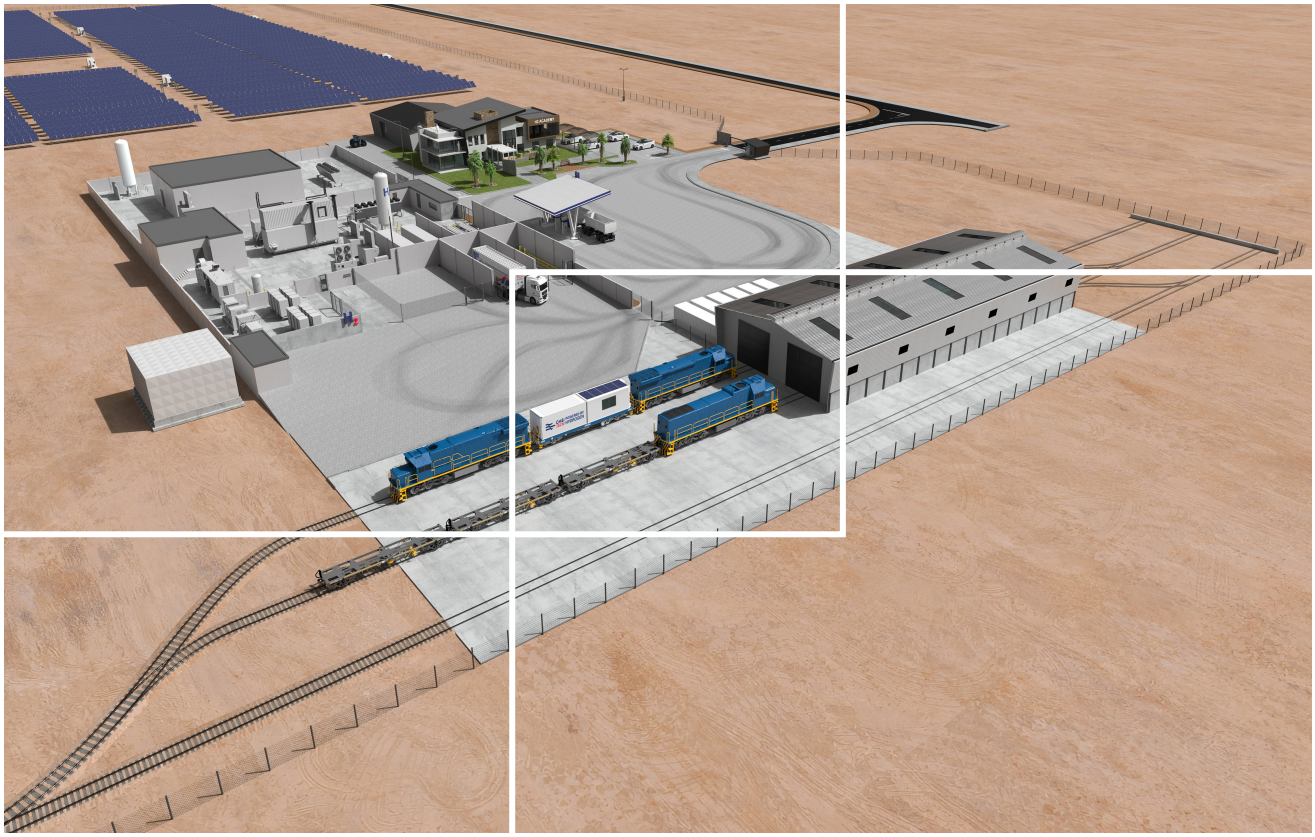

Submitted to: Cleanergy Solutions Namibia (Pty) Ltd
Attention: Ms Liesbeth Verhaert
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BACKGROUND INFORMATION DOCUMENT:

