


<p>Project Name:</p>	<p>BACKGROUND INFORMATION DOCUMENT FOR THE ENVIRONMENTAL IMPACT ASSESSMENT TO CONSTRUCT AND OPERATE A MATERIALS RECOVERY FACILITY ON ERF 7744, WINDHOEK, KHOMAS REGION</p>
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THE FOLLOWING IS A BACKGROUND INFORMATION DOCUMENT FOR THE ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN TO OBTAIN AN ENVIRONMENTAL CLEARANCE TO CONSTRUCT AND OPERATE A MATERIALS RECOVERY FACILITY ON ERF 7744, WINDHOEK, KHOMAS REGION

1. Introduction

Green Earth Environmental Consultants have been appointed by Epic Global Recycling (Pty) Ltd to attend to and complete an Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) in order to obtain the Environmental Clearance Certificate for the operations of the Materials Recovery Facility (MRF) of Epic Global Recycling (Pty) Ltd on Erf 7744, Windhoek, Khomas Region as per the requirements of the Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 in GG 4878 of 6 February 2012).

The Background Information Document (BID) serves to convey information regarding the proposed project to Interested and Affected Parties (I&APs) to allow them the opportunity to comment on the proposed project.

This document contains the following information:

- A brief background on the proposed project.
- The approach to the environmental assessment process.
- Environmental and planning issues identified.
- How to become involved.

2. Background Information on Project

2.1 Site location and description

The project site is located on the Remainder of Erf 7744, Simmentaler Street in the northern industrial area of Windhoek. Erf Re/7744, Windhoek is 2,2200ha in extent and zoned industrial. The MRF will consist of a building/s which accommodates the processes and machinery for receiving, temporary storage, separating and/or processing of end-of-life tyres, plastic, paper, wood and batteries from waste collected from mines and various towns as well all over Namibia. The buildings will also include facilities for staff amenities and admin offices.

The locality of the erf as well as the current structures on the erf are shown on the plans below:

