ArcelorMittal South Africa (Pty) Ltd

LOGISTICS HUB ENVIRONMENTAL MANAGEMENT PROGRAMME, SALDANHA STEEL FACILITY, SALDANHA

DEADP Reference Nr.: 16/3/3/1/F4/17/3048/24

AMSA BIDVEST LOGISTICS HUB
SEPTEMBER 2024

PUBLIC

ArcelorMittal South Africa (Pty) Ltd

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OUR REF. NO. AMSA BIDVEST LOGISTICS HUB

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1 INTRODUCTION

WSP Group Africa (Pty) Ltd (WSP) has been appointed by ArcelorMittal South Africa (Pty) Ltd (hereafter referred to as AMSA) in partnership with Bidvest Port Operations (Pty) Ltd (hereafter referred to as Bidvest), to undertake a Basic Assessment (BA) process to meet the requirements under the National Environmental Management Act (Act 107 of 1998) (NEMA), for the proposed new Logistics Hub project and associated reconfiguration of existing infrastructure at AMSA Saldanha Steel Works facility, Saldanha, Western Cape.

In order for the proposed project to proceed, it will require an Environmental Authorisation (EA) from the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP). This Environmental Management Programme (EMPr) was compiled as part of the BA process for the proposed Logistics Hub facility, and must be read in conjunction with the Basic Assessment Report (BAR) in support of the EA application. This EMPr report includes the mitigation measures identified through the BA process to mitigate environmental and social impacts that could arise during the construction and operation of the Logistics Hub.

1.1 BACKGROUND INFORMATION

The proposed Saldanha Logistics Hub ("Hub") is a 50/50 joint venture partnership between AMSA and Bidvest. The Hub will be located on the site of AMSA's Saldanha Works Facility, bordering on the Port of Saldanha. AMSA and Bidvest will enter a 25-year partnership for the development and operations of the Logistics Hub.

The Port of Saldanha is the natural gateway for ore and mineral exports (including manganese and iron ore) from the Northern Cape. The goal of the Hub is to utilise its strategic position as a "back-of-port" operator to support increased volume flow of both export and import cargoes through the Port of Saldanha.

As per the existing Saldanha Steel AEL (Ref: **WC/WC/020**), the facility is permitted to handle 2,832,000 tpa of iron ore for the purposes of steelmaking. Since 2020 Saldanha Steel is under Care and Maintenance, and the Logistics Hub proposes to handle 5,000,000 tpa bulk material ore for the purposes of exporting via the port. Importantly, this will be in addition to the already permitted 2,832,000 tpa of iron ore, and not in replacement of this. Further, as shown below, the proposed bulk commodities do not include the handling of additional iron ore, with the Logistics Hub proposed to store and handle the commodities indicated in the table below.

The Hub includes the stockpiling and export of manganese and other minerals (shown in **Table 1-1**) and was identified as a possible new operation at the AMSA Saldanha Works Facility. The quantities of the manganese and other commodities stored in the warehouse may fluctuate, depending on the bulk commodity required for export, although importantly, the total quantity of material handled, when operations are underway, will not exceed the threshold stipulated of 5,000,000 tpa. It is therefore proposed that a maximum of 5,000,000 tpa of commodities is handled through the warehouse facility for stockpiling and storage. A maximum tonnage of each commodity that could be stored within the warehouse is provided in the table below.

Table 1-1 – Commodities at the Saldanha Steel facility

Commodity	Maximum Allowed Annual Tonnage per Commodity
Manganese Ore (Mn)	4 million tons
Phosphate concentrate (PO_4)	1.2 million tons
Garnet Sands	0.5 million tons
Zircon Sands ($ZrSiO_4$)	0.5 million tons
Lead concentrate (Pb)	0.25 million tons
Copper concentrate (Cu)	0.25 million tons
Zinc concentrate (Zn)	0.25 million tons
Total Maximum Bulk Commodities Handled	**5 million tons**

The existing Rail and Rotary Tippler infrastructure will be used for the receipt of cargo via rail; however, road receipts will also be provided for. The Rotary Tippler connects to the different stockpiling areas through conveyor networks and stacker / reclaimers. This existing infrastructure will be used in conjunction with the proposed bulk commodity receiving, handling, stockpiling and storage facilities of the Hub.

A new warehouse will be constructed to house environmentally and weather sensitive commodities, which will be linked to existing handling and conveyancing systems. The size of the warehouse will be approximately 14,000 m^2 excluding associated infrastructure, i.e. tipplers, rail siding, conveyance systems and transfer stations.

Commodities will be received via rail and road to the Logistics Hub. Transnet Freight Rail (TFR) shunts rail wagons from the Northern Cape to the Saldanha Logistics Hub rail siding. Wagons loaded with commodities will be tipped at the Rotary Tippler, transported via the existing infrastructure, new conveyancing systems (Transfer station, Conveyor belts, tripper car, etc.) and stockpiled at the proposed enclosed warehouse (to be lined with concrete floors, roof structure, side walls sheeting, lighting and access doors for yellow equipment/trucks used during the dispatching). Road deliveries direct from mine to warehouse offloading will be conducted as well. Road deliveries will use existing access roads to the proposed warehouse.

It is proposed that 50% of the manganese commodity (2,000,000 tpa) will be delivered via rail to the Logistics Hub and the remainder via truck and haul roads (2,000,000 tpa). To note the proposed volume of manganese (2,000,000 tpa) to be delivered by haul road represents a worst-case scenario allowing for current challenges regarding rail infrastructure and its impact on transport of commodities via rail. Following planned rail infrastructure upgrades in 2026, it is anticipated that the volume of manganese delivered by haul road will decrease and the majority to be delivered by rail with shunt wagons and the tipplers. This will reduce the truck volume on the roads. It is anticipated that only a total volume of 1,000,000 tpa of manganese commodity will be delivered via haul roadafter the rail upgrades are complete.

Bulk material received via haul road into the warehouse will be wetted by water sprayers to reduce emissions, whereas material received via rail will be chemically sprayed at the tippler and wetted along the conveyor belts prior to being deposited within the warehouse. Within the warehouse and before exporting, the material stockpiles will be wetted by water sprayers to reduce emissions. Before exporting, commodities will be loaded (within the warehouse) with the use of yellow equipment onto skip trucks, then dispatched to the port of Saldanha via the haul road. A detailed description on bulk commodity receipts is provided below.

The 50% of Mn ore delivered via rail will comprise:

- Delivery from rail to the existing rotary tippler, contained within a building with dust extraction and sprayers delivering chemical suppressant to the Mn ore while being tipped from the rail wagons.
- Mn ore will move from the rotary tippler along conveyor CV111 (underground conveyor) to Transfer Station 1 (TS1), contained within a building enclosure.
- From TS1 the ore will be transferred to a new conveyor, which is an above-ground conveyor, semi-enclosed equipped with longitudinal water sprayers.
- From the new conveyor, ore will be loaded onto the main Mn ore stockpile, within the warehouse. Notably, this ore will still be wet from the chemical suppressant applied at the rotary tippler and water applied by the longitudinal sprayers on the new conveyor. Further, the main Mn ore stockpile will be wetted via water sprayers and within an enclosed warehouse to reduce dust emissions.

The bulk material commodities, 50% Mn ore and other commodities, delivered by truck to the warehouse will comprise:

- Trucks will enter the Saldanha Steel site via the existing truck entrance road from the OP 538 Road located east of the logistics hub site. Approximately 1 km of this entrance road is unpaved, although this section receives chemical dust suppressant. All trucks will drive towards the existing weighbridge and then towards the logistics hub warehouse. From the weighbridge to the Saldanha site and logistics hub, this section of entrance road is unpaved and will also receive chemical suppressant.
- Trucks will carry approximately 34 t of commodities per load, covered by the standard strapped tarpaulins required for side tippler road trucks.
- Trucks will unload in the southern end of the warehouse to a truck stockpile, with water being applied to the truck stockpile to reduce dust emissions. The onsite operations will ensure that truck offloading does not result in mixing of commodities. The warehouse was designed to handle the different commodities to be stored on site.
- Yellow equipment (front-end loaders) will be used to transfer material from the truck stockpile to the main commodity stockpiles for reclaiming.
- Trucks delivering commodities from the warehouse to the TPT terminal will carry approximately 69 t of commodities per load, comprising three skips covered by heavy duty, fixed tarpaulins.
- Trucks will exit the warehouse and the Saldanha Steel site via existing paved haul roads that was established for terminal access. Trucks exporting commodities to the terminal will not make use of public roads.
- The bulk of the trucks for commodities export to the terminal will remain at the Saldanha Steel site between deliveries, located at the designated truck staging area, avoiding unnecessary use of public roads. Note, this will be dependent on the trucking requirements of the cargo handling company, so the number of trucks onsite may vary from time to time.

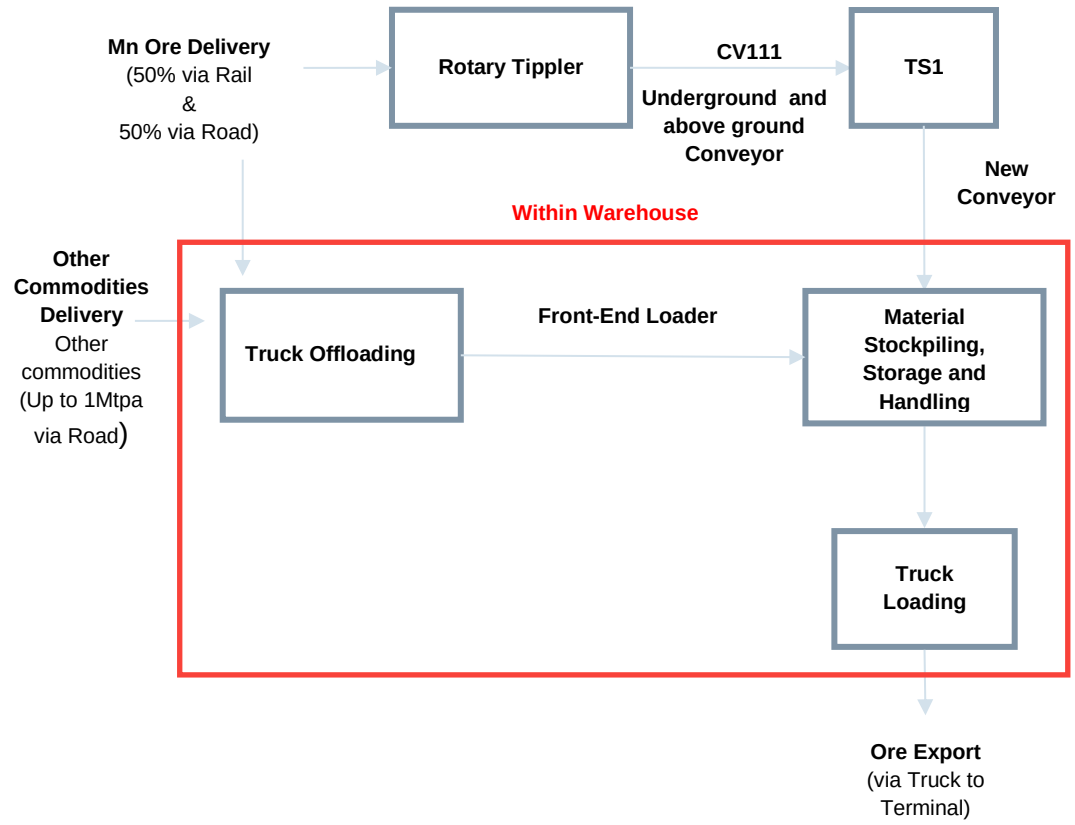

Figure 1-1 - Process flow for the Logistics Hub (Saldanha Steel AEL AIR, 2023).