CONSTRUCTION AND OPERATION OF THE H2 DUNE RAIL HUB, FARM 58, WALVIS BAY

PROJECT NUMBER: ECC-145-757-BID-02-D

REPORT VERSION: REV 01

DATE: 20 OCTOBER 2026

TITLE AND APPROVAL PAGE

Project Name:	Construction and operation of the H2 Dune Rail Hub, Farm 58, Walvis Bay
Client Company Name:	Cleanergy Solutions Namibia (Pty) Ltd
Client Name:	Ms Liesbeth Verhaert
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ABBREVIATIONS

Abbreviation	Description
BID	background information document
Cleanergy Solutions	Cleanergy Solutions Namibia (Pty) Ltd
DEAF	Directorate of Environmental Affairs and Forestry
EAP	environmental assessment practitioner
ECC	Environmental Compliance Consultancy
EIA	environmental impact assessment
ESMP	Environmental and social management plan
ESIA	environmental and social impact assessment
GHDP	Green Hydrogen Demonstration Plant
H_2	hydrogen
ha	hectares
I&APs	interested and affected parties
km	kilometre
Ltd.	limited
MEFT	Ministry of Environment, Forestry and Tourism
MIME	Ministry of Industries, Mines and Energy
Pty	proprietary
RoD	record of decision

1 BACKGROUND INFORMATION DOCUMENT

1.1 PURPOSE OF THIS DOCUMENT

Environmental Compliance Consultancy (Pty) Ltd (ECC) has been engaged by Cleanergy Solutions Namibia (Pty) Ltd (hereafter referred to as Cleanergy Solutions or "the Proponent") as the environmental assessment practitioner (EAP) to conduct the scoping plus impact assessment and develop an environmental and social management plan (ESMP) for the proposed construction and operation of the H2 Dune Rail Hub (hereafter referred to as the "Project") on Farm 58, Walvis Bay, Erongo Region.

An environmental clearance certificate application is being compiled in terms of the Environmental Management Act, 2007 (Act No. 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 of 2012) and will be submitted to the competent authority, the Ministry of Works and Transport (MWT), and to the Environmental Commissioner at the Ministry of Environment, Forestry and Tourism (MEFT) for a record of decision (RoD). Separate approvals for the rail connection are required from Walvis Bay Municipality and TransNamib Holdings Ltd.

The background information document (BID) has been compiled to provide interested and affected parties (I&APs) with an introduction to the proposed Project's scope of work and invite I&APs to register as part of the scoping plus impact assessment process. A platform for I&APs to submit comments, concerns and inputs will be established. All registered I&APs will be notified about the proposed Project, the public review periods throughout the process and the RoD on the environmental clearance certificate application.

This BID includes the following information:

- The proposed Project and location;
- The necessity of the Project, benefits or adverse impacts anticipated;
- The alternatives that were considered;
- How the scoping plus impact assessment process works;
- The public participation process and how to become involved; and
- Next steps and the way forward.

1.2 BACKGROUND OF THE PROPONENT

Cleanergy Solutions Namibia (Pty) Ltd is the Proponent for this Project and is wholly owned by CMB.TECH. CMB.TECH is an international group with a growing footprint in clean technology and energy infrastructure and is one of the world's largest listed maritime groups actively pursuing shipping decarbonisation (CMB.TECH, 2026). Through its H2 Infra division, CMB.TECH supplies hydrogen and ammonia fuel to customers, either from its own production facilities or through third-party producers (CMB.TECH, 2024). In Namibia, Cleanergy Solutions Namibia was initially established as a joint venture between CMB.TECH Namibia (Pty) Ltd and the Ohlthaver & List (O&L)

Group to develop the country's green hydrogen value chain. Following its acquisition by CMB.TECH, Cleanergy Solutions Namibia continues to operate the Green Hydrogen Demonstration Plant (GHDP) on Farm 58, near Walvis Bay. The GHDP forms an important foundation for CMB.TECH's expanding local operations, with the company now progressing the development of additional hydrogen and ammonia infrastructure in the Walvis Bay area as part of its long-term green hydrogen value-chain strategy. In parallel, CMB.TECH Namibia Properties (Pty) Ltd is progressing the environmental assessment process for the proposed PV2Fuel green ammonia Project at Arandis, for which an application for an environmental clearance certificate is currently under review by the Ministry of Environment, Forestry and Tourism (MEFT).

