FINAL SCOPING REPORT FOR THE PROPOSED EXPANSION OF THE KHULANI ENERGY AND PLANT MAINTENANCE FACILITY, ERF 798, BLACKHEATH, CITY OF CAPE TOWN

4/9/2025	Final Scoping Report DFFE Reference number: 12/9/11/L250722125434/9/N/Khulani Energy Waste Management

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1. DETAILS AND EXPERTISE OF THE AUTHORS

Chand's details are contained in TABLE 1 and TABLE 2.

Table 1. DETAILS OF AUTHOR 1

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EAPASA registration number:	2019/805

Ingrid Eggert is an Environmental Assessment Practitioner and Social Facilitator. She has vast experience in the field of environmental assessment and management on small- and large-scale projects within a diverse range of industries.

Included in Ingrid's areas of expertise are Environmental Impact Assessment processes; Specific environmental permit / licence applications; Compilation of Environmental Management programmes for the construction, operational, decommissioning and closure phases of projects; Facilitation of stakeholder engagement and public participation processes; Due diligence auditing; Compliance auditing; Environmental training / education; Development and implementation of Environmental Management Systems (including ISO 14001); Strategic environmental inputs and sustainability strategies; and Peer reviews.

As required by legislation, public participation is integral to the assessments undertaken. As such, Ingrid has honed her stakeholder engagement skills in a diverse environment. Ingrid is considered to be an industry expert.

Table 2. DETAILS OF AUTHOR 2

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EAPASA:	2021/4150 (Candidate EAP)

Michelle Lee is a candidate Environmental Assessment Practitioner (EAP) at Chand Environmental Consultants. She has a BSc degree in Biological Sciences, majoring in Applied biology (distinction), Evolution and Ecology and Marine Biology (distinction) from the University of Cape Town and BSc (Hons) degree in Marine Science from the University of Cape Town. Additionally, Michelle is currently completing a MSc degree, focusing on Electronic Monitoring within the South African demersal fishing industry, at the University of Cape Town. Her extensive academic and research history in natural science give her key insights in the fields of ecology, biodiversity-use-and-trade, climate change and the South African resource sector. This diverse background has cultivated an integrated and holistic approach to solving resource-use challenges situated at the social, economic, environmental nexus, particularly in the South African context. She provides essential project support to senior consultants, assisting with compilation of environmental assessments, management plans, report writing and management of specialists and has led the auditing, monitoring and compliance of several developments and construction sites within the Western Cape region.

Please refer to **Appendix A** for a copy of the authors CVs

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2.4. Abbreviations

The following abbreviations may be used in this report.

Alum	Aluminum Sulfate
AQM	Air Quality Management
CBAs	Critical Biodiversity Areas
CCT	City of Cape Town
CCT IDP	City of Cape Town Integrated Development Plan
DEA&DP	Department of Environmental Affairs and Development Planning
DEA	Drug Enforcement Administration
DFFE	Department of Forestry, Fisheries and the Environment
DHS	Department of Human Settlements
DoH	Department of Health

DSR	Draft Scoping Report
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment as prescribed in NEMA
EIR	Environmental Impact Assessment Report
EMPr	Environmental Management Program
ESAs	Ecological Support Areas
FSR	Final Scoping Report
Flocs	Larger aggregates
H&S	Health and Safety
H_2SO_4	Sulfuric acid
(H_2S),	Hydrogen Sulfide
H_3PO_4	Phosphoric acid
HAZMAT	Hazardous materials
HFO	Heavy Fuel Oil
I&APs	Interested and affected parties
IBC	Intermediate Bulk Container
IBC	Intermediate Bulk Container
IDP	Integrated Development Plan
iPWIS	Integrated Pollutant and Waste Information System
MHI	Major Hazard Installation
MSDF	Municipal Spatial Development Framework
MSDS	Material Safety Data Sheets
NaOH	Sodium hydroxide
NEMA	National Environmental Management Act (No 107 of 1998 as amended)
NEMAQA	National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)

NEMWA	National Environmental Management: Waste Act (No 59 of 2008)
OHSA	Occupational Health and Safety Act
PAC	Polyaluminum Chloride
POPIA	Promotion of Access to Information Act
PPP	Public Participation Process
PSDF	Provincial Spatial Development Framework
SANBI	South African National Biodiversity Institute
WML	Waste Management License

All amendments to the Draft Scoping Report are represented in red text.

3. INTRODUCTION

3.1. Background to this Report

The Scoping Report forms a critical component of the Environmental Impact Assessment (EIA) process, as mandated by the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the associated Environmental Impact Assessment (EIA) Regulations. The purpose of this report is to systematically identify and assess potential environmental and social impacts associated with the proposed development and to define the scope of studies required for the subsequent EIA phase.

This Scoping Report provides a preliminary analysis of the receiving environment, outlining the existing baseline conditions and key sensitivities associated with the site. Potential environmental impacts have been identified through a desktop study, site investigations, and initial stakeholder engagements. These findings will guide the development of the EIA phase, where detailed assessments and mitigation measures will be further developed.

The Scoping Report serves as a preliminary assessment document made available for review and comment by stakeholders, including regulatory authorities, interested and affected parties (I&APs), and specialists, prior to finalization

Khulani Energy and Plant Maintenance (Pty) Ltd proposes to expand its operations to accommodate the receipt, storage, treatment, and disposal of wastewater and waste oil on-site. The existing facility currently operates below the thresholds requiring a waste management license. They do, however, have several certifications and accreditations as a waste service provider (refer to Appendix M and Appendix Q). As such, the proposed

development is referred to as an expansion, noting however that it is not an expansion of a facility with an existing waste management licence.

The proposed expansion will introduce a range of waste management services, including the collection and transport of wastewater and waste oil, as well as their treatment and disposal. Additionally, the facility will offer sludge removal, wastewater disposal, sump and drain cleaning, and 24-hour spill response services. To support these operations, the expansion will also include the installation and maintenance of machinery, such as pump services, pump installation, and welding.

3.2. Purpose of this Report

Ingrid Eggert of Chand Consultants (Chand) has been appointed by Khulani Energy and Plant Maintenance (Pty) Ltd as an independent Environmental Assessment Practitioner to compile a Scoping Report for the proposed waste expansion activities.

As per the National Environmental Management: Waste Act (Act 59 of 2008), the National Environmental Management Act (Act 107 of 1998) and the 2014 EIA Regulations, as amended, a Scoping and Environmental Impact Assessment process must be undertaken for any activity that triggers a Category B waste management activity.

The purpose of this Scoping Report is to, through a consultative process:

- Identify the relevant policies and legislation relevant to the activity;
- Assess the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
- Identify and confirm the preferred activity and technology alternative through an identification of impacts and risks and ranking process of such impacts and risks;
- Identify and confirm the preferred site, through a detailed site selection process, which includes an identification of impacts and risks inclusive of identification of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological social, economic, and cultural aspects of the environment;
- Identify the key issues to be addressed in the subsequent EIA phase;
- Agree on the level of assessment to be undertaken, including the methodology to be applied in the EIA phase, the expertise required as well as the extent of further consultation to be undertaken to fully assess the nature, significance, consequence, extent, duration and probability of the impacts and risks the activity will impose on the preferred site through the life of the activity. This will also serve to inform the location of the development footprint within the preferred site;
- Determine those environmental concerns/issues that justify further investigation, and compile the Plan of Study for EIA accordingly;
- Elicit comments from Organs of State and I&APs on the proposal for inclusion in the final SR; Ensure that the Plan of Study for EIA allows for the identification of suitable

measures to avoid, manage or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored; and.

- Inform the competent authorities' decision whether to approve the scoping study and allow the commencement of the EIA phase.

The Competent Authority for the proposed activity is the Department of Forestry, Fisheries and the Environment (DFFE).

3.3. Content of the Scoping Report

Table 3 details the method in which each of the above requirements have been addressed to fulfil the requirements of a Scoping Report, as per Appendix 2 of the EIA Regulations, as amended.

Table 3. Scoping Report Requirements, as per the EIA Regulations (as amended)

Required Information	Complied with	Relevant Section
details of— i) the EAP who prepared the report; and ii) the expertise of the EAP, including a curriculum vitae.	✓	Section 1 Appendix A
the location of the activity, including— i) the 21-digit Surveyor General code of each cadastral land parcel; i) where available, the physical address and farm name; ii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties.	✓	Section 6
a plan which locates the proposed activity or activities applied for at an appropriate scale, or, if it is— i) a linear activity, a description and coordinates of the corridor in which the proposed activity or ii) activities is to be undertaken; or iii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken.	✓	Section 7 Section 9

a description of the scope of the proposed activity, including— i) all listed and specified activities triggered. ii) a description of the activities to be undertaken, including associated structures and infrastructure.	✓	Section 8 Section 9 Section 11
a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process.	✓	Section 11
a motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location;	✓	Section 12
a full description of the process followed to reach the proposed preferred activity, site and location of the development footprint within the site, including— i) details of all the alternatives considered; ii) details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs; iii) a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them; iv) the environmental attributes associated with the alternatives	✓	Section 8 Section 9 Section 10 Section 13 Section 14 Section 15

focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; v) the impacts and risks which have informed the identification of each alternative, including the nature, significance, consequence, extent, duration and probability of such identified impacts, including the degree to which these impacts— a. can be reversed; b. may cause irreplaceable loss of resources; and c. can be avoided, managed or mitigated. vi) the methodology used in identifying and ranking the nature, significance, consequences extent, duration and probability of potential environmental impacts and risks associated with the alternatives; vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; viii) the possible mitigation measures that could be applied and level of residual risk; ix) the outcome of the site selection matrix; x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity.		

a plan of study for undertaking the environmental impact assessment process to be undertaken, including: i) a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity; ii) a description of the aspects to be assessed as part of the environmental impact assessment process; iii) aspects to be assessed by specialists; aspects to be assessed by specialists; iv) a description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists; v) a description of the proposed method of assessing duration and significance; vi) an indication of the stages at which the competent authority will be consulted; vii) particulars of the public participation process that will be conducted during the environmental impact assessment process; and viii) a description of the tasks that will be undertaken as part of the environmental impact assessment process; ix) identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.	✓	Section 15

an undertaking under oath or affirmation by the EAP in relation to: i) the correctness of the information provided in the report; ii) the inclusion of comments and inputs from stakeholders and interested and affected parties; and iii) any information provided by the EAP to interested and affected parties and any responses by the iv) EAP to comments or inputs made by interested or affected parties.	✓	EAP Declaration
an undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and interested and affected parties on the plan of study for undertaking the environmental impact assessment.	✓	EAP Declaration
where applicable, any specific information required by the competent authority.	Not Applicable	
any other matter required in terms of section 24 (4) (a) and (b) of the Act.	Not Applicable	

4. ASSUMPTIONS AND LIMITATIONS

The report is based on the following assumptions:

a) The findings and observations detailed in this Scoping Report are based upon desktop investigations and visual inspections by the Environmental Assessment Practitioners (EAP), interviews and scrutiny of documents provided by the project team. The EAP cannot be held responsible for incorrect conclusions drawn as a consequence of being issued with obsolete documents or information being withheld.
b) The findings, recommendations and conclusions given in this report are based on the author's best scientific and professional knowledge.

5. ADMINISTRATIVE DETAILS

5.1. Details of the Project Applicant and Representative

Details of the applicant and landowner are noted in Table 4 and Table 5 below.

Table 4. Details of the Project Applicant

Applicant Name	Khulani Energy and Plant Maintenance (Pty) Ltd
Postal Address	14 Helene Avenue, Blackheath, City of Cape Town, 7581
Responsible Person	Mr. Lawrence Sipho Tholo
Telephone No.	0849605961
E-mail Address	lawrence@khulanienergy.co.za
Company Registration No.	2018/095524/07

Table 5. Details of Landowner

Name of Company in Control of the land	Bosman Fleet Management
Postal Address	14 Helene Avenue, Blackheath, City of Cape Town, 7581
Responsible Person	Mr. Lawrence Sipho Tholo
Telephone No.	0849605961
E-mail Address	lawrence@khulanienergy.co.za

6. PROJECT LOCALITY

The proposed expansion of the existing Khulani Waste Management facility is located on Erf 798 at 14 Helene Avenue in Blackheath, within the City of Cape Town, Western Cape. The property measures approximately 1,300.4m². It is situated.