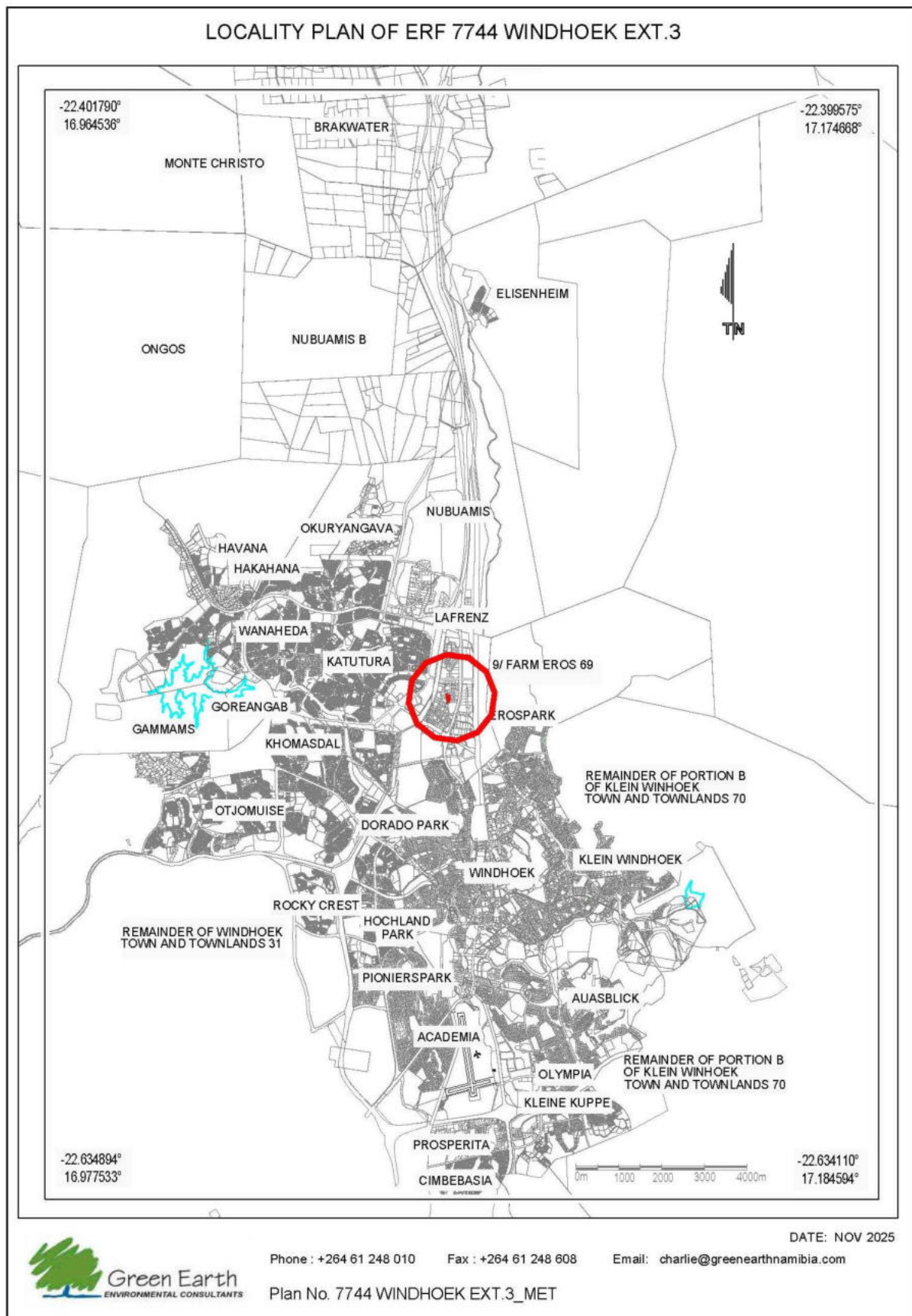


Figure 1: Locality of Erf 7744, Windhoek

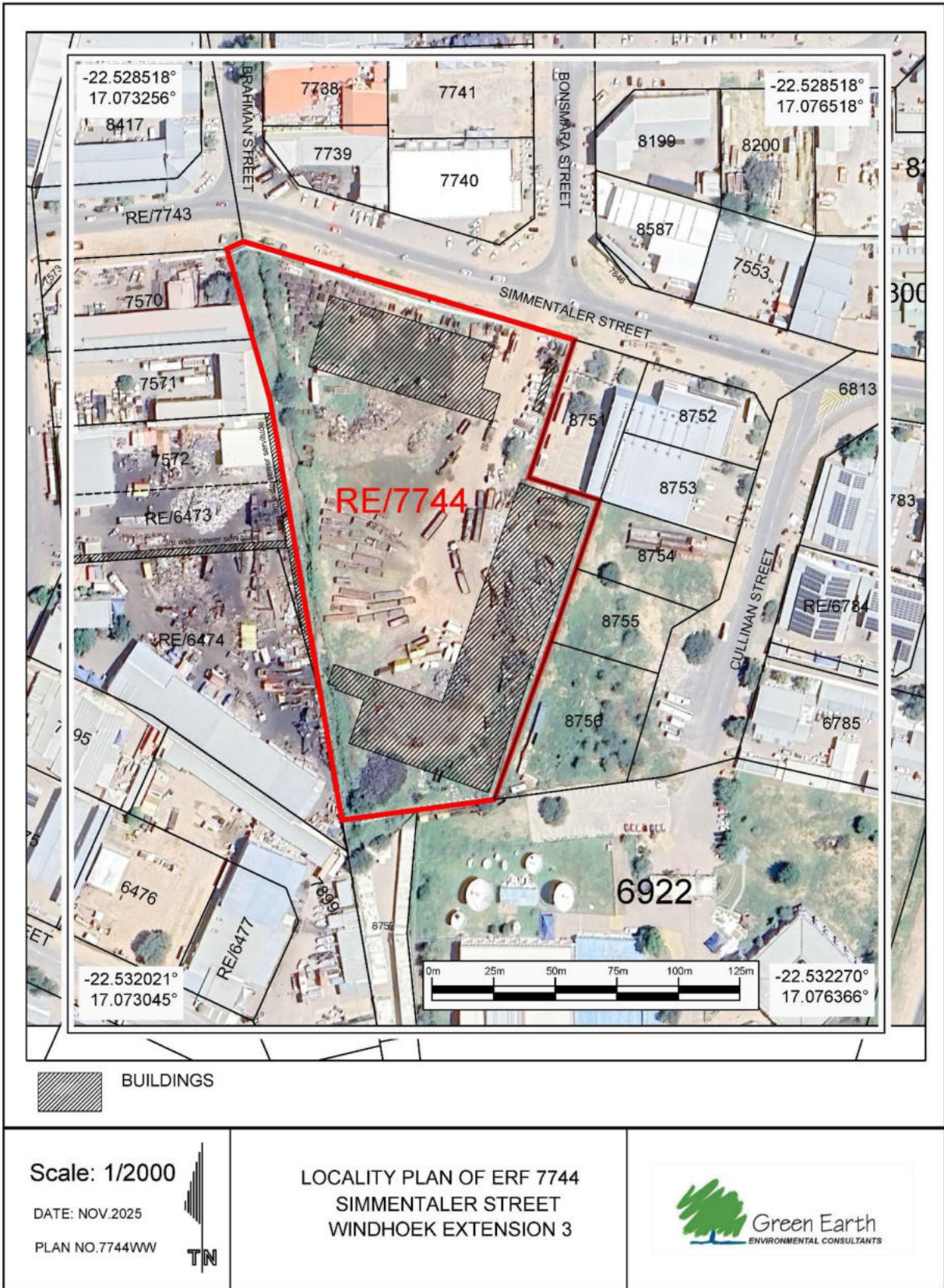


Figure 2: Locality and Site Layout Plan

2.2. The proposed project

Namibia currently has no environmentally friendly solution for the safe disposal of waste rubber products of which the bulk (90%) is end-of-life tyres. The bulk of the end-of-life tyres are either stocked up at the sight of origin (various mining sites, transporters, scrapyards, tyre dealers) or being disposed of at municipal landfill sites. The Proponent, Epic Global Recycling, intends to commission and operate a state-of-the-art materials recycling facility (MRF) to process waste rubber products (mainly end-of-life tyres) and other related products like plastic, paper, wood and batteries. The disposal of especially tyres at municipal landfill sites has a serious negative impact on the availability of space for the disposal of other waste as well as on the lifespan of these sites. The standard practice of burning these tyres and other waste rubber products has a negative impact on air quality and creates a fire hazard to neighbouring communities and operations.