1.3 Description of the proposed Project

The Proponent proposes the construction and operation of the H2 Dune Rail Hub on Portion 8 of Farm 58, Walvis Bay, Erongo Region. A railway siding will connect the rail hub to the existing TransNamib mainline at Dune 7, providing dedicated rail access to support freight transport and logistics associated with current and future industrial activities. The proposed railway will extend for approximately 5.7 km and will comprise a 1,372 m siding/loop line connected to the TransNamib mainline by two new turnouts, a railway triangle, a running line to the rail hub and 1,037 m of workshop facility lines, with 12 turnouts, four stop blocks, earthworks and two stormwater culverts. Plain line will be non-ballasted modular track on precast concrete beams, with ballasted track limited to the turnouts. The line is designed for a 20-tonne axle load and an operating speed of 15 km/h. Three route alignment options were considered. Option 1 (Figure 1), which runs through Portion 8 and does not cross Portion 5, was confirmed as the preferred alignment at preliminary design stage and is the alignment assessed in this process. The alternatives are described in Section 2.

The rail hub will maintain, repair and remanufacture locomotives and wagons. It will include a workshop, a fuelling shed with a wash bay and effluent treatment, and a hydrogen refuelling dispenser supplied from the adjacent production plant.

Associated works include re-routing approximately 1,650 m of the existing Dune 7 access road to the western side of the TransNamib mainline and the NamWater pipeline and formalising the existing level crossing. A rail terminal platform of approximately 40 m by 497 m is planned alongside the running line.

The location of the proposed Project in relation to towns, roads and conservancies is shown with in Figure 1.