The central coordinates of the property are 33°57'33.39"S and 18°41'37.96"E. The site falls under the jurisdiction of the City of Cape Town Municipality and is part of the greater Cape Town metropolitan area.

Please refer to **Figure 1** and **Figure 2** below for site locality maps.

Figure 1. Locality Map (created using Google Earth Pro, 2025)

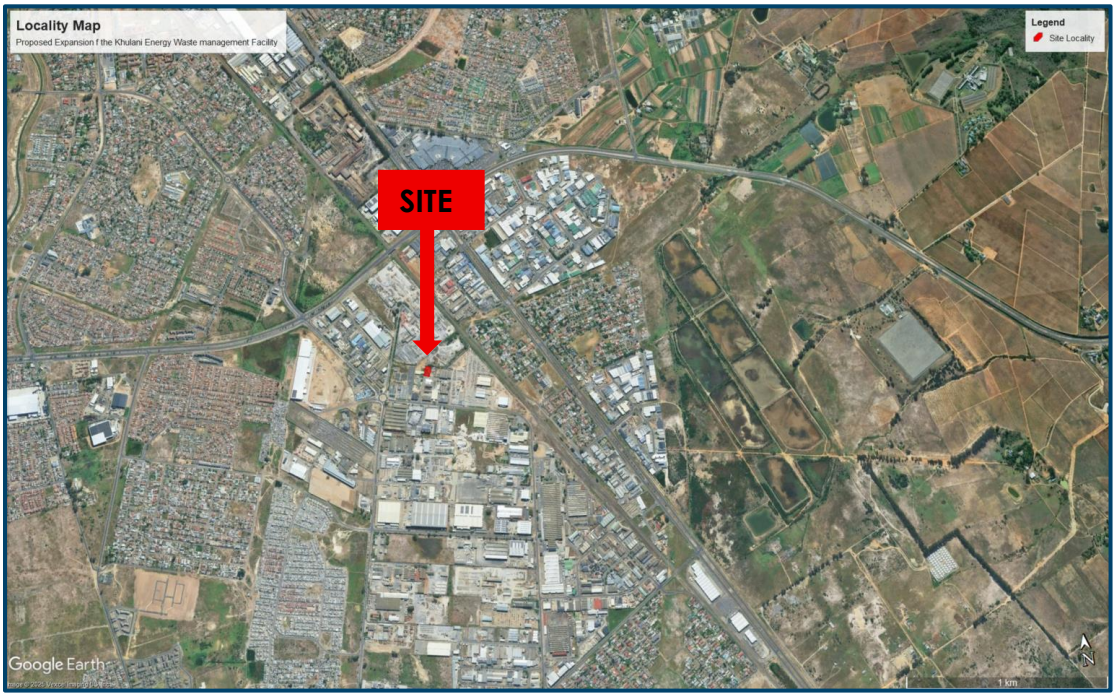

Figure 2. 1km Scale Locality Map (created using Google Earth Pro, 2025)

6.1. Details of the Property

Details of the project locality and its respective property information is detailed in **Table 6**.

Table 6. Property Information for the proposed development locality

Erf Name	Erf 798, Cape Town
Applicable Area (m²)	1300.4m²
21 Digit Surveyor Code	C06700020000079800000
Co-ordinates (Centre of the property)	33°57'33.39"S and 18°41'37.96"E
Physical Address	14 Helene Avenue, Blackheath, City of Cape Town, 7581
Postal Address	14 Helene Avenue, Blackheath, City of Cape Town, 7581
Town	Blackheath, City of Cape Town
Municipality	City of Cape Town
Province	Western Cape

7. EXISTING CONDITIONS AND LAND USE

The Khulani Energy waste management facility is currently engaged in the collection, storage, and transportation of industrial and commercially generated waste oil. This includes waste oil sourced from vehicle and ship engine maintenance, grease traps, and manufacturing processes. The facility operates on a small scale, with waste oil being temporarily stored in impermeable tanks for a maximum period of two weeks before being transported to accredited recycling facilities, for processing and disposal. The current working hours of the facility are 09h00 to 17h00.

The facility operates two 25,000-liter tanker trucks, which are utilized for the collection of waste oil from various receiving sites and its subsequent transport to recycling facilities. At any given time, approximately 29,000 Liters of waste oil are stored on-site within impermeable containment structures to mitigate the risk of environmental contamination. For these activities, Khulani Energy is accredited by the City of Cape Town as a registered waste service provider.

Site access is controlled via a security gate along Helene Avenue. The facility comprises a designated parking area for vehicles involved in waste oil collection and offloading. Administrative functions are conducted from an office located on the southern boundary of the site. Along the western and northern boundaries, there are two roofed structures with concrete flooring, which house multiple waste storage tanks that contain wastewater and waste oil. Essential operational equipment, including generators, is also stored within these covered structures.

The facility currently has the following accreditations and certifications regarding the storage and handling of waste:

- Industrial Effluent Discharge Permit issued by the City of Cape Town (Water and Sanitation).
- Waste Service Provider issued by the City of Cape Town (Solid Waste Management).
- Registration as a Hazardous Waste Generator issued by the Western Cape Government Department of Environmental Affairs and Development Planning.
- Registration as a Waste Transporter issued by the Western Cape Government Department of Environmental Affairs and Development Planning.
- Registration under the National Norms and Standards for the Storage of Waste, as promulgated by the National Environmental Management: Waste Act (Act 59 of 2008) issued by the DFFE.

Please refer to **Figure 3** to **Figure 10** for site photographs of the existing facility.

Figure 3: Impermeable tanks stored on site that house wastewater for storage prior to transport offsite

Figure 4: Intermediate Bulk Container (IBC) tanks stored within a roofed structure on site.

Figure 5: IBC tanks stored within a roofed structure on site.

Figure 6. Empty storage tanks located on site

Figure 7. Used oil receiving storage tank located within the yard. The storage tank is bunded.

Figure 8. Stationary vehicle located within parking area to offload empty IBC.

Figure 9. Access/Security gate located off 14 Helene Avenue, Blackheath.

Figure 10:Visitors parking located off 14 Helene Avenue, Blackheath.

8. PROJECT DESCRIPTION

Khulani Energy and Plant Maintenance (Pty) Ltd is proposing to expand its existing waste management facility to enhance its capacity for the receipt, storage, treatment, and disposal of wastewater and waste oil to expand and optimise their service offering. The facility is currently operational on a small scale and is registered under the National Norms

and Standards for the Storage of Waste, as promulgated by the National Environmental Management: Waste Act (Act 59 of 2008).

The existing facility currently operates below the thresholds requiring a waste management license. They do, however, have several certifications and accreditations as a waste service provider (refer to Appendix M and Appendix Q). As such, the proposed development is referred to as an expansion, noting however that it should not be confused with expansion of a facility with a wate management licence.

8.1. Proposed Expansion

The proposed expansion will necessitate additional infrastructure and processing capacity to accommodate increased volumes of waste material.

The expanded facility will provide the following waste management services:

- Collection and transport of wastewater and waste oil;
- Treatment and disposal of wastewater and waste oil;
- Sludge removal;
- Wastewater disposal sump and drain cleaning;
- 24-hour spill response services; and
- Installation and maintenance of machinery, including pump services, pump installation, and welding.

The waste material proposed for processing at the facility includes:

- **Waste oil** – Emanating from vehicle and ship cleaning, fat/grease traps, and manufacturing facilities (e.g., sunflower oil processing plants).
- **Wastewater** – Predominantly greywater sourced from ships docking at the local harbour, which has been previously used for cleaning, bathing, and recreational activities.
- **Petrol and diesel** – Minor quantities of petrol and diesel may be received.

It is anticipated that a maximum of approximately **184,000 Liters** of waste material will be stored on-site at any given time.

The proposed 24-hour spill response service offering will result in the facilities working hours changing from 09h00 - 17h00 to 24 hours.

The proposed expansion of the waste management facility aims to provide wastewater and waste oil treatment processes while ensuring compliance with environmental regulations. The waste handled by the facility constitutes hazardous waste and the expansion will require a Waste Management License due to increased hazardous waste processing capacity.

8.2. Process Description

The waste management process begins with the collection and transportation of waste materials using ~25,000-liter trucks. Upon arrival at the facility, the waste solution will be offloaded into bunded storage tanks located adjacent to a designated internal central parking area. The waste treatment process will commence with 1 to 14 days of settling to allow solids to separate from liquids via gravity. The settled solid waste or 'sludge' will be removed from the tank and disposed of to a licensed disposal facility. The liquid waste material will be pumped from the storage tanks into heating tanks via above-ground pipelines, circulated through a boiler system, and then directed into a separator to extract oil, sludge, and wastewater from each other. The boiler is 200L in capacity and run on recycled burner fuel or HFO.

Thereafter, the wastewater will undergo flocculation treatment in lime tanks to remove contaminants before being transferred to dedicated treatment tanks for quality testing to ensure compliance with municipal discharge standards. Non-compliant wastewater will be diverted to designated quarantine tanks for further chemical treatment via manual chemical dosing until it meets the municipal discharge requirements, after which it will be released into the municipal sewer network. The chemicals used in this quarantine dosing stage include:

- **Sodium hydroxide** - Sodium hydroxide (NaOH), a strong alkaline compound, plays a critical role in wastewater treatment processes, particularly in pH neutralization and odour control. Its primary function is to raise the pH of acidic wastewater streams, thereby facilitating the neutralization process. Maintaining a balanced pH is essential for protecting aquatic ecosystems, ensuring regulatory compliance, and optimizing the performance of downstream biological and chemical treatment processes. Beyond pH adjustment, sodium hydroxide contributes to the control of odorous emissions. By increasing the pH, it can suppress the release of volatile acidic gases such as hydrogen sulfide (H_2S), which are responsible for foul odours commonly associated with wastewater facilities. This makes sodium hydroxide a commonly used agent not only for its effectiveness in neutralization but also for its dual benefit in mitigating environmental nuisances.
- **Sulfuric Acid** - Sulfuric acid (H_2SO_4) is widely used in water and wastewater treatment, primarily for lowering pH in alkaline effluents. It is the most commonly used acid globally due to its effectiveness and availability. In addition to pH adjustment, sulfuric acid has demonstrated strong bactericidal properties. A study published in the *Journal of Water Research* found it capable of killing over 99% of tested waterborne bacteria, making it useful for both pH control and microbial disinfection.
- **Citric Acid** - Citric acid is a weak organic acid commonly used in water treatment for its natural chelating properties. It effectively binds to metal ions, making it useful for softening water and removing limescale from boilers, evaporators, and other equipment. As a biodegradable and non-toxic substance, it offers an

environmentally friendly alternative for scale control and system maintenance in both industrial and domestic settings.

- **Chlorine Dioxide -** Chlorine dioxide is a compound widely used as a disinfectant in water treatment, particularly for drinking water. It is highly effective at eliminating bacteria, viruses, and other pathogens. When applied in carefully controlled, low concentrations, it is considered safe and does not pose health risks. Similar to bleach in its disinfecting action, chlorine dioxide is valued for its potency and ability to maintain residual disinfection throughout water distribution systems.
- **Calcium Hydroxide -** Calcium hydroxide (hydrated lime) and its related compound, calcium oxide (quicklime), are commonly used in water treatment to raise the pH of raw water prior to coagulation and flocculation. By increasing alkalinity, these substances enhance the effectiveness of coagulants such as alum or ferric sulfate, improving the removal of suspended particles and impurities during treatment.