The MRF to be introduced by the Proponent can process end-of-life tyres as well as other rubber residues. The material can consist of homogeneous or mixed rubber with and without reinforcements. The figure below shows the inputs and outputs of the proposed MRF:

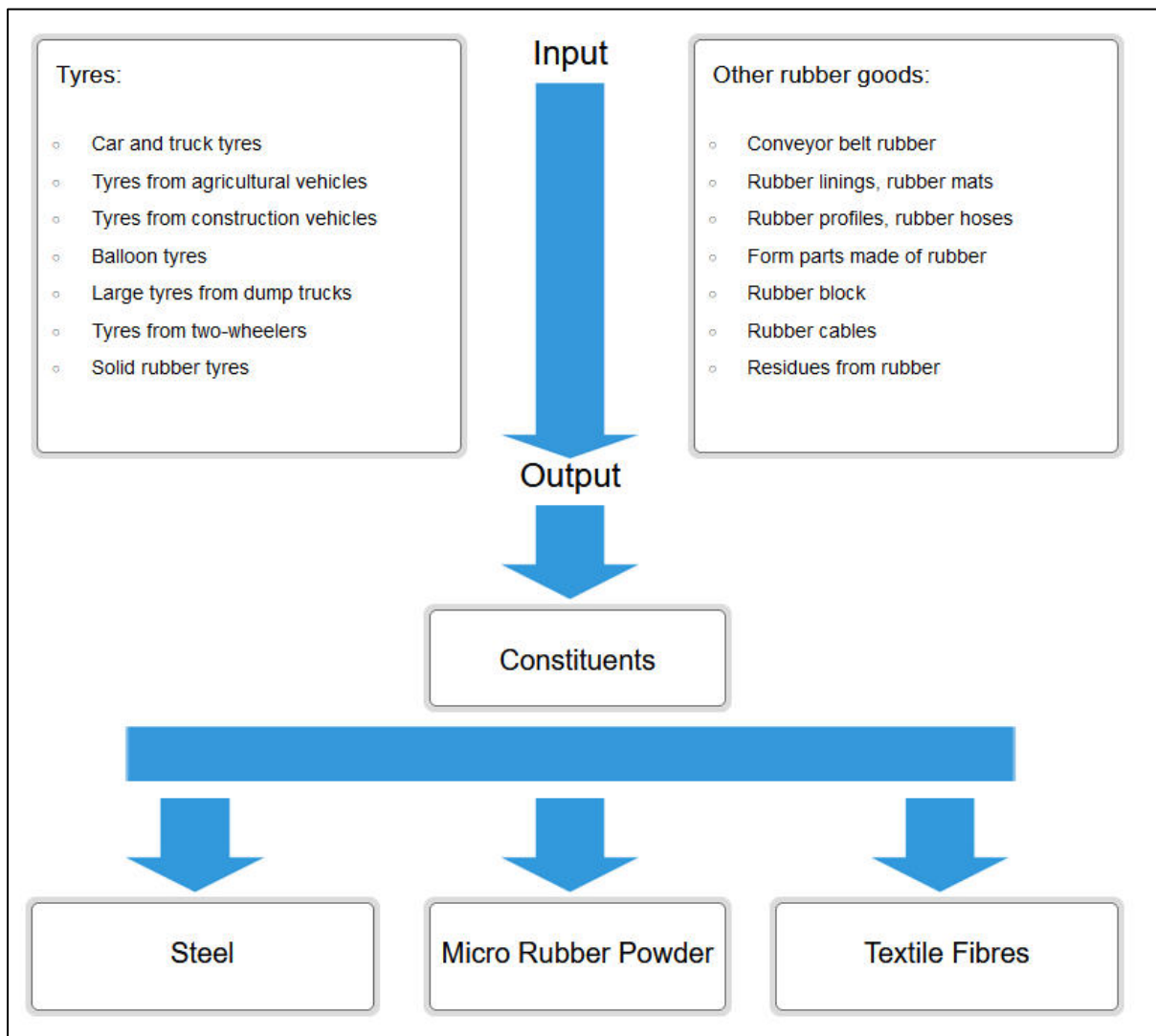


Figure 3: Inputs and outputs of the proposed MRF

The following information was obtained from the Proponent:

Waste rubber products of which the bulk is end-of-life tyres will be collected from the various sources and sites located all over Namibia. The proponent has a fleet of 8 trucks which are converted and equipped for the safe collection and transportation of the materials and is already operating in various municipal districts, from the source to the MRF. Fortunately, our group has a large fleet of trucks and branches in 8 municipal districts already. The collected materials will be transported to Erf 7744, Windhoek for temporary storage and processing.