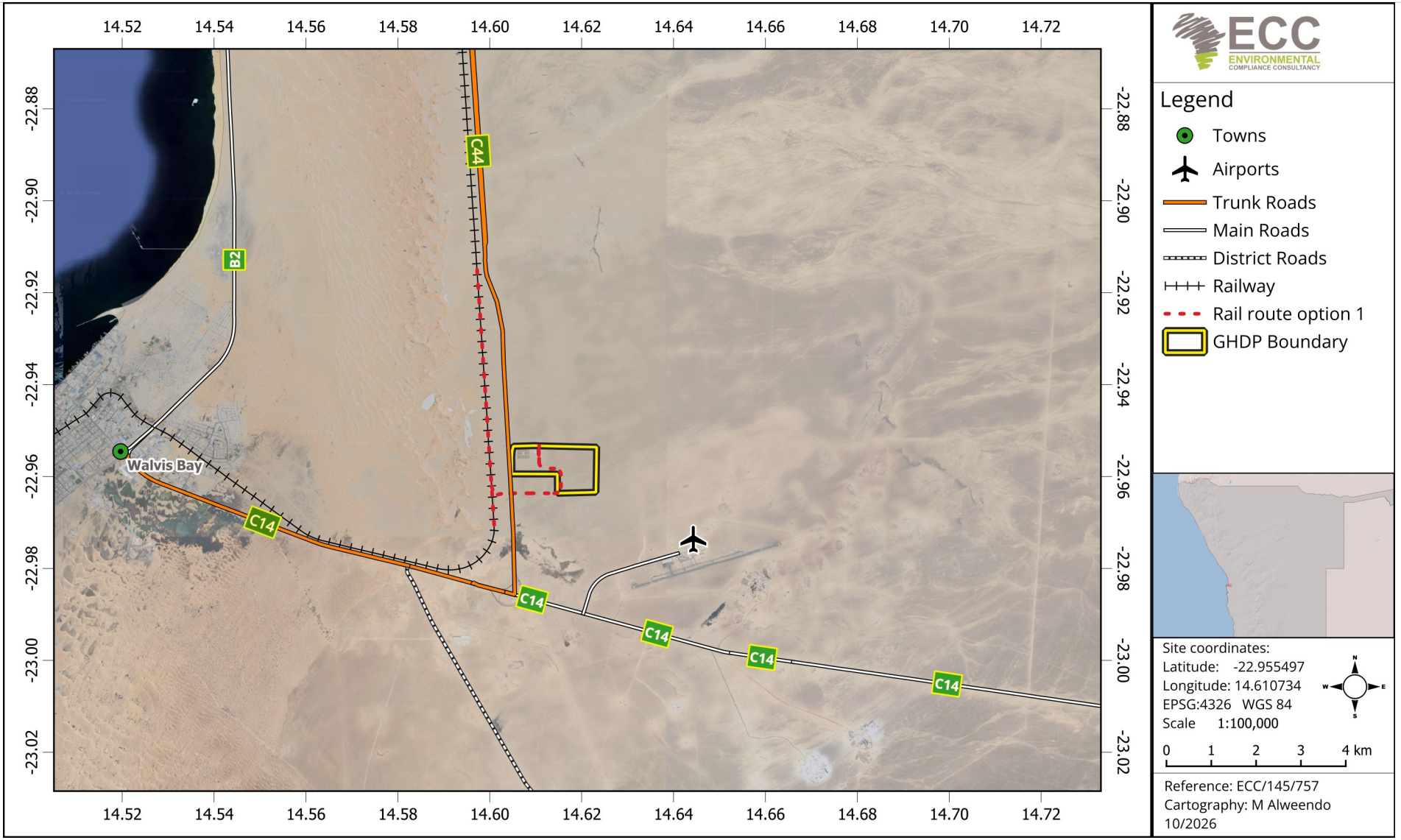

Figure 1- Locality of the proposed Project

1.4 NEED FOR THE PROJECT

The proposed railway siding will provide a dedicated rail connection between the planned H2 Dune Rail Hub and the existing TransNamib operated mainline within Farm 58, Walvis Bay. The Proponent's primary need for the connection is operational. A direct link will allow the hydrogen dual fuel locomotive to be refuelled from the GHDP adjoining the rail hub. The siding will also improve rail connectivity for freight and project material moving to and from the site, supporting CMB.TECH Namibia's expanding operations in the Erongo Region. It forms part of the Proponent's broader investment in sustainable transport and logistics infrastructure for Namibia's green hydrogen and green ammonia value chain. Direct access to the national railway network will encourage the use of rail over road and support the long-term growth of industrial activity associated with the rail hub. The Proponent further notes that future oil and gas activities at the Namibian coast would add value to a rail connection in the area. The Proponent has engaged with other stakeholders on neighbouring portions of Farm 58, including AGL Namibia and Green Metals Refining Ltd, facilitated by TransNamib, regarding shared use of the proposed rail development. This collaborative approach will continue, with the aim of aligning infrastructure planning, avoiding duplicated infrastructure and supporting the broader industrial development of the area.

1.5 PROJECT DETAILS – CONSTRUCTION AND OPERATIONAL PHASES

1.5.1 CONSTRUCTION PHASE

The following activities are envisioned during the construction phase:

- Minimal vegetation clearing within the approved railway corridor;
- Establishment of temporary site access and laydown areas;
- Site preparation, surveying, leveling, grading and earthwork;
- Excavation, cut-and-fill activities and embankment construction;
- Installation of modular track panels and rails, with ballast and concrete sleepers at turnouts only;
- Construction of railway turnouts and connection to the existing TransNamib mainline;
- Installation of culverts, drainage and stormwater management structures where required;
- Transportation and storage of construction materials, equipment and machinery;
- Disposal of surplus cut material at an approved spoil site;
- Import of formation layer material and ballast from licensed sources;
- Supply of water for compaction of earthworks;
- Re-routing of the Dune 7 access road and formalisation of the level crossing;
- Tie-in to the TransNamib mainline under a track possession arranged with TransNamib; and
- Rehabilitation of temporarily disturbed areas following construction.