The design of the warehouse complex are listed below:

- Accommodate a maximum of 1250 tonnes per hour (tph) of manganese ore to be delivered to the warehouse from the existing tippler reclaim tunnel,
- Store material in at least two separate stockpiles of 50,000 tonnes each, i.e. total of 100,000 tonnes,
- Accommodate up to 50% of annual material arrivals via side-tip haul trucks,
- Allow for export shipments via 3 or 4 skip haul trucks, at up to 15,000 tons per 24-hour day,
- Contain all dust within the warehouse, and during all operations to mitigate environmental impacts,
- Supress any dust generated so that the working environment within the warehouse remains suitable for personnel,
- Allow for future expansion beyond 100,000 tonnes storage capacity without disrupting on-going activities,
- To be separate from the existing Steel Plant stockyard operations as far as possible to allow for a potential re-start of the steel plant in future, and this warehouse operation must not inhibit this,
- Design of facility considers the significant and predominant coastal wind direction arriving from the west,
- Provision of adequate space to enable the use of yellow mobile plant to reclaim, manipulate, and move the stockpiled materials,
- Prevent seepage of contaminated water through the floor of the building and entering the groundwater system,

- Provide dust suppression at all transfer points including on the tripper discharge,
- Include energy efficient lighting that meets the minimum illumination requirements as per the OHS Act and regulations,
- Allow for traffic movements to / through / from the warehouse at the envisaged tempo,
- Provide a safe facility for all equipment and personnel during operations and maintenance.

The design engineers of the warehouse complex considered various options for the abovementioned requirements and proposed one concept (same warehouse design and size) for either the north western location or along the south western perimeter on the existing iron ore stockyard. An overview description of the warehouse is provided below.

The warehouse would be designed for four discreet stockpiles of 25,000 tonnes in a linear manner and provide a total stockpile storage of 100,000 tonnes. All four stockpiles will be loaded by the overhead tripper located on Conveyor CV-B. A 2-lane 9m wide roadway is proposed on the western boundary of the warehouse, inside the sheeted structure. On the opposite eastern side, the warehouse terminates in a concrete wall with doors for vehicular access. Access into and out of the warehouse would only be on the eastern side of the building i.e. in the lee of the warehouse, to prevent ingress of wind and egress of dust. The northern, southern and western sides of the warehouse would be permanently sheeted. We envisage at least two access doors and at most five doorways along the eastern wall. These doorways would enable vehicles to enter and exit the warehouse in a controlled manner and without adversely affecting operations inside the warehouse. Four discreet stockpiles are envisaged, with roadways separating each pile. These roadways would be approximately 10m wide and would enable loaded vehicles to exit the warehouse and/or wheel loaders to operate between stockpile and truck to load the skips. In so doing the stockpiles would be emptied from each end and across the entire width of each pile to avoid dead spaces in the stockpiles. The warehouse would measure approximately 54 m wide and 254m long.

The layout of the proposed Logistics Hub development and operations are presented in the Figure 2-2 below. Indicated are the two alternative locations of the warehouse. Both warehouse alternative's locations will, use the same rail routes, truck access routes, commodities transfer station and tipplers. In both options, a large portion of existing infrastructure and facilities will be used. However, different conveyers from the existing transfer station (TS 101) and an additional new transfer station will be required for each option. The difference in alternatives is the location of the warehouse and how these impact the operations of the hub. The preferred option was selected on the basis of achieving operational efficiencies.

1.2 DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

WSP was appointed in the role of Independent Environmental Assessment Practitioner (EAP) to undertake the BA process and compile the EMPr for the proposed project. The Curriculum Vitae (CV) of the EAP is available in **Appendix A**. **Table 1-2** provides details the relevant contact details of the EAP.

Table 1-2 – Details of the EAP

EAP:	**WSP Group Africa (Pty) Ltd**
Contact Person:	Jacqui Fincham
Physical Address:	The Pavilion, 1st Floor, Cnr Portswood and Beach Road, Waterfront, Cape Town 8001
Postal Address:	P.O. Box 2613
Telephone:	(+27) 21 481 8795
Fax:	N/A
Email:	Jacqui.Fincham@wsp.com
EAP Qualifications:	Bachelor of Science (Honours) Biotechnology
EAPASA Registration Number:	EAPASA (2019/362)

1.3 PURPOSE OF THE EMPR

An EMPr is defined as "*an environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation and decommissioning of a project are prevented or mitigated, and that the positive benefits of the projects are enhanced*."

This EMPr has been compiled in accordance with Appendix 4 of GNR 982, in compliance with section 24N of NEMA, as well as the DEA&DP Guideline for EMPs with the purpose of ensuring that negative impacts are reduced, and positive impacts are enhanced through a process of continual improvement, during the construction, operational and decommissioning phases of Logistics Hub Facility (Lochner, 2005).

To facilitate compliance to the EMPr by appointed contractors and sub-contractors, it is required that all onsite personnel are aware of the requirements of the EMPr as well as the prescribed penalties should a non-conformance be identified during the construction, operation, and decommissioning activities.

Further to the above, appointed contractors and sub-contractors will also be required to comply with all relevant legislation and standards.

Note: A hard copy of the EMPr must consistently be kept in the site office and be readily accessible to officials upon request.

1.3.1 EMPR OBJECTIVES

The EMPr has the following objectives:

- Identify mitigation measures and environmental specifications which are required to be implemented for the planning, construction and rehabilitation, operation, and decommissioning phases of the project in order to manage and minimise the extent of potential environmental impacts associated with the facility;
- Ensure that all the phases of the proposed project do not result in undue or reasonably avoidable adverse environmental impacts, and ensure that any potential environmental benefits are enhanced;
- Identify entities responsible for the implementation of the measures and outline functions and responsibilities;
- Create management structures that address the concerns and complaints of interested and affected parties (I&APs) with regards to the proposed project;
- Propose mechanisms and frequency for monitoring compliance, and preventing long-term or permanent environmental degradation;
- Comply with all applicable laws, regulations, standards and guidelines for the protection of the environment;
- Train onsite personnel with regard to their environmental obligations; and
- Facilitate appropriate and proactive responses to unforeseen events or changes in project implementation that was not considered in the BA process.

1.3.2 ENVIRONMENTAL OBJECTIVES AND TARGETS

To facilitate compliance to the EMPr, the Logistics Hub Facility must comply with all relevant legislation and standards and make all personnel aware of the requirements of the EMPr, as well as the prescribed penalties should a non-conformance be identified during the different phases of the proposed Project.

It is recommended that environmental objectives (as outlined in this document) be emphasised as minimum requirements. Objectives include:

- Encourage good management practices through planning and commitment to environmental issues; and provide rational and practical environmental guidelines to:
    - Minimise disturbance of the natural environment;
    - Minimise fugitive emissions;
    - Minimise impact of added traffic into the area;
    - Ensure surface and groundwater resource protection;
    - Prevent or minimise all forms of pollution;
    - Protect indigenous flora and fauna;
    - Prevent soil erosion;
    - Promote sustainable use of resources;
    - Adopt the best practical means available to prevent or minimise adverse environmental impacts;
    - Comply with all applicable laws, regulations, standards and guidelines for the protection of the environment;
    - Promote the reduction, reuse, recycling and recovery of waste; and

- Develop waste management practices based on prevention, minimisation, recycling, treatment, or disposal of waste.

- Describe all monitoring procedures required to identify impacts on the environment;
- Define how the management of the environment is reported and performance evaluated; and
- Train onsite personnel regarding their environmental obligations.

1.4 STRUCTURE OF THE EMPR

For the purposes of demonstrating legal compliance, **Table 1-3** cross-references the sections within the EMPr with the requirements as per Appendix 4 of GNR 326 of 2017.

Table 1-3 – Legislation Requirements as detailed in Appendix 4 of GNR 326

Appendix 4	Legislated Requirements as detailed in Appendix 4 of GNR 326	Relevant Report Section
(a)	details of-	
	(i) the EAP who prepared the EMPr; and	**Section 1.2**
	(ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae;	**Section 1.2** **Appendix A (CV)**
(b)	a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;	**Section 2**
(c)	a map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers;	**Section 2**
(d)	A description of the impact management outcomes, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including-	**Section 4.4,** **and** **Section 7**
	(i) planning and design;	
	(ii) pre-construction activities;	
	(iii) construction activities;	
	(iv) rehabilitation of the environment after construction and where applicable post closure; and	
	(v) where relevant, operation activities;	
(f)	a description of proposed impact management actions, identifying the manner in which the impact management outcomes contemplated in paragraphs (d) will be achieved, and must, where applicable, include actions to -	**Section 7**
	(i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;	
	(ii) comply with any prescribed environmental management standards or practices;	

Appendix 4	Legislated Requirements as detailed in Appendix 4 of GNR 326	Relevant Report Section
	(iii) comply with any applicable provisions of the Act regarding closure, where applicable; and	
	(iv) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable	
(g)	the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	**Section 6**
(h)	the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);	**Section 6**
(i)	an indication of the persons who will be responsible for the implementation of the impact management actions;	**Section 6**
(j)	the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	**Section 7**
(k)	the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	**Section 6**
(l)	a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations	**Section 6**
(m)	an environmental awareness plan describing the manner in which-	**Section 6**
	(i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and	
	(ii) risks must be dealt with in order to avoid pollution or the degradation of the environment; and	
(n)	any specific information that may be required by the competent authority	N/A

2 PROJECT DESCRIPTION

This section provides a description of the project site location and a summary of the project details. The descriptions encompass the activities to be undertaken during the construction, phase, as well as the consideration for the needs and desirability of the project in accordance with Appendix 3 of GNR 982, as amended.

2.1 LOCATION OF THE PROPOSED PROJECT

The proposed Logistics Hub (located at coordinates 32.978435°S, 18.022642°E) is positioned approximately 120 km north-northwest of Cape Town, along the West Coast of South Africa, and is situated just over 2 km from Saldanha Bay. The development site for this project is at the dormant AMSA Saldanha Steel Works facility. The Saldanha Steel Works facility occupies the remainder of farm 1132, adjacent to the port of Saldanha, within the jurisdiction of the Saldanha Bay Local Municipality (part of the West Coast District Municipality), Western Cape Province. Notably, this proposed project is strategically positioned within an area that has undergone significant

development and transformation, with specific zoning for industrial activities, particularly at the AMSA facility in Saldanha.

The affected property(ies) information related to the proposed Hub is provided in **Table 2-1 and Figure 2-1**. **Figure 2-2** depicts the infrastructure and layout plan for the proposed Logistics Hub.