Based on typical industrial processes, the flow of the waste rubber products shredding process involves transforming whole tyres or rubber pieces into rubber shreds, granules, or powder through mechanical size reduction and separation. The steps in the processing are listed in the *Table* below:

Table 1: Steps in the processing

Steps	Actions undertaken
Storage and inspection	The tyres and rubber products received is inspected for safe onsite storage until processing.
Pre-shredding (Primary Shredding)	Whole tyres and rubber pieces are fed into a dual-shaft shear shredder, cutting them into 50mm–100mm pieces.
De-beading (Bead Wire Removal)	A hydraulic machine extracts thick steel beads from the tyre edge before primary shredding to reduce wear on blades.
Primary Shredding	Whole tyres are fed into a dual-shaft shear shredder, cutting them into 50mm–100mm pieces. Reduces to 50-100mm chips).
Primary Magnetic Separation	A complex system of magnetic separators, both over band and neodymium removes steel wires and pieces. Removes large steel of up to 300mm.
Secondary Shredder/Granulator	The initial shreds from primary shredding are further reduced in size to roughly 10–20mm.
Secondary Magnetic Separation	A further set of magnetic separators removes fine steel wires and pieces.
Textile Separator	Zigzag/air classifier or gravity table is used to remove lightweight fibres.
Fine Grinding/Cracker Mill	The clean rubber granules are passed through granulators, or cracker mills to create fine crumb rubber (less than 1mm or powder).
Screening/Sieving	Sizing and recirculation- the final material is screened to ensure uniform particle size.

Product bulk storage/Packaging/Output

The steel, rubber powder and granules and fibre are packed and shipped to customers for recycling.

See below a generic process flow of a typical tyre and waste rubber shredding plant:

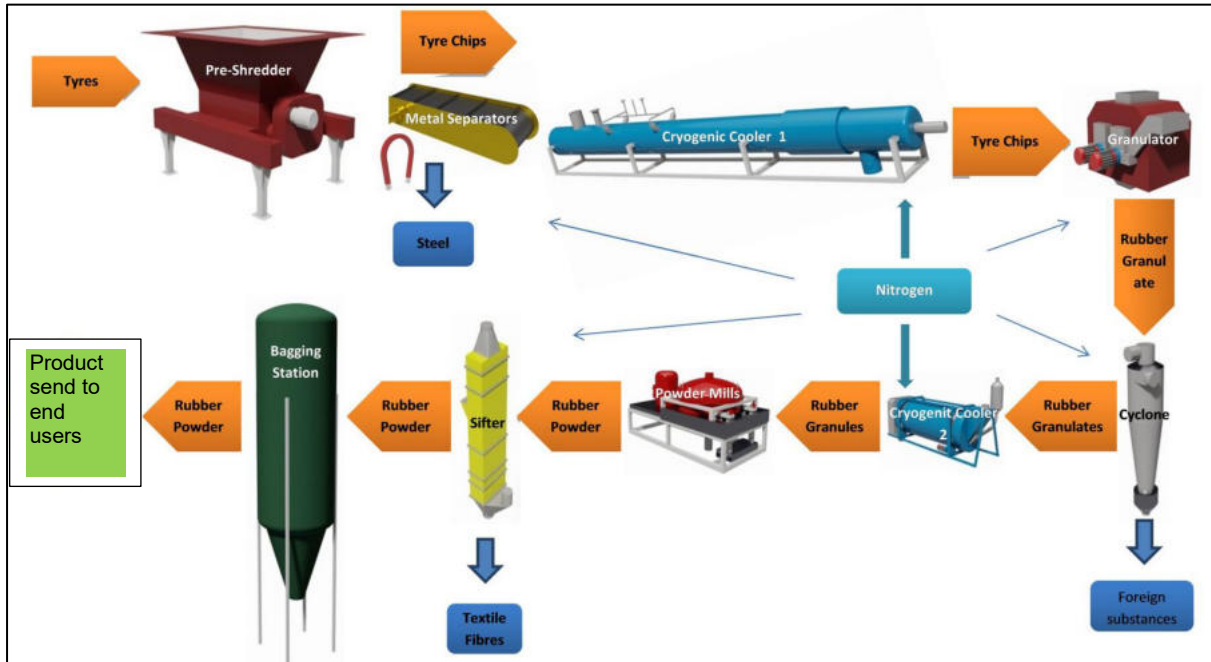


Figure 4: Generic process flow of a typical tyre and waste rubber shredding plant

The plant to be commissioned will have a capacity of 100 metric tons per shift, which will reduce the rubber to a powder of ≥ 0.250 mm in diameter. To ensure continuous feed to the MRF, ± 2000 mt of tyre/rubber stock will be temporarily stored on the site.