1.5.2 OPERATIONAL PHASE

Operation of the proposed Project will include the following aspects:

- Movement of freight trains between CMB rail hub and the existing TransNamib railway network;
- Shunting of locomotives and wagons at the railway triangle and workshop facility lines;
- Maintenance, repair and remanufacture of locomotives and wagons at the workshop;
- Refuelling of locomotives and hydrogen tender wagons with diesel and hydrogen;
- Treatment of wash bay and workshop effluent;
- Loading and unloading of freight associated with CMB rail hub;
- Routine inspection and maintenance of the railway track, turnouts and associated infrastructure;
- Vegetation management within the railway servitude, where required;
- Maintenance of drainage infrastructure and railway safety features; and
- Ongoing operation of the railway siding to support freight transport and logistics activities.

2 CONSIDERATION OF ALTERNATIVES

Best practice environmental assessment requires the consideration feasible alternatives to the proposed Project. For the proposed railway siding, alternatives are limited due to the need to connect the planned rail hub to the existing TransNamib mainline. The location and alignment of the railway siding are therefore largely constrained by the existing railway infrastructure, engineering requirements and the location of the proposed rail hub.

Three alignment options were considered for the railway siding. They differ mainly in how they cross Portions 5 and 8 of Farm 58 and in the extent of earthworks required. Option 1 (red dotted line in Figure 1) avoids the land consolidation uncertainty on the privately owned Portion 5 and was confirmed as the preferred alignment in the preliminary design (K&A Consulting Engineers, 2026). The alternatives will be compared during the scoping and impact assessment process on engineering feasibility, constructability, environmental sensitivity and surrounding land use, in line with the Environmental Management Act 7 of 2007 and the Environmental Impact Assessment Regulations (GN 30 of 2012). The Proponent, Cleanergy Solutions Namibia (Pty) Ltd, will confirm the final alignment once this comparison is complete.

Ballasted and non-ballasted track were also compared. Non-ballasted modular track was selected for plain line because wind-blown sand contaminates ballast, increasing maintenance, and the narrower formation reduces earthworks (K&A Consulting Engineers, 2026).

3 THE ENVIRONMENTAL CLEARANCE CERTIFICATE PROCESS

The environmental clearance certificate application for the proposed Project, which is an identified listed activity, is being conducted by ECC and will be undertaken in terms of the Environmental Management Act 7 of 2007 and the Environmental Impact Assessment Regulations (GN 30 of 2012). The process followed for this application is set out in the flowchart in Figure 2.

The scoping plus impact assessment process will include:

1. Screening phase, which includes determining whether the proposed Project is a listed activity and whether an environmental clearance certificate is required (completed);
2. Scoping phase, which includes baseline review and the development of the terms of reference (ToR), identifying specialist studies and consultation with key stakeholders and I&APs (in progress); and
3. Assessment phase, which includes the following:

- Impact prediction utilising ECC's methodology and evaluation of alternatives;
- Determining and assigning mitigation measures;
- Developing monitoring and conceptual rehabilitation plans;
- This phase culminates in the drafting of the scoping plus impact assessment and the draft environmental and social management plan (ESMP);
- Public review of the draft scoping plus impact assessment and draft ESMP; and
- Submission of the final scoping plus impact assessment and final ESMP to the competent authority (MWT) and MEFT for review and RoD, with copies to TransNamib Holdings Ltd and Walvis Bay Municipality (future phase).

A final decision on the application will be made by the Environmental Commissioner, MEFT.