Other chemicals that may be used within the quarantine manual dosing include:

- **Aluminum Sulfate (Alum) -** Aluminum sulfate is widely used in water purification and wastewater treatment for chemical phosphorus removal and coagulation. It causes fine suspended particles to clump together into larger aggregates (flocs), which can then be removed by sedimentation or filtration.
- **Calcium Hypochlorite -** Calcium hypochlorite is an inorganic disinfectant commonly added to water in granular or tablet form. It effectively kills harmful pathogens, making it a key agent in safeguarding public health in both drinking water and wastewater applications.
- **Polyaluminum Chloride (PAC) -** PAC is one of the most efficient coagulants used in water and wastewater treatment. It offers superior coagulation performance across a wide pH and temperature range, making it suitable for diverse treatment conditions. It is frequently preferred over traditional coagulants like alum due to its higher efficiency and lower sludge production.
- **Sodium Chloride -** Sodium chloride, or common salt, is primarily used in water softening systems. In brine solutions, it regenerates ion-exchange resins by replacing hard water minerals such as calcium and magnesium with sodium ions.
- **Potassium Chloride -** Potassium chloride is an alternative to sodium chloride in water softeners. It regenerates the resin similarly but replaces hard water ions with potassium, a nutrient that can be beneficial in small quantities in drinking water.
- **Phosphoric Acid -** Phosphoric acid (H_3PO_4), also known as orthophosphoric acid, is used in wastewater treatment to aid in the removal of pollutants. It is a non-toxic, essential mineral acid that also serves to control corrosion in water systems by forming protective phosphate films on pipe surfaces.
- **Hydrochloric Acid -** Hydrochloric acid is a strong acid used primarily to lower the pH of industrial wastewater and for cleaning purposes. It also serves as an effective

emulsion breaker and scale remover, making it valuable in treatment systems handling high pH or mineral-rich effluents.

The extracted waste oil will either be sold as biofuel/burner fuel or used onsite to power the oil boiler system. Any excess oil that cannot be utilized or sold will be safely disposed of at a licensed hazardous waste management facility, such as LA Fuels, African Green Oil and Technoburn.

Sludge byproducts will be reintegrated into the treatment process as described above. Any sludge that cannot be further processed will be disposed of at a licensed hazardous landfill or waste treatment facility, such as LA Fuels, African Green Oil and Technoburn.

The estimated storage capacities will include ~30,000 Liters of waste oil and sludge and ~200,000 Liters of treated wastewater stored on-site at any given time.

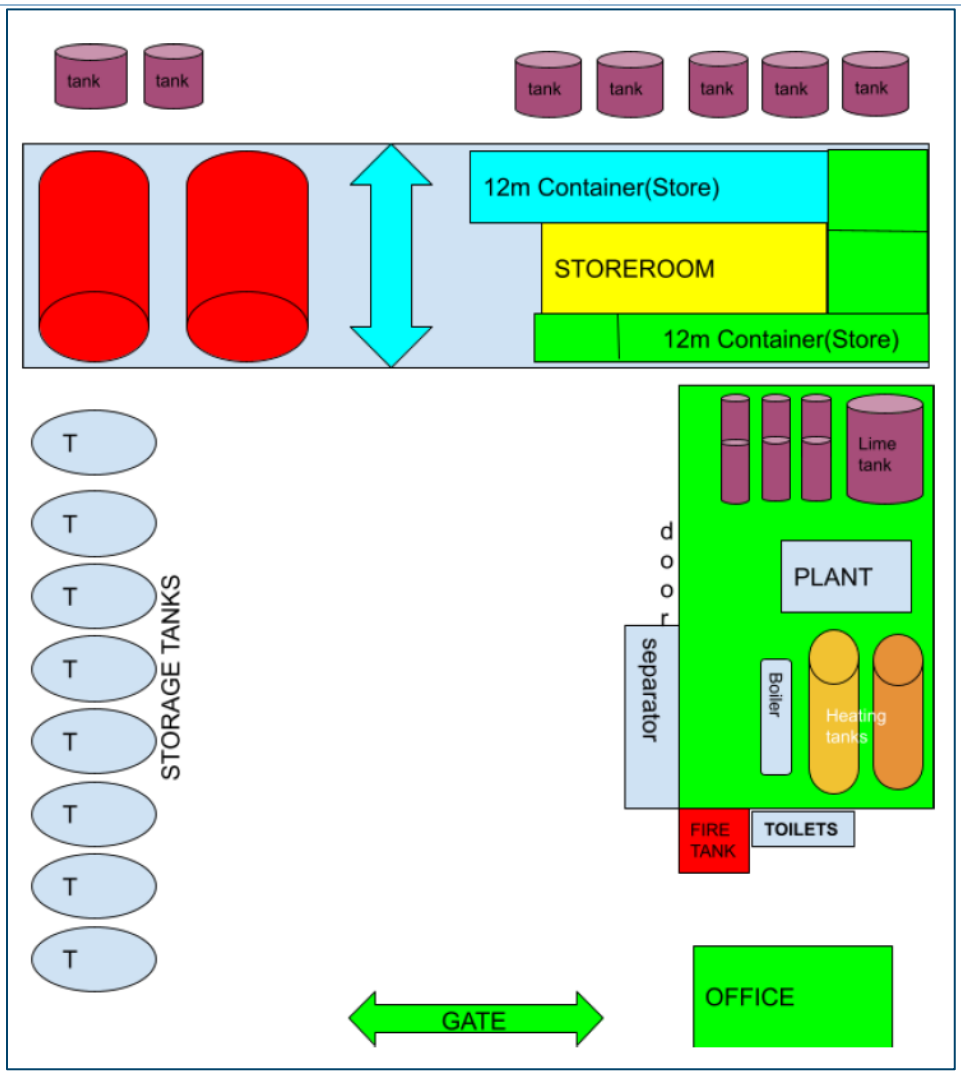

Figure 11. Layout diagram of the proposed expanded facility

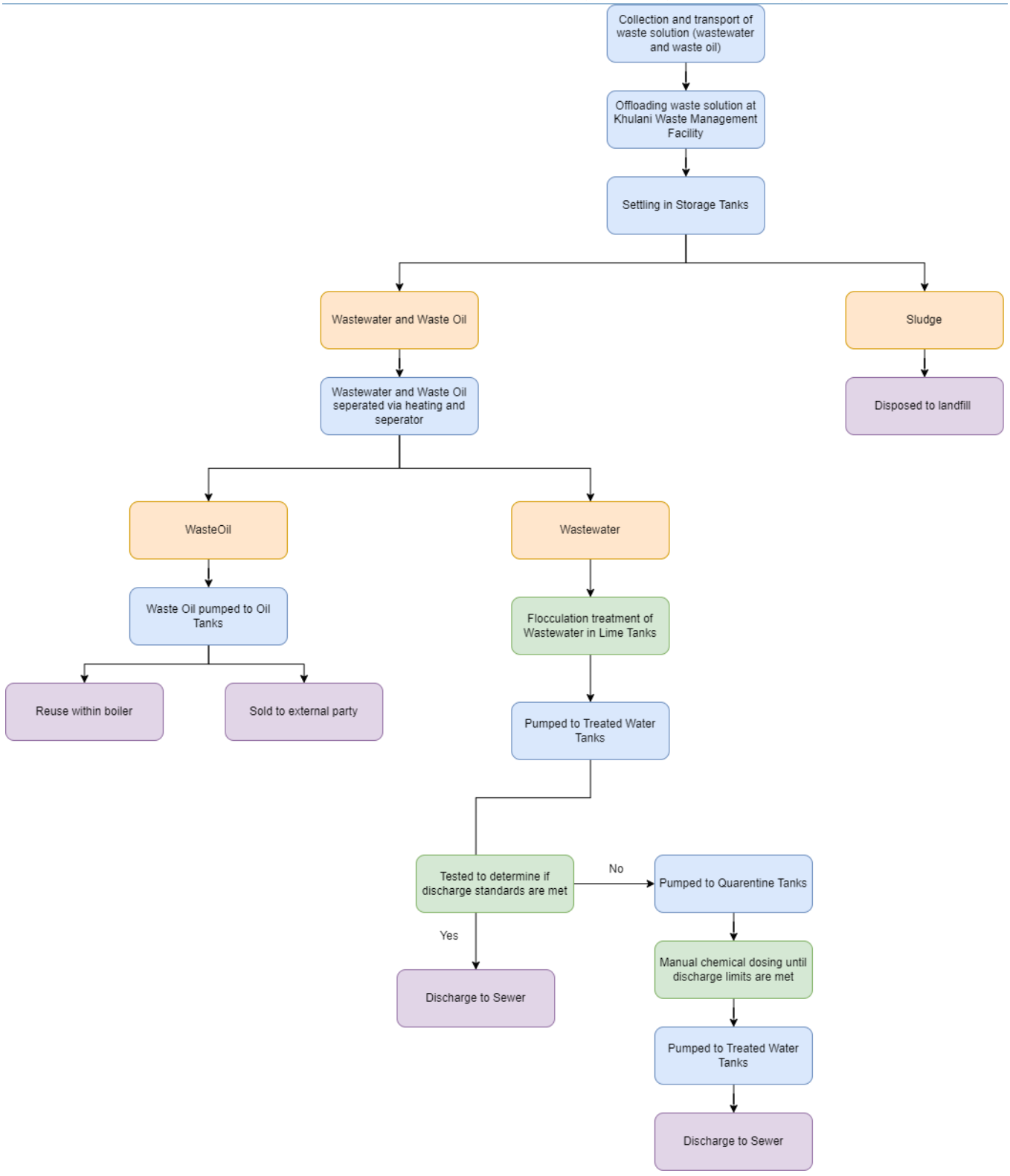

Figure 12. Process diagram of the proposed expanded facility

8.3. New structure / infrastructure

The expansion of the facility will require the construction of additional infrastructure to accommodate the increased processing capacity. This will include the construction of an impermeable concrete bund as secondary containment around the receiving tanks and the installation of several additional storage and treatment tanks, as follows:

- eight 23kl receiving tanks,
- two 20kl heating tanks,
- four 10kl lime tanks,
- two 23kl quarantine tanks,
- five 10kl treated wastewater tanks, and
- two 10kl treated oil and sludge tanks.

Note: Flocculation is a water treatment process in which fine particles in a liquid clump together to form larger aggregates, called flocs, which can then be more easily separated from the liquid. This is typically achieved by adding chemical coagulants (such as aluminum sulfate, ferric chloride, or lime) that neutralize the electrical charges of the particles, allowing them to bind together. Flocculation is commonly used in wastewater treatment, drinking water purification, and industrial processes to improve the removal of contaminants and suspended solids.

Note: The burner will be fuelled by biofuel.

9. ALTERNATIVES

The regulations that govern EIA processes specify that alternatives must be assessed as part of the process or reasons must be provided for not assessing alternatives. This Chapter details how alternatives were considered for the application in question

9.1. Site Alternative

No alternative sites were considered for the proposed expansion, as the proposal entails the expansion of an existing operational waste management facility that is already equipped with some of the necessary infrastructure to support the handling, storage, and treatment of waste oil and wastewater. Expanding within the current site is the most practical and efficient option, as it reduces environmental disturbance compared to development of a greenfield site and leverages existing municipal service connections. Furthermore, the facility is strategically positioned to serve industrial and commercial clients, maximising waste management service potential while complying with regulatory requirements.

Relocating to an alternative site would not only be economically unfeasible but could also introduce additional environmental impacts associated with new construction and land development. Therefore, the expansion of the existing facility on Erf 798 in Blackheath represents the most viable and sustainable option.

9.2. Design Alternative

No alternative layout options have been considered, as the preferred layout has been designed to maximize the efficient use of space while meeting the operational and process requirements of the facility.

The proposed expansion has been planned to integrate seamlessly with existing infrastructure, ensuring optimal workflow, safety, and regulatory compliance. Adjustments to the layout would compromise operational efficiency, increase costs, and potentially result in additional environmental impacts. Therefore, the selected layout represents the most practical and sustainable approach to the facility's expansion.

Note: A layout plan for the proposed expansion will be included within the EIA report.

9.3. No Go Alternative

The no-go alternative refers to the option of not proceeding with the proposed expansion of the waste management facility, meaning operations would continue at their current scale without any additional service offering, infrastructure or capacity improvements.

Under this scenario, the facility would remain limited in its ability to handle increasing volumes of waste oil and wastewater, potentially leading to inefficiencies in the waste management industry and potential for environmental risks due to constrained storage

capacity in the greater Cape Town area. Additionally, no treatment of waste would occur on site which would limit the facility's earning potential and hence, economic viability.

Furthermore, the no-go alternative would forgo the potential socio-economic benefits associated with job creation, infrastructure investment, and improved waste treatment processes. While this option avoids immediate construction-related impacts, it does not support long-term sustainable waste management practices.

10. BASELINE ENVIRONMENT

A baseline description or "status quo" of the present environmental situation is provided in this section of the document. The following attributes / aspects have been described in detail, in the following respective chapters:

- Climate
- Topography
- Soil and Land Use
- Aquatic Biodiversity
- Terrestrial Biodiversity
- Visual Aspects
- Regional Socio-Economic structures

Based on the output of the Site Sensitivity Verification exercise, no specialists assessment was deemed necessary to inform this Scoping and EIA process. Additionally, confirmation of no specialist requirements was provided via online meeting with the DFFE.