Table 2-1 – Description of the affected property

Farm Details	Portion 2 and portion 13, Farm Yzervarkensburg No 129; No 127 and Farm No.1132
Application area	14 000 m^2 excluding associated infrastructure and facilities
Magisterial District	West Coast District (Saldanha Bay Local Municipality)
Distance and direction from the nearest town	10km north west of Langebaan, 8km north east of Saldanha and 7 km south of Vredenburg.
21-digit surveyor general code for each farm portion	**SG Office** | **Major Region** | **Minor Region** | **Erf / Farm Number** | **Portion Number** **F** C 0 4 6 0 0 0 0 0 0 0 0 1 1 3 2 0 0 0 0

Figure 2-1 – Regional locality map of the Saldanha Steel Facility

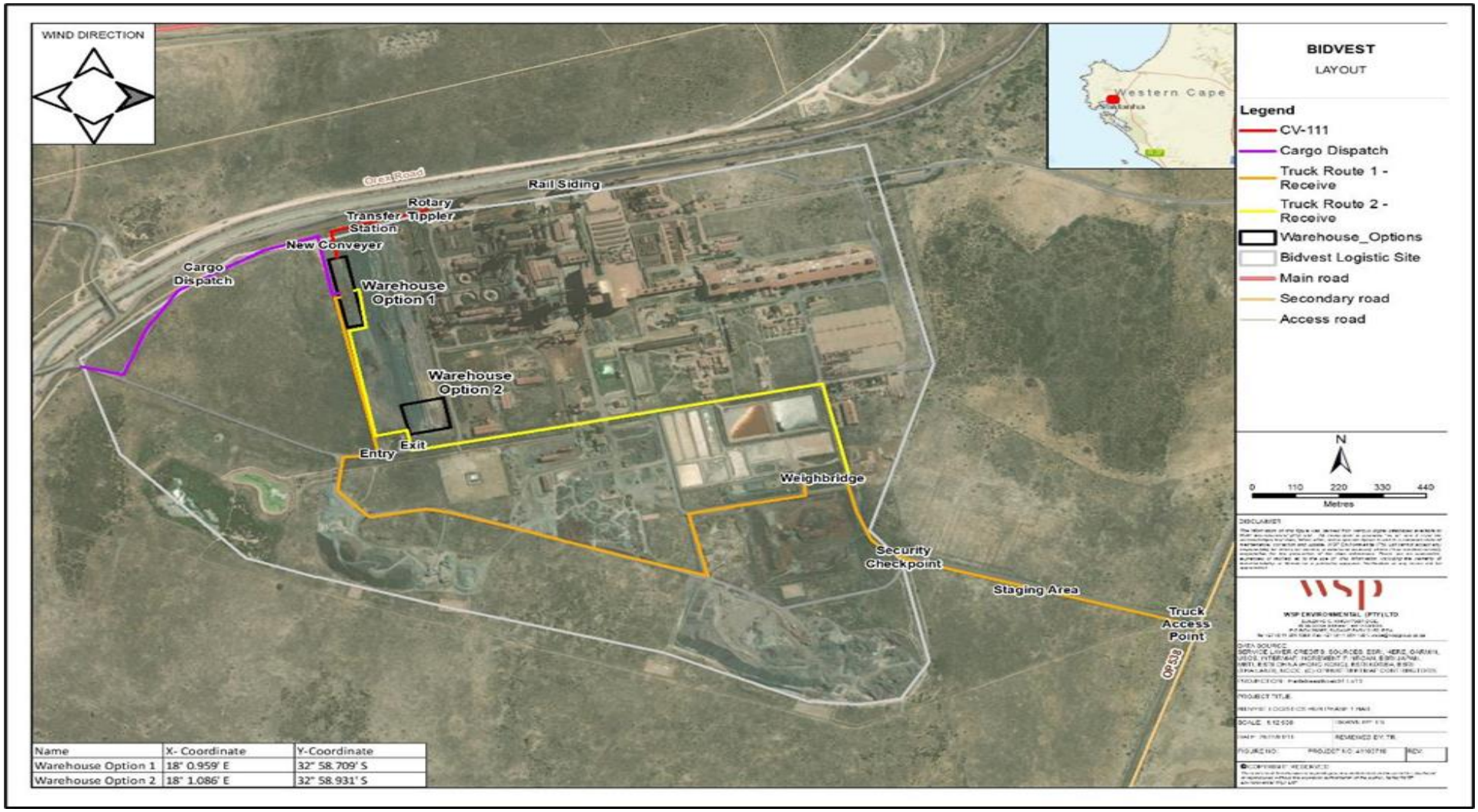

Figure 2-2 - Logistics Hub Layout plan.

2.2 PROJECT INFRASTRUCTURE

The proposed project will comprise the following key components (as shown in **Figure 2-2**):

- Warehouse;
- Rotary Tippler;
- Conveyors;
- Truck offloading;
- Truck loading;
- Material stockpiling, storage and handling; and
- Transfer Station 1 and 2.

These items are summarised in **Table 2-2** and discussed in more detail below.

Note: The current state of this report is based on conceptual design and detailed designs will be undertaken after the appointment of the EPC and Contractor.

Table 2-2 – Key Project Infrastructure

Infrastructure	Description
Rotary Tippler	Mn ore will enter Saldanha Steel via rail, through the rotary tippler where material will be wetted with chemical suppressants. From the rotary tippler the Mn ore will pass onto conveyers and to the warehouse for storage.
Conveyors	▪ Mn ore will be transferred to the enclosed warehouse by conveyors, specifically CV111 (existing and underground) and a new conveyor from Transfer Station 1 to Transfer Station 2, and wetted by water sprayers along the conveyor line. ▪ From the new conveyor line, Mn ore will be loaded onto the main Mn ore stockpile within the warehouse. This Mn ore will still be wet from the chemical suppressant applied at the rotary tippler and water applied by the longitudinal sprayers on the new conveyor.
Transfer Station 1 and 2	Mn ore will be directed to conveyors via transfer station TS1 and TS2, enclosed within a building.
Truck Offloading	Haul trucks will be covered by tarpaulin and offloading of material commodities from haul trucks will be conducted within the enclosed warehouse onto commodity stockpiles. Material stockpiles are wetted by water sprayers.
Material Handling	Front-end loaders will stockpile and manage the movement and distribution of material within an enclosed warehouse.
Truck Loading	Front-end loaders will be used to load material commodities within the warehouse from stockpiles onto haul trucks. The trucks will transport the commodities to the Transnet Saldanha Port via an existing access road between Saldanha Steel and the Port.
Associated Infrastructure	▪ Warehouse building ▪ Tie-ins from existing infrastructure

2.2.1 ROADS AND CONVEYORS

The Saldanha Steel facility extensively utilises its road network, detailed in **Figure 2-3**, primarily for exporting final products from the site, while occasionally facilitating the delivery of raw materials, such as coke. Notably, the main onsite truck route and the haul road leading to the TPT constitute the principal paved roads, while the truck entrance to the weighbridge remains the sole unpaved road onsite. This unpaved road was however designed to handle haul trucks and loads. Upon the implementation of the proposed Logistics Hub, the existing road network will be utilized for exporting material commodities from the site to the terminal. Approximately 50% of the total manganese ore and all other bulk material commodities transported to the Logistics Hub will utilize the existing truck entrance road and weighbridge. The onsite paved road route will facilitate vehicle movement to the waiting area, while the paved haul road route will enable the export of bulk material commodities to the terminal.

Furthermore, the operation of the proposed Logistics Hub necessitates the utilisation of both existing and planned conveyor systems onsite (shown in **Figure 2-4**), including CV111 and one newly proposed conveyor. These conveyor systems link to various stockpiling areas via conveyor networks and stacker/reclaimers. Specifically, manganese ore will travel from the rotary tippler along conveyor CV111, an underground conveyor, to Transfer Station 1 (TS1), which is enclosed within a building. From TS1, the ore will transition to a new above-ground conveyor, equipped with longitudinal water sprayers for semi-enclosed transport. Subsequently, the ore moves to a new Transfer Station (TS2) and will be diverted onto a new conveyor to the warehouse and loaded onto the main manganese ore stockpile. It is important to note that this ore will retain moisture from both the chemical suppressant applied at the rotary tippler and the water applied by the longitudinal sprayers on the new conveyor.

Figure 2-3 - Existing road infrastrure at the Logistics Hub site

Figure 2-4 - Existing and proposed conveyor system at the Logistics Hub site (WSP, 2023)

2.3 PROJECT ACTIVITIES

This section provides summary of the project activities related to the construction, operation, and decommissioning phase of the Logistics Hub facility.

2.3.1 CONSTRUCTION PHASE

The construction process will follow industry standard methods and techniques. Key activities associated with the construction phase are described in **Table 2-3**.

Table 2-3 – Construction Activities

Activity	Description
Establishment of access and internal roads	Internal gravel and paved roads and existing routes will be utilised. The roads are 8m wide and are suitable for use. Where required, widening may be conducted to ensure that it is suitable for use.
Site preparation and establishment	Obtain SHE files' approval and site access. Site establishment will include clearing of vegetation and any bulk earthworks that may be required. The temporary laydown area will be constructed, including establishment of the construction camp and placement of storage containers. The site laydown areas are expected to occur within the footprint of the AMSA site. Site establishment will also entail the installation and/or connection of services for the site camp and work areas (sanitation, electricity, etc).
Transport of components and equipment to site	All construction material (i.e. materials), machinery and equipment (i.e. graders, excavators, trucks, cement mixers, etc.) will be transported to site utilising the national, regional and local road network. Large components required for construction of the warehouse may be defined as abnormal loads in terms of the Road Traffic Act (No. 29 of 1989). In such cases a permit may be required for the transportation of these loads on public roads.
Establishment of a laydown area on site	Construction materials, machinery and equipment will be kept at relevant laydown and/or storage areas. A laydown area of approximately 1ha has been proposed for this project and will be on disturbed footprint on site. The laydown area will limit potential environmental impacts associated with the construction phase by limiting the extent of the activities to one designated area.
Construction warehouse building	The logistics hub warehouse (building) will be constructed on the proposed site. Tie-ins/lines from the existing and new proposed operations will be incorporated into the proposed project components e.g. existing conveyors tied in with the new conveyor.
Construction or maintenance of key components	Construction of the proposed project components: ▪ Conveyors; ▪ Transfer Station; ▪ Truck offloading area; ▪ Truck loading area; and ▪ Material stockpiling, storage and handling areas.
Establishment of ancillary infrastructure	Ancillary infrastructure will include a workshop, storage areas, office and a temporary laydown area for contractor's equipment.
Rehabilitation	Once all construction is completed on site and all equipment and machinery has been removed from the site, the site will be rehabilitated. During this phase, used and unused material will be removed from site.

2.3.2 OPERATIONAL PHASE

During operation the key management and maintenance activities will include inspection of the Logistics Hub operations, and maintenance of the warehouse, tipplers, transfer stations, conveyers and other associated infrastructure. The operation phase will include the receiving, handling, storing and distributing of the commodities as provided in the project description above.

2.3.3 DECOMMISSIONING PHASE

The decommissioning phase will include activities similar to that of the construction phase as indicated in **Table 2-3,** however this phase is to decommission the Logistics Hub operations and facility. This phase will also include:

- All commodities and waste related material to be removed from site;
- Infrastructure to be demolished, if required;
- Plant, trucks and vehicles to be removed offsite, if required;
- Termination of all services to the area; and
- Rehabilitation of all areas to meet commitments of the closure plan, EA or the EMPr.