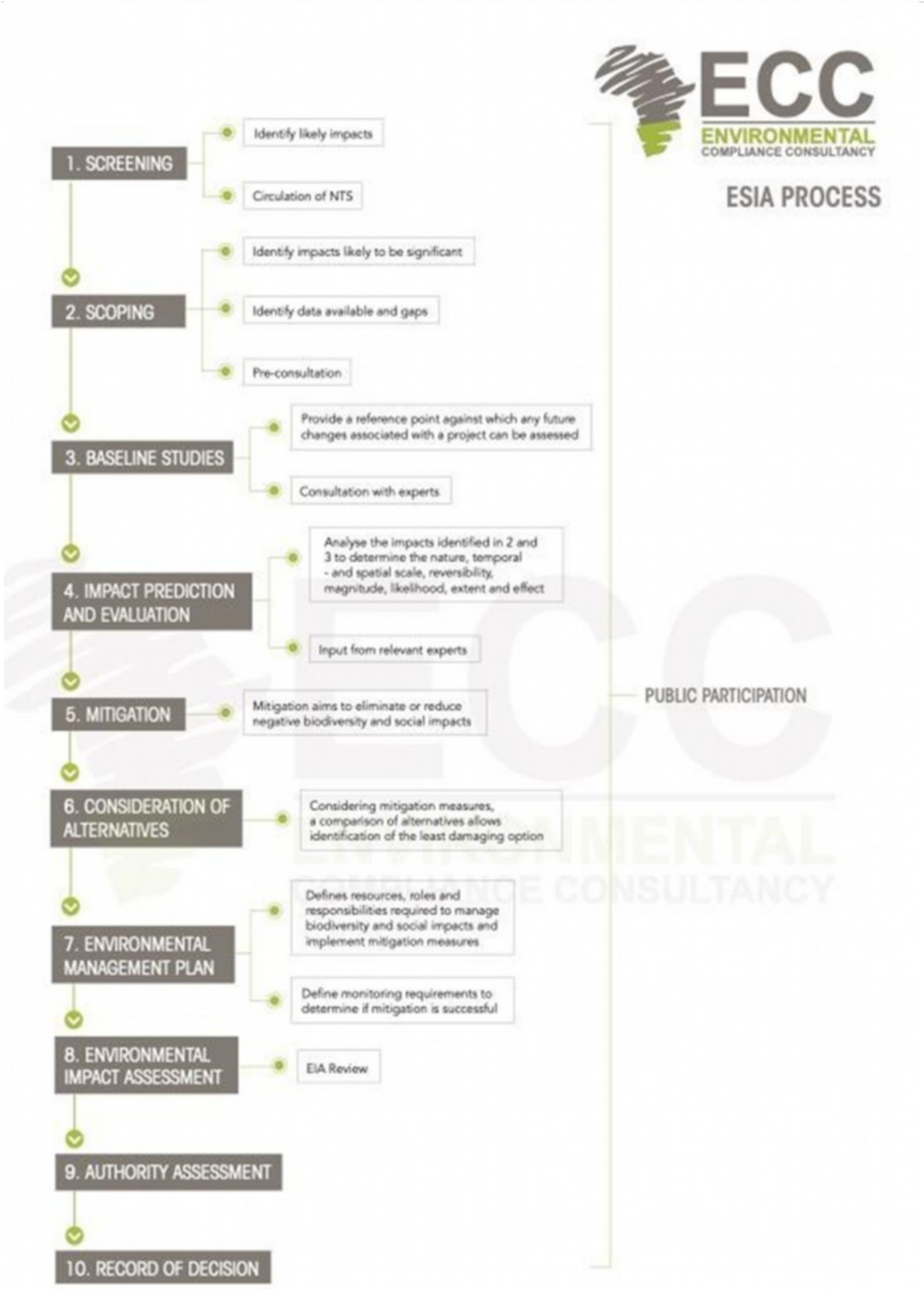

Figure 2 – Flowchart of the environmental and social assessment process

3.1 SCREENING

A review of the planned Project was undertaken and the screening findings against the listed activities was conducted; the findings of which are summarised in Table 1.

Table 1- Listed activities triggered by the Proposed Project

LISTED ACTIVITY	ESIA SCREENING FINDING
WASTE MANAGEMENT, TREATMENT, HANDLING AND DISPOSAL ACTIVITIES (2.1) The construction of facilities for waste sites, treatment of waste and disposal of waste, and any activity entailing the storage, handling or disposal of general and hazardous waste generated during construction and operation.	– Construction will generate general waste (packaging, scrap metal, domestic refuse) and hazardous and hydrocarbon waste (used oils, oil filters, contaminated materials, cement, concrete from batching activities), which will be temporarily stored on site and disposed of at an approved and licensed waste management facility. – Waste segregation, storage and disposal procedures for the construction and operational phases will be described in the environmental and social management plan (ESMP).
FORESTRY ACTIVITIES (4) The clearance of forest areas, deforestation, afforestation, timber harvesting or any other related activity that requires authorisation in terms of the Forest Act, 2001 (Act No. 12 of 2001) or any other law.	– Minimal vegetation clearing will be required where necessary; however, the area is largely sparsely vegetated. – A tree harvesting permit will be obtained from Ministry of Environment, Forestry and Tourism: Directorate of Forestry in Walvis Bay if any protected or indigenous species be identified within the development footprint.
WATER RESOURCE DEVELOPMENT (8.6) Construction of industrial and domestic wastewater treatment plants and related pipeline systems.	– Portable toilets will be used during the construction phase. Effluent will be removed and disposed offsite at a registered effluent treatment site in Walvis Bay. – During the operational phase, toilet and washroom will be connected to a dedicated septic tank. – Domestic wastewater from toilets and ablutions will be kept separate from workshop effluent. – A wastewater discharge permit under the

LISTED ACTIVITY	ESIA SCREENING FINDING
	Water Resources Management Act 11 of 2013, may be required from Ministry of Agriculture, Fisheries, Water and Land Reform (MAFWLR): Department of Water Affairs (DWA).
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 of activity which requires a permit, license 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, license or authorisation or which requires a new permit, license or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste. (9.4) The storage and handling of dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.	– Storage and handling of diesel for machinery and vehicles. – If the fuel storage capacity is more than 600 litres (L), a Consumer Installation Certificate for bulk storage of a hazardous material will be obtained from the Ministry of Industries, Mines and Energy (MIME). – Storage and use of lubricants, hydraulic oils, greases and other petroleum-based products. – Storage and use of paints, solvents and cleaning agents where required. – Refuelling and maintenance of construction equipment and vehicles. – Temporary storage and handling of other hazardous and hydrocarbon waste, including waste oils, contaminated materials and used filters, cement and concrete, prior to disposal at an approved waste management facility. – Hydrogen storage and dispensing will be included in the Project. – Implementation of hazardous and hydrocarbon substances management measures to minimise the risk of accidental spills and environmental contamination.
INFRASTRUCTURE (10.1C) The construction of railways and harbours.	– Construction of a railway siding connecting the proposed Project to the existing TransNamib mainline. – The railway will be approximately 5.7 km in length along Option 1, the preferred alignment confirmed at preliminary design stage. – Construction activities will include site preparation, earthworks, installation of

LISTED ACTIVITY	ESIA SCREENING FINDING
	modular track and rails, ballasted turnouts, drainage infrastructure and railway turnouts. – Earthworks are limited to cut-and-fill formation of the rail bed and embankments for the Project's own infrastructure; no minerals or aggregate will be extracted for sale or use outside the Project, and no borrow pits or quarrying operations are proposed. Should imported fill material be required, it will be sourced from an existing licensed quarry/borrow area.

3.2 STAKEHOLDER ENGAGEMENT

A formal notice must be provided to the public and key stakeholders to inform them about the Project and to invite them to register as I&APs. ECC's stakeholder engagement process follows the outlined procedure as per Section 21 of the Environmental Impact Assessment Regulations (GN 30 of 2012), which is summarised as follows:

- Written notice must be given to all identified stakeholders, I&APs, the landowners and adjacent communities/residents to the site where the activity is being undertaken or to any alternative site. For the proposed Project this includes the following stakeholders:
    - The general public with an interest in the Project;
    - The relevant neighbouring landowners;
    - Owners of Portion 5 and other adjoining portions of Farm 58;
    - Ministry of Works and Transport (MWT);
    - Ministry of Environment, Forestry and Tourism (MEFT);
    - TransNamib Holdings Ltd;
    - Roads Authority;
    - Namibia Water Corporation (NamWater);
    - Owners of the overhead power lines and telephone lines crossing the corridor;
    - AGL Namibia;
    - Dune 7 users and tourism operators;
    - Walvis Bay Municipality; and
    - Erongo Regional Council.
- Site notices will be erected on the boundary of the Project site.
- Adverts will be published in the newspapers for two (2) consecutive weeks:
    - The Republikein;
    - The Namibian Sun; and

  - The Allgemeine Zeitung.
- An I&AP register will be maintained for the duration of the assessment and I&APs are allowed to register and submit comments throughout the scoping plus impact assessment phase until the final scoping plus impact assessment and ESMP are submitted to MEFT for RoD
- The registered I&APs, local authorities and government offices are given fourteen (14) days to review the draft scoping report plus impact assessment and draft ESMP before it is finalised to be submitted to the competent authority and MEFT for RoD.

3.3 POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

The potential biophysical and social impacts should be considered with due regard to the nature and scale of the proposed Project. The potential environmental and social impacts associated with the construction and operation of the proposed railway siding have been anticipated and may include the following:

- Positive socio-economic impacts, including employment opportunities and local economic development;
- Disturbance of terrestrial habitats, fauna, biodiversity and sensitive environmental features;
- Dust, noise and vibration associated with construction and operational activities;
- Visual impacts associated with the construction and operation of the railway siding;
- Generation and management of general and hazardous and hydrocarbon waste;
- Potential soil and groundwater contamination resulting from accidental spills of fuels, oils and other hazardous substances;
- Potential disturbance of unknown archaeological or heritage resources;
- Stormwater ponding and erosion at the two low points crossed by the running line;
- Disruption of access to Dune 7 and safety at the road and rail level crossing;
- Water demand for compaction during construction;
- Occupational health and safety risks associated with construction activities and railway operations; and
- Cumulative environmental and social impacts in combination with existing and planned developments within the Farm 58 industrial development area such as existing pipelines and overhead lines in the corridor.

3.4 DRAFT ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

An ESMP will be developed for the proposed Project setting out auditable management actions for the Project to ensure careful and sustainable management measures are implemented for their activities in respect of the surrounding environment and community. The ESMP becomes the legally binding document upon approval of the ESMP and issuing of the environmental clearance certificate by MEFT. Environmental clearance certificates are issued for a period of 3 years, and renewal is subject to compliance with the provisions and conditions of the environmental clearance certificate.

4 THE WAY FORWARD – PUBLIC PARTICIPATION

Public participation is an important part of the scoping plus impact assessment process. It allows you, the public and stakeholders to raise concerns or provide valuable local environmental knowledge that can benefit the process further as well as aid the planning process for the scoping phase of the defined assessment process.

At this phase ECC will perform the following:

- Identify relevant key stakeholders, authorities, municipalities, environmental groups and I&APs;
- Conduct a public consultation process in accordance with Regulation 21 of the Environmental Impact Assessment Regulations (GN 30 of 2012) as outlined in Section 3.2; and
- Prepare the draft scoping plus impact assessment report and draft ESMP for public and stakeholder review for fourteen (14) days.

Your request for registration as an I&AP as well as any comments on the BID or Project must be submitted in writing and can be emailed using the details in the contact us section below. Registration as an I&AP for the Project can be completed online on ECCs website on the Projects page, or by using this link: https://eccenvironmental.com/projects/

Registration is open throughout the scoping plus impact assessment process, however in order to ensure all I&APs are correctly informed, please initially register by the 15 November 2026.

We welcome any enquiries regarding this document and its content. Please contact:

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