The proposed production statistics is summarised in the *Table* below:

Table 2: Proposed production statistics

Tyre recycling and processing			
Tyres pre sliced into 500mm sections:			
- Tons per hour		Tons	5
- Hours per day		Hours	20
- Work week		Days	6
Monthly production	Maximum output		2,598

The process and technology to be applied by the Proponent have the following characteristics:

- No chemicals are applied & used in the process
- Minimal water consumption

- Compliance with valid emission protection guidelines

Other products (although in much smaller quantities) that will also be recycled by the MRF are listed in the *Table* below:

Table 3: Other Products to be recycled

List of other products that will be recycled:
Plastic recycling:
○ PET (1) Baled for sale as is
○ HDPE (2) Processed to Pellet
○ LDPE (4) Baled for sale as it
○ PP (5) Processed to Pellet
○ PC and ABS (7) Processed to Pellet
▪ Plastic pelletizing required, granulator, wash and separation plant as well as pelletizing equipment.
Paper products:
○ Cardboard, White Paper, Magazine – Baled for Sale
Wood:
○ Woodchipper – reduce for sale 5cm Spec, magnetic separator.
Batteries:
○ Shredder, Separation Plant, Wash Plant, Water treatment Plant.
○ Batteries broken down into lead paste (export product [Hazardous]), battery poles, plastic (5 – 7) through wash plant and acid water neutralization.

See below *Map* indicating the entrance:

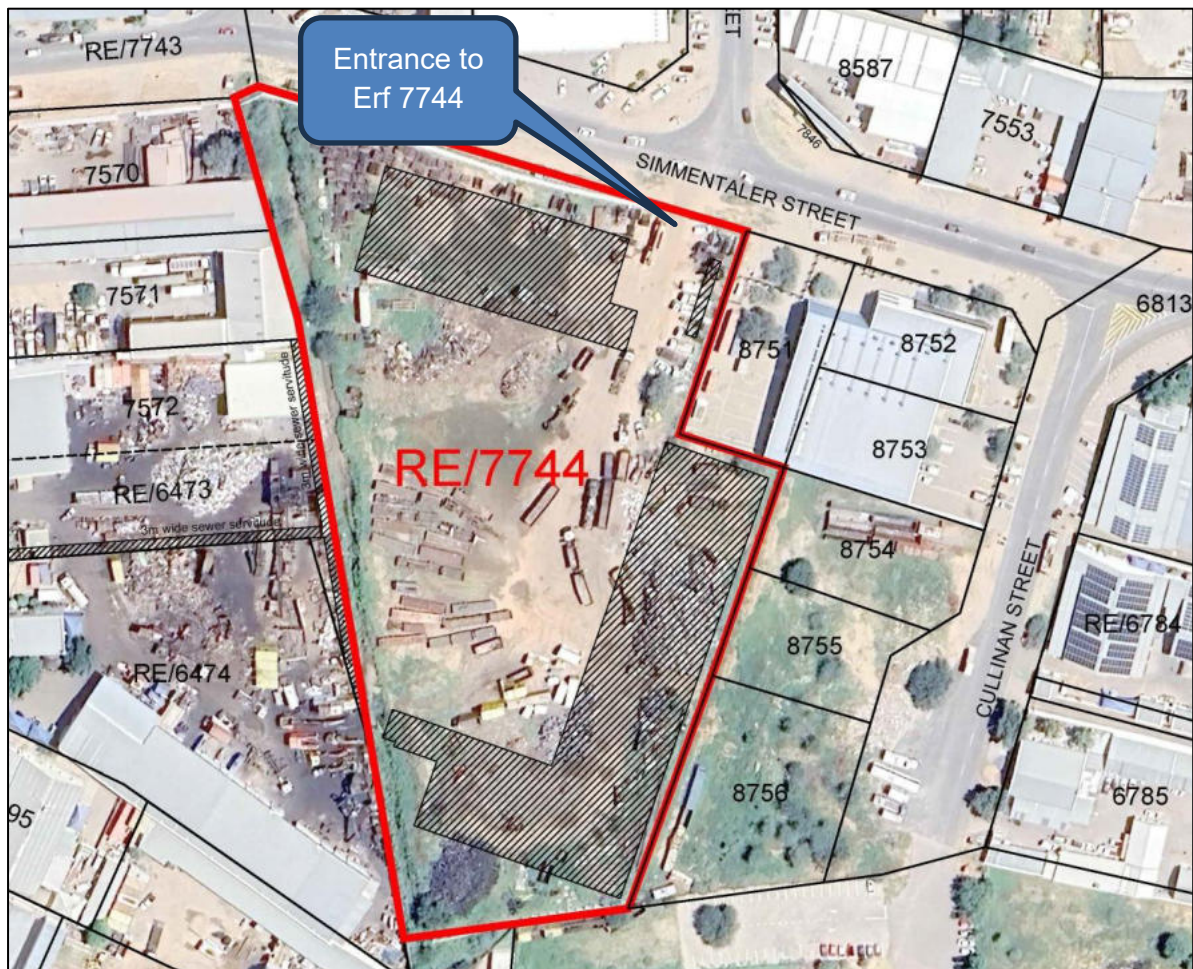


Figure 6: Access to Project Site

3.2. Water supply / requirements

Water is supplied directly from the municipality's water reticulation system.

3.3. Electricity

Electricity is supplied by the municipality through their electrical distribution network. It is the intention to install Solar on the building roofs once completed which will supplement the electricity obtained from COW.

3.4. Sewage disposal

The sewage is connected to the sewer system of the municipality. Only household sewer generated from the staff amenities will be dumped into the municipal sewers. Effluent created from cleaning the processing plant will be collected into a separated conservancy tank/trap for collection and disposal by a specialist waste collector.

3.5. Storm water and drainage

The placement and construction of the building on the site will include a stormwater management plan to be approved by COW.

Solid waste disposal is handled in accordance with the regulations of the municipality.

3.6. Solid waste management

Solid waste generated by the MRF which is not recycled will be handled and disposed in accordance with the regulations of the municipality.

3.7. Fire protection

The Proponent has the necessary fire protection infrastructure / extinguishers as per the requirements. A Fire Protection Specialist was contracted to introduce a proper fire protection plan with the required infrastructure and to oversee the annual auditing and maintenance of the infrastructure.

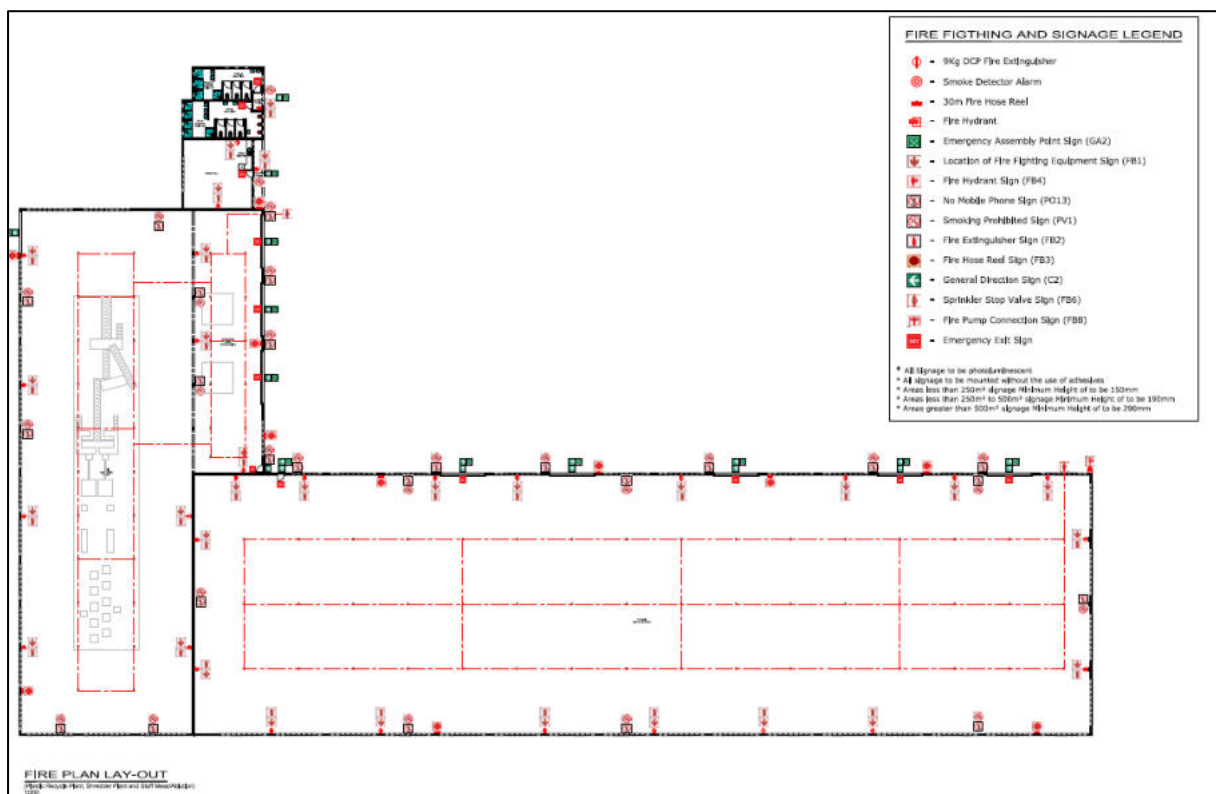


Figure 7: Fire Plan Layout for the Plastic Recycle Plant, Shredder Plant and Staff Ablution (obtained from D Gallagher, 2025)

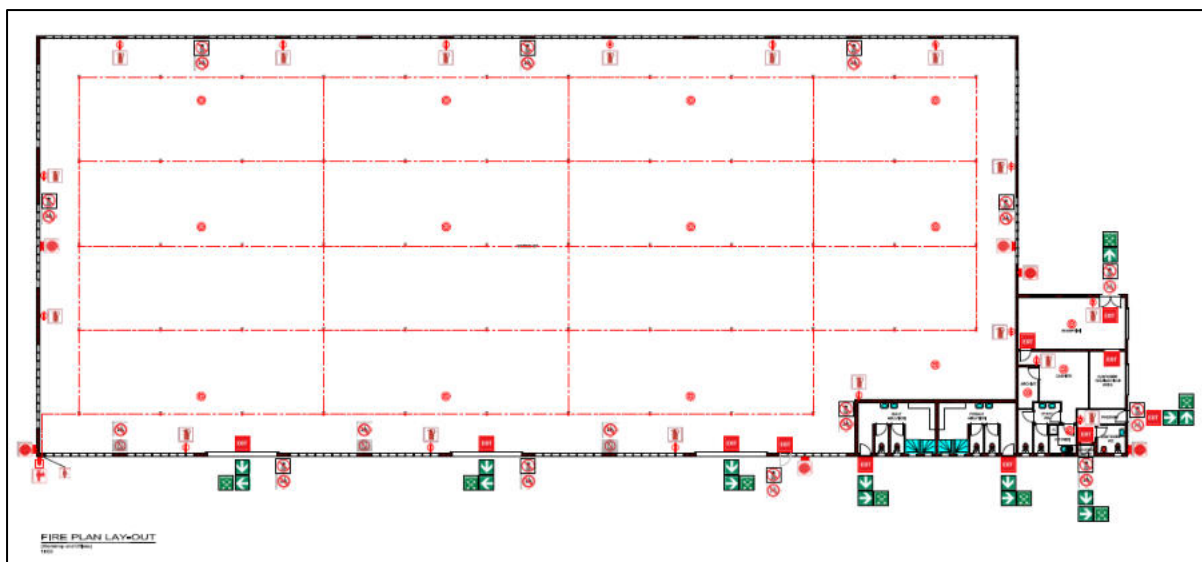


Figure 8: Fire Plan Layout for the Workshop and Offices (obtained from D Gallagher, 2025)

4. Listed activities triggered by the proposed project

In terms of the Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 in GG 4878 of 6 February 2012) an Environmental Impact Assessment (EIA) Report and an Environmental Management Plan is required as the following listed activities are involved:

WASTE MANAGEMENT, TREATMENT, HANDLING AND DISPOSAL ACTIVITIES

2.1 The construction of facilities for waste sites, treatment of waste and disposal of waste.

2.2 Any activity entailing a scheduled process referred to in the Atmospheric Pollution Prevention Ordinance, 1976.

2.3 The import, processing, use and recycling, temporary storage, transit or export of waste.

HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE

9.1 The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.

9.2 Any process or activity which requires a permit, licence or other form of authorisation, or the modification of or changes to existing facilities for any process or activity which requires an amendment of an existing permit, licence or authorisation or which requires a new permit, licence or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste.

The proposed project is thus subject to obtaining an Environmental Clearance.

5. Approach to the Environmental Assessment of the Project

The purpose of the Environmental Impact Assessment is to consider social, ecological, legal and institutional issues related to the intended use of the land, guided by the principles and stipulations of the Namibian Environmental Assessment Policy (1995) and Namibia's Environmental Management Act (2007), to determine the desirability of the proposed activities on the suggested area and to develop an Environmental Management Plan (EMP) to mitigate and manage environmental issues identified in the process.

To accomplish the above, the impact study will be undertaken and based on the outcome of the findings; further specialists' investigation might be required to fully assess all impacts.

5.1. Aims of the Assessment Process

- To ascertain existing environmental conditions on the site to determine its environmental sensitivity.
- To inform I&APs and relevant authorities of the details of the proposed activities and to provide them with an opportunity to raise issues and concerns.
- To assess the significance of issues and concerns raised.
- To compile an impact report detailing all identified issues and possible impacts, stipulating the way forward and identify specialist investigations required.
- To outline management guidelines in an Environmental Management Plan (EMP) to minimize and/or mitigate potentially negative impacts.
- To comply with Namibia's Environmental Management Act (2007) and its regulations (2012).

5.2. Methodology

a) Desktop sensitivity assessment

Literature available on the area will be reviewed to determine potential environmental issues and concerns.

b) Site assessment (site visit)

This involves investigating the environmental parameters on site in order to enable further understanding of the potential impacts on site.

c) Involvement of Interested and Affected Parties

Stakeholders will be given the opportunity to comment on the proposed activities and engage in the planning process. The findings of the assessment process will be incorporated in the environmental impact assessment report.

6. Expected environmental impacts of tyre and waste rubber recycling

Positive impacts on the Environment

The positive impacts on the environment of recycling tyres and waste rubber products are summarised in the *Table* below:

Positive Impact	Effect of positive impact
Reduces Landfill Use and Prevents Long-Term Pollution	<p>Tyres take long to break down, and they don't biodegrade in any meaningful timeframe.</p> <p>Recycling keeps tyres out of landfills, where they would otherwise trap methane, float to the surface, and damage landfill infrastructure.</p> <p>Fewer tyres in landfills means less risk of soil and groundwater contamination from leaching chemicals.</p> <p>Keeping tyres out of landfill sites will significantly extend its lifespan.</p>
Prevents Tyre Fires and Reduces Air Pollution	<p>Stockpiled tyres are notorious fire hazards. Once ignited, they burn at very high temperatures, are difficult to extinguish, and release toxic smoke and oily runoff.</p> <p>Recycling dramatically reduces the number of tyre stockpiles, lowering the risk of catastrophic fires and the long-term air and soil pollution they cause.</p>
Creation of employment	<p>The MRF will require staff for the following activities:</p> <ul style="list-style-type: none"> - Operations manager (Mech engineer / SHEQ) - Administration - Forklift operators - General workers for handling of materials and final products
Conserves Natural Resources	<p>Tyres are made from rubber, petroleum, steel, and various chemicals. Recycling recovers these materials, reducing the need for:</p> <ul style="list-style-type: none"> - New natural rubber (which often comes from ecologically sensitive regions) - Petroleum used in synthetic rubber - Energy-intensive steel production

	Every ton of recycled rubber offsets the extraction and processing of virgin materials.
Saves Energy and Lowers Greenhouse Gas Emissions	Manufacturing products from recycled rubber uses significantly less energy than producing them from raw materials. This translates into lower carbon emissions across the product lifecycle. Using recycled rubber in asphalt, flooring, and moulded products reduces the carbon footprint of those industries.
Supports Sustainable Infrastructure	Recycled rubber is used in: <ul style="list-style-type: none"> - Rubberized asphalt - Playground surfaces - Athletic tracks - Construction materials - Noise-reducing road barriers These applications: <ul style="list-style-type: none"> - Improve durability - Reduce maintenance needs - Lower the environmental impact of infrastructure projects - Enhance safety (e.g., better skid resistance in rubberized asphalt)
Reduces Illegal Dumping and Associated Ecological Damage	When tyres aren't recycled, they often end up dumped in open fields, rivers, or informal sites. Recycling programs reduce illegal dumping, which protects: <ul style="list-style-type: none"> - Wildlife habitats - Waterways - Urban and rural landscapes
Enables Circular Economy Practices	Recycling drives research into: <ul style="list-style-type: none"> - Advanced devulcanization methods - Clean pyrolysis for fuel recovery - High-performance rubber composites - Sustainable product design These innovations reduce environmental impact across multiple industries.

The negative environmental impacts

Even though recycling is far better than landfilling or open burning, the process itself can still create several environmental pressures. The negative impacts are listed in the *Table* below:

Negative Impact	Effect of negative impact
Noise Pollution	Operating Shredders, grinders, and heavy machinery generate continuous high-intensity noise, affecting workers and nearby residents.
Energy Consumption & Carbon Footprint	Mechanical shredding, heating, and chemical processes consume significant electricity or fuel. Energy use and thermal processes contribute to CO ₂ and other greenhouse gas emissions.
Safety Considerations	Recycling involves heavy machinery, which can pose risks to workers. Shredding, cutting, or grinding tyres may cause injuries or exposure to hazardous dust.
Transportation Impacts	Transporting tyres by trucks to and from the facility increases fuel use, air pollution, and road wear. High volumes of heavy vehicles will increase traffic congestion and can affect local communities.
Land Use & Visual Impact, vectors and pests	Tyre stockpiles take up significant space and can become breeding grounds for pests and mosquitoes. Large piles of tyres and industrial structures can degrade the visual environment.
Air Pollution	Rubber processing often produces strong, unpleasant smells that affect nearby communities. Accidental fires in tyre stockpiles or processing areas release toxic smoke and soot.
Water Pollution	Washing, cooling, and chemical treatment steps can generate wastewater containing oils, heavy metals, microplastics, and chemical residues. Rainwater passing through tyre piles can

	pick up zinc, lead, and other contaminants, polluting surface and groundwater.
Soil Contamination	Tyres contain additives (zinc oxide, plasticizers, antioxidants) that can leach into soil if storage areas are not properly lined. Lubricants, oils, and solvents used in processing and cleaning can contaminate soil if not managed correctly.
Solid Waste Generation	Not all tyre components are recyclable. Contaminated fibres, steel residues, and may require disposal. Grinding and shredding can release fine/ micro rubber dust that becomes a persistent pollutant.

These impacts and others which will be identified during the environmental scoping procedures and the engagement of the interested and affected parties will be evaluated to determine the significance of impact and if and how these impacts can be mitigated.

The above-named aspects will be covered in the Environmental Management Plan to be mitigated.

7. Public Involvement Program

During the public consultation process, Green Earth Environmental Consultants do the following:

- Identify and inform key stakeholders, authorities, the local authority (municipality), and interested or affected members of the public (I&APs).
- Give notice of the proposed activity as per the requirement of the Regulations through national newspapers, site notices and letters.
- Provide I&APs with additional information on the proposed activity by sending them this Background Information Document (BID).
- Schedule a public meeting if there is enough public interest to which all registered and identified I&APs will be invited, facilitate stakeholder participation and engagement and provide details of issues raised during the public involvement program and scoping exercise.
- Record all comments of I&APs, supported by responses provided by Green Earth, in a report to be included in the EIA.
- Inform the Proponent of comments relevant to the project's planning, implementation and operations and for inclusion in the EMP and consideration.

As an important part of the Environmental Impact Assessment process, you as stakeholder or interested member of the public are invited to find out more about what is being proposed, the implications thereof on the environment and/or to raise any issues or concerns.

Should you have any questions regarding the project, please contact **GREEN EARTH Environmental Consultants** at the contact details (*Charlie du Toit: 081 127 3145 or carien@greenearthnamibia.com*) provided on *Page 1* of this document. **The closing date for any questions, comments, inputs or information is 27 February 2026.**