3 NEED AND DESIRABILITY

The Department of Forestry, Fisheries and the Environment's (DFFE's) Guideline on Need and Desirability (GN R. 891, 2014) emphasises that while national strategies and policies are important for the development of the economy, they also need to address strategic issues such as climate, food security and the sustainability of natural resource supply and the condition of South Africa's ecosystem services. It is for this reason that the overarching framework for assessing the need and desirability of developments is adopted at policy-level by identifying and promoting the activities/industries/developments that civil society needs. The guidelines also note that at the project level (e.g., within the BA process), the "need" and "desirability" of a project should be reflected in the content of local and regional plans, frameworks and strategies.

Considering the above, the purpose of this part of the report is to outline the necessity and desirability of the proposed Project, highlighting how it fits into the strategic framework of national, regional and local development policies and programmes, as well as wider societal requirements (where applicable).

3.1 NATIONAL POLICY AND PLANNING FRAMEWORKS

This section outlines some of the key relevant national policies and frameworks developed by South Africa for the proposed project. Furthermore, this section indicates how the introduction of the logistics hub and expansion of the port will aid the export of commodities identified for the logistics hub and align with national policy and planning frameworks.

3.1.1 NATIONAL DEVELOPMENT PLAN (NDP-2011)

The Saldanha Bay area plays an important role in the broader strategic framework of the national government, as driven by the National Development Plan (NDP) and National Growth Plan. Saldanha Bay was identified as a presidential priority development region in 2011. The NDP identified the Greater Saldanha region as a special intervention area, because of its natural deep-

water harbour and industrial development prospects. The Saldanha Bay Industrial Development Zone is therefore an important national government initiative.

The South African economy has large global shares in group metals, gold, diamonds, manganese, coal, iron ore and uranium. In addition, mining, minerals, and secondary beneficiated products account for almost 60% of export revenue. Yet, over the past decade, the mining sector has not been able to match the global growth trend in mineral exports due to poor infrastructure and regulatory and policy frameworks that hinder investment. The NDP thus, proposes to increase mining exports by giving clear certainty over property rights and increasing rail, water, and energy capacity in the country.

The Saldanha Bay area plays an integral part in Operation Phakisa to assist in implementing and fast-tracking the NDP. The bay area and several specific aquaculture projects have been highlighted in the Oceans Economy initiative of Operation Phakisa as a focus area and enabler for growth and development.

3.1.2 INDUSTRIAL POLICY ACTION PLAN (2018/2019 – 2020/2021)

The Industrial Policy Action Plan for the period 2018/2019 – 2020/2021 and beyond represents a significant step forward in scaling up the country's efforts to promote long-term industrialisation and industrial diversification (Department of Trade and Industry, 2017). One of the key themes of the plan is radical economic transformation whereby decent sustainable jobs - particularly for the most marginalised and vulnerable groups of society - are created. In addition, the plan calls for the increase in the local demand aggregate through the support of local suppliers by the private sector (Department of Trade and Industry, 2017). Moreover, a focus on labour intensity that links the primary and secondary sectors is envisaged.

3.1.3 A BENEFICIATION STRATEGY FOR THE MINERALS INDUSTRY OF SOUTH AFRICA (2011)

The strategy serves to provide a framework that will enable an orderly development of the country's mineral value chains (Department of Mineral Resources, 2011). It is noted that steel and stainless steel are major consumers of manganese, and South Africa is a major producer of this mineral. Interventions developed for the optimal value creation of iron and steel development are:

- Address import-parity pricing of iron ore and steel for downstream users to support the final fabrication process. Measures to achieve this could include taxes on exports and conditionalities linked to the provision of infrastructure.
- Develop strategies to address other constraints on downstream steel fabrication, including identifying major opportunities for using steel for local product:
    - Invoke regulatory provisions to ensure sustainable and developmentally priced input mineral commodities for new and existing steel manufacturers in South Africa.
    - Investigate mechanisms to protect and support the competitiveness of existing intermediary plants, such as ferro-chrome smelters.
    - Encourage investment into South African steel industry to break prevailing anti-competitive behaviour of current operators.

3.2 REGIONAL, LOCAL POLICY AND PLANNING FRAMEWORKS

This part of the report discusses the policy and planning frameworks that are relevant to the Project at a regional level.

3.2.1 THE PROVINCIAL SPATIAL DEVELOPMENT FRAMEWORK (PSDF, 2014)

The PSDF is underpinned by three interrelated themes, namely:

- Sustainable use of the Western Cape's spatial assets (resources);
- Opening up opportunities in the Provincial space-economy (space economy); and
- Developing integrated and sustainable settlements (settlement).

From a spatial perspective, the Logistics Hub is in line with the PSDF as it does not operate in an area earmarked for future urban or residential development. It utilises space within a broader industrial area and its operations are in line with surrounding land uses.

The Western Cape Provincial Spatial Development Framework (WCPSDF) furthermore seeks to improve the effectiveness of public investment in the Province by:

- Incorporating credible spatial planning principles to support all capital investment programmes;
- Spatially targeting and aligning the different investment programmes; and
- Creating and facilitating opportunities for community and business development in targeted areas.

The WCPSDF also includes the following spatial agenda:

- Grow the Province's economy in partnership with the private sector, non-government and community-based organisations;
- Use infrastructure investment as the primary lever to ensure urban and rural spatial transitions; and
- Improve the sustainable use of the Province's spatial assets and resources.

The Saldanha Works site was placed into 'Care and Maintenance' in April 2020 and as a result there has not been steel manufacturing occurring on the site. Utilising the site as a Logistics Hub will ensure that the existing infrastructure is used more effectively and will promote the export of manganese ore and other listed commodities. It will also create employment opportunities in the area and grow the Province's and Municipality's economy.

3.2.2 WEST COAST DISTRICT MUNICIPALITY INTEGRATED DEVELOPMENT PLAN (2022 - 2027)

The West Coast District Municipality Integrated Development Plan (IDP) 2022 - 2027 is the main strategic instrument which seeks to guide, inform planning, management, and development of the municipality. It creates a platform for communities, stakeholders, the private sector, and non-governmental organisations to engage meaningfully regarding major and future developments and to encourage potential investors to invest in the West Coast which will contribute to the alleviation of poverty and the enhancement of economic growth. The strategic goals identified are as follows:

- Ensure environmental integrity of the West Coast.
- Pursue economic growth and facilitation of job opportunities.
- Promote social well-being of the community.
- Promote bulk infrastructure development services.

- Ensure good governance and financial viability.

The West Coast District Municipality IDP 2022 – 2027 indicates that the Saldanha port and manufacturing sector are key to economic performance in the Municipality. Importantly, Transnet issued a request of interest for a private sector operator to develop the back of port iron-ore and manganese facility in Saldanha. However, at the time the request was not issued due to concerns around environmental impacts. It is envisaged that Transnet wants to develop the back of port iron-ore and manganese facility to increase the storage and export of these commodities. The development of the AMSA Logistics Hub is aligned with the future plans at the Transnet Port.

3.2.3 SALDANHA BAY LOCAL MUNICIPALITY INTEGRATED DEVELOPMENT PLAN 2022 – 2027

The Saldanha Bay Local Municipality Integrated Development Plan 2022- 2027 seeks to support sustainable development of the municipal area and its communities through integration and balancing of the economic, ecological, and social factors which influence development. This integration and balancing must be achieved without compromising the institutional capacity required to implement and coordinate the actions required across different sectors and spheres of government. The Saldanha Bay Local Municipality Integrated Development Plan 2022- 2027 has identified strategic objectives, namely:

- Foster community development through upliftment, integration, empowerment, and communication.
- Build a diversified economy through investment, growing current and new businesses and enabling the creation of sustainable jobs.
- Provide cost effective services with financial and institutional sustainability.
- Promote innovation and modern technology to enhance service delivery and increase opportunities.
- Implement interventions to deliver community safety, clean spaces, and environmental protection.
- Provide enhanced basic services that are reliable, efficient, and affordable.

These key strategies serve as the foundation for the municipality to realise its vision, help drive National and Provincial agenda, expand, and enhance infrastructure and to make sure its residents have access to the essential services they require. In addition, Saldanha Bay, in which the proposed development is located, has a natural deep-water harbour which provides comparative advantages around which globally competitive and job rich sectors can be built.

3.2.4 THE SALDANHA BAY MUNICIPALITY SPATIAL DEVELOPMENT FRAMEWORK (MSDF)

The Saldanha Bay Municipal Spatial Development Framework (MSDF) (May 2019) recognises the need to “Promote the industrial area, including high-tech economic development, to take advantage of global demand opportunities and encourage local employment and capacity building.” It also recognises that “the Saldanha Port is strategically positioned to contribute to the economic growth of the municipal area. The port creates opportunities for exporting of local products (i.e., steel, agricultural products etc.).”

The Saldanha Works site was placed into ‘Care and Maintenance’ in April 2020 and, as a result, there has not been steel manufacturing occurring on the site. The proposed Logistics Hub will ensure that the existing infrastructure can be used more effectively and will allow for the export of

manganese ore from the Port of Saldanha. It will thus boost the local economy and create employment opportunities. The site is also located in an area earmarked and zoned for industrial activities and is thus consistent with the spatial goals of the MSDF.

4 ENVIRONMENTAL SENSITIVITY

4.1 ENVIRONMENTAL SENSITIVITIES

Specialist assessments were conducted in accordance with the Procedures for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes, which were promulgated in Government Notice No. 320 of 20 March 2020 and in Government Notice No. 1150 of 30 October 2020 (i.e. “the Protocols”), or Appendix 6 of the EIA Regulations, depending on which legislation apply to the assessment under consideration. A summary of the specialist studies conducted for the proposed development provided below.

Table 4-1 – Assessment Protocols and Site Sensitivity Verifications

Specialist Assessment	Specialist Sensitivity Verification
Archaeological and Cultural Heritage Impact Assessment	The results of the HIA study indicate that the proposed development site is not a sensitive archaeological landscape, and has been highly transformed by historical agriculture and industrial development. The survey further supported the hypothesis by Smith and Mutti (2013) that there is a pattern showing a lack of archaeological sites, particularly remains of coastal shell middens or material dropped en-route from areas further inland to and from the coast. The areas surveyed for this proposed development lie outside the immediate coastal band and the lack of natural outcrops of granite, streams or deflation bays further add to the unlikelihood of finding extensive archaeological resources on these properties. No places or features of cultural value were identified within or near to the proposed development area by the Aikonese Cochoqua Khoi Tribal Council as part of the extensive consultation process conducted. The HIA concluded that there are no heritage resources on the site proposed for the development of the Logistics Hub warehouse and that the proposed development will have no impact on any significant archaeological or cultural landscape heritage resources. The HIA indicates that no mitigation is required prior to construction. However, the HIA recommends that the HWC Chance Fossil Finds Procedure is implemented during the construction phase of the proposed development and that these conditions are included in the EMPr. Included in the EMPr is that the onsite environmental officer appointed during the construction phase and the external environmental control officer are familiar with and understand the conditions and mitigation measures included in the HWC Chance Fossil Finds Procedure and that staff receive training on this. Should any archaeological resources or unmarked human remains be uncovered or exposed during construction operations these must immediately be reported to Heritage Western Cape (Att: Ms Stephanie Barnardt 021 483 9543). There are no indications of any structures of cultural significance located within the proposed area. While in the past, the area may have had some cultural landscape significance relating to agricultural use through time, at present, the cultural landscape is dominated by industrial infrastructure associated with the Saldanha Steelworks and the Saldanha Bay IDZ. As such, the proposed development conforms with the predominant land use of the area and is not likely to negatively impact the cultural landscape.
Palaeontology Impact Assessment	The earthworks associated with the construction of the proposed development will involve the thin, loose Springfontyn Formation Q1 coversands and the underlying calcrete of the uppermost part of the Langebaan Formation aeolianites. Beneath the low elevation parts of

Specialist Assessment	Specialist Sensitivity Verification
	the Project Area less than ~12 m asl. it is expected that shelly beds of the Velddrif Formation raised beaches are present and could possibly be intersected in places. Although no fossil remains were identified on the surface within the proposed development area, it is possible that extensive excavations may uncover fossil remains associated with the Langebaanweg Formation. It is understood that the excavations anticipated for the proposed development will not exceed 3m. As such, although it is possible that fossil remains may be impacted by these excavations, this is unlikely. Pether indicates that "Without mitigation the significance of the impact of the earthworks on the fossil bone content of the Springfontyn Fm. Q1 coversands is low negative and with mitigation is low positive" (CTS Heritage, 2023). Without mitigation the significance of the impact of the earthworks on the fossil bone content of the Langebaan Fm. is medium negative. Notwithstanding a similar medium, but positive significance with mitigation, depending on the scientific significance of the actual finds, the significance of the impact may range from medium positive to high positive. Without mitigation the significance of the impact of the earthworks on the fossil shell content of the Velddrif Fm. is low negative and with mitigation is low positive. The overall palaeontology significance for the proposed development is rated as low negative without mitigation and low positive with mitigation (CTS Heritage, 2023).
Terrestrial Biodiversity Impact Assessment	According to the Biodiversity Compliance Statement undertaken, the botanical conservation value of a site (usually known as botanical sensitivity) is a product of plant species diversity, plant community composition, rarity of habitat, degree of habitat degradation, rarity of species, ecological viability and connectivity, vulnerability to impacts, restoration potential and reversibility of threats. The proposed project area which includes the proposed site and immediate adjacent area has a very low negative botanical sensitivity (Nick Helme Botanical Surveys, 2024). Furthermore, the area adjacent to the proposed development area has been heavily disturbed in the past, has low to moderate levels of botanical diversity and structure, and supports only a single plant Species of Conservation Concern (SCC) (Nick Helme Botanical Surveys, 2023). As the Logistics Hub will be developed on a hardstand previously used for the storage of iron ore for the steel making manufacturing process and supports no vegetation, the project area has a very low botanical sensitivity, the state of the onsite biodiversity did not influence the proposed development as it is heavily disturbed. According to the Biodiversity Compliance Statement all development will be located in areas of very low botanical and faunal sensitivity, and the overall construction and operation phase ecological impact of this component is likely to be of very low negative significance and no specific mitigation is required.
Aquatic Biodiversity Impact Assessment	According to the Aquatic Biodiversity Compliance Statement, no natural aquatic ecosystems (rivers or wetlands) were observed within the study area during the field assessment conducted in early 2023. The area to the south of the proposed expansion area, that is indicated as a depression wetland by National Wetland Map 5 (NMW5), appears to be a previously excavated area which is now water-filled. Landsat 4-5 satellite imagery of the study area dated 1998 (https://apps.sentinel-hub.com/), shows extensive excavations in the area. No other wetland or watercourse features were identified in the proposed expansion area, nor within 500 m of the study area. As such, the system is not considered to support wetland or riparian habitat and a 'low sensitivity rating' for aquatic biodiversity in the study area is therefore motivated (WSP, 2023). The Aquatic Biodiversity Compliance Statement further indicated that construction of the proposed new infrastructure is not anticipated to result in significant impacts to any aquatic biodiversity receptors and that the proposed site has a low sensitivity rating. Furthermore, the compliance statements indicated that the development of the Logistics Hub will not have a significant impact on the biodiversity of the proposed and surrounding area.

Specialist Assessment	Specialist Sensitivity Verification
Social Impact Assessment	The development of the proposed Logistics Hub will offset some of the negative impacts of the Saldanha Steel facility placed under care and maintenance since January 2020. The Project will create employment, training, and business opportunities during the construction and operation phases. The potential negative impacts of the construction and operation phases can be mitigated and positive impacts can be enhanced by the measures included in the EMPr. Some unfavourable impacts such as the potential impact on workers' health as a result of potential dust emissions during loading and offloading activities have been rated as highly negative and significant. Mitigation measures have been presented and by implementing these measures the impact is reduced to a medium negative impact. Other impacts on the construction, operation, and decommissioning phases have been rated as medium negative to high positive, respectively. If mitigation measures are implemented, it is anticipated that the consequence and probability of the negative impacts will be reduced. The obvious direct positive impacts relating to opportunities for employment in the construction and operation phases will have a significant positive impact to the region's economy.
Economic Impact Assessment	Economically, the proposed Logistic Hub regardless of alternative is not envisioned to create any negative impacts, thus, net positive economic impacts associated with the construction and operation phases of the proposed Logistics Hub would outweigh the net negative effects. The proposed project is envisaged to have a positive stimulus on the local economy and employment creation, leading to the economy's diversification and a small reduction in the unemployment rate. Due to the duration of the construction and operation phases, the construction phase economic impacts are temporary and therefore have a temporary effect, but those experienced during the operational phase are expected to last decades; hence the impacts during this stage would be of a sustainable nature. The proposed Logistics Hub will provide a means to improving the storage capacity of certain commodities, especially manganese, which will in turn result in improved export, economic diversification of upstream and downstream sectors, as well as enable economic growth in the Northern Cape. The economic impacts during construction and operational phases can be viewed in terms of a change in the following: • Job creation – the number of additional jobs created by economic growth. This includes jobs in planning and constructing the facility and sustainable jobs at the facility once it is operational. Indirect and induced job creation will also occur because of direct job and income creation. • GDP – the value of all final goods and products produced during a one-year period within the boundaries of a specific area, as a direct, indirect, and induced result of activities for/at the precinct during planning, construction, and operation. • Business output (or sales volume) – the value of all inter- and intra-sectoral business sales generated in the economy because of the planning, construction, and operation of the development. The construction work on the infrastructure and warehouse will lead to the expansion of business sales for existing businesses located within the municipality. These changes are measured in terms of new business sales, i.e., new sales that will be generated in the economy as a direct result of the capital investment in the development project. • Additional Household Income - Employment positions during construction will generate revenue for the affected households through direct, indirect, and induced effects. Households' earnings will be generated through indirect and induced effects resulting from project expenditure. Although temporary for the construction phase, this increase in household earnings will have a positive effect on the standard of living in these households. Household income for staff appointed during the operational phase will be sustainable as this phase will last for a longer time period (decades). Any of these measures can be an indicator of improvement in the economic and socio-economic well-being of residents, which is generally the goal of any investment project.

Specialist Assessment	Specialist Sensitivity Verification
	Consideration must be given to the surrounding environment both biophysical and social. From a policy and planning perspective the proposed Logistics Hub meets several specific policy objectives, such as being strategically located within close proximity of the active harbour thus allowing for improved exports and imports of commodities, as well as expansion of industrial activities in an industrial hub and development node (Urban-Econ, 2024). Importantly, it must be noted that the Saldanha Bay Local Municipality as per their Spatial Development Framework highlights the promotion of industrial development as a priority. Furthermore, the natural deep-water harbour which provides comparative advantages around which globally competitive and job rich sectors can be built, i.e. proposed Logistics Hub regardless of alternative.
Atmospheric Emissions Impact Assessment	The commodities will be stockpiled in a warehouse and vehicles will only enter and exit the leeward side of the warehouse preventing impact of wind on the commodities. Stockpiled commodities will be sprayed to ensure they remain wet to minimise dust generation. Chemical suppressant may also be used for certain commodities depending on the commodity, supplier and purchaser requirements. Before transport via rail or road, commodities will be sprayed with water or chemical suppressant and covered by tarpaulin to minimise dust generation of commodities. The Logistics Hub was developed to include these engineering design and procedure controls to minimise emissions from the onsite operations. The Atmospheric Emissions Impact Assessment was conducted to determine the possible emissions from the proposed development and operation, and to provide mitigation measures to manage the emissions and dust. Based on the dispersion modelling predictions, the following key, summary findings are noted: • Concentrations associated with the Logistics Hub operations are predicted to exceed the 24-hour average PM_{10} NAAQS past the Saldanha Steel fence line, extending towards the east. However, importantly, these concentrations do not impact residential sensitive receptors, with all sensitive receptor concentrations predicted to remain **low**. PM_{10} 24-hour average and long-term (annual) concentration predictions will remain below the relevant NAAQS at all residential sensitive receptors. $PM_{2.5}$ 24-hour average and long-term (annual) concentration predictions will remain below the relevant NAAQS at all identified sensitive receptors, including the access point. • Manganese (Mn) concentrations associated with the Logistics Hub operations are predicted to remain well below respective international guidelines, with no impacts on sensitive receptors, nor the receiving environment. Mn 24-hour average and long-term (annual) concentration predictions will remain below the relevant international guidelines at all residential sensitive receptors. • Dust fallout rates are predicted to remain **low** at all sensitive receptors, below the Residential Standard. However, exceedances of the non-residential standard are predicted on the northern fence line of Saldanha Steel. Importantly, the Saldanha Steel operations are located alongside the northern fence line, with emissions having little time to disperse sufficiently prior to reaching the fence line. Importantly, compliance with the residential standard is predicted approximately 400m from the fence line, with the area potentially impacted comprising a railway and open lands, with no inhabitants in the area. Dust emissions remain the single potential impact associated with the proposed Logistics Hub and this can be adequately managed through the implementation of the proposed mitigation measures and the fugitive dust management plan.

4.2 SENSITIVITY MAPPING

Environmental sensitivity maps have been compiled based on the sensitivities and buffers outlined in the following specialist studies:

- Social Impact Assessment;
  - There are no residences within the 3km radius.
  - Within a 3 to 5km radius of the area under consideration, the predominant land use is open land with industrial areas, including the non-operational Saldanha Steel Works and Saldanha Port.
  - Residential areas are mainly found outside the 5km radius, particularly in the southwest near the outskirts of Saldanha Bay, in the southeast near the outskirts of Langebaan, and in the north, with Vredenburg located beyond the 5km radius.
- Terrestrial Biodiversity Impact Assessment;
  - Terrestrial biodiversity of the proposed development and adjacent area.
- Air Quality Assessment.
  - $PM_{2.5}$, PM_{10}, dust fallout and Mn long-term concentrations in relation to sensitive receptors.

The maps of influence and sensitivity maps from these specialist studies are provided in **Figure 4-1** and **Figure 4-6**. Additional and detailed sensitivity maps with explanations are provided within the respective specialist reports.

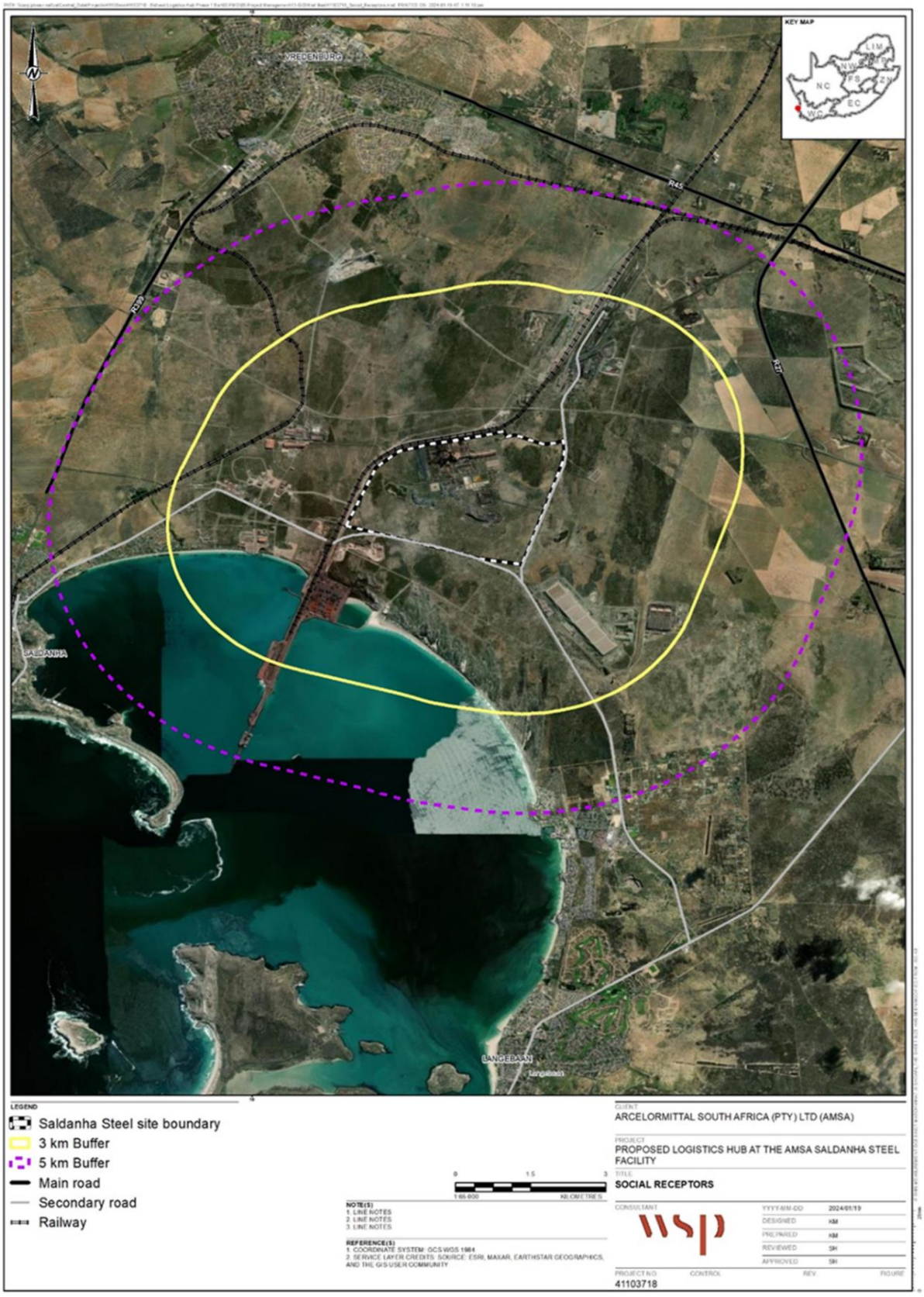

Figure 4-1 - Social Impact Assessment zone of influence map (WSP, 2023)

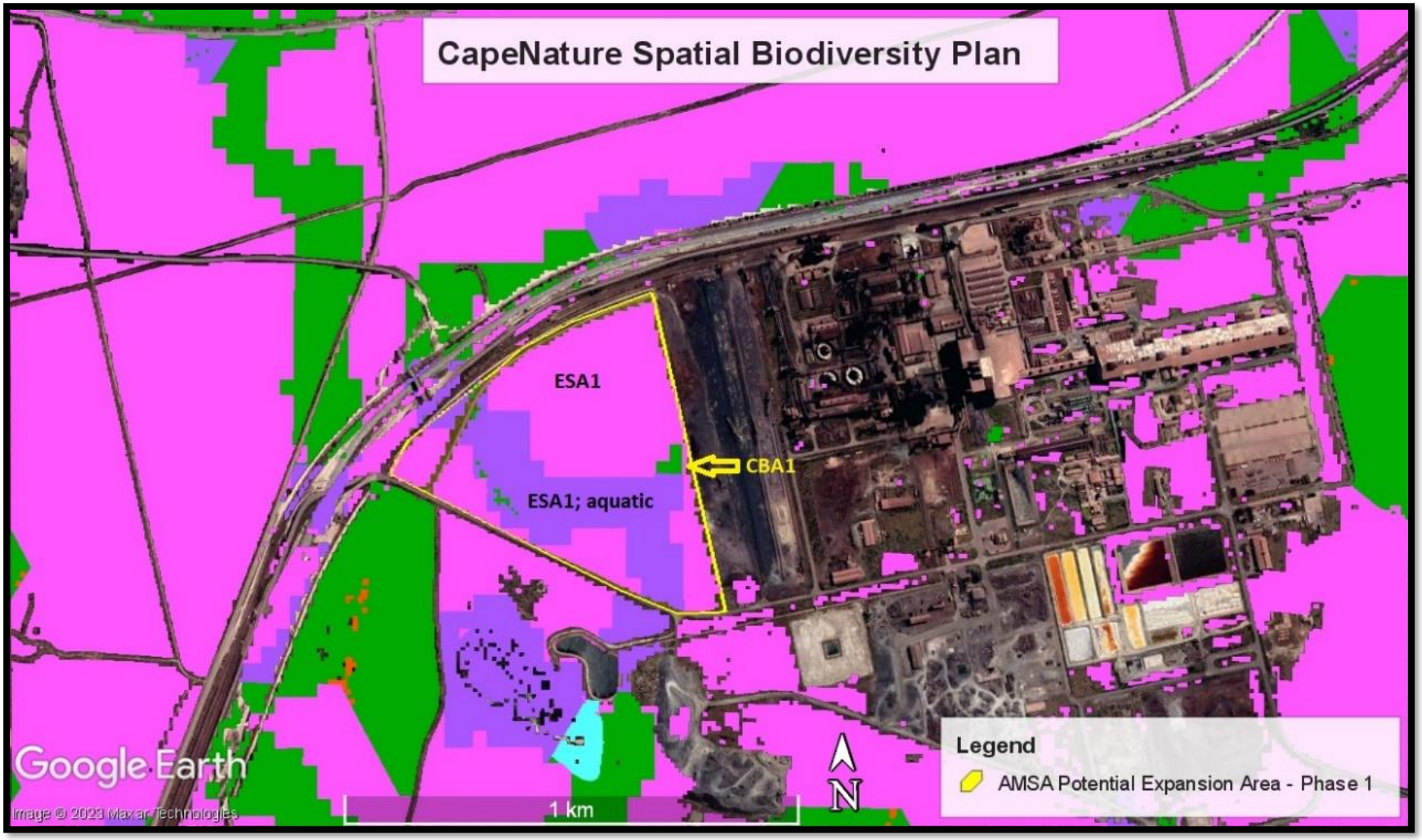

Figure 4-2 – Satellite image showing Terrestrial Biodiversity study area (Nick Helme Botanical Surveys, 2023).

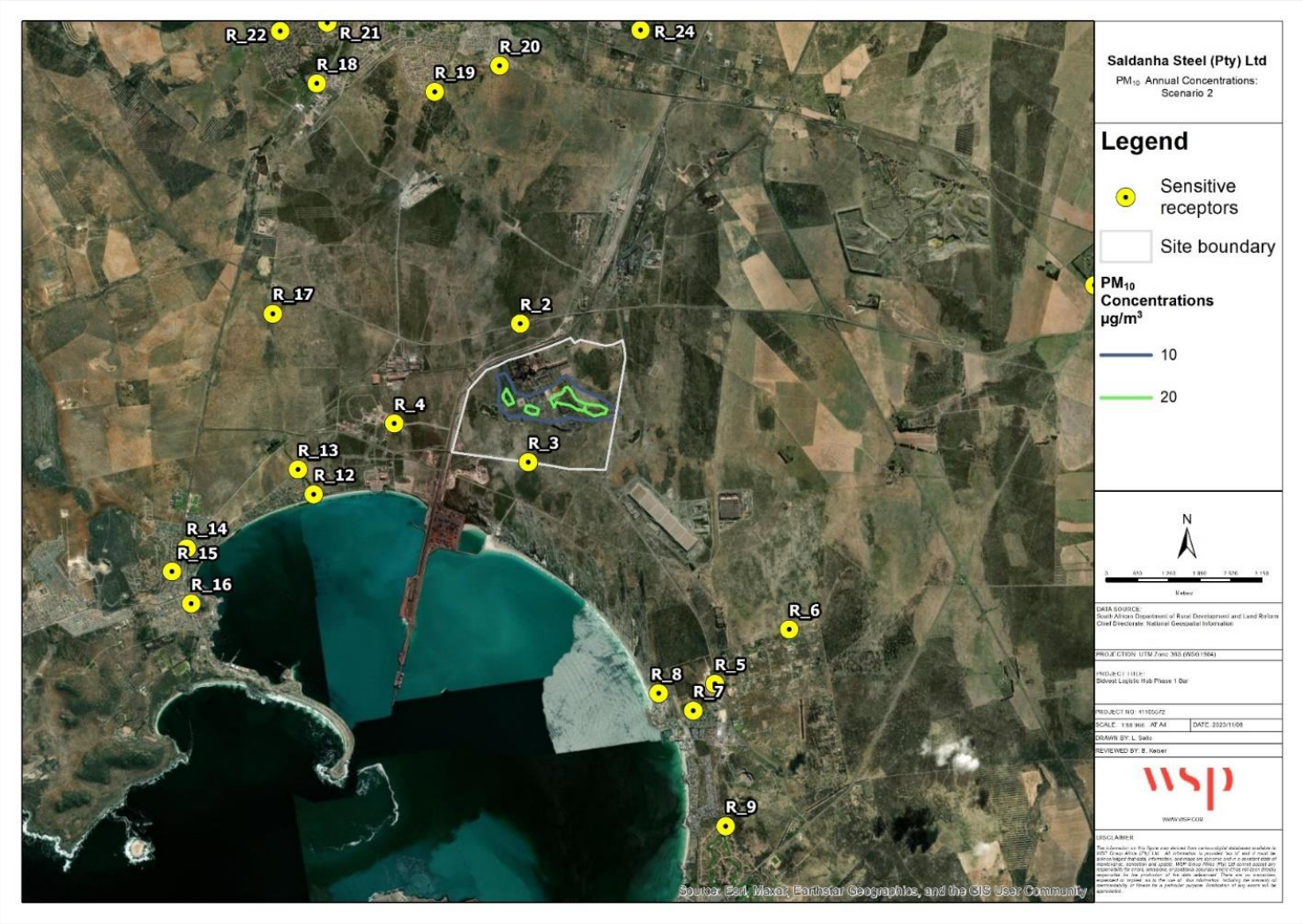

Figure 4-3: Logistics Hub (Scenario 2) predicted PM_{10} long-term concentrations (WSP, 2024)

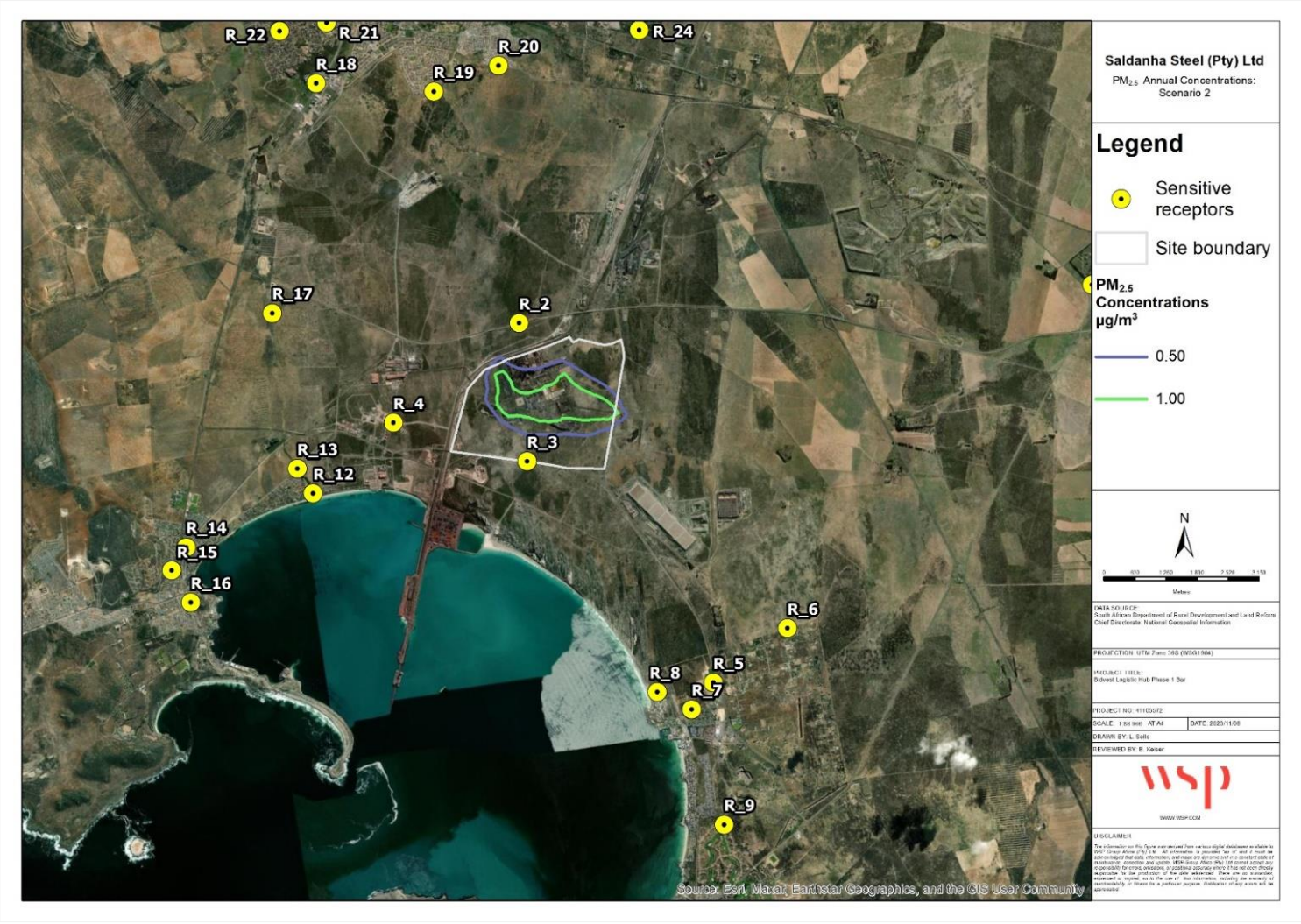

Figure 4-4: Logistics Hub (Scenario 2) predicted $PM_{2.5}$ long-term concentrations (WSP, 2024)

Figure 4-5: Logistics Hub (Scenario 2) predicted dust fallout rates (WSP, 2024)

Figure 4-6: Logistics Hub (Scenario 2) predicted Mn long-term concentrations (WSP, 2024)

4.3 IMPACT ASSESSMENT METHODOLOGY

The assessment of impacts and mitigation evaluates the likely extent and significance of the potential impacts on identified receptors and resources against defined assessment criteria, to develop and describe measures that will be taken to avoid, minimise or compensate for any adverse environmental impacts, to enhance positive impacts, and to report the significance of residual impacts that occur following mitigation.

The key objectives of the risk assessment methodology are to identify any additional potential environmental issues and associated impacts likely to arise from the proposed project, and to propose a significance ranking. Issues / aspects will be reviewed and ranked against a series of significance criteria to identify and record interactions between activities and aspects, and resources and receptors to provide a detailed discussion of impacts. The assessment considers direct, indirect, secondary, as well as cumulative impacts.

A standard risk assessment methodology is used for the ranking of the identified environmental impacts pre-and post-mitigation (i.e., residual impact). The significance of environmental aspects is determined and ranked by considering the criteria presented in **Table 3-2.**

Table 4-2 - Impact Assessment Criterion and Scoring System

Criteria	Score 1	Score 2	Score 3	Score 4	Score 5
Impact Magnitude (M) The degree of alteration of the affected environmental receptor	Very low: No impact on processes	Low: Slight impact on processes	Medium: Processes continue but in a modified way	High: Processes temporarily cease	Very High: Permanent cessation of processes
Impact Extent (E) The geographical extent of the impact on a given environmental receptor	Site: Site only	Local: Inside activity area	Regional: Outside activity area	National: National scope or level	International: Across borders or boundaries
Impact Reversibility (R) The ability of the environmental receptor to rehabilitate or restore after the activity has caused environmental change	Reversible: Recovery without rehabilitation		Recoverable: Recovery with rehabilitation		Irreversible: Not possible despite action
Impact Duration (D) The length of permanence of the impact on the environmental receptor	Immediate: On impact	Short term: 0-5 years	Medium term: 5-15 years	Long term: Project life	Permanent: Indefinite
Probability of Occurrence (P) The likelihood of an impact occurring in the absence of pertinent environmental management measures or mitigation	Improbable	Low Probability	Probable	Highly Probability	Definite

Criteria	Score 1	Score 2	Score 3	Score 4	Score 5
Significance (S) is determined by combining the above criteria in the following formula:	$[S = (E + D + R + M) \times P]$ $Significance = (Extent + Duration + Reversibility + Magnitude) \times Probability$				
Impact Significance Rating					
Total Score	**4 to 15**	**16 to 30**	**31 to 60**	**61 to 80**	**81 to 100**
Environmental Significance Rating (Negative (-))	**Very low**	**Low**	**Moderate**	**High**	**Very High**
Environmental Significance Rating (Positive (+))	**Very low**	**Low**	**Moderate**	**High**	**Very High**

4.4 IMPACT ASSESSMENT OUTCOMES

A summary of the identified impacts and corresponding significance ratings for the proposed Logistics Hub Facility is indicated in **Table 4-3** below. With the implementation of the mitigation measures prescribed by the specialists, the impacts are rated as low to very low.

Table 4-3 – Impact Summary

Aspect	Impact Description	Phase	Character	Without Mitigation		With Mitigation	
Construction							
Social Impact	Economic Development	C	(+)	**55**	**Moderate**	**60**	**Moderate**
	Employment	C	(+)	**48**	**Moderate**	**48**	**Moderate**
	Traffic	C	(-)	**60**	**Moderate**	**33**	**Moderate**
	Dust and Exhaust Emissions	C	(-)	**40**	**Moderate**	**24**	**Low**
	Noise Emissions	C	(-)	**36**	**Moderate**	**27**	**Low**
	Living Cultural Heritage	C	(-)	**18**	**Low**	**16**	**Low**
	Influx of jobseekers	C	(-)	**30**	**Moderate**	**27**	**Low**
Archaeological & Cultural Heritage	Impacts to palaeontological resources - Langebaan Formation capping calcrete	C	(-)	**39**	**Moderate**	**39**	**Moderate**
Economic Impact	Temporary Impact on Production	C	(+)	**56**	**Moderate**	**56**	**Moderate**

Aspect	Impact Description	Phase	Character	Without Mitigation		With Mitigation	
	Temporary Impact on Gross Domestic Product	C	(+)	52	Moderate	52	Moderate
	Temporary Impact on Employment	C	(+)	52	Moderate	56	Moderate
	Temporary Impact on Household Income	C	(+)	52	Moderate	52	Moderate
	Temporary Impact on Government Revenue	C	(+)	52	Moderate	52	Moderate
Terrestrial Biodiversity		C	(-)	16	Low	8	Low
Aquatic Biodiversity		C	(-)	18	Low	9	Low
Operational							
Social Impact	Economic Development	O	(+)	56	Moderate	70	High
	Employment	O	(+)	56	Moderate	56	Moderate
	Traffic	O	(-)	55	Moderate	40	Moderate
	Noise	O	(-)	40	Moderate	20	Low
	Dust and Exhaust Emissions	O	(-)	48	Moderate	24	Low
	Health	O	(-)	64	High	36	Moderate
Economic Impact	Production	O	(+)	60	Moderate	60	Moderate
	Gross Domestic Product	O	(+)	60	Moderate	60	Moderate
	Temporary Impact on Household Income	O	(+)	56	Moderate	60	Moderate
	Temporary Impact on Government Revenue	O	(+)	56	Moderate	56	Moderate
	Sustainable Impact on Improved Level of Export in the Saldanha Bay Local Municipality	O	(+)	68	High	68	High
Terrestrial Biodiversity: Increased fragmentation and loss of terrestrial ecological connectivity		O	(-)	22	Low	11	Low
Decommissioning							
Social Impact	Dust and Exhaust Emissions	D	(-)	40	Moderate	27	Low

Aspect	Impact Description	Phase	Character	Without Mitigation		With Mitigation	
	Noise Emissions	D	(-)	40	Moderate	27	Low
Economic Impact	Economy	D	(-)	68	High	52	Moderate
	Job Losses	D	(-)	68	High	52	Moderate
Cumulative Impact							
Insufficient Port Infrastructure		Cu	(-)	42	Moderate	20	Low
Pressure on the Saldanha Municipality		Cu	(-)	36	Moderate	24	Low

4.5 APPLICABLE DOCUMENTATION

The following documents are to be read in conjunction with the EMPr:

- EA issued by the DEA&DP in terms of the NEMA (once issued); and
- Final Basic Assessment Report (BAR) for the Proposed Logistics Hub.

5 GOVERNANCE FRAMEWORK

5.1 NATIONAL LEGAL AND REGULATORY FRAMEWORK

The South African regulatory framework establishes well-defined requirements and standards for environmental and social management of industrial and civil infrastructure developments. Different authorities at both national and regional levels carry out environmental protection functions. The applicable legislation and policies are shown in **Table 5-1**.

Table 5-1 – Applicable National Legislation

Legislation and Guidelines	Description of Legislation and applicability
The Constitution of South Africa (No. 108 of 1996)	The Constitution cannot manage environmental resources as a stand-alone piece of legislation hence additional legislation has been promulgated in order to manage the various spheres of both the social and natural environment. Each promulgated Act and associated Regulations are designed to focus on various industries or components of the environment to ensure that the objectives of the Constitution are effectively implemented and upheld in an on-going basis throughout the country. In terms of Section 7, a positive obligation is placed on the State to give effect to the environmental rights.
National Environmental Management Act (No. 107 of 1998)	In terms of Section 24(2) of the NEMA, the Minister may identify activities, which may not commence without prior authorisation. The Minister thus published GNR 983 (as amended) (Listing Notice 1), GNR 984 (as amended) (Listing Notice 2) and GNR 985 (as amended) (Listing Notice 3) listing activities that may not commence prior to authorisation. The regulations outlining the procedures required for environmental authorisation (EA) are published in the EIA Regulations of 2014 (GNR 982) (as amended). Listing Notice 1 identifies activities that require a basic assessment (BA) process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity. Listing Notice 2 identifies activities that require an S&EIR process to be undertaken, in terms of the EIA Regulations, prior to

Legislation and Guidelines	Description of Legislation and applicability
	commencement of that activity. Listing Notice 3 identifies activities within specific areas that require a BA process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity. WSP undertook a legal review of the listed activities according to the proposed project description to conclude that the activities listed in in this section are considered applicable to the development: A BA process must be followed. An EA is required and will be applied for with the DEA&DP as the CA.
NEMA: Section 28: Duty of Care	NEMA imposes a duty of care, which places an obligation on any person who has caused, is causing, or is likely to cause damage to the environment to take reasonable steps to prevent such damage. In terms of NEMA's preventative principle, potentially negative impacts on the environment and on people's environmental rights (in terms of the Constitution of the Republic of South Africa, Act No. 108 of 1996) should be anticipated and prevented, and where they cannot be prevented altogether, they must be minimised and remedied in terms of "reasonable measures".
Listing Notice 1: GNR 983	**Activity 34** The expansion or changes to existing facilities for any process or activity where such expansion or changes will result in the need for a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the release of emissions or pollution, excluding- (i) where the facility, process or activity is included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; or (ii) the expansion of or changes to existing facilities for the treatment of effluent, wastewater, or sewage where the capacity will be increased by less than 15 000 cubic metres per day. **Description:** The proposed logistics hub facilities therefore represent an expansion of the existing facility as it will involve the modification, and alteration of the facility where the capacity of the facility and the footprint of the activity is increased. Furthermore, the expansion of the existing facility and handling and storage of new commodities requires an amendment to the existing AEL for the facility and operations on site.
Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes (GNR 320, 20 March 2020 and GNR 1150, 30 October 2020)	The protocols provide the criteria for specialist assessment and minimum report content requirements for impacts for various environmental themes for activities requiring environmental authorisation. The protocols replace the requirements of Appendix 6 of the EIA Regulations, 2014, as amended. The assessment and reporting requirements of the protocols are associated with a level of environmental sensitivity identified by the national web based environmental screening tool (screening tool). The following environmental themes were applicable to the Logistics Hub project and implemented during the assessment by a specialist during the Basic Assessment process: ▪ Animal Species Theme; ▪ Aquatic Biodiversity Theme; ▪ Archaeological and Cultural Heritage Theme; ▪ Palaeontology Theme; ▪ Plant Species Theme; and ▪ Terrestrial Biodiversity Theme.
National Environmental Management: Protected Areas Act	The National Environmental Management Protected Areas Act (Act No. 57 of 2003) (NEM: PAA) concerns the protection and conservation of ecologically viable areas representative of South Africa's diversity and its natural landscapes and seascapes, and includes inter alia: ▪ The establishment of a national register of all national, provincial and local protected areas; ▪ The management of those areas in accordance with national standards; and

Legislation and Guidelines	Description of Legislation and applicability
(NEM: PAA), Act 57 of 2003 as amended	▪ Inter-governmental co-operation and public consultation in matters concerning protected areas. *Section 50(5) of NEMPAA states that "no development, construction or farming may be permitted in a nature reserve or world heritage site without the prior written approval of the management authority."* According to the National Parks Area Expansion Strategy (NPAES), there are no areas within the study area that have been identified as priority areas for inclusion in future protected areas. The study area is therefore outside the NPAES focus area.
National Environmental Management: Waste Act (59 of 2008) (NEM:WA)	This Act provides for regulating waste management in order to protect the health and environment by providing reasonable measures for the prevention of pollution and ecological degradation. The Act also provides for the licensing and control of waste management activities through GNR. 921 (2013): List of Waste Management Activities that Have, or are Likely to Have, a Detrimental Effect on the Environment. The proposed Logistics Hub project does not constitute a Listed Activity requiring a Waste Management Licence as defined in GNR 921. The EMPr does however include reasonable measures for the management of waste on site, the prevention of pollution and Good International Industry Practice (GIIP) for the construction, operational and decommissioning phase.
The National Water Act (No. 36 of 1998)	The National Water Act, 1998 (Act No. 36 of 1998) (NWA) provides the framework to protect water resources against over exploitation and to ensure that there is water for social and economic development, human needs and to meet the needs of the aquatic environment. The Act defines water source to include watercourses, surface water, estuary or aquifer. A watercourse is defined in the Act as a river or spring, a natural channel in which water flows regularly or intermittently, a wetland, lake or dam into which or from which water flows, and any collection of water that the Minister may declare a watercourse. Section 21 of the Act outlines a number of categories that require a water user to apply for a Water Use Licence (WUL) and Section 22 requires water users to apply for a General Authorisation GA with the DWS if they are under certain thresholds or meet certain criteria. The proposed logistics hub does not require a WUL or a GA. This was confirmed by the aquatic biodiversity specialist study undertaken for the Basic Assessment process.
National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA)	The National Heritage Resource Act (Act No. 25 of 1999) (NHRA) serves to protect national and provincial heritage resources across South Africa. The NHRA provides for the protection of all archaeological and palaeontological sites, the conservation and care of cemeteries and graves by the SAHRA, and lists activities that require any person who intends to undertake it, to notify the responsible heritage resources agency and furnish details regarding the location, nature, and extent of the proposed development. Part 2 of the NHRA details specific activities that require a Heritage Impact Assessment that will need to be approved by SAHRA. Parts of Section 35, 36 and 38 apply to the proposed project, principally: ▪ Section 35 (4) - No person may, without a permit issued by the responsible heritage resources authority- ▪ destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite; ▪ destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite. ▪ Section 38 (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as- ▪ any development or other activity which will change the character of a site— (i) exceeding 5 000m2 in extent, must at the very earliest stages of initiating such a development, notify the

Legislation and Guidelines	Description of Legislation and applicability
	responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development. In terms of Section 38(8), approval from the heritage authority is not required if an evaluation of the impact of such development on heritage resources is required in terms of any other legislation (such as NEMA), provided that the consenting authority ensures that the evaluation of impacts fulfils the requirements of the relevant heritage resources authority in terms of Section 38(3) and any comments and recommendations of the relevant resources authority with regard to such development have been taken into account prior to the granting of the consent. However, should heritage resources of significance be affected by the proposed project, a permit is required to be obtained prior to disturbing or destroying such resources as per the requirements of Section 48 of the NHRA, and the SAHRA Permit Regulations (GN R668). It is important to note that the proposed site is a brownfield as it has existing infrastructures on site. The proposed Logistics Hub will be developed at the AMSA Saldanha Works facility currently under " Care and Maintenance" with limited operations since April 2020. However, feedback was provided by Heritage Western Cape that indicated in an acknowledgement letter received on 10 May 2023 that a Heritage Impact Assessment (HIA) which includes an Archaeological Impact Assessment and engagement with the First Nations Group (Aikonese Cochoqua Khoi Tribal Council) should be conducted for the proposed activity. Therefore, an Archaeological & Cultural Heritage Assessment was carried out by a suitably qualified specialist. The proposed project will be loaded onto the SAHRIS portal for comment by SAHRA and the NHRA.
Noise Control Regulations in terms of the Environmental Conservation, 1989 (Act 73 of 1989)	In South Africa, environmental noise control has been in place for three decades, beginning in the 1980s with codes of practice issued by the South African National Standards (formerly the South African Bureau of Standards, SABS) to address noise pollution in various sectors of the country. Under the previous generation of environmental legislation, specifically the Environmental Conservation Act 73 of 1989 (ECA), provisions were made to control noise from a national level in the form of the Noise Control Regulations (GNR 154 of January 1992). In later years, the ECA was replaced by NEMA as amended. The National Environmental Management: Air Quality Act 39 of 2004 (NEMAQA) was published in line with NEMA and contains noise control provisions under Section 34: *(1) The minister may prescribe essential national standards –* *(a) for the control of noise, either in general or by specific machinery or activities or in specified places or areas; or* *(b) for determining –* *(i) a definition of noise; and* *(ii) the maximum levels of noise.* *(2) When controlling noise, the provincial and local spheres of government are bound by any prescribed national standards.* Under NEMAQA, the Noise Control Regulations were updated and are to be applied to all provinces in South Africa. The Noise Control Regulations give all the responsibilities of enforcement to the Local Provincial Authority, where location specific by-laws can be created and applied to the locations with approval of Provincial Government. Where province-specific regulations have not been promulgated, acoustic impact assessments must follow the Noise Control Regulations. Furthermore, NEMAQA prescribes that the Minister must publish maximum allowable noise levels for different districts and national noise standards. These have not yet been accomplished and as a result all monitoring and assessments are done in accordance with the South African National Standards (SANS) 10103:2008 and 10328:2008. The proposed development is located within the Saldanha Industrial Development Zone. Nearby noise receptors are other industrial firms such as Namakwa Sands (north east),

Legislation and Guidelines	Description of Legislation and applicability
	Sunrise energy (south west) and Avedia Energy (south west). Considering the nature of the nearby receptors a Noise Impact Assessment is therefore not deemed necessary.
Civil Aviation Act (No. 13 of 2009)	Civil aviation in South Africa is governed by the Civil Aviation Act (Act 13 of 2009). This Act provides for the establishment of a stand-alone authority mandated with controlling, promoting, regulating, supporting, developing, enforcing and continuously improving levels of safety and security throughout the civil aviation industry. This mandate is fulfilled by South African Civil Aviation Authority (SACAA) as an agency of the Department of Transport. SACAA achieves the objectives set out in the Act by complying with the Standards and Recommended Practices of the International Civil Aviation Organisation, while considering the local context when issuing the South African Civil Aviation Regulations. The DEA&DP Screening Tool Report identified Civil Aviation as having high sensitivity for the proposed project. However, the proposed project is in an existing industrialised facility.Therefore, there will be no impact on the civil aviation aerodromes. The Saldanