent and their contractors are expected to comply with the above provisions, and as such, the above provisions were accounted for in this report.
Relevant Guidelines, Policies, and Regulations		
Hazardous Substance Ordinance, No. 14 of 1974	MHSS	The ordinance provides for the control of toxic substances. It covers manufacture, sale, use, disposal, and dumping as well as import and export. Although the environmental aspects are not explicitly stated, the ordinance provides for the importing, storage, and handling. This Ordinance is relevant to the project under review as potentially toxic substances such as diesel and hydraulic

LEGISLATION CONSIDERED	CUSTODIAN ORGAN OF STATE	ASPECT OF THE PROJECT
Relevant Acts		
		oils will be used and temporarily stored on-site during construction. The Proponent, through the construction contractor, should handle and manage the storage and use of hazardous substances on site so that they do not harm or compromise the site environment.
National Solid Waste Management Strategy of Namibia	MEFT and Local Municipalities	The Vision of this Strategy is for Namibia to become the leading country in Africa in terms of standards of solid waste management by 2028. The **Specific Objectives** of the Strategy are: 1. To strengthen the institutional, organisational, and legal framework for solid waste management, including capacity development. 2. To install a widespread culture of waste minimisation and to expand recycling systems. 3. To implement formalised solid waste collection and management systems in all populated areas, including under the administration of Regional Councils. 4. To enforce improvements in municipal waste disposal standards. 5. To plan and implement feasible options for hazardous waste management, including healthcare waste management Various forms of solid waste will be generated at the project site. These would likely include office/ domestic litter, used tyres, used diesel and oils, used containers, construction waste, waste steel, waste cables, etc. Waste will be temporarily stored at a designated site and collected regularly.

5 DESCRIPTION OF THE RECEIVING ENVIRONMENT

This section presents an overview of the existing biophysical and socio-economic conditions of the project area, including the immediate surroundings. These conditions would therefore be regarded as the baseline for the concerned project area against which the potential impacts from the anticipated triggering activities should be evaluated. It should be noted that the baseline description in this section describes the conditions of the general area, including the project site and the immediate surroundings, but the potential impacts have only been assessed for the project site and Onyuulaye Settlement as a whole as the project will be implemented in phases in the settlement. For this project, the data have been collected through a combination of site observations, desktop research, and consultations with the project proponent, and the immediate affected community on the 23rd of May 2025.

The site's baseline information is concerned; consideration was made for the following aspects:

- Climatic conditions
- Flora and fauna, or biodiversity in general

- Local geomorphology and geology
- Current land uses and existing infrastructure
- Air quality
- Water resources, and
- Various socio-economic aspects.

5.1 BIOPHYSICAL ENVIRONMENTAL CONDITIONS

5.1.1 Temperature and Rainfall

Namibia is an arid and generally dry country that receives approximately 300 days of sunshine per annum. Onyuulaye Settlement experiences the minimum and maximum temperatures of 10°C around July and 38°C around October, respectively, as depicted in Figure 5-1.

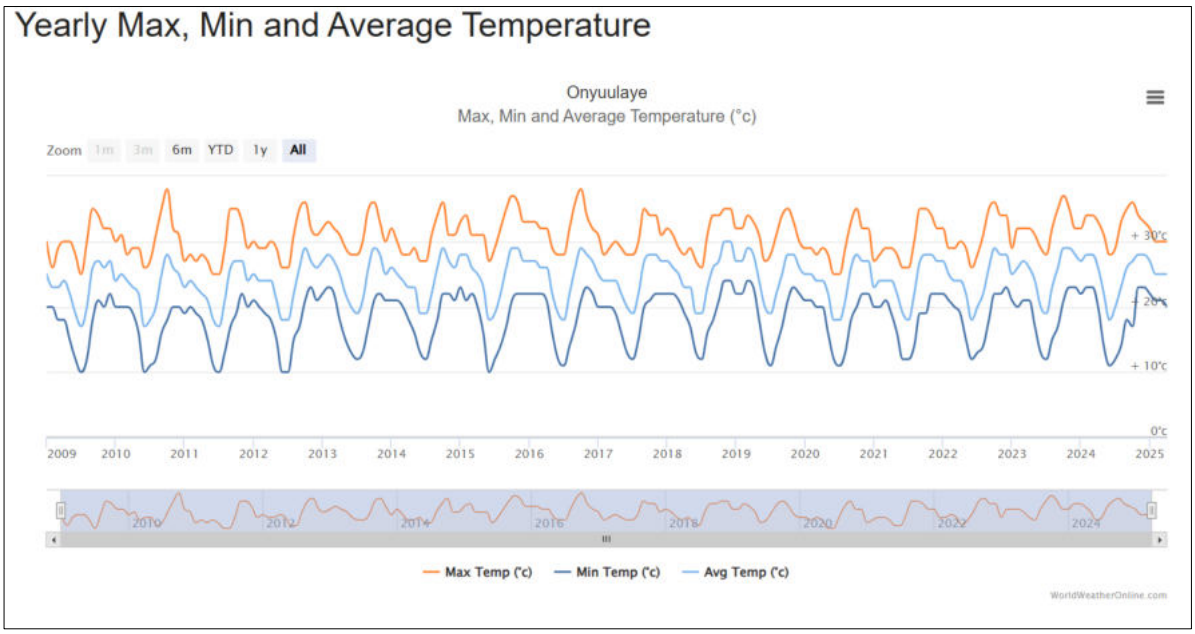

Figure 5-1. Annual maximum, minimum, and average temperature chart for Onyuulaye area (source: World Weather Online, 2025)

The average low and high temperatures are 11 °C in July and 36°C in October as shown in Figure 5-2.

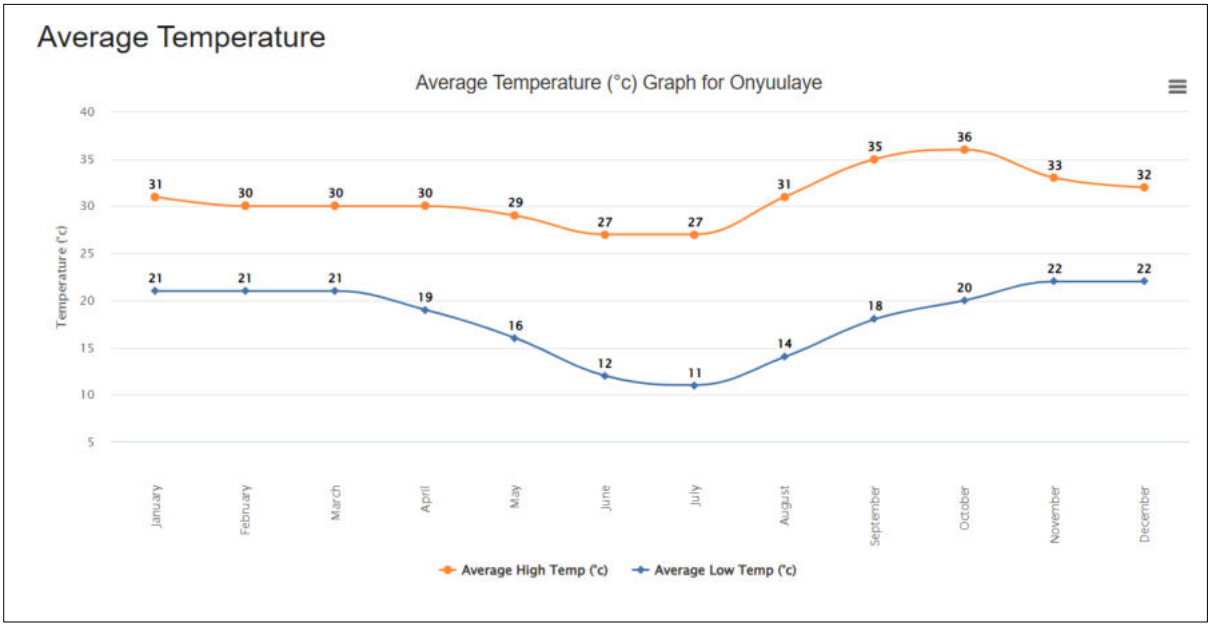

Figure 5-2. Average low and high temperature chart for Onyuulaye area (source: World Weather Online, 2025)

The Onyuulaye area experiences good annual rainfall ranging between 100 and 200mm between January and March, with the highest rainfall recorded at 220mm in 2011, 179mm in 2017, and 164mm in 2020. The chart for annual (yearly) rainfall and rain days averages is shown in Figure 5-3. The highest average rainfall for the area is 135mm in February and 126mm in January (Figure 5-4).

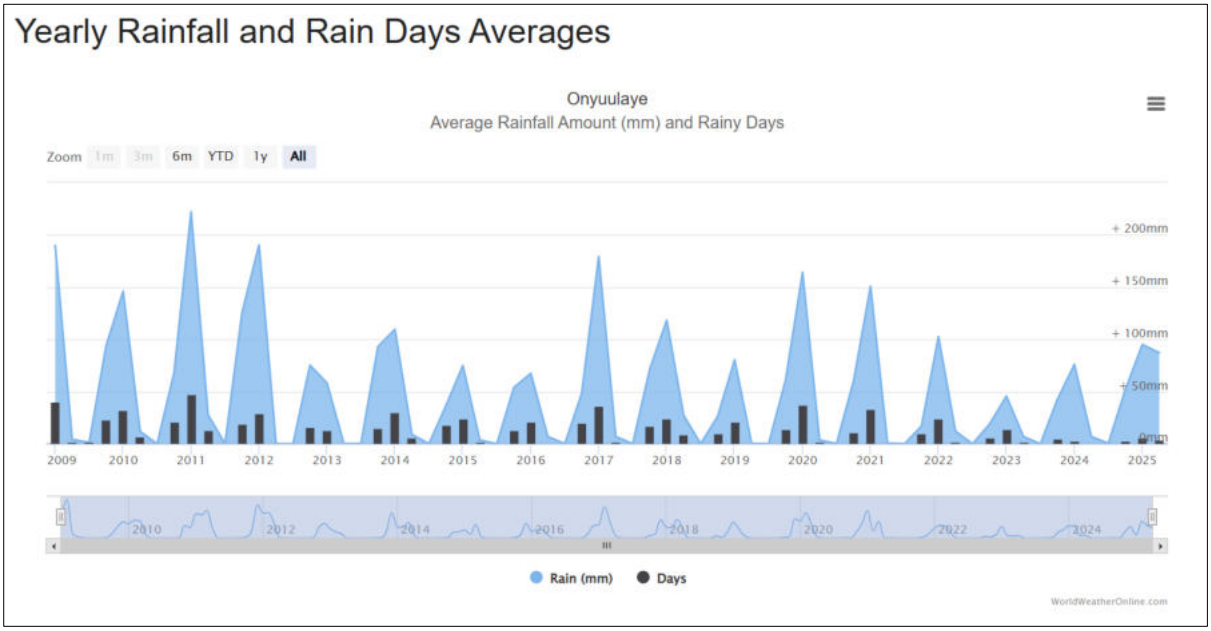

Figure 5-3. Annual rainfall and rain days average chart for Onyuulaye area (source: World Weather Online, 2025)

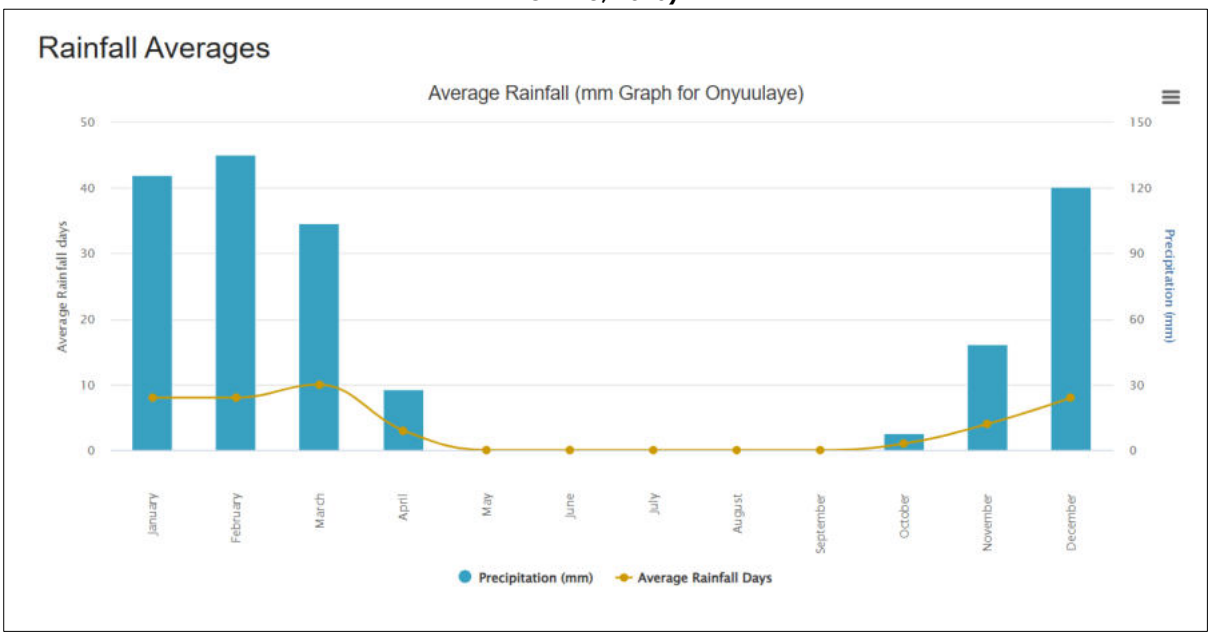

Figure 5-4. Average rainfall chart for Onyuulaye area (source: World Weather Online, 2025)

5.1.2 Flora

Namibia's vegetation is strongly influenced by rainfall patterns, such that plant life is tallest and most lush in the north-east, and progressively sparser and shorter in the west and south, where rainfall is scarce. This gradient is, however, not consistent because other factors, such as soil types and landscapes, affect the vegetation as well. Nonetheless, this reasonably pronounced attribute has enabled botanists to distinguish discrete vegetation types, with each type belonging to a biome. Each biome is typically characterized by a particular dominant structure of the vegetation, type of soil, and landscape.

The proposed project area lies within the woodland vegetation structure - Figure 5-5.

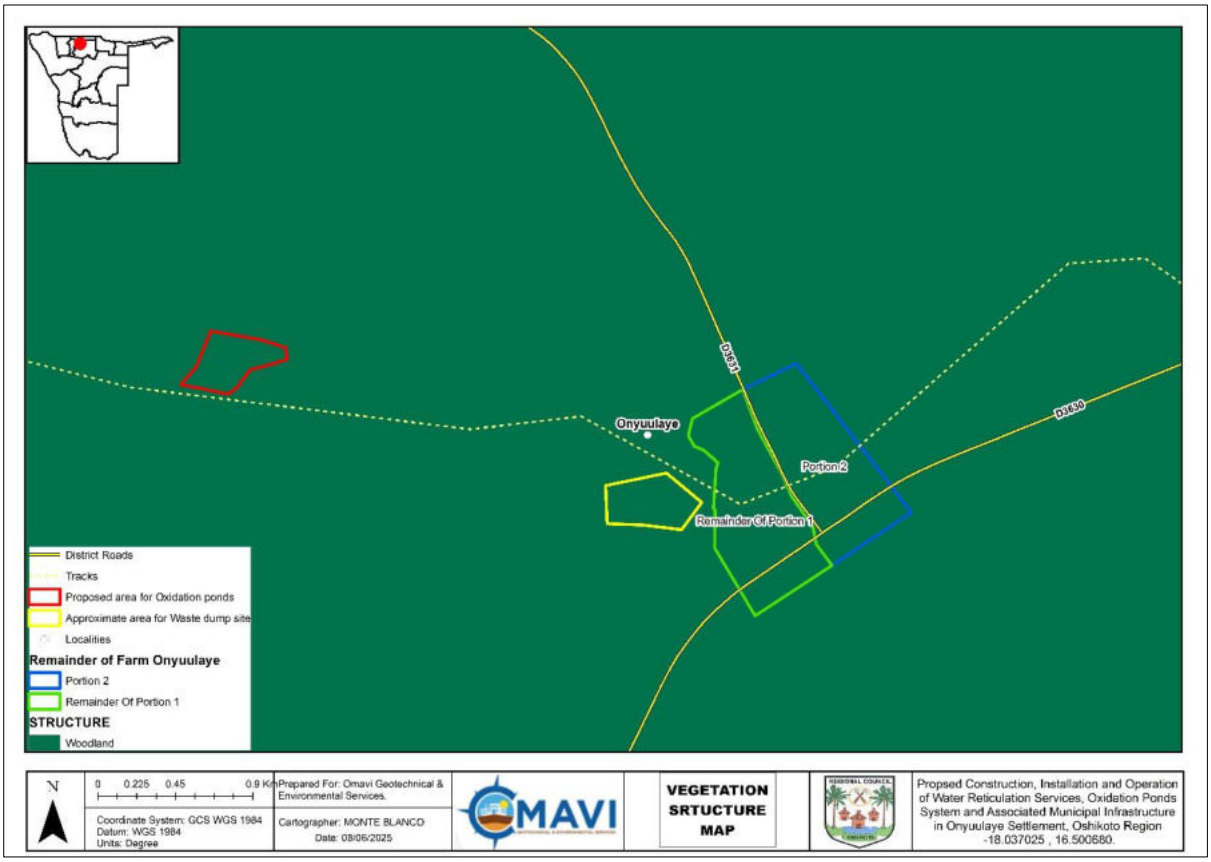

Figure 5-5. Typical vegetation structure within the proposed site area

The most dominant species in and around the proposed area are the red-bark acacia, red thorn (*Vachellia reficiens),* buffalo thorn *(Ziziphus mucronate),* Leadwood *(Combretum imberbe* – protected under the Forestry Act*),* purple-pod cluster-leaf *(Terminalia prunioides – protected),* as well as Mopani *(Colophospermum mopane)*. Some of the common vegetation (shrubs and trees) observed in Onyuulaye is shown in Figure 5-6.

Figure 5-6. A typical vegetation observed at the project site

These vegetation species form a mosaic of woodlands and savannas, supporting a variety of wildlife and playing a crucial role in the local ecosystem.

5.1.3 Fauna

The Onyuulaye Settlement is in a rural setup and surrounded by a communal area with livestock farming in the villages. The common livestock kept in these villages are goats, sheep, donkeys, cattle, and pigs. Some cattle and goats were seen grazing near the settlement as shown in Figure 5-7.

Figure 5-7. Some livestock (cattle – left photo and goats – right photo) were observed during the site visit

5.1.4 Landscape and Topography

The project area and most areas in northern Namibia are situated in the Cuvelai Basin, whereby most of the land surface is very flat, dipping from 1,150 m above sea level in the northeast to 1,080 m above sea level in the Etosha Pan to the south (Lohe et al., 2021). However, the project site (Onyuulaye) falls within the Kalahari Sandveld landscape - Figure 5-8. This landscape is dominated by savannah woodlands growing on sands deposited by wind over the last 70-56 million years. The landscape is particularly flat, although the sand has been moulded into dunes in some areas (Mendelsohn et al., 2002)

With regards to topography, the Oshikoto Region is generally flat with an altitude ranging from 800 to 1,200m above sea level (Mendelsohn et al., 2009). The landscape of the project area falls under the Cuvelai System. The project area is relatively flat with elevations ranging between 951 and 1,216 meters above sea level (masl), - see Figure 5-8.

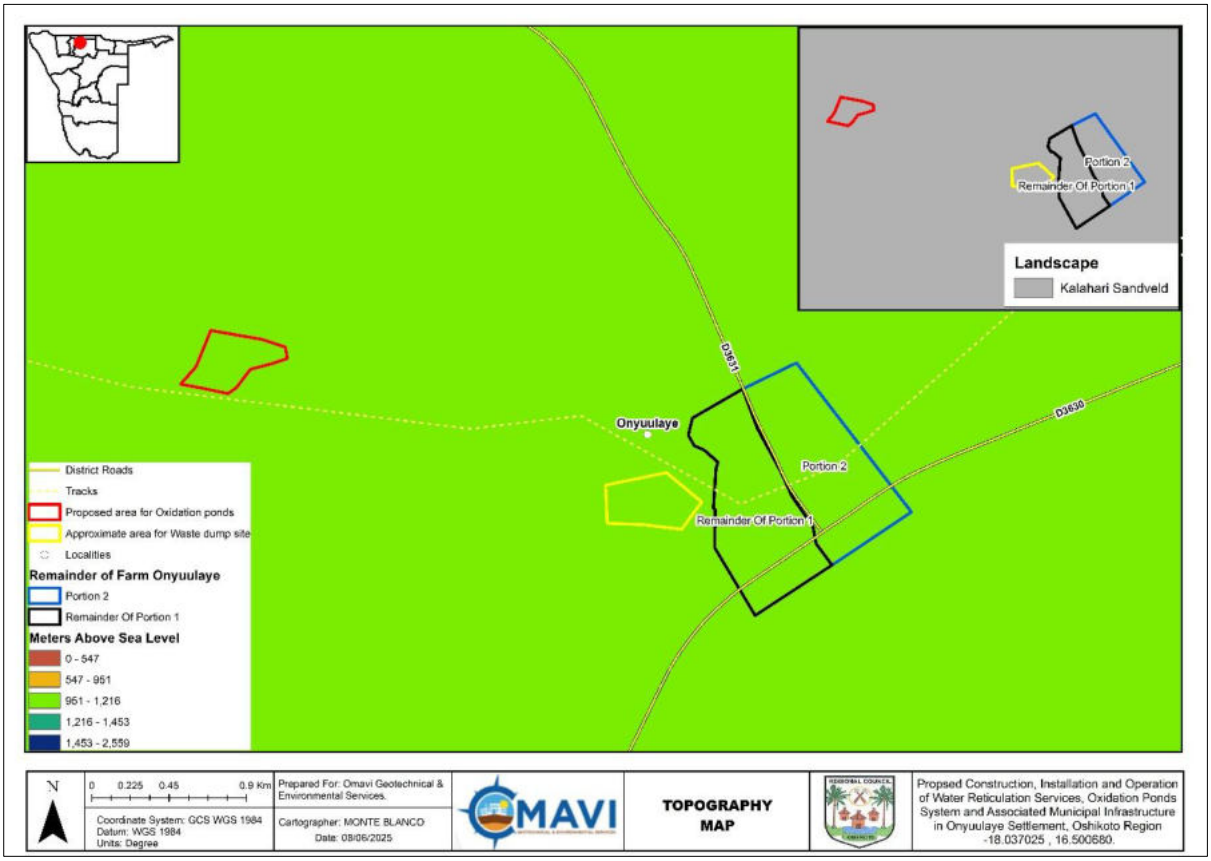

Figure 5-8. The topography and landscape in and around Onyuulaye

5.1.5 Geology and Soils

The geology of the area is characterized by the unconsolidated to semi-consolidated sands, calcrete, and gravel sediments of the Quaternary and Tertiary age of the Kalahari Group. Much of the areas in the northern part of Namibia, including the Oshikoto Region, fall within the Cuvelai landscape, which lies on silt, clay, limestone, and sandstone sediments. The area is distinguished by a myriad of drainage channels locally known as oshanas. These oshanas are often filled with water during heavy rainy seasons and cut into the underlying sediments (Shagama, 2022).

The geology around Onyuulaye is shown in Figure 5-9 which indicates that the site is overlain by unconsolidated alluvium, sand, gravel, and calcrete, and these unconsolidated sediments are underlain by the rock units of red mudstone, siltstone, sandstone, grit, and conglomerate.

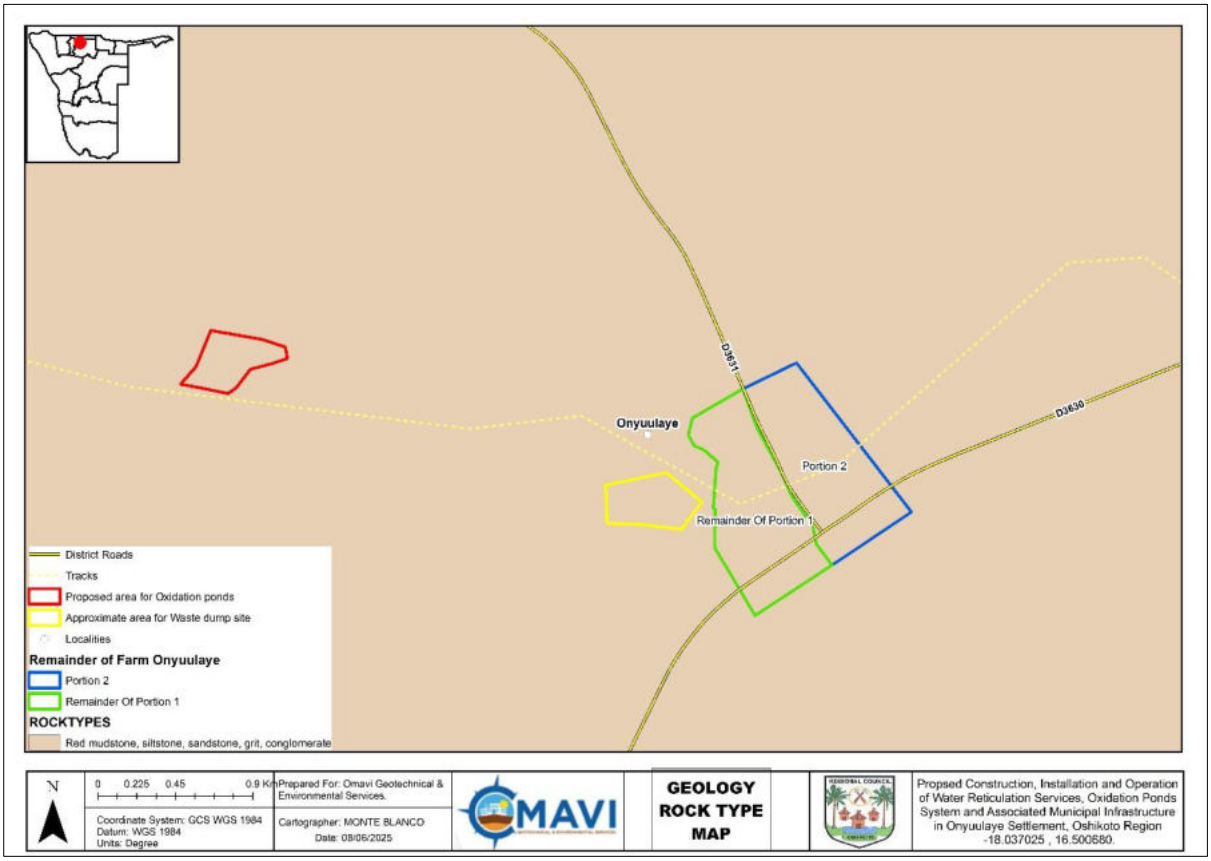

Figure 5-9. The geology in and around Onyuulaye

The dominant soil type in and around Onyuulaye is ferralic arenosols as per the soil map in Figure 5-10. According to Mendelsohn et al (2002), the prefix on the soil name (ferralic) means soils with high contents of combined oxides of iron and aluminium. Arenosols are soils that are formed from wind-blown sand and usually extend to a depth of at least 1m, with sand generally making up more than 70% of the soil. The rest of the soil usually consists of particles of clay and silt.

Some of the photos of the soils observed (light grey and light brown sandy loamy soils) on-site are shown in Figure 5-11.

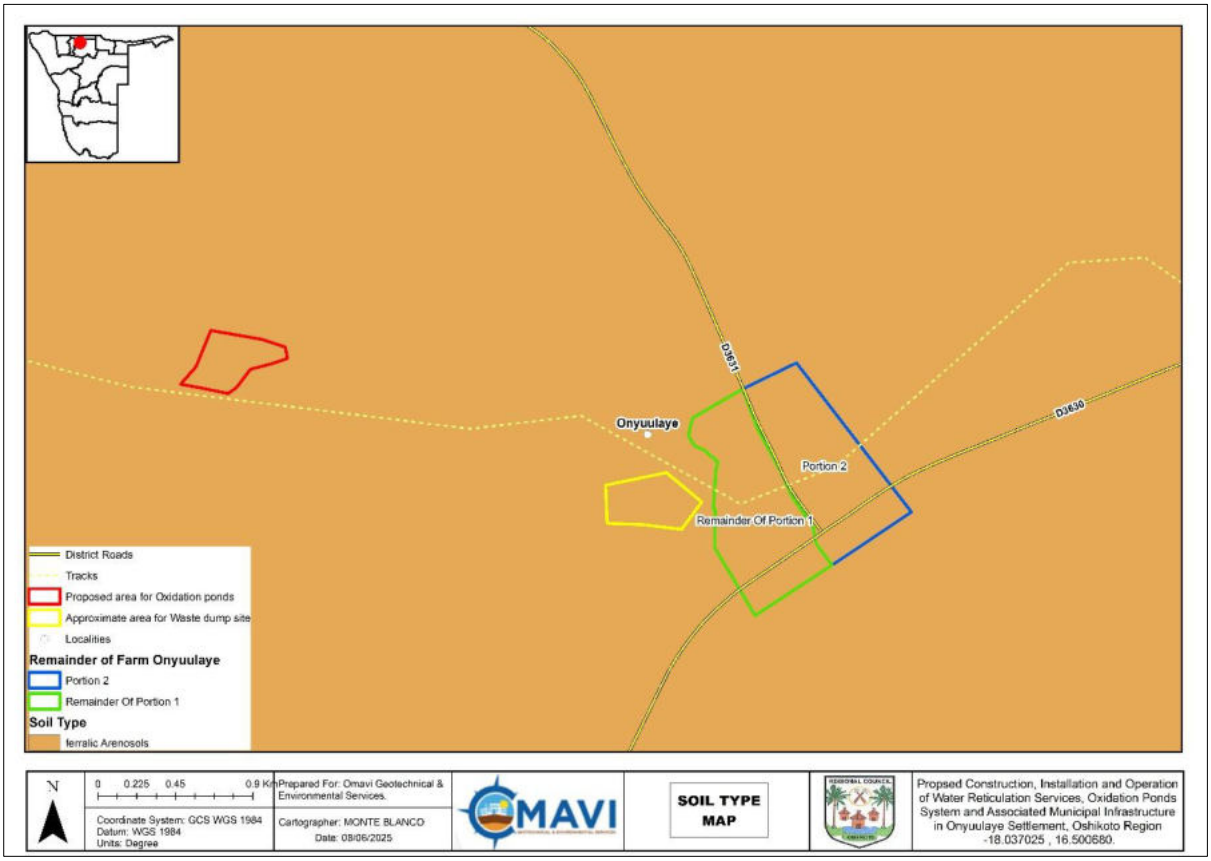

Figure 5-10. The dominant soil type in and around Onyuulaye

Figure 5-11. Observed light brown and light grey sandy loamy soils overlying the project area

5.1.6 Air Quality

Air quality is of importance as it has a direct impact on human and biodiversity health. Ambient air quality levels for the project site do not exist. At this stage, ambient air quality levels will likely be altered, at least to some extent, because of dust fallout and the emission of fugitive gases from the burning of diesel during the construction phase.

Since there is no data for Onyuulaye, air quality data for Omuthiya was used to provide a baseline air quality for the Onyuulaye area, as Omuthiya is about 40km from Onyuulaye and the nearest main town with available data. According to IQ Air (2025), the current air pollution level around the Omuthiya area and surroundings (including the project area) is moderate. The average air quality index (AQI) is 53 US AQI, and the main pollutant is the atmospheric particulate matter (PM) 2.5. PM is microscopic solid or liquid matter suspended in the air with a diameter of 2.5 micrometres (µm) or less. The PM2.5 concentration in the area is 11 µg/m³, which is currently 2.2 times the WHO annual air quality guideline value (IQ Air, 2022) of 5 µg/m³.

5.1.7 Water Resources

5.1.7.1 Surface water resources

There are no distinct or pronounced surface water bodies at the project site currently. However, being in the Cuvelai Basin, some open *oshanas* were observed in the area (Figure 5-12). However, there is one major ephemeral river (Oshangula) located south of Onyuulaye (flowing in a western-eastern trend – see the Geohydrology map in Figure 5-13).

Figure 5-12. One of the open oshanas observed in Onyuulaye.

5.1.7.2 Groundwater resources

The project area and the Oshikoto Region at large fall under the Cuvelai-Etosha Basin (CEB), which is defined as the Namibian part of the Cuvelai River catchment. The hydrogeology of the CEB comprises, in addition to Omusati, the Oshana, Ohangwena, Oshikoto Regions, and parts of the Kunene Region (Lohe et al., 2021). Groundwater flow is mostly through primary porosity in the Kalahari cover, but flow along secondary structures known as fractures, faults. The flow can also be influenced by the presence of other geological structures underlying formations, such as contact rock unit zones. Furthermore, recharge from rainfall is an important parameter determining the groundwater potential, but the degree of metamorphism affects the groundwater potential too. The groundwater potential of the rocks decreases as the degree of metamorphism increases.

In addition to the above, Crystalline rocks, such as the various granites and gneisses that occur in the area, normally exhibit a very low tendency to store water. Drilling targets in these hard rock areas are mainly the fractured zones and faults, but the success rate and yields for these rock types are generally low. This can be considered as one of the most difficult areas to drill for water (Lohe et al., 2021).

Groundwater in and around the project site is hosted in the porous Kalahari sediments, as shown in Figure 5-13. The sediments are in some areas of the Basin underlain by bedrocks of limestone, sandstone, conglomerate, mudstone, and siltstone, as the CEB aquifers and lithology characteristics presented in Lohe et al. (2021). The groundwater flow in the project area can be expected to flow in a south-eastern direction towards the Etosha Pan. According to the groundwater database, there are two boreholes in Onyuulaye (Borehole 33902 and 33903), both drilled in 1993 and have a yield of 0.2 cubic meters per hour (m^3/hr).

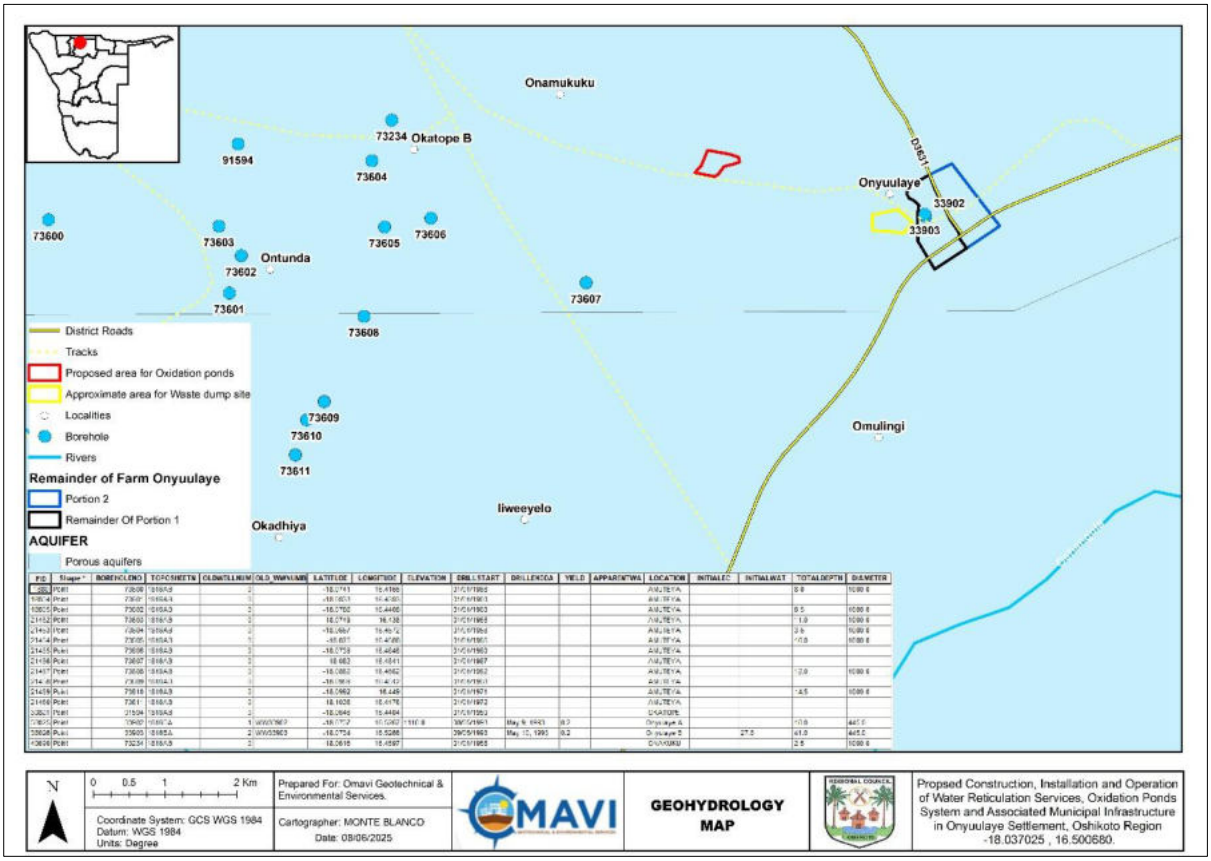

Figure 5-13. Geohydrology of Onyuulaye and surroundings

5.2 SOCIO-ECONOMIC ENVIRONMENT

5.2.1 Population and Governance

The project area falls within the Okankolo Constituency in the Oshikoto Region. The constituency has a population of 17,988. The population density of the Constituency is 10.2 persons per square kilometer (NSA, 2024a). Oshikoto Region has a population of 254, 302 (127,374 males and 129,928 females) according to the 2023 National and Housing Census, with a population density of 6.7 persons per square kilometer (NSA, 2024b).

5.2.2 Economic Status

According to the Namibia Statistics Agency (2024b), the main sources of income in the Oshikoto Region are wages & salaries (33.3%), old age pension (18.3%), business, non-farming (8.3%), and farming at 23.6%.

Oshikoto Region is predominantly communal and rural in character, the administrative centre is Omuthiya, and the business center is Tsumeb, surrounded by commercial farms. In terms of economic activities, the Region is known for its copper mine and copper processing smelter in Tsumeb. According to the Oshikoto Regional Council website (2024a), groundwater, which is found in the area of Tsumeb and Oshivelo, makes the Oshikoto Region a champion of fruit and vegetable production. In terms of agricultural activities, both communal and commercial in the area have opened up a window of hope for crop and livestock farming in the Region.

5.2.2.1 Tourism

Oshikoto Region is home to Etosha National Park, which is one of the famous tourist attraction areas that offer tourists and other interested people to view wildlife and the beautiful Andoni Plateau (Oshikoto Regional Council website, 2024a).

From the Constituency level, the following economic activities are in Okankolo.

5.2.2.2 Agriculture and Farming

The Okankolo Constituency thrives on subsistence farming – households depend directly on agriculture for subsistence, where Mahangu (pearl millet) is the main crop grown in the constituency, which is a primary agricultural activity alongside livestock farming with cattle,

goats, sheep, donkeys, and pigs. According to the Oshikoto Regional Council website (2024b), the government is promoting surplus production among subsistence farmers as a means of generating cash income. Most of the livestock farming takes place in the Ombuga grassland area. Furthermore, the development in Omuntele comprises small-scale businesses as well as government services such as the Onyuulaye Clinic.

In terms of agricultural activities in the Constituency, most inhabitants in the Onyaanya Constituency are subsistence farmers. Mahangu is the principal crop in Onyaanya constituency, and most inhabitants in the constituency depend on livestock and Mahangu for survival (Oshikoto Regional Council, 2024).

5.2.2.3 Business activities

The majority of businesses in Okankolo include informal traders who sell liquor, basic services, as well as agricultural products. The business hub and the majority of the businesses include liquor wholesale and outlets, foodstuffs, fuel stations, hospitality ventures, and informal traders. Most businesses have settled along the B1 road, forming quite dense concentrations (Oshikoto Regional Council, 2024).

5.2.1 Infrastructures

The Onyuulaye Settlement has some good infrastructure, such as a water supply scheme, an electricity grid (22kV line with four transformers), roads (including the D3630 and D3631), a school (Onyuulaye Combined School), as shown on the map in Figure 5-14, as well as a local clinic.

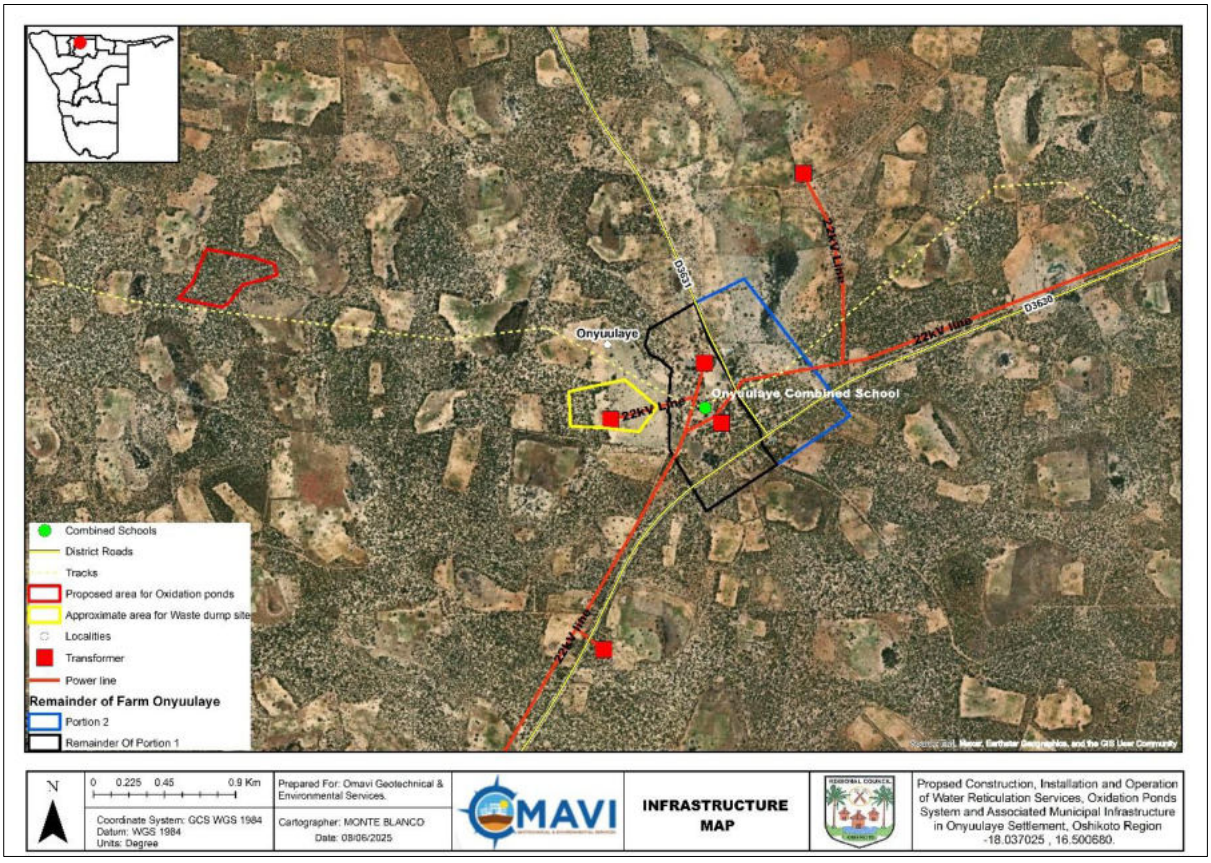

Figure 5-14. Infrastructure map of Onyuulaye Settlement

6 PUBLIC CONSULTATION PROCESS

The Public Consultation process is designed to keep all individuals and organizations that may be affected by or have an interest in the project informed about potential concerns, issues, and benefits. It allows them to express their views and concerns to the Environmental Assessment Practitioner (EAP), ensuring that these factors are considered and addressed in the Environmental Impact Assessment and related documentation. Additionally, this process enables stakeholders to contribute to shaping the project's design, programs, and operational strategies, thereby enhancing its benefits while minimizing potential negative impacts.

6.1 REGISTERED INTERESTED AND AFFECTED PARTIES (I&APS)

An initial list of both apparent and potential Interested and Affected Parties (I&APs) was compiled. As the public participation process progressed, this list was regularly updated. A comprehensive record of the identified and registered I&APs. The pre-identified I&APs were informed about the project's activities through email, advertisements in local newspapers, electronic correspondence, and the placement of written notices at key locations within Onyuulaye and Omuthiya.

Amongst key stakeholders identified and registered for this project were:

- **Central or national government:** Ministry of Environment, Forestry & Tourism, Ministry of Works and Transport (MWT), Ministry of Agriculture, Fisheries, Water and Land Reform (MAFWLR), Ministry of Urban and Rural Development (MURD), and Ministry of Health and Social Services (MHSS).
- **Regional government:** Oshikoto Regional Council.
- **Members of the public** (refer to the stakeholder list attached in **Appendix A1**).

6.2 PUBLIC CONSULTATION ACTIVITIES

To ensure that the I&APs were timely informed of the proposed project's activities, the following efforts were actioned:

- A preliminary list of pre-identified relevant stakeholders was compiled
- An email notification was shared with all identified stakeholders on the 12th of May 2025, announcing the commencement of the EIA process and as an invitation to the public to register as I&AP for the project and provide inputs regarding the proposed project. The BID, comments register, and EIA site notice were attached to this email for reference. A copy of this email is attached in **Appendix A2**.
- Official public adverts were issued to announce the initiation of the Environmental Assessment process, inviting the public to register as Interested and Affected Parties (I&APs) and to participate in the public engagement meeting, these were placed in the *Namibian Sun*, *the Rebublikein* and *Allgemeine Zeitung newspapers on the 14th and the 21st of May 2025. Please refer to* **Appendix A3**.
- Public site notices were placed at various public locations in Onyuulaye, Onankali, Okankolo, and Omuthiya between the 15th and 23rd of May 2025 to raise public awareness of the ongoing EIA process for this project – **Appendix A4.**
- In addition, provision was made for the BID to be distributed on request to any I&APs during the public participation period, which ran until the 13th of June 2025.
- A stakeholder/community consultation meeting was held on the 23rd of May 2025 in Onyuulaye (Figure 6-1). The meeting minutes are also contained in **Appendix A5**.

Figure 6-1. Some photos from the consultation meeting in progress on the 23rd of May 2025

6.3 PUBLIC SITE NOTICES

The public site notices were put up at the following locations (Please refer to **Appendix A4**).

- Public notice board at the Oshikoto Regional Council headquarters, Omuthiya.
- Public notice board at Onyuulaye Clinic.
- Public notice board at the Oshikoto Regional Council and the Okankolo Constituency Office.
- Public notice board at Omuthiya District Hospital.
- Public notice board at Omuthiya Okaale SPAR.
- Public notice board at Omuthiya Town Council.
- Public notice board at Onankali Clinic
- Onankali Rural Water Supply Regional Officer.

6.4 PUBLIC CONSULTATION FEEDBACK: KEY ISSUES AND CONCERNS RAISED

No objections were raised or received from the I&APs concerning the project during the various consultations/ engagements, except for minimal input which was provided by a few I&APs as outlined below. The minutes of the public consultation are also attached as Appendix A5. Some inputs and key issues raised during the ESA consultation meeting are summarized below:

Inputs

- A request was made to have monthly progress meetings by the councillor's office about the project to keep the community up to date with the project's progression.
- A suggestion was made for all skilled and semi-skilled members of the community to submit their work testimonials and CVs, plus specifications of key skills, to the Councillor's office for consideration in upcoming work opportunities.
- A request was generally made by the community to implement the project promptly and without delay
- The community requested a transparent mode of communicating the commencement of the project to ensure that they do not miss out on employment or procurement opportunities. The councillor's office will hold a public notification meeting and announce on the radio to notify the community.

Key issues

- There was a concern raised on whether homesteads in the surroundings of the dumpsite or the oxidation ponds will need to be relocated, or fences shifted, and whether any compensation will be given for any pipelines running through someone's field.
- A representative from the Oshikoto Regional Council assured that relocation is highly unlikely as both sites are in unoccupied open field areas. Provision has been made in the project budget for any compensation under circumstances where fences need to be shifted. No compensation will be given if pipelines are running through someone's field, as this is a community development project, but the Oshikoto Regional Council will take the necessary corrective measures to leave any earthworks done on someone's field fully rectified.
- In case of the proposed access roads to the dumpsite or the oxidation ponds passing through someone's field, there will be compensation. The routes of these roads will be finalised upon issuance of the ECC, and all affected parties will be consulted soon thereafter.

Despite the issues raised above, there were no objections or major issues from the stakeholders or interested & affected parties (I&APs) that may hinder or halt the proposed municipal infrastructures in the settlement.

7 IMPACT IDENTIFICATION AND ASSESSMENT

The purpose of this section is to identify significant adverse impacts and issues of concern, as well as those impacts that need to be enhanced, and ultimately devise pragmatic management measures. This is done to minimise risk levels associated with different adverse impacts identified while enhancing the potential value proposition from the positive impacts. The various potential impacts were identified using a broad-based, transparent, and inclusive approach tapping from research, as well as from scientific (intellectual) and indigenous knowledge and experience of the EAP and I&APs. Accordingly, the impacts documented herein include those identified by the independent EAP as well as those triggered by concerns and issues raised by I&APs who actively participated in the public participation process. The potential impacts identified were then evaluated against systematic matrix criteria to permit the risk ranking of each impact. Feasible mitigation and enhancement measures were subsequently developed, considering site-specific conditions and constraints.

7.1 IMPACTS DURING CONSTRUCTION PHASE

7.1.1 Potential positive impacts during the construction phase

The following key potential positive impacts have been identified for the construction phase of the project.

7.1.1.1 Employment opportunities for skilled and unskilled workers and procurement of goods and services

The construction phase of the project will create numerous job opportunities for both skilled and unskilled workers in the area. Potential socio-economic development through job (employment) creation, skills development, and procurement of local services and goods during construction. The employment opportunities will contribute to income generation and economic upliftment in the community.

There will be opportunities for procuring services (Such as site clearing and maintenance) and goods for local businesses.

7.1.1.2 Access to reliable municipal services and infrastructure

Access to reliable, clean water improves the quality of life by providing safe drinking water for residents and future businesses.

7.1.1.3 Availability of a proper sewage system in the Settlement

The availability of a proper sewage system in the Settlement can help prevent contamination of water sources by ensuring that untreated sewage is not being discharged into the environment. Thus, reducing the risk of waterborne diseases and improving overall community and environmental health in the Onyuulaye area.

7.1.1.4 Availability of clean water and sanitation facilities in the Settlement

The availability of essential services (such as clean water and sewer) can potentially attract investors into the Settlement, which would make it appealing to both current and potential residents and investors, leading to increased property values and the growth of local businesses.

7.1.1.5 Potential of attracting investments in the Settlement

The improvement of infrastructure within the Settlement, such as roads, stormwater management, as well as proper management of solid waste, will put the Settlement in a better position in terms of attracting investment and boosting the local socio-economy, whereby the presence of up-to-standard municipal services is crucial.

7.1.2 Potential negative impacts during the construction phase

As a summary of the identified impact, triggering activities at the construction stage and their respective key potential adverse impacts are summarised below and assessed in Table 7-5. It should be noted that most of the project impacts are expected during the construction phase.

- Possible physical land (soil) disturbance and soil erosion during the construction and installation of proposed municipal infrastructure/services and associated activities.
- There is also a potential property displacement (relocation) of homesteads that are close to the proposed oxidation pond site.
- Potential soil and groundwater pollution from waste products during construction. Installation (hydrocarbons and wastewater spillage) and operational phase (in case of sewer pipeline breakages) that may affect the environment and human health.
- Potential over-abstraction of water resources owing to the required additional volumes to supply the Settlement may result in the depletion of available water resources.
- General environmental pollution (littering) through mishandling of project-related waste.
- Air pollution by potential dust from machinery and excavations during construction.
- Potential occupational and community health and safety issues stemming from improper handling of materials and equipment during project implementation.
- Potential impact of inadvertently disturbing archaeological or cultural heritage sites.

The above-listed adverse impacts can be managed through the implementation and continuous enforcement of measures and monitoring programs outlined in the accompanying EMP.

7.2 SCREENING OF POTENTIAL IMPACTS

The potential impacts identified through the assessment process were screened through a set of questions (presented in Figure 7-1 To help make an informed judgement as to which impacts would require further and more detailed assessment.

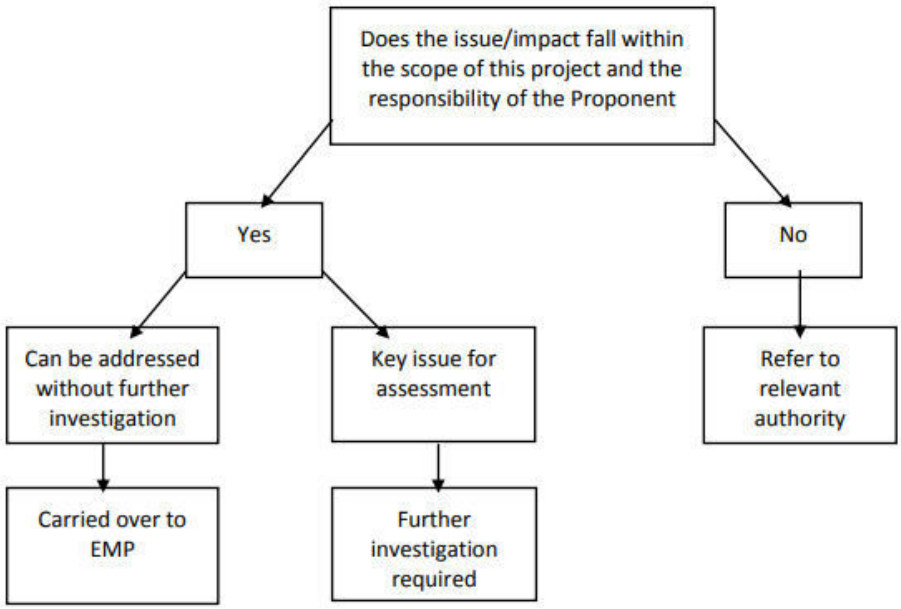

Figure 7-1. Screening process for determining key impacts

7.3 IMPACT ASSESSMENT METHODOLOGY

A structured approach was employed to assess the potential magnitude of the identified impacts by determining their status, geographic scope, duration, intensity, severity (consequence), probability of occurrence, and overall significance or risk level. This impact assessment phase plays a crucial role in the Environmental Assessment process, as it integrates the specific attributes and activities of the project with the anticipated changes in the receiving environment resulting from the proposed interventions. The impact assessment methodology considered all stages of the project's life cycle, and the various scales used are summarised in Table 7-1, Table 7-2 and Table 7-3 below.

Table 7-1. Methodology adopted for the evaluation of potential impacts

Risk Event/ triggering activity	Brief description of the activity/ hazard triggering the impact.
Status of impact (+ or -)	*This refers to whether the induced change will contribute positively or negatively to the affected environment.* **Positive** - the environment overall will benefit from the impact **Negative** - The environment overall will be adversely affected by the impact **Neutral** - the environment overall will not be affected or altered
Impact Classification	*Is the impact concerned with:* • *SAFETY of workers, local community, and general public* • *HEALTH of workers, local community, and general public* • *ENVIRONMENTAL* • *IMAGE, REPUTATION, or COMMUNITY RELATIONSHIPS* • *LEGAL REGULATIONS AND STANDARDS* • *FINANCIAL DAMAGE OR LOSS, OR GAIN*
Spatial Extent of Impact	*This refers to the geographical extent of the induced change.* **Site-specific –** limited to the directly affected site **Local** - limited to a radius of 15 km **Regional** - limited to a 15 to 100 km radius **National** - limited to within the borders of Namibia **International** - extending beyond Namibia's borders
Duration of impact	*This refers to the period over which the impact is expected to last.* **Very Short**-lived (<3 days) **Short-lived** (3 days – 1 month) **Medium-term** (beyond 1 month to 5 years) **Long-term** (between 5 and 20 years) **Permanent** (>20 years)
Intensity of impact	**No lasting effect** - No environmental functions and processes are affected **Minor effects** - The environment functions, but in a modified manner **Moderate effects** - Environmental functions and processes are altered to such an extent that they temporarily cease **Serious effects** - where environmental functions and processes are altered such that they permanently cease and/or exceed legal standards/requirements
Significance/ Risk Level (without controls or mitigation)	*The significance/ risk level of an impact is evaluated based on its classifications per the scale below (refer also to* Table 7-5*):* **Negligible (Level 1)** **Minor (Level 2)** - the impact is not expected to require amendment to the project design.

	Moderate (Level 3) - the impact is expected to require modification of the project design or alternative controls. **Major (Level 4)** - the impact could have a 'no go' implication for the project unless mitigation or redesign is practically achievable. **Catastrophic (Level 5)** - the impact will have 'no go' implications for the project.
Proposed controls / Mitigation	Description of practical impact mitigation and/ or management measures
Confidence Level	The degree of confidence in the predictions, based on the availability of data/ information and specialist knowledge. **Low** - would indicate that further investigation is required if the impact could potentially be significant **Medium** - further investigation may be required if the impact could be significant **High** - based on the site-specific specialist knowledge and information. The impact is well understood. However, monitoring may be required to determine the effectiveness of possible mitigation measures.

Table 7-2. Impact, consequence, and likelihood matrix

CONSEQUENCE RATING	CONSEQUENCE / SEVERITY	LIKELIHOOD				
		Consequences may occur under exceptional circumstances.	The consequence could occur at some time	Consequences should occur at some time	Consequences will probably occur in most circumstances	Consequences expected to occur in most circumstances
		Conceivable, but very unlikely (has not happened yet)	Has never been known to occur in the business/ area, but has happened somewhere, and it is highly unlikely that it will happen within 20 years.	Has happened in the business/ area at some time and could happen within 10 years	Medium occurrence happens infrequently - Occurs in order of less than once per year and is likely to recur within 5 years.	High occurrence happens frequently - Occurs in order of one or more times per year.

	SAFETY (INJURY) (Includes workers, local community, and general public)	**HEALTH (DISEASES) (Includes workers, local community, and general public)**	**ENVIRONMENT (Landscape, Topography, Fauna, Flora, Soils, Air Quality, Visual, Water Resources, Archaeology)**	**IMAGE & REPUTATION / COMMUNITY RELATIONSHIPS**	**LEGAL**	**FINANCIAL IMPACT**	**1 (RARE - practically impossible)**	**2 (UNLIKELY – not likely to happen)**	**3 (POSSIBLE to happen)**	**4 (LIKELY to happen at some point)**	***5* (ALMOST certain to happen)**
LEVEL *5* CATASTROPHIC	Multi Fatalities	Permanent disability with potentially lethal effects - effects from exposure may cause death to one or more persons.	Disastrous impact on the environment. Irreversible effects on flora and fauna (e.g., destruction of wetlands, pans, sensitive landscapes, soils, water resources, etc).	Negative media coverage at the internal level / Loss of multiple major customers or a large proportion of sales contracts / Loss of community support / Significant negative impact on the share price	Major litigation /prosecution at corporate level / Nationalisation/loss of licence to operate	Property damage > N$ 100 million Production loss > N$ 100 million	***5***	**Moderate**	**High**	**High**	**High**	**High**

LEVEL 4 MAJOR	Single fatality or permanent disabilities (such as loss of limb, sight loss, or severe disability to body functions)	Permanent non-lethal effects. Permanent effects - loss of quality of life, but not life-threatening.	Severe impact on the environment. Reversible effects to flora and fauna with long-term damage (1-10 years) to widespread areas of significance (e.g., partial destruction of wetlands, pans, sensitive landscapes, visual, etc)	Negative media coverage at national level / Scrutiny from government and NGO's / Complaints from multiple "final" customers / Loss of major customer / Loss of community support / Negative impact on share price	Major litigation or prosecution at the Division level	Property damage between N$ 2 Million - N$ 100 Million Production loss between N$ 2 Million - N$ 100 Million	**4**	**Moderate**	**Moderate**	**High**	**High**	**High**
LEVEL 3 MODERATE	Injuries that require time off work –	Serious reversible health effects that	Serious impact on the environment. Reversible	Negative media coverage at the local/regi	Major litigation or prosecution at the	Property damage N$ 500	**3**	**Low**	**Moderate**	**Moderate**	**High**	**High**

	Loss time injury – No Permanent disabilities	would require hospitalization	effects on flora and fauna, water resources, landscapes, and topography, with short-medium term damage (1-5 years) to large areas of significance.	onal level over more than one day / Off - off-spec product, / Community complaint resulting in a social issue.	operational level	000.00 - N$ 2 Million Production loss between N$ 500 000.00 - N$ 2 Million						
LEVEL 2 MINOR	Medical treatment required – Treat and return to work	Adverse health effects that may require medical treatment - Treat and return to work	Moderate impact on the environment. Short-term damage (<1 year) to small areas of limited significance	Complaint received from stakeholder or community, / Negative local media coverage	Regulation breaches resulting in a fine or litigation	Property damage N$ 20000.00 - N$ 500000.00 Production loss between N$ 20000.00 - N$ 500000.00	**2**	**Low**	**Low**	**Moderate**	**Moderate**	**High**

LEVEL 1 NEGLIGIBLE	First Aid Injury only	Little to no adverse health effects.	Minor impact on the environment. Limited damage to the minimal area of low significance.	Negligible media coverage	Regulation breaches without a fine or litigation	Property damage, under N$ 20000.00 Brief disruption of operation, production loss under N$ 20000.	**1**	**Low**	**Low**	**Low**	**Moderate**	**Moderate**

Table 7-3. Overall risk/ significance rating scale (for negative impacts assessment)

RISK RATING	TOLERABILITY DEFINITION	COLOUR CODE
Low	**Acceptable Risk** – monitor and manage risk	
Moderate	**Substantial Risk** – implement preventive actions where practical and monitor the effectiveness of actions/ measures	
Moderate to High	**Substantial Risk becoming High**	
High	**High Risk** – significant and urgent controls required, implement preventive or mitigation actions promptly and closely monitor the effectiveness of control action measures.	

7.4 ASSESSMENT OF POTENTIAL IMPACTS

The potential impacts associated with the proposed development of municipal infrastructure and associated activities for the construction phase are summarized and assessed in Table 7-4 and Table 7-5. Some mitigation measures are provided herein (particularly for the negative impacts); however, a detailed impact mitigation plan is provided in the EMP.

Table 7-4. Assessment of identified positive impacts

TEMPORAL EMPLOYMENT OPPORTUNITIES FOR SKILLED AND UNSKILLED WORKERS AS WELL AS PROCUREMENT OPPORTUNITIES	
Description of Potential Impact	Socio-economic development through job temporary (employment) and skills development (training) as well as procurement of local services and goods, which will promote local economic development through income generation. There is also a potential for the procurement of services and goods by local and regional businesses to create income.
Status of impact (+ or -)	Positive
Impact Classification	Image & reputation, community relations, and financial gain
Spatial Extent of Impact	Local and Regional
Duration of impact	**Medium-term:** The impact will last for the duration of the construction and potentially few opportunities for some locals during the operational and maintenance phases of the project
Intensity of impact	**Minor effects**
Consequence Level	**Minor (Level 2)**
Likelihood	Significant employment creation will be limited to the construction phase; therefore, it is Level 5 (almost certain to happen). Procurement of goods and services is at Level 5, as this is almost certain to happen.
Significance/ Risk Level (before no mitigation)	**Moderate**

Proposed preventive/ mitigation measures or controls	• It should be mandatory for contractors to give all unskilled and semi-skilled work to be given to the locals before considering outsiders • The anticipated work opportunities and number of positions should be announced through the local leadership/the Okankolo Constituency. • Equal opportunities should be given to both men and women, where possible. • Procurements for services and goods that are locally and nationally available should give preference to Namibian companies with strong local participation. A percentage of the scope should be reserved for Small-Medium Enterprise (SME) contractors who may be recruited on a sub-contract basis to build local capacity. • Business opportunities such as site clearing, cleaning services, and maintenance should be given to local companies.
Significance/ Risk Level (with mitigation)	Low (Level 1)
Confidence Level	**High**
ACCESS TO RELIABLE MUNICIPAL SERVICES AND INFRASTRUCTURE, AVAILABILITY OF CLEAN WATER, PROPER SEWAGE SYSTEM AND ELECTRICAL RETICULATION IN THE SETTLEMENT, AS WELL AS THE POTENTIAL OF ATTRACTING INVESTMENTS IN THE SETTLEMENT	
Description of Potential Impact	Access to reliable, clean water improves the quality of life by providing safe drinking water for residents and future businesses. The availability of essential services (such as clean water and sewer) can potentially attract investors into the Settlement, which would make it appealing to both current and potential residents and investors, leading to increased property values and the growth of local businesses. The availability of a proper sewage system in the Settlement can help prevent contamination of water sources by ensuring that untreated sewage is not being discharged into the environment. Thus, reducing the risk of waterborne diseases and improving overall community and environmental health in the Onyuulaye area. The improvement of infrastructure within the Settlement, such as roads, stormwater management, as well as proper management of solid waste, will put the Settlement in a better position in terms of attracting investment and boosting the local socio-economy, whereby the presence of up-to-standard municipal services is crucial. Moreover, electrical reticulation systems are crucial in supporting technology and infrastructure, as many modern houses and businesses rely on electrical power for technology, internet connectivity, and heating/cooling systems. Therefore, proper electrical infrastructure ensures the smooth operation of these services.
Status of impact (+ or -)	Positive
Impact Classification	Environmental, Image, reputation/community relations, and development
Spatial Extent of Impact	Local, regional, and local

Duration of impact	Permanent, the impact will last during the whole lifespan of the operational phase of the municipal infrastructure.
Intensity of impact	Minor effects
Consequence Level	Level 1 (negligible)
Likelihood	The operation of installed municipal infrastructure, as well as attracting potential business investors in the Settlement, is very likely to happen immediately after the construction phase of the project, and it will be the main activity of the project, it has a high occurrence of Level 5.
Significance/ Risk Level (before no mitigation)	**Moderate**
Proposed preventive/ mitigation measures or controls	• Engage local communities to ensure equitable benefits and social acceptance of the project.
Significance/ Risk Level (with mitigation)	**Low (Level 1)**
Confidence Level	**High**

Table 7-5. Assessment of identified impacts (Adverse/Negative)

PHYSICAL DISTURBANCE TO LAND (SOILS) AND DUST CREATION IN PREPARATION FOR CONSTRUCTION WORKS (INSTALLATION OF SERVICES AND INFRASTRUCTURES)	
Description of Potential Impact	Possible physical land (soil) disturbance and soil erosion during the construction and installation of proposed municipal infrastructure/services and associated activities. The removal of soil and vegetation onsite to allow construction work can increase the risk of soil erosion. The erosion can result in sedimentation of nearby water bodies and habitat degradation. Furthermore, the movement of heavy vehicles and equipment off-road may lead to soil compaction. Heavy machinery and construction activities can potentially compact the soil, reducing water infiltration for groundwater recharge. Compacted soils may also lead to increased surface runoff and reduced groundwater recharge.

	There is a potential impact of dust emanating from construction heavy vehicles traveling on the unpaved roads when transporting materials from and to the site, as well as excavation works to install services. This may contribute to the dust level and compromise air quality in the area, which may negatively affect the health of nearby residents. The impact is considered short-term and localized as construction activities are carried out over a specified duration. Given the scale and nature of the construction, the impact on the air quality is expected to be very limited in extent and duration, and therefore negligible.
Status of impact (+ or -)	Negative
Impact Classification	Environmental
Spatial Extent of Impact	Local – the impacts will be localized to the site.
Duration of impact	The effects of soil compaction and alteration in water drainage may be long-term if not mitigated. Dust emissions will last for a medium term, during the construction phase only, mostly at the beginning (land clearing and site preparation).
Intensity of impact	Moderate effects
Consequence Level	**Moderate (Level 3)**
Likelihood	The clearing of vegetation is highly likely, as this is a required activity for the infrastructure to be set up, Level 4.
	Habitat destruction of the animals that live in the area where the infrastructure will be constructed/installed is likely to happen, Level 4
Significance/ Risk Level (before no mitigation)	**High**
Proposed preventive/ mitigation measures or controls	• Implement controlled clearing, avoiding sensitive habitat zones where possible. • Restore native vegetation in surrounding areas to offset habitat loss after the construction phase. The areas where temporary structures will be set up can be re-vegetated after those structures are removed. • Use erosion control measures like ground cover plants after the construction phase.
Significance/ Risk Level (with mitigation)	**Moderate**

Confidence Level	High
THE IMPACT OF PROPERTY DISPLACEMENT (FIELDS, FENCES, AND YARDS)	
Description of Potential Impact	There is also a potential property displacement (relocation) of homesteads that are close to the proposed oxidation pond site, access road, and pipelines passing through fields, fences, and yards of homesteads, as well as vegetation (fruit trees) in the path of the proposed infrastructure routes or sites.
Status of impact (+ or -)	Negative (-)
Impact Classification	Environmental (biological)
Spatial Extent of Impact	Site-specific to small (within 5 km of the site area).
Duration of impact	Long-term (as long as the infrastructure is operational)
Intensity of impact	Low, because natural functions and processes in the area will be slightly altered.
Consequence Level	Moderate (Level 3)
Likelihood	Almost certain to happen (Level 5)
Significance/ Risk Level (before no mitigation)	**High**

Proposed preventive/ mitigation measures or controls	• Where possible, avoid routes and paths that significantly affect people's properties. • Affected community members (landowners) should be properly engaged before the displacement of fences can be done, and must be fairly compensated for the loss of any piece of their land or properties, such as fruit trees, according to the National Compensation Policy.
Significance/ Risk Level (with mitigation)	Low
Confidence Level	Moderate
IMPACTS ON SOILS AND WATER RESOURCES (POLLUTION)	
Description of Potential Impact	Potential soil and groundwater pollution from waste products during construction. Installation (hydrocarbons and wastewater spillage) and operational phase (in case of sewer pipeline breakages) that may affect the environment and human health. Furthermore, potential soil and groundwater pollution from waste products during construction and operations (in case of sewer pipeline breakages). The project activities will be associated with a variety of potential pollution sources (i.e., lubricants, fuel, and wastewater) that may contaminate surrounding soils and eventually surface and groundwater. Surface water pollution would occur through the run-off of polluted water to nearby surface water bodies, such as ephemeral rivers, during rainy seasons. Groundwater pollution occurs through the leaching of liquid wastes from the surface into the groundwater systems.
Status of impact (+ or -)	Negative
Impact Classification	Environmental and Health
Spatial Extent of Impact	Local
Duration of impact	Pollution may be long-term, even during the operation and maintenance of the municipal infrastructures, if not mitigated.

Intensity of impact	Minor effects
Consequence Level	Moderate (Level 3)
Likelihood	Almost certain to happen (Level 5)
Significance/ Risk Level (before no mitigation)	**High**
Proposed preventive/ mitigation measures or controls	• Accidental spills must be cleaned immediately to avoid the pollution of the wetland and the groundwater. • All fuels, paints, solvents, and other chemicals must be stored in watertight containers, ensuring that they cannot react with each other or be spilled onto the ground and into water resources. • Hazardous waste should be disposed of in the prescribed manner to prevent contamination of soils (see waste management heading). • In case of accidental spills, the contaminated soil must be suitably disposed of in a container for hazardous waste • -If project fuel is stored in Onyuulaye, fuel tanks must be properly bunded. The volume of the bunded area must be impermeable and sufficient to hold 1.5 times the capacity of the storage tanks. • Drip trays should be available for all equipment that is intended to be used during construction. These trays should be placed underneath each vehicle while the vehicles are parked. The drip trays should be cleaned every morning, and the spillage handled as hazardous waste. • All cleaning of equipment should take place within the construction site, and the water from washing operations should be collected in a tank and disposed of in an agreed manner. • The implementation of spill prevention and response plans with designated spill kits can mitigate spills. • Store fuels and hazardous materials in designated, bunded areas to prevent leaks. • Ensure proper waste management by segregating and disposing of hazardous waste safely. • Conducting regular water quality monitoring will help detect contamination early.
Significance/ Risk Level (with mitigation)	Moderate
Confidence Level	Medium
OCCUPATIONAL AND COMMUNITY HEALTH AND SAFETY RISKS	

Description of Potential Impact	The mishandling of machinery and equipment by project workers onsite during the installation of water, sewer, and electrical reticulation components may result in injuries, especially if there is no training and induction, or poor to no appropriate personal protective equipment (PPE) while working onsite. The curiosity of local children may force them to go and play with heavy trucks and big machinery onsite if left unattended or unsecured. If construction trenches and holes are not backfilled or secured, people and animals may fall into them, resulting in injuries or worse. These could compromise the safety and health of the overall community.
Status of impact (+ or -)	Negative
Impact Classification	Environmental, Health
Spatial Extent of Impact	Local to Regional
Duration of impact	Short-term during the construction phase, and may be long-term for the operational phase, if measures are not effectively implemented.
Intensity of impact	Minor effects
Consequence Level	Minor (Level 2)
Likelihood	Almost certain to happen (Level 5)
Prevention	Complete prevention of this impact will not be possible unless the no-go option is chosen.
Significance/ Risk Level (before no mitigation)	Moderate

Proposed mitigation measures or controls	• During induction, personnel should be provided with awareness training on the risks of mishandling equipment and materials on site. • An emergency preparedness plan should be compiled, and all personnel appropriately trained. • Train all employees and subcontractors on environmental awareness, the Proponent's internal Environmental Health and Safety Policy, and this EMP. • Appropriate and written warning signage should be placed on site, where visible. • A fully furnished first aid kit should be placed at each working site to attend to minor injuries, while major injuries should be attended to at a nearby health center (clinic and hospital). 3 to 5 site workers should be trained on how to administer first aid. • Projected loads should be securely fastened to vehicles to avoid falling off and injuring people. • Heavy vehicles and equipment should be properly secured to prevent any harm or injury to both project personnel and locals. • When working on-site, employees should be properly equipped with personal protective equipment (PPE) such as coveralls, masks, gloves, safety boots, earplugs, safety glasses, and hard hats. • Personnel should not be allowed to consume alcohol or other intoxicants before and during working hours, as this may lead to mishandling of equipment, resulting in health and safety risks. • Construction trenches should be backfilled after completion of works. • Ensure that goods and projected loads are securely fastened to vehicles to avoid falling and injuring people near the site and along the roads. • Warning signage should be erected at danger site areas such as open trenches in the Settlement during construction. • Make provision for temporary crossroads where the community can safely cross over the working sites of the project. • The site areas that are considered temporary risks should be equipped with "danger" or "cautionary" signs written in Oshiwambo and English. • Loads upon vehicles must be properly secured to avoid items falling off the vehicle at any time.
Significance/ Risk Level (with mitigation)	Low
Confidence Level	High
SOLID WASTE POLLUTION FROM POOR SOLID WASTE MANAGEMENT	
Description of Potential Impact	Waste types such as solid, wastewater, and hazardous (waste fuels and oils) will be produced during construction. Improper handling, storage, and disposal of wastes may lead to environmental degradation/pollution. If solid waste such as paper and plastics, cables, pipes, and PVC wiring is not properly stored or just thrown into the environment (littering), these may be consumed by livestock in the area, and this could be detrimental to their health. Further waste from site preparation and general maintenance may include wood, metal scraps, concrete, plastic, packaging materials,

	electronic components, and domestic waste.
Status of impact (+ or -)	Negative
Impact Classification	Environmental, Health
Spatial Extent of Impact	Site-specific to Local, but low-weight litter can be blown to faraway places.
Duration of impact	Medium to long term
Intensity of impact	Minor effects
Consequence Level	Minor (Level 2)
Likelihood	Likely to happen (Level 4)
Prevention	Complete prevention of this impact will not be possible.
Significance/ Risk Level (before no mitigation)	Moderate
Proposed mitigation measures or controls	• Implement a waste management plan that includes waste sorting, recycling, and responsible disposal. • Use recyclable and biodegradable materials where possible. • Coordinate with local recycling facilities for proper disposal of metal, plastic, and electronic waste. • Ensure proper disposal of hazardous materials according to environmental regulations.

Significance/ Risk Level (with mitigation)	Low
Confidence Level	**High**
NOISE IMPACTS	
Description of Potential Impact	Construction activities, earthmoving machinery, and equipment testing may generate noise, causing disturbances to nearby communities and animals.
Status of impact (+ or -)	Negative
Impact Classification	Environmental, health, and community relationships
Spatial Extent of Impact	Site-specific and local
Duration of impact	Medium term
Intensity of impact	Minor effects
Consequence Level	Negligible (Level 1)
Likelihood	Likely to happen at some point (Level 4)
Prevention	Complete prevention of these impacts will not be possible,
Significance/ Risk Level (before no mitigation)	Moderate

Proposed mitigation measures or controls	• Restrict noisy activities to daytime hours and avoid work during sensitive periods. • Use modern, low-noise equipment and maintain machinery regularly. • Engage with local communities to address concerns and provide advance notice of high-noise activities.
Significance/ Risk Level (with mitigation)	Low
Confidence Level	High
IMPACTS ON WATER USE	
Description of Potential Impact	Like any construction work, the construction will require water primarily for suppressing dust and for concrete works. However, an insignificant volume of water will be required, and it will be carted to the site and stored in water tanks on-site. Therefore, no water abstraction from onsite sources like boreholes. There is a potential over-abstraction of water resources owing to the required additional volumes to supply the Settlement. This may result in the depletion of available water resources.
Status of impact (+ or -)	Negative
Impact Classification	Environmental, community relationships
Spatial Extent of Impact	Local to regional
Duration of impact	Medium term (high water demand during construction) and long term (medium water demand during operational phase).
Intensity of impact	Minor to moderate effects

Consequence Level	Moderate (Level 3)
Likelihood	Possible to happen (Level 3)
Prevention	Complete prevention of this impact may be possible if a secure water source is established for the project.
Significance/ Risk Level (before no mitigation)	Moderate
Proposed mitigation measures or controls	• Recycle and reuse water where possible. • Source water from sustainable and non-critical local supplies.
Significance/ Risk Level (with mitigation)	**Low**
Confidence Level	**Medium**
LOSS OF BIODIVERSITY (FAUNA AND FLORA)	
Description of Potential Impact	The clearing of vegetation on-site to set up project equipment and services would destroy the vegetation.
Status of impact (+ or -)	Negative
Impact Classification	Safety, Health, Legal, Environmental, Financial

Spatial Extent of Impact	Site-specific and Local
Duration of impact	Medium term – immediate vegetation clearing and habitat loss of animals in the area Long term - gradual vegetation regrowth on site around and along the footprints of installed infrastructure and in surrounding areas, but at a slower rate if soil degradation occurs.
Intensity of impact	Minor effects
Consequence Level	Minor (Level 2)
Likelihood	Possible to happen (Level 3)
Prevention	Complete prevention may be possible if communication between the Proponent, contractor, and community is established.
Significance/ Risk Level (before no mitigation)	Moderate
Proposed mitigation measures or controls	• Minimize the clearing of vegetation along the project routes or at project sites, where possible. • Stick to the planned and finalized project sites and routes to minimize loss of biodiversity through unnecessary clearing of vegetation. See further measures in the EMP.
Significance/ Risk Level (with mitigation)	Low
Confidence Level	Moderate
RISK OF WORKER INJURIES, ACCIDENTS, RISK OF ELECTRICAL SHOCK, AND FIRE HAZARD	

Description of Potential Impact	Heavy lifting, working at heights, and handling construction materials pose risks of falls, cuts, and other injuries. Improper handling of electrical components during installation and maintenance may expose workers to electrocution. Faulty electrical connections, overheating equipment, or improper storage of flammable materials could lead to fires. Risks of electrical shocks are associated with poor installation or incorrect wiring, which can be dangerous for both professionals working on the system and locals later on.
Status of impact (+ or -)	Negative
Impact Classification	Safety, Environmental, Legal
Spatial Extent of Impact	Site-specific and localized
Duration of impact	Short lived
Intensity of impact	Minor Effects
Consequence Level	Moderate (Level 3)
Likelihood	Likely to happen at some point (Level 4)
Prevention	Injuries and accidents are a possibility on construction sites, but can be prevented with mitigation measures.
Significance/ Risk Level (no mitigation)	High

Proposed mitigation measures or controls	• Provide workers with proper personal protective equipment (PPE). • Conduct regular safety training and awareness programs. • Implement strict adherence to health and safety protocols. • Ensure only trained personnel handle electrical installations and maintenance. • Regularly inspect electrical systems for faults or wear. • Install circuit breakers and grounding systems to prevent shocks. • Use fire-resistant materials where possible. • Maintain clear emergency response plans and fire extinguishers on-site. • Conduct routine inspections of electrical wiring and connections. • Store flammable materials properly and away from heat sources.
Significance/ Risk Level (with mitigation)	Moderate
Confidence Level	High

ARCHAEOLOGICAL OR CULTURAL HERITAGE IMPACT	
Description of Potential Impact	The excavation in the Settlement to install the water and sewer reticulation services (where trenches are required) may impact local cultural heritage resources. This could entail inadvertent unearthing of unknown and unmarked graves in the Settlement (within the services route/path), if any.
Status of impact (+ or -)	Negative
Impact Classification	Safety, Financial loss
Spatial Extent of Impact	Site specific
Duration of impact	Medium term

Intensity of impact	Moderate effects
Consequence Level	Moderate (Level 3)
Likelihood	Unlikely to happen (Level 2)
Prevention	Advertent disturbance of surface resources can be prevented, but it is a bit difficult for subsurface resources. However, with mitigation measures, the impact significance can be reduced.
Significance/ Risk Level (No mitigation)	Moderate
Proposed mitigation measures or controls	• If any archaeological materials, human burials, or skeletal remains are uncovered during earthworks, the work in the immediate area should be halted, and the finds would need to be reported to the NHC and may require inspection by an Archaeologist. The ECO should have the area fenced off and contact NHC (Tel: +264 61 244 375), National Forensic Laboratory (+264 61 240 461) immediately. Please refer to Appendix 1. • Avoid direct damage to archaeological or heritage sites, such that may be encountered during excavations. • All accidental discoveries shall be reported immediately to the Project Manager so that an investigation and evaluation of the findings can be made and inform the NHC of the necessary actions to be taken. • The Contractor and their subcontractor should adhere to the provisions of Section 55 of the National Heritage Act in the event significant heritage and cultural features are discovered in the course of project activities.
Significance/ Risk Level (With mitigation)	Low
Confidence Level	**Moderate**

8 SITE REHABILITATION (POST-CONSTRUCTION WORKS)

After the decommissioning of construction works, site rehabilitation must focus on restoring the land to its original state. Site rehabilitation is crucial for environmental restoration and sustainable land use. Proper planning and execution ensure minimal long-term ecological impact.

The process must involve several key steps to ensure environmental sustainability and compliance with regulations.

- **Removal of Infrastructure:** Dismantling and removal of construction supporting structures and associated infrastructures from the project sites. This will further entail carrying away all project equipment and vehicles, cleaning up site working areas, and transporting the recently generated waste to the nearby approved waste management facility (as per agreement with the waste facility owner).
- **Soil Remediation:** If soil contamination has occurred due to material leaks or construction materials, remediation measures such as soil aeration may be needed to restore soil health.
- **Land Regrading and Stabilization:** The site areas must be levelled to prevent erosion and ensure proper drainage.
- **Water Management:** Drainage systems may be assessed and improved to prevent waterlogging and maintain natural hydrological patterns. Any alterations made to natural waterways during construction works (installation of services and infrastructures) should be reversed where necessary.
- **Monitoring and Compliance:** Post-rehabilitation monitoring ensures the effectiveness of restoration efforts, compliance with environmental regulations, and sustainability of the rehabilitated disturbed site areas.

9 OVERALL SUMMARY OF THE RESULTS OF THE IMPACT ASSESSMENT

Table 9-1 provides a summary of the impact assessment results from Chapter 7. For each potential environmental impact or issue, the residual risk or significance level is stated. Where further investigations are deemed necessary to better understand the risk associated with a specific impact, this is indicated in the third column of the table.

Table 9-1. Summary of potential impacts or issues

Potential Impact	Residual Significance Level (post mitigation)	Aspects requiring further investigation or monitoring
Temporal and long-term employment opportunities for skilled and unskilled workers, and procurement opportunities	Low	• Assess employment sustainability and skills development • Local vs. external workforce • Fair wages and working conditions • Procurement and local business involvement

Potential Impact	Residual Significance Level (post mitigation)	Aspects requiring further investigation or monitoring
		• Gender and inclusivity in employment
Access to reliable municipal services and infrastructure, availability of clean water, a proper sewage system, and electrical reticulation in the settlement, as well as the potential of attracting investments in the settlement	Low	• Engage local communities to ensure equitable benefits and social acceptance of the project
Physical disturbance to land (soils) and dust creation in preparation for construction works (installation of services and infrastructures)	Moderate	• Soil Erosion and Stability • Soil Compaction Levels • Drainage and Water Retention • Dust Generation and Deposition • Long-Term Land Degradation Risks
Property displacement (fields, fences, and yards)	Moderate	• Continued engagement with affected community members (landowners) • Fair compensation for the loss or displacement of properties, according to the National Compensation Policy.
Soil and water resources pollution	Moderate	• Project sources of contamination • Soil and water resources quality
Biodiversity (fauna and flora)	Moderate	• Habitat Loss and fragmentation • Changes in local species composition • Soil and vegetation recovery
Solid waste pollution from poor solid waste management	Low	None
Noise impacts	Low	None
Impacts on water use	Low	• Water consumption levels • Impact on local water supply sources

Potential Impact	Residual Significance Level (post mitigation)	Aspects requiring further investigation or monitoring
Occupational and community health and safety risks, including Risk of worker injuries, accidents, risk of electrical shock, and fire hazard	Moderate	• Workplace safety compliance • Incident (including near misses) and accident reporting • Electrical safety risks • Fire prevention and response preparedness • Training, inductions, and emergency drills • Structural and equipment Safety • Weather-related risks • Emergency response and medical
Disturbance to archaeological and heritage resources (sites)	Low	• Vulnerability assessment • Measuring the effectiveness of mitigation measures

10 CLOSING REMARKS

This environmental scoping assessment aimed to identify the potential impacts associated with the proposed development of municipal infrastructure in Onyuulaye Settlement, Oshikoto Region. Additionally, the report also recommended practical mitigation measures to address the identified impacts, as is required by the EMA and its 2012 EIA Regulations.

The public was informed of the ongoing EIA process via newspaper adverts in three local newspapers, site notices at public locations, and the identified I&APs were notified via email and telephonically.

A stakeholder consultation meeting took place on the 23rd of May 2025 at the Community Hall in Onyuulaye (time: 12:15 p.m.). I&APs raised their concerns and provided their inputs on the proposed project. The detailed discussion from the stakeholder consultation meeting is presented herein. EIA/ESA public notices were placed at strategic locations in Onyuulaye, Onankali, Okankolo, and Omuthiya between the 15th and 23rd of May 2025.

The identified impacts can be easily mitigated to acceptable levels upon the implementation of the mitigation measures provided.

Based on the above merits and the residual risk or significance level of the impacts which are likely to remain after implementing the proposed mitigation measures, it is recommended that an Environmental Clearance Certificate can be issued for the proposed activities, with conditions that the various impact management and mitigation/enhancement measures outlined in this report as well as in the accompanying EMP are fully implemented and their effectiveness monitored during the implementation phase.

11 REFERENCES

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