10.1. Climate

Blackheath, a suburb within the City of Cape Town, South Africa, experiences a Mediterranean climate characterized by warm, dry summers and mild, wet winters. This climatic pattern is typical of the Western Cape region, where rainfall predominantly occurs during the winter months, influenced by northward-moving cold fronts. Recent studies indicate a trend towards reduced winter rainfall and increased temperatures in the area, consistent with broader observations of climate change impacts in the region (Jury, 2020).

10.2. Topography

Blackheath, a suburb within the City of Cape Town, is situated on the Cape Flats—a vast, low-lying plain characterized by its flat and gently undulating terrain. The area predominantly comprises sandy soils.

The site is relatively level and has been significantly altered and transformed by prior development activities.

10.3. Groundwater

The Cape Flats region, including Blackheath, is known for its relatively high-water table. The proposed activity does not include any abstraction activities or activities that would influence the local groundwater.

10.4. Soil and Land Use

Blackheath has undergone significant land-use transformations, particularly in the context of urban development. Historically, the area featured high-potential agricultural land, but this has since been converted for urban purposes, including industrial land. The site is surrounded by other industrial properties, within the greater Blackheath Industrial Area.

10.5. Aquatic Biodiversity

The site is situated within the Berg Water Management Area, specifically in the quaternary catchment G22E. According to available data, no watercourses or wetlands have been identified or mapped either on-site or in the close surrounding area (refer to Figure 13).

It is noted that a seep wetland has been mapped approximately 261m to the northwest of the site location, however this wetland has been infilled by local development. Additionally, the proposed expansion activities are not anticipated to have an impact on watercourses further afield due to their localized extent and significant developed buffers between the site and the mapped watercourses.

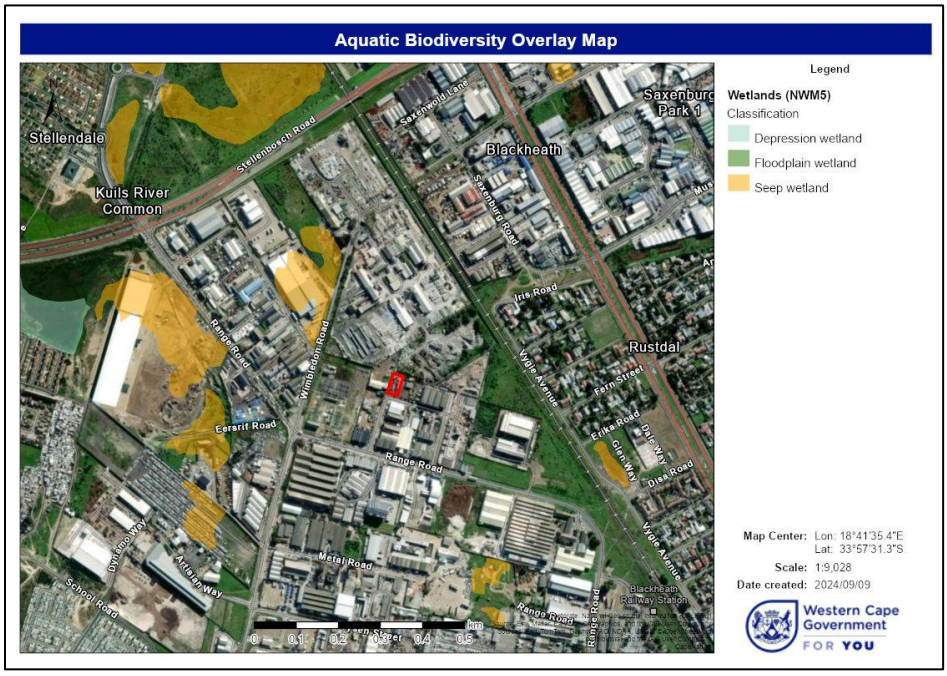

Figure 13. Aquatic biodiversity overlay map. The proposed site is delineated in red (created using Cape Farm Mapper, September 2024)

10.6. Terrestrial Biodiversity

The proposal entails the expansion of an existing facility, located in a heavily transformed urban industrial environment. There is no indigenous vegetation or groundcover present within or adjacent to the facility. No protected species or species of conservation concern remain within the site footprint.

Historically, the site would have been dominated by Cape Flats Sand Fynbos (Vegmap, 2018) (refer to **Figure 14**). This vegetation type is indigenous to the coastal area, as per the Cape Farm Mapper and South African Vegetation Map (2018). However, due to the extensive historical transformation and urbanization of the area, this vegetation no longer exists on the site and in the greater industrial area.

Additionally, there are no Critical Biodiversity Areas (CBAs), Ecological Support Areas (ESAs), Protected Areas, or other natural areas within the proposed site or in the surrounding areas. Given the extent of past development and transformation, no naturally occurring indigenous vegetation or functioning ecosystems remain within the site.

No fauna was observed on-site during the assessment. Additionally, the site does not contain any habitats that would support a functional community or population of wildlife. Given the heavily transformed and urbanized nature of the area, the site lacks the necessary environmental conditions to sustain a viable faunal population.

Figure 14. Historical Vegetation map with the site delineated in blue (Cape Farm Mapper, SA Vegetation Map 2018).

10.7. Visual Characteristics

The Blackheath industrial area is characterized by a heavily transformed industrial environment. The landscape is dominated by large-scale industrial buildings, warehouses,

and facilities, with minimal natural or green spaces. The area is primarily composed of hard surfaces such as asphalt, concrete, and compacted soil, which are common in urban industrial zones. Visual clutter from signage, vehicle traffic, and large storage areas contributes to a utilitarian, built-up environment.

The industrial nature of the site results in a relatively uniform visual aesthetic, with limited variation in landforms or vegetation. The surrounding area consists of other industrial developments, contributing to an overall visual impression of heavy industrial use and limited aesthetic value.

Since the proposed facility expansion is confined within the existing boundary, the change to visual characteristics of the area will be imperceptible. Given the already transformed landscape, no new or significant visual impacts are anticipated as a result of the proposed development.

10.8. Local Socio-Economic Context

Blackheath, located in the City of Cape Town, is a densely populated suburb with a population of 58 946 residents according to the 2011 Census. The gender distribution is relatively balanced, with approximately 49% of the population male and 51% female (Stats SA, 2013). The age structure is characterized by a youthful population, with ~27% under the age of 15, ~68% in the working-age group (15-64 years), and 3.3% aged 65 years and older (Stats SA, 2013). The racial composition of Blackheath is diverse, with ~82% of the population identifying as Coloured, ~15% as Black African, ~0.8% as White, and ~0.5% as Asian (Stats SA, 2013).

In terms of household characteristics, the average household size is 4.21 individuals per household, with a significant majority of residents (82%) living in formal housing and ~17% residing in informal dwellings (Stats SA, 2013). Employment figures show that ~76% of the labour force population is employed, while ~23% are unemployed. Additionally, 40% of households have a monthly income of R3 200 or less (Stats SA, 2013).

Regarding education, 39% of those aged 20 years and older have completed Grade 12 or higher (Stats SA, 2013). Access to basic services is widespread in Blackheath. 89% of households have access to piped water either inside their dwelling or in their yard (Stats SA, 2013). Furthermore, 86% of households have access to flush toilets connected to the public sewer system (Stats SA, 2013). Waste removal is efficient, with 98% of households having their refuse removed at least once a week (Stats SA, 2013). Electricity is widely used for lighting, with 99% of households having access to electricity for this purpose (Stats SA, 2013).

The total capital value of the project is estimated to be approximately ~R6,897,792.00.

It has been anticipated that ~5 new employment opportunities will be created during the expansion phase of the project, of which ~75% will be from previously disadvantages individuals.

Within the operational phase of the project, 15 permanent new employment opportunities are anticipated to be generated. It is anticipated that ~75% of this will be accrued to previously disadvantaged individuals.

11. APPLICABLE LEGISLATION AND POLICY

In South Africa, various pieces of legislation and policy frameworks govern waste management activities to ensure that such operations are conducted in an environmentally responsible manner, minimize public and environmental harm, and ensure compliance with national and international standards. This section outlines the relevant legislation and policies and discusses how they apply to the proposed expansion.

11.1. The Constitution of the Republic of South Africa, 1996

The Constitution is the supreme Law in South Africa. Chapter 2 of the Constitution contains the Bill of Rights including section 24 which provides that:

"Everyone has the right-

(a) to an environment that is not harmful to their health or well-being; and

(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-

(i) prevent pollution and ecological degradation;

(ii) promote conservation; and

(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."

Additional rights protected by the Constitution in relation to environmental authorisations include the right to administrative justice and to information, and "socio-economic rights", that include access to clean air.

The right to administrative justice is relevant to the application and awarding of environmental authorisations as decisions made by the competent authority over the course of the environmental assessment process (such as the decision to accept or reject a S&EIA Report) as well as the final decision on the application falls within the definition of "administrative action".

While no permitting or licensing requirements arise directly, this legislation paves the way for the National Environmental Management Act which is considered the overarching framework for Environmental Impact Assessments thus takes applicability there. The development phase of the project would need to take these principles into account.

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

The National Environmental Management: Waste Act (NEMA: Waste) is the cornerstone piece of legislation that governs waste management practices in South Africa. The Act provides a framework for the management of waste throughout its lifecycle, from generation to disposal. It is relevant to the Khulani facility in the following ways:

Licensing and Permits: The Waste Management License (WML) required for this expansion is a direct result of the Waste Act, which mandates that facilities handling hazardous waste obtain a license from the Department of Forestry, Fisheries and the Environment (DFFE) in respect of undertaking a Category B waste activity. The proposed increased processing capacity requires a WML to ensure that all waste is handled, stored, and disposed of according to approved standards.

CATEGORY A WASTE ACTIVITY

A person who wishes to commence, undertake or conduct a waste management activity listed under this Category, must conduct a basic assessment process set out in the Environmental Impact Assessment Regulations made under section 24(5) of the National Environmental Management Act, 1998 (Act 107 of 1998) as part of a waste management licence application contemplated in section 45 read with section 20(b) of this Act.

Recycling or recovery of waste

(5) The recovery of waste including the refining, utilisation, or co-processing of waste in excess of 10 tons but less than 100 tons of general waste per day or in excess of 500 kg but less than 1 ton of hazardous waste per day, excluding recovery that takes place as an integral part of an internal manufacturing process within the same premises.

Treatment of waste

(7) The treatment of hazardous waste using any form of treatment at a facility that has the capacity to process in excess of 500 kg but less than 1 ton per day calculated as a monthly average, excluding the treatment of effluent, wastewater, sewage or organic waste using composting or any other organic waste treatment

CATEGORY B WASTE ACTIVITY

A person who wishes to commence, undertake or conduct a waste management activity listed under this Category, must conduct a scoping and environmental impact reporting process set out in the Environmental Impact Assessment Regulations made under section 24(5) of the National Environmental Management Act, 1998 (Act 107 of 1998) as part of a waste management licence application contemplated in section 45 read with section 20(b) of this Act.

Reuse, recycling or recovery of waste

(3) The recovery of waste including the refining, utilisation, or co-processing of the waste at a facility that processes in excess of 100 tons of general waste per day or in excess of 1 ton of hazardous waste per day, excluding recovery that takes place as an integral part of an internal manufacturing process within the same premises.

Treatment of Waste

(4) The treatment of hazardous waste using any form of treatment at a facility that processes in excess of 1 ton per day calculated as a monthly average, excluding the treatment of effluent, wastewater, sewage or organic waste using composting or any other organic waste treatment.

Hazardous Waste Management: The act sets out stringent requirements for managing hazardous waste, including proper containment, treatment, and disposal. This includes the handling of waste oil and wastewater, both of which are classified as hazardous waste under the Waste Act due to their potential environmental and health impacts if not managed properly.

Waste Hierarchy: The Act promotes the waste hierarchy approach, which prioritizes waste avoidance, minimization, reuse, recycling, and disposal. The facility's waste treatment processes, including the reuse of waste oil and the treatment of wastewater, align with these principles by seeking to maximize resource recovery and minimize waste sent for final disposal.

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

In response to an EIA Applicability Checklist enquiry, the DEA&DP confirmed that the type of used oils is not considered dangerous goods. As such, the NEMA EIA listed activities relating to storage and handling of dangerous goods do not apply.

The National Environmental Management Act (NEMA) serves as an overarching framework for environmental management in South Africa. It sets the principles for decision-making that support sustainable development and outlines the procedures for environmental assessments. NEMA applies to this project in several ways:

Public Participation:

NEMA outlines the importance of public participation in projects that may impact the environment. The expansion of the facility will require consultation with relevant stakeholders, including local communities, government departments, and environmental organizations, to ensure that their concerns are addressed and that the project complies with the principles of environmental justice.

Environmental Duty of Care:

NEMA emphasizes the duty of care for environmental protection, which requires that all reasonable measures are taken to prevent pollution and environmental degradation. The Khulani facility must demonstrate that its operations will not cause harm to the surrounding environment or public health.

11.4. National Water Act (Act No. 36 of 1998)

The National Water Act is designed to manage the country's water resources and protect water quality. Given the nature of the proposed expansion, which includes the treatment and disposal of wastewater, this Act is crucial for ensuring that the facility does not negatively impact water resources.

Pollution Control:

The Act imposes strict controls on wastewater discharge, ensuring that only treated water that meets specific quality standards is released. This would be relevant for the wastewater treatment process at the facility, particularly in ensuring that flocculation and chemical treatments comply with municipal discharge requirements.

Protection of Water Resources:

The facility's operations must not negatively impact local water resources, particularly given the use of wastewater sourced from ships and the potential contaminants in the treated effluent.

11.5. National Environmental Management: Air Quality Act (Act No. 39 of 2004)

The Air Quality Act regulates the emission of air pollutants and sets out air quality standards. The facility must consider the potential for air pollution arising from its operations, particularly from the combustion of waste oil for energy generation. The Act requires that measures be taken to minimize air pollution and meet prescribed air quality standards.

Emission Control:

If the facility uses waste oil to power its boilers or other equipment, emissions from the burning process must comply with all emissions and ambient air quality standards set by the Act and local municipality. This includes ensuring that harmful substances such as particulate matter, volatile organic compounds, and sulfur dioxide are kept within acceptable limits.

In terms of the City of Cape Town Air Quality Management By-Law (2016), application for approval for the installation of fuel burning equipment will need to be made prior to the installation and operation of the proposed boiler on site.

Dust and Odor Control:

The expansion will involve construction activities and the handling of large volumes of waste material. Measures must be taken to control dust and odors during the expansion and operational phases, in compliance with the standards set by the Air Quality Act, Dust Regulations and local municipality by-laws.

It is noted that the proposed development does not trigger any listed activities under the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEMAQA), which would require an Atmospheric Emission Licence. The proposed activity does not involve the thermal treatment of waste; rather, it employs heating solely to facilitate the separation of wastewater from waste oil based on differences in consistency. Subsequent treatment of the wastewater is conducted through flocculation within lime tanks. This has been confirmed via telecon with the CCT: Air Quality Management Department.

11.6. Occupational Health and Safety Act (Act No. 85 of 1993)

The Occupational Health and Safety Act (OHSA) aims to ensure that workers in South Africa are provided with a safe working environment. The Khulani facility must adhere to the provisions of the OHSA to safeguard its employees who will be handling hazardous materials such as waste oil and wastewater.

Workplace Safety:

The Act mandates that the facility implement safety procedures and provide protective equipment for workers exposed to hazardous substances. This includes ensuring that employees handling waste materials and operating machinery are adequately trained and protected.

Risk Assessments:

The OHSA requires regular risk assessments to identify potential hazards at the facility, including chemical spills, fires, and equipment malfunctions. The facility must implement mitigation measures, such as spill response plans and fire safety protocols, to protect both workers and the surrounding environment.

Major Hazard Installation (MHI) Regulations

The MHI Regulations require a risk assessment of any major hazard installation for the (permanent or temporary) storage or production of a quantity of a risk assessment must be conducted prior to construction by an inspection authority approved by the Department of Labour.

11.7. Promotion of Access to Information Act (POPIA) (Act No. 2 of 2000)

This legislation allows the public access to information about activities that influence their well-being and to make contributions to decision making. While no permitting is required, the act finds applicability during the public participation process phase of all licensing processes.

11.8. City of Cape Town Municipal By-Laws

City of Cape Town Integrated Waste Management By-law, 2009 (as amended 2016)

This by-law governs the collection, transportation, storage, and disposal of waste within Cape Town, aligning with the National Environmental Management: Waste Act (No. 59 of 2008). Given that the facility is expanding its waste storage and treatment capacity, compliance with this by-law is crucial.

- **Waste Classification & Licensing:** The facility must comply with provisions regarding waste categorization, hazardous waste handling, and necessary permits.

- **Storage & Containment Requirements:** The by-law outlines technical and operational requirements for safe waste storage, including bunded storage tanks and secure containment of hazardous substances such as waste oil, sludge, and greywater.
- **Transport Regulations:** The company must ensure that the collection and transport of waste oils, wastewater, and sludge adhere to municipal waste transportation standards to prevent spills and environmental contamination.
- **Spill Response & Emergency Measures:** The 24-hour spill response services proposed in the expansion must comply with emergency protocols outlined in the by-law to prevent groundwater contamination and land pollution.

These measures will be included within the EMPr for the development and operational aspects of the project.

City of Cape Town Stormwater Management By-law, 2005

This by-law aims to protect stormwater infrastructure and water quality by prohibiting the discharge of pollutants into the municipal stormwater system. The facility's operations involve wastewater treatment and the potential for accidental spills of oil, sludge, and chemicals.

- **Prohibited Discharges:** The facility will not discharge untreated or contaminated wastewater, oils, chemicals, or sludge into stormwater drains, natural watercourses, or public spaces.

City of Cape Town Water By-law, 2010 (as amended 2018)

This by-law regulates water use, wastewater disposal, and connections to the municipal sewer system. Since the facility proposes to treat wastewater and discharge it into the municipal sewer network, strict compliance is required.

- **Industrial Effluent Permit:** The by-law requires industries that discharge effluent (wastewater from industrial processes) into the sewer system to obtain a Industrial Effluent Discharge Permit from the City. The applicant is currently in the process of obtaining an effluent discharge permit from the City of Cape Town to enable the safe discharge of treated wastewater on site.
- **Quality Standards for Discharge:** The by-law sets water quality limits for effluent discharged into municipal wastewater systems. The facility's flocculation and chemical treatment processes will ensure compliance with these standards before wastewater is released.
- **Non-Compliance Consequences:** If wastewater does not meet the City's discharge criteria, it must be re-treated or safely disposed of at a licensed facility, ensuring no harmful substances enter the sewer system.

City of Cape Town Air Quality Management By-law, 2016

This by-law enforces air pollution control measures, particularly for industries handling hazardous materials. The waste oil treatment and sludge processing activities may generate air pollutants, including odours, and combustion emissions.

As stated above, the proposed development does not trigger any listed activities under the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEMAQA), which would require an Atmospheric Emission Licence. The proposed activity does not involve the thermal treatment of waste; rather, it employs heating solely to facilitate the separation of wastewater from waste oil based on differences in consistency. Subsequent treatment of the wastewater is conducted through flocculation within lime tanks. This has been confirmed via telecon with the CCT: Air Quality Management Department.

- **Air Emission Regulations:** The facility must monitor and minimize air pollutants from oil heating, boiler systems, and sludge drying processes.
- **Odour Control:** The by-law includes provisions to prevent nuisance odours from industrial processes. Given the presence of waste oil and sludge, the expansion will implement measures to reduce unpleasant odours affecting nearby businesses or residential areas.
- **Boiler Emissions Compliance:** The on-site boiler system used to heat waste oil must meet municipal air quality standards.

The following sections of the By-Law are noted and will be included within the EMPr.

- Section 4: Duty of care (Reasonable measures to prevent air pollution).
- Section 11: Smoke emissions from premises other than dwellings (Installation of fuel-burning equipment).
- Section 12: Smoke emissions from premises other than dwellings (Operation of fuel-burning equipment).
- Section 19: Emissions caused by open burning (Authorisation of open burning and burning of material).
- Section 25: Emissions that cause a nuisance (Prohibition of emissions that cause nuisances).
- Section 26: Emissions that cause a nuisance (Dust Emissions).

City of Cape Town Environmental Health By-law, 2003

The by-law provides regulations for managing environmental health risks associated with industrial facilities handling hazardous waste.

- **Health & Safety Inspections:** The municipality may conduct health inspections to ensure that the facility complies with hygiene, sanitation, and hazardous substance handling regulations.
- **Worker and Community Safety:** The storage and handling of waste oils, wastewater, and hazardous chemicals must not pose health risks to employees or surrounding

residents. This will be done via appropriate inductions; toolbox talks and the implementation of Personal Protective Equipment requirements. Measures to address this will be incorporated into the EMPr for the development and operation of the facility.

City of Cape Town Fire Safety By-law, 2002

Given that the facility stores and processes flammable substances (waste oil, petrol, diesel, and chemicals), fire safety compliance is essential.

Flammable liquids and oils should be stored in fire-resistant, bunded tanks to reduce fire risks. Fire-fighting equipment, such as extinguishers, and emergency response plans, must be in place prior to the expanded operations commencing. The facility's 24-hour spill response services must also include fire and hazardous materials (HAZMAT) response procedures.

The City of Cape Town will be engaged to determine the need for a Flammable Substances Permit.

11.9. Other

GUIDELINE ON NEED AND DESIRABILITY IN TERMS OF THE ENVIRONMENTAL IMPACT ASSESSMENT ("EIA") REGULATIONS, 2017

The need and desirability were assessed for the proposed development is discussed in **Section 14** below in terms of the required format contained in the Guideline on Need and Desirability (2017).

EIA GUIDELINE AND INFORMATION DOCUMENT SERIES

These guidelines provide a structured framework for identifying and assessing potential environmental impacts, ensuring that all relevant legislative requirements and best practice principles are incorporated.

12. NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES

The need and desirability of a proposed development is a key consideration in the Scoping and Environmental Impact Assessment (EIA) process, as outlined in the DEA Integrated Environmental Management Guideline on Need and Desirability (2017). This assessment goes beyond technical feasibility and evaluates whether a project is aligned with strategic environmental priorities, spatial development frameworks, and socio-economic objectives. It considers whether the project addresses a pressing need, supports sustainable development, and is well-situated within its environmental and socio-economic context. By assessing the necessity, benefits, and potential impacts of the proposed expansion of the Khulani Energy and Plant Maintenance (Pty) Ltd waste management facility, this section provides a rationale for the project's justification and its alignment with national, provincial, and local sustainability goals.

The following is noted:

URBAN EDGE / EDGE OF BUILT ENVIRONMENT FOR THE AREA / URBAN AREA.

The entire site falls well within a developed area and within the municipal urban edge as well as the urban area as considered in terms of NEMA.

IS THE PROPOSAL ALIGNED WITH THE EXISTING SDF AND ASSOCIATED TIMEFRAMES AND IS THE PROPOSED DEVELOPMENT IN LINE WITH THE PROJECTS AND PROGRAMMES IDENTIFIED AS PRIORITIES WITHIN THE CREDIBLE IDP?

The facility is situated within an industrial area, which is consistent with the zoning and land-use guidelines set out in the Western Cape Provincial Spatial Development Framework (2014) (PSDF) as well as the City of Cape Town Municipal Spatial Development Framework (2023) (MSDF) and the Khayelitsha Mitchells Plain Greater Blue Downs District Plan (2023) SDF. This ensures that the development adheres to the city's planning policies, promoting the efficient use of land designated for industrial purposes.

Moreover, the proposed development supports key priorities identified in the City of Cape Town Integrated Development Plan (2022-2027) (CCT IDP), particularly in relation to sustainable waste management and economic development. The expansion of the facility addresses the city's need for increased waste management capacity, ensuring compliance with both environmental regulations and the city's commitment to sustainable urban development. The proposed project also contributes to the city's broader economic goals, particularly in terms of supporting local business growth and creating employment opportunities in the waste management and industrial sectors.

The expansion of the facility aligns with the timeframe set out in the IDP, as it contributes to addressing current challenges in waste management and anticipates the growing demand for waste disposal and recycling services. By increasing the facility's capacity, the project directly supports the long-term sustainability goals of the City of Cape Town, helping to ensure that industrial waste is managed in a responsible and environmentally sustainable manner. Therefore, the proposed expansion is consistent with both the PSDF, CCT MSDF and CCT IDP, reinforcing the city's objectives for sustainable development and economic growth.

SHOULD DEVELOPMENT, OR IF APPLICABLE, EXPANSION OF THE TOWN/AREA CONCERNED IN TERMS OF THIS LAND USE (ASSOCIATED WITH THE ACTIVITY BEING APPLIED FOR) OCCUR ON THE PROPOSED SITE AT THIS POINT IN TIME?

The expansion of the facility is appropriate and timely. The facility is located in an existing industrial zone, ensuring compatibility with surrounding land uses. The additional services offered by the expansion are complementary to the current activities at the facility. It will contribute to addressing the growing need for waste management services driven by increased industrial and other economic activities, while maintaining compliance with

national and local regulations. It supports economic growth, job creation, and sustainable development, aligning with the City of Cape Town's Integrated Waste Management By-law (2009, as amended). Expanding on this site is both practical and necessary (in this location and at this time) to meet current and future waste management needs.

DOES THE COMMUNITY/AREA NEED THE PROJECT AND THE ASSOCIATED LAND USE CONCERNED (IS IT A SOCIETAL PRIORITY)?

The project is directly aligned with the growing need for proper waste management services.

The facility will create job opportunities and contribute to economic growth by supporting local industries that rely on efficient waste management services. Furthermore, the expansion aligns with the City of Cape Town's Integrated Waste Management By-law (2009, as amended) and broader sustainability goals, which prioritize responsible waste handling and reducing the environmental footprint of industrial activities.

ARE THE NECESSARY SERVICES AVAILABLE TOGETHER WITH ADEQUATE UNALLOCATED MUNICIPAL CAPACITY (AT THE TIME OF APPLICATION), OR MUST ADDITIONAL CAPACITY BE CREATED TO CATER FOR THE PROJECT?

No additional infrastructure is required to support the proposed expansion activities. Although an increase in the demand for municipal services—such as water, electricity, and sewer—is anticipated, it is expected that the existing infrastructure will be sufficient to accommodate this increased demand. Confirmation of available capacity will be sought from the City of Cape Town during the Environmental Impact Assessment (EIA) phase of the project.

IS THIS PROJECT PROVIDED FOR IN THE INFRASTRUCTURE PLANNING OF THE MUNICIPALITY AND IF NOT, WHAT WILL THE IMPLICATION BE ON THE INFRASTRUCTURE PLANNING OF THE MUNICIPALITY (PRIORITY AND PLACEMENT OF SERVICES AND OPPORTUNITY COSTS)?

The proposed project is not expected to influence the infrastructure planning of the local municipality and will be privately funded by the Applicant.

IS THIS PROJECT PART OF A NATIONAL PROGRAMME TO ADDRESS AN ISSUE OF NATIONAL CONCERN OR IMPORTANCE?

No, the project is not part of a National Programme.

DO LOCATION FACTORS FAVOUR THIS LAND USE (ASSOCIATED WITH THE DEVELOPMENT PROPOSAL AND ASSOCIATED LISTED ACTIVITY(IES) APPLIED FOR) AT THIS PLACE?

The location of the facility is highly suitable for the proposed expansion. Situated within an existing industrial zone, the site aligns with local zoning regulations, ensuring compatibility with surrounding land uses. Furthermore, the proposed additional services are

complementary to the current activities undertaken on the site. Its proximity to industries that generate hazardous waste, such as wastewater and waste oil, allows for efficient waste collection and transportation. Additionally, the facility benefits from easy access to major transport routes, established infrastructure, and essential services like water, electricity, and sewerage, which will support the expanded operations.

WILL THE DEVELOPMENT PROPOSAL OR THE LAND USE ASSOCIATED WITH THE DEVELOPMENT PROPOSAL APPLIED FOR, IMPACT ON SENSITIVE NATURAL AND CULTURAL AREAS (BUILT AND RURAL/NATURAL ENVIRONMENT)?

The proposed expansion is unlikely to impact sensitive natural or cultural areas. Located within an established industrial zone, the site is not near any critical biodiversity areas, ecological support areas, protected natural areas or culturally significant sites.

As noted above, the site is situated within a significantly transformed and industrial environment, with no evidence of indigenous vegetation or habitats that could constitute a functioning ecological system.

The expansion will incorporate environmental best practices and mitigation measures to prevent soil, water, and air pollution, ensuring minimal harm to the surrounding environment. Therefore, the development is expected to have negligible impacts on sensitive natural or cultural areas.

WILL THE PROPOSED DEVELOPMENT OR THE LAND USE ASSOCIATED WITH THE PROPOSED DEVELOPMENT APPLIED FOR, RESULT IN UNACCEPTABLE OPPORTUNITY COSTS?

The proposed expansion activities are not expected to result in unacceptable opportunity costs. The project addresses a need for improved waste management capacity, provides economic benefits such as job creation, and supports local industries. Located in an established industrial zone, the development will not interfere with alternative land uses. Overall, the expansion is aligned with municipal and regional plans, offering long-term benefits that outweigh any potential costs.

WHAT WILL THE CUMULATIVE IMPACTS (POSITIVE AND NEGATIVE) OF THE PROPOSED LAND USE ASSOCIATED WITH THE DEVELOPMENT PROPOSAL AND ASSOCIATED LISTED ACTIVITY(IES) APPLIED FOR, BE?

The cumulative impacts of the proposed expansion include both positive and negative effects.

On the positive side, the expansion will significantly improve the region's waste management infrastructure by enhancing the facility's capacity to treat and manage wastewater and waste oil, thus reducing the risk of illegal dumping, alleviating pressure on landfills and promoting environmental sustainability. Additionally, the project is expected to create job opportunities, and stimulate economic growth by providing essential services to businesses generating wastewater and waste oil. The facility's operations will comply with

environmental regulations, contributing to the protection of natural resources through proper waste treatment and containment measures.

The increase in waste processing capacity may result in residual waste byproducts, such as sludge, which will need to be managed carefully to prevent environmental contamination. Another potential negative impact is the risk of spills during transportation, storage, or treatment of hazardous materials, which could contribute to cumulative pollution and environmental harm if not properly managed.

IS THE DEVELOPMENT THE BEST PRACTICABLE ENVIRONMENTAL OPTION FOR THIS LAND/SITE?

Yes, the proposed expansion is the best practicable environmental option for the site. Located in an established industrial zone, the facility minimizes conflicts with sensitive areas and is well-connected to existing infrastructure. Furthermore, the proposal is complementary to the current land use on the site. The expansion will enhance waste management capacity for wastewater and waste oil, ensuring compliance with environmental regulations and reducing environmental risks through effective containment and spill response measures. This site is the most viable and sustainable option for the project.

WHAT WILL THE BENEFITS BE TO SOCIETY IN GENERAL AND TO THE LOCAL COMMUNITIES?

The proposed expansion will offer several benefits to society and local communities.

To society in general, the expansion will contribute to better waste management practices, ensuring the safe treatment and disposal of waste materials such as wastewater and waste oil and reducing the pressure on landfill sites. This will help mitigate the environmental impacts of improper waste disposal and reduce the risk of pollution, contributing to overall environmental sustainability.

To the local communities, the expansion will provide economic benefits. The project will create job opportunities, both during construction and throughout the operational phase, contributing to local employment. It will also support local industries by providing essential waste management services to businesses that generate waste oil and wastewater.

HOW THE GENERAL OBJECTIVES OF INTEGRATED ENVIRONMENTAL MANAGEMENT AS SET OUT IN SECTION 23 OF THE NEMA HAVE BEEN TAKEN INTO ACCOUNT:

The general objectives of environmental management are to:

PROMOTE THE INTEGRATION OF THE PRINCIPLES OF ENVIRONMENTAL MANAGEMENT SET OUT IN SECTION 2 INTO THE MAKING OF ALL DECISIONS WHICH MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT.

This assessment has been conducted in accordance with the National Environmental Management Act (NEMA) (Act 107 of 1998), as amended, and the Environmental Impact Assessment (EIA) Regulations of April 2017. Additionally, the proposed development aligns with and contributes to the objectives of relevant local development plans, reinforcing its compliance with the applicable planning and regulatory frameworks.

IDENTIFY, PREDICT, AND EVALUATE THE ACTUAL AND POTENTIAL IMPACT ON THE ENVIRONMENT, SOCIO-ECONOMIC CONDITIONS AND CULTURAL HERITAGE, THE RISKS AND CONSEQUENCES AND ALTERNATIVES AND OPTIONS FOR MITIGATION OF ACTIVITIES, WITH A VIEW TO MINIMIZING NEGATIVE IMPACTS, MAXIMISING BENEFITS, AND PROMOTING COMPLIANCE WITH THE PRINCIPLES OF ENVIRONMENTAL MANAGEMENT SET OUT IN SECTION 2.

This has been undertaken and is detailed in the impact assessment section of this report, noting that the full impact assessment will only take place in the EIA phase.

ENSURE THAT THE EFFECTS OF ACTIVITIES ON THE ENVIRONMENT RECEIVE ADEQUATE CONSIDERATION BEFORE ACTIONS ARE TAKEN IN CONNECTION WITH THEM.

This has been undertaken and is detailed in the impact assessment section of this report and will be subject to authority decision-making.

ENSURE ADEQUATE AND APPROPRIATE OPPORTUNITY FOR PUBLIC PARTICIPATION IN DECISIONS THAT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT.

Meaningful public engagement will be undertaken as part of this Scoping process in line with legislated requirements. Refer to **Section 16** for the detailed methodology.

ENSURE THE CONSIDERATION OF ENVIRONMENTAL ATTRIBUTES IN MANAGEMENT AND DECISION-MAKING WHICH MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT.

All comments received from Interested and Affected Parties will be carefully considered, responded to and will be incorporated into the final Scoping Report. This will inform the decision-making.

IDENTIFY AND EMPLOY THE MODES OF ENVIRONMENTAL MANAGEMENT BEST SUITED TO ENSURING THAT A PARTICULAR ACTIVITY IS PURSUED IN ACCORDANCE WITH THE PRINCIPLES OF ENVIRONMENTAL MANAGEMENT SET OUT IN SECTION 2.

The proposed development and its associated activities have been investigated and assessed in relation to with the sensitivities identified in the baseline environment. The assessment also considers the direct, indirect and cumulative impact on local communities as well as the greater Metropolitan area.

Mitigation measures have been proposed to minimize any adverse impacts, while measures to enhance the potential positive effects of the development have also been identified.

Furthermore, the report informs authorities of uncertainties and assumptions to ensure that a cautious approach is adopted in decision-making.

DESCRIBE HOW THE PRINCIPLES OF ENVIRONMENTAL MANAGEMENT AS SET OUT IN SECTION 2 OF THE NEMA HAVE BEEN TAKEN INTO ACCOUNT:

The principles of environmental management, as outlined in Section 2 of the National Environmental Management Act, have been duly considered in this process. The principles most relevant to the proposed development include the following:

- The development prioritizes people and their needs, ensuring that their physical, psychological, cultural, and social interests are addressed equitably, where applicable.
- The proposed development is expected to be socially, environmentally, and economically sustainable, contingent upon the implementation of the recommended mitigation measures.

The proposed development has applied sustainable development to the following factors:

- **Environmental Protection:** Advanced waste treatment processes, including oil recovery and wastewater treatment, will reduce environmental risks, while robust containment systems will prevent contamination of local ecosystems.
- **Energy Efficiency:** Waste oil will be used to power the treatment process, minimizing energy consumption and reducing reliance on external resources.
- **Economic Sustainability:** The expansion will create local jobs during construction and operation, will contribute directly to the economy through company and income taxes, and support regional businesses by providing essential waste management services.
- **Regulatory Compliance**: The facility will adhere to environmental regulations, ensuring sustainable operation.
- **Cumulative Impact Management**: The development includes mitigation measures to minimize cumulative impacts, such as traffic and waste disposal effects, ensuring long-term sustainability.
- **Risk-averse approach**: A cautious and risk-averse approach will be applied, considering the limits of current knowledge regarding potential consequences.

CONCLUSION

The need and desirability of this project is evidenced in the extensive discussion in this section.

13. IMPACTS AND RISKS

A scoping-level identification of environmental impacts (physical, biological, social and economic) potentially associated with the proposed facility is described in this chapter. The sequence in which these issues are listed are in no order of priority or importance. The chapter identifies potential impacts and provides consideration on the relevance of the impacts to the proposed project. This identification considers both the positive and negative effects that the development may have on the surrounding environment, local communities, and broader regional context.

The purpose of this section is to provide a comprehensive understanding of the possible consequences of the proposed development and to inform the decision-making process on the Scoping Phase by proposing the approach that will be taken in the EIA phase to assess and address identified risks and propose mitigation to minimize adverse impacts.

Note: An updated detailed assessment will be undertaken as part of the EIR, in which the duration, probability, magnitude and reversibility of the impacts will be determined, and the significance of the impact calculated. Mitigation will be then determined as needed.

13.1. Preliminary evaluation of biophysical and social impacts

Development Phase	Impact	Type of Impact	Activity	Status of potential impact prior to mitigation	Indicative approach to assessment
Waste Management					
Operational	Reduced volume of waste sent to landfill and reduced environmental pollution.	Direct	**Implementation of the waste management hierarchy to obtain the most sustainable result from waste streams through alternative waste management streams, where possible**	Positive	Assessment by the EAP with consideration of Project Design within the EIR and recommendations included in the EMPr.
Operational	Contamination of the natural environment	Direct	**Legal disposal of waste to managed facility**	Positive	Assessment by the EAP with consideration of Project Design

					within the EIR and recommendations included in the EMPr.
Construction and Operational	Contamination of stormwater and downstream watercourses	Direct	**The risk of accidental spills during transportation, storage, or treatment of wastewater and waste oil into local stormwater system.**	Negative	Assessment by the EAP, informed by information from a civil engineer, with consideration of Project Design within the EIR and waste management and spill procedure recommendations included in the EMPr.
Discharge Limits					
Operational	Potential contamination of receiving water bodies or municipal systems if treated effluent does not meet discharge standards.	Direct	**Risk of environmental pollution and non-compliance due to poor effluent quality**	Negative	Assessment by the EAP with consideration of Project Design within the EIR and recommendations included in the EMPr.
Air Quality					
Operational	Increase in odours at the facility.	Direct	**Increased odours potentially causing nuisance and discomfort for nearby communities**	Negative	Assessment by the EAP with consideration of Project Design within the EIR and

					odour management recommendations included in the EMPr.
Noise					
Construction and operational	Elevated noise levels impacting nearby receptors (e.g., communities, workers)	Direct	**Increase in noise levels at the facility from plant and equipment including but not limited to:** - **Vehicles** - **Boiler** - **Electric pumps** - **Generators** - **Cement mixers**	Negative	Plant design and noise controls to ensure noise levels comply with local standards or better. The EMPr will include consideration of maintenance aspects.
Social					
Construction and operational	Increased employment opportunities and enhancement of workforce skills	Direct and Cumulative	**Hiring of staff and implementation of skills development/training programs**	Positive	Assessment by the EAP with consideration of Project Design within the EIR and recommendations included in the EMPr.
Construction and operational	Economic growth through increased local business activity, employment, and secondary	Direct and Cumulative	**Project-related procurement, employment, and operational expenditure during construction and operation.**	Positive	Assessment by the EAP with consideration of Project Design within the EIR and recommendations included in the EMPr.

	service demand				
Health					
Operational	Increased risk of health issues for workers involved in waste management	Indirect and Cumulative	**Handling and disposal of general and hazardous waste**	Negative	An MHI Risk Assessment will be undertaken by a specialist to understand whether the facility constitutes a Major Hazard Installation. This information will inform the assessment by the EAP of potential health risks associated with the proposal. Details will be included in the EIR and recommendations included in the EMPr.
Climate Change					
Construction and Operational	Increased carbon footprint	Direct and Cumulative	**Energy consumption, construction activities, and transportation that release GHG emissions**	Negative	Assessment by the EAP of potential risks to air quality within the EIR and recommendations included in the EMPr.

The project is not proposed for decommissioning. As such, there will be no decommissioning impacts to consider.

14. STAKEHOLDER ENGAGEMENT AND PUBLIC PARTICIPATION

Public Participation for the Scoping Phase of the project is being carried out according to Regulation 19 and 39 to 44 of the EIA Regulations, 2014 as amended. This includes:

- Identification of potential Interested and Affected Parties, including occupiers of the property, owners and occupiers of land adjacent to the site, municipal officials and relevant State Departments as part of the Public Participation Process (PPP). All respondents will be placed on the project Interested and Affected Parties (I&AP) database. The I&AP database will be used throughout the process to inform the stakeholders of the project, as required.
- A site notice advertising the proposed expansion activity and displaying the contact details of the EAP have been prepared and displayed on-site. The site notice serves the purpose of informing potential I&APs of the project and therefore afford them the opportunity to comment.
- Distribution of Notification Letters to potential I&APs via electronic mail or letter drop, notifying them on the availability of the Scoping Report on the Chand website. The Notification Letters include a brief description of the project, the locality of the reports, the EAPs contact information as well as a registration and comment sheet.
- An advert has been placed in a local newspaper to notify the public about the Scoping and Environmental Impact Assessment process and invite members of the public to register as I&APs on the project's database.
- A copy of the Draft Scoping Report was made available for public review for a 30-day review period.
- Any comments received during the review period of the Draft Scoping Report as well as responses provided have been captured and recorded within the Comments and Response Report in the Final Scoping Report that is submitted to the competent authority for review.

All State Departments and Organs of State indicated, will be provided notification to comment on the Scoping Report. It is hoped that they will provide comment on this report within the statutory period. If not, as per Regulation 3 (4) of the EIA Regulations, 2014 (as amended), it will be assumed that they have no comment.

These departments include the following:

- Department of Forestry, Fisheries AND Environment (DFFE): Biodiversity and Conservation
- Department of Forestry, Fisheries AND Environment (DFFE): Waste Management
- DEA&DP: Pollution Management, Sub-Directorate: Pollution and Chemicals Management
- Department of Environmental Affairs and Development Planning: Development Planning

- Department of Environmental Affairs & Development Planning: Air Quality
- Department of Environmental Affairs & Development Planning: Waste Management
- Department of Environmental Affairs and Development Planning: Biodiversity
- Local authority (i.e., City of Cape Town line departments/ note that they are also the "District Municipality" in this regard because they are a Metropol)
- Department of Water & Sanitation
- Heritage Western Cape
- Department of Transport and Public Works WCG
- Western Cape Government: DHS
- Western Cape Government: DoH
- South African National Biodiversity Institute (SANBI)
- Cape Nature
- Western Cape Government: Department of Economic Development and Tourism

The following Departments provided comments on the Draft Scoping Report:

- City of Cape Town:
  - Environmental Management: Environmental and Heritage Management Branch
  - Water and Sanitation: Bulk Services (Catchment, Stormwater and River Management)
  - Water and Sanitation: Water Deman Management
  - Community Services and Health: City Health (Specialised Environmental Health Services, Air Quality Management (AQM))
  - Community Services and Health: City Health (Specialised Environmental Health Services: City Health)
  - Waste Services: Collections (Research and Development)
- Department of Environmental Affairs and Development Planning:
  - Development Facilitation
  - Pollution and Chemicals Management
  - Waste Management
- Department of Forestry, Fisheries and the Environment:

On conclusion of the Public Participation Period for the Draft Scoping Report, a summary of the comments and issues raised, and responses thereto have been provided within the Final Scoping Report. Please refer to **Table 7** for a template of the information to be incorporated.

Please refer to **Appendix H** for a copy of Public Participation material distributed. This appendix will be further updated when submission of the Final Scoping Report takes place.

Table 7. Summary of the issues raised by the I&APs

Summary of issues Raised	EAPs Response to Issues	Section and Paragraph Reference in this Report Where the Issues and or Responses Were Incorporated.
Concerns about the current state of the facility and current house keeping conditions.	Currently the facility does not operate in accordance with an EMPr. The application for expansion will however, culminate in the compilation of an EMPr, which will be legally binding on the applicant should the approval be granted. Compliance monitoring will also become mandatory.	15.6
A concern was raised regarding a recent spill that occurred from a truck that was transporting waste to the facility.	The truck from this spill does not belong to Khulani Energy, but belongs to Pedal Trading. The vehicle was on its way with a delivery to Khulani. The waste was not yet received by Khulani and hence was not yet Khulani's responsibility. All waste transporters must be permitted to transport waste. The responsibility of this delivery therefore rested with Pedal Trading. The spill was adequately cleared with the relevant spill response equipment, within 2 hours of the incident occurring.	Not relevant to the application. In terms of the waste management chain of custody, the waste was not the responsibility of Khulani.
Concerns regarding stormwater and run-off on the site and potential stormwater pollution.	There are no stormwater drains at the facility. Any run-off is collected in sumps. The water collected in these sumps is transported to a separating machine which separates the oil from the water. The separated water is then	This will be included and addressed within the EIR, with information from a civil engineer.

	disposed of into the sewer. The facility has an effluent discharge permit for this disposal of water. As such, no run-off from within the facility will be transported into the stormwater drains. Furthermore, a stormwater management plan will be compiled by an independent engineer.	
Concerns regarding the impacts of increased hazardous materials and the cumulative impacts of the proposed expansion.	The risks of increased hazardous materials and the cumulative environmental impacts will be assessed by a specialist to determine whether the facility is a Major Hazard Installation. Results an any recommendations will be captured in the EIR and EMPr.	11.6 16.2 This will be included within the EIR.
Queries were raised regarding where sludge is disposed of.	All sludge is currently being disposed of at LA Fuels, African Green Oil and Technoburn. Additional sludge will also be disposed at these facilities.	Section 8.2
Requests were made to include site plans within the EIA Phase.	These will be included within the EIR.	These will be included in the EIR.
Queries on the current operating hours and future operating hours.	Currently the facility operates between 9am – 5pm. Application is however made for the facility to operate 24 hours. This will be indicated within the FSR and Draft EIA Report.	Section 8
Concerns were raised regarding the bare soil on	The proposed expansions will include resurfacing of the site to	8.3

site and potential soil and groundwater contamination.	eliminate any bare soil and prevent pollution of soil and groundwater.	
Concerns were raised regarding whether the facility has the necessary accreditations and certifications.	The facility is accredited as a waste service provider with the City of Cape Town; the facility has an Industrial Effluent Discharge Permit; the facility is registered under the National Norms and Standards for the Storage of Waste; the facility is registered as a Hazardous Waste Generator and a Waste Transporter.	Appendices
Clarification was requested on whether the tanks are located within bunds.	Currently, only one tank is fitted with a self-bund. If approved, the facility will be subject to provisions of the EMPr, including all the necessary bunding or berms.	15.6 This will be included within the EIR and EMPr.
A request that all relevant By-Laws are adhered to.	Any additional By-laws or sections of by-laws have been included within the FSR and will be included within the EIR and EMPr.	11.8
Concern about cumulative impacts on the receiving water environment – clarification is needed on whether stormwater ultimately drains to the Kuils River or nearby wetlands.	There are no stormwater drains at the facility. Any run-off is collected in sumps. The water collected in these sumps is transported to a separating machine which separates the oil from the water. The separated water is then disposed of into the sewer. The facility has an effluent discharge permit for this disposal of water. As such, no run-off from within the facility will be transported into the stormwater drains. Furthermore, a stormwater management plan will be	This will be included and addressed within the EIR, with information from a civil engineer.

	compiled by an independent engineer.	
City of Cape Town's confirmation of bulk service infrastructure in the area. Capacity availability in this infrastructure must be informed through a demand estimation.	A civil engineering report will be compiled and included in the EIR to indicate required water and sewer requirements by the expanded facility.	This will be included and addressed within the EIR, with information from a civil engineer.
Details are needed on the boiler, and legal requirements in this regard must be determined.	The boiler has a capacity of 200L and will be fuelled using recycled burner fuel or HFO. During the EIA phase, it will be investigated to ensure that the installation of the boiler meets all legal requirements.	8.2
General reminder of EIA process and report content requirements.	The EIA process and reporting meets the requirements of the 2014 EIA Regulations, as amended.	Throughout the FSR, and will be adhered to in the EIR and EMPr compilation.

15. PLAN OF STUDY FOR ENVIRONMENTAL IMPACT ASSESSMENT

This Plan of Study for the EIA is submitted in accordance with the requirements set out in Appendix 2(h) of the EIA Regulations 2014 which states that a Scoping Report must include a Plan of Study for EIA which sets out the proposed approach to the environmental impact assessment of the application.

15.1. IMPACT ASSESSMENT PHASE OBJECTIVES

The main objectives of the Impact Assessment phase are to:

- Confirm the alternatives and any changes in the environment that may have taken place since the conclusion of the scoping phase.
- Assess the potential environmental (direct, indirect, and cumulative) impacts of the proposed project;
- Identify mitigation and management measures to be implemented to mitigate against negative environmental impacts, and to enhance positive environmental impacts during the project life cycle;

- Undertake further comprehensive Public Participation to provide Interested and Affected Parties (I&APs), Key Stakeholders and Organs of State with an opportunity to review and provide comments on the outcomes of the EIA process and the acceptability of the proposed mitigation and management measures;
- Develop an Environmental Management Programme (EMPr) for the proposed project; and
- Provide measures for on-going monitoring and environmental audits to ensure that the proposed project and recommended mitigation and management measures are implemented as outlined in EIA and EMPr.

15.2. ASSESSMENT OF IMPACTS

If the Scoping Report is accepted by DFFE and DEA&DP, the Impact Assessment phase will commence. Any conditions attached to the acceptance of the Scoping Report will be implemented in the EIR process. The Impact Assessment phase will involve the tasks set out below.

Specialist Studies

The need was identified for an engineer to undertake an MHI Risk Assessment of the facility's proposed expansion. This study will reveal whether the facility classifies as a Major Hazard Installation and identify any further legal requirements, as well as risk reduction mitigation, where/if relevant.

Engineering Inputs

An engineer will be appointed to provide input on stormwater drainage on the site, and design measures for the expanded facility to prevent impacts on soil, stormwater and groundwater. This will be captured in a stormwater management plan prepared by the engineer. Furthermore, a civil engineering report will be compiled to determine additional water and sewer demands to inform capacity in order to request a capacity report

Compilation of a Draft EIR Report

A draft Environmental Impact Report will be prepared, building on the structure and content of the Scoping Report and following the requirements of Appendix 3 of the EIA Regulations, 2014. The EIR will focus on assessing and addressing potential impacts relating to the waste management activities.

The draft EIR will consider the relevant terms of conditions of the DFFE's acceptance of the Scoping Report. Stakeholder comments, concerns or issues raised during the Scoping phase will be considered and addressed in the EIR where relevant. Chapters from the Scoping Report will be updated to reflect any changes in legislation, project description, and affected environment where relevant. Reporting on the need and desirability of the proposed activities will be reviewed and updated.

The impacts of project facility and activities during the expansion and operation phases, will be assessed by the EAP, and will be incorporated into the draft EIR together with feasible and applicant-approved mitigation measures. The impact assessment will consider the preferred project location, proposed infrastructure and layout, as well as the No-Go alternative. Iterations to the final layout and design for impact avoidance of mitigation, as informed by technical and environmental considerations identified during the impact assessment, will be detailed in the EIR. This will include a detailed site layout plan. These impacts will include possible impacts on human health due to working with wastewater. The EIR will further include the cumulative impacts that the proposed expansion will have on the surrounding Blackheath industrial area.

The EIR will include all relevant legislation and applicable by-laws and the requirements thereof will also be included within the EMPr.

The impact assessment will not include consideration of the project's decommissioning phase as:

- The facility is proposed to operate for > 30 years. The legislative framework and baseline environment at that time cannot be reliably predicted. Thus, it is not possible to undertake a meaningful assessment of potential impacts for the decommissioning phase at this time.
- The closure/decommissioning of facilities undertaking activities authorised in a WML is a listed activity and would require an application and assessment process at the time when closure/decommissioning is proposed.

A separate EMPr of the mitigation and monitoring measures will be prepared to meet the NEM:WA requirements, particularly those set out under Appendix 4 of the EIA Regulations, 2014.

15.3. PUBLIC PARTICIPATION

The following public participation activities will be undertaken:

- A copy of the Draft Environmental Impact Assessment Report (EIR) will be made available for public review to I&APs for a 30-day review period once available.
- Any comments received during the review period of the Draft EIR as well as responses provided will be captured and recorded within the Comments and Response Report in the Final EIAR that will be submitted to the DFFE.
- The City of Cape Town will be asked to confirm capacity in bulk water and sewer infrastructure to service the expanded facility.
- The competent authority's decision on Waste Management License: The registered I&APs, stakeholders and organs of state will be notified of the department's decision within the specified time period.

15.4. COMPILATION OF THE FINAL ENVIRONMENTAL IMPACT REPORT

After closure of the draft EIR comment period, all comments, concerns, or issues received on the draft report will be incorporated and responded to in a Comments and Responses Report. Public comments relevant to informing the technical content and the assessment of impacts will be shared with the project team to ensure issues raised are addressed in the content of the Final EIR and EMPr, where appropriate. The draft EIR will be updated to a final version, which reflects the incorporation of comments, and submitted to DFFE for decision-making on the WML.

15.5. METHODOLOGY TO BE USED IN DETERMINING AND RANKING POTENTIAL ENVIRONMENTAL IMPACTS AND RISKS

The identification and assessment of environmental impacts is a multi-faceted process, using a combination of quantitative and qualitative descriptions and assessments. It includes applying scientific measurements (where applicable) and professional judgement to determine the significance of environmental impacts associated with the proposed project. The process involves consideration of, inter alia: the purpose and need for the project; views and concerns of I&APs; social and political norms, and general public interest.

Methodology to be applied during the EIA phase

Nature of the impact: This is an appraisal of the type of effect (positive or negative) the construction, operation and maintenance of a development would have on the affected environment. This description should include what is to be affected.

Extent of the impact: Extent defines the physical extent or spatial scale of the impact. The impact could:

- Site specific: limited to the site.
- Local: limited to the site and the immediate surrounding area (1-10km)
- Regional: covers an area that includes an entire geographic region or extends beyond one region to another.
- National: across national boundaries and may have national implications.

Duration of the impact: The specialist should indicate whether the lifespan of the impact would be:

- Short term: 0-5 years.
- Medium term: 5-15 years.
- Long term: beyond the operational phase, but not permanently).
- Permanent: where mitigation either by natural processes or by human intervention will not occur in such a way or in such time span that the impact can be considered transient.

Consequence of Impact: Indicate how the activity will affect the environment.

Probability of occurrence: Probability describes the likelihood of the impact occurring. The likelihood can be described as:

- Improbable/unlikely: low likelihood of the impact occurring.
- Probable: distinct possibility the impact will occur.
- Highly probable: most likely that the impact will occur.
- Definite: impact will occur regardless of any prevention measures.

Irreplaceable loss of resources: Describes the degree to which resources will be irreplaceably lost due to the proposed activity. It can be no loss of resources, marginal loss, significant loss or complete loss of resources.

Reversibility: This refers to the degree to which an impact can be reversed.

- Fully reversible: where the impact can be completely reversed.
- Partly reversible: where the impact can be partially reversed.
- Irreversible: where the impact is permanent.

Indirect impacts: Indirect impacts are secondary impacts and usually occur at a different place or time.

Cumulative impact: An effect which in itself may not be significant but may become significant if added to other existing or potential impacts that may result from activities associated with the proposed development. Cumulative impacts prior to and post mitigation must be assessed. The cumulative effect can be:

- Negligible: the impact would result in negligible to no cumulative effect.
- Low: the impact would result in insignificant cumulative effects.
- Medium: the impact would result in minor cumulative effects.
- High: the impact would result in significant cumulative effects.

Degree to which impact can be avoided: This indicates the degree to which an impact can be avoided. The degree of avoidance can either be high (impact is completely avoidable), moderate (impact is avoidable with moderate mitigation), low (the impact is difficult to avoid and will require significant mitigation measures) or unavoidable (the impact is cannot be avoided even with significant mitigation measures).

Degree to which impact can be managed: This indicates the degree to which an impact can be managed. The degree of management can either be high (impact is completely manageable), moderate (impact is manageable with moderate mitigation), low (the impact is difficult to manage and will require significant mitigation measures) or unmanageable (the impact is cannot be managed even with significant mitigation measures).

Residual impacts: Residual impacts are those impacts that remain following the implementation of mitigation measures. Residual impacts must be identified and discussed. If there are no residual impacts, the specialist will need to briefly explain that the activity will have no residual impacts.

Degree to which an impact can be mitigated: This indicates the degree to which an impact can be reduced. The degree of mitigation can either be high (the impact can be fully mitigated), moderate (the impact can be partly mitigated) or not mitigated at all.

Significance: Based on a synthesis of the information contained in the above-described procedure, the significance of the potential impacts can be assessed (prior and post mitigation) in terms of the following significance criteria:

- No impact.
- Low negative: where it would have negligible effects and would require little or no mitigation.
- Low positive: the impact will have minor positive effects.
- Medium negative: the impact will have moderate negative effects and will require moderate mitigation.
- Medium positive: the impact will have moderate positive effects.
- High negative: the impact will have significant effects and will require significant mitigation measures to achieve an accepted level of impact.
- High positive: the impact will have significant positive effects.
- Very high negative: the impact will have highly significant effects and are unlikely to be able to be mitigated adequately.
- High positive: the impact will have highly significant positive effects.

15.6. COMPILATION OF EMPr

A draft Environmental Management Programme (EMPr) will be prepared and included as an appendix to the EIA Report. The EMPr will be structured in accordance with Appendix 4 of the 2014 Environmental Impact Assessment (EIA) Regulations.

The EMPr will outline recommendations for establishing, operating and maintaining, the proposed project on the site. Its primary objective is to ensure that project activities are managed in a way that minimizes potential negative environmental impacts while maximizing positive outcomes. It will detail impact management objectives, desired outcomes, and the necessary actions, along with implementation responsibilities, schedules, and timeframes. All relevant by-law specifications and risk reduction mitigation identified by the engineers / MHI assessors will be included within the EMPr.

Additionally, the EMPr will specify monitoring requirements for environmental and waste management aspects, compliance monitoring, and reporting obligations. It will also include an environmental awareness plan for the expansion phase. If approved by the relevant

authorities, the provisions of the EMPr will be legally binding on the project applicant, as well as all contractors and suppliers involved.

15.7. Description of Tasks and Indicative Timeline

A summary of the tasks that would be undertaken during the Environmental Impact Assessment phase, together with the anticipated schedule is provided in Table 8 below:

Table 8. Summary of Impact Assessment phase Tasks

EAP Activity	Opportunities for Participation		Anticipated Schedule
	Competent Authority	I&APs	
Notify I&APs of DFFE decision on Scoping Report		X	October 2025
Compile Draft EIR and EMPr	-	-	October 2025
Submission of Draft EIR to DFFE	X	-	October/November 2025
Public Participation Process	X	X	October/November 2025
Collate and respond to comments and finalize EIR	-	-	December 2025
Submit Final EIR to DFFE (within 106 days after acceptance of the scoping report)	-	-	January/February 2025
DFFE decision-making (107 days).	WML Granted/Refused	-	June 2026
Notify registered I&APs of decision (within 14 days of date of decision)	-	-	June 2026

EAP to provide information on appeal process as and when required.	Consultation during processing of appeal if relevant.	Opportunity to appeal decision in terms of National Appeal Regulations, 2014	July 2026

16. PERIOD FOR WHICH WASTE MANAGEMENT LICENSE IS REQUIRED

The intended lifespan of the expanded Khulani Waste Management Facility plant is anticipated to be unlimited. Construction activities are anticipated to occur over a period of 12 months. Therefore, the period for which the Waste Management License should be valid is indefinite.

17. REFERENCES

Jury, M.R. (2020) *Climate trends in the Cape Town area, South Africa*, *Water SA*. Available at: https://scielo.org.za/pdf/wsa/v46n3/08.pdf (Accessed: 14 January 2025).

Stats SA (2013) *2011 census suburb Blackheath*, *City of Cape Town – 2011 Census Suburb Blackheath J*. Available at: https://resource.capetown.gov.za/documentcentre/Documents/Maps%20and%20statistics/2011_Census_CT_Suburb_Blackheath_Profile.pdf (Accessed: 14 January 2025).

18. APPENDICES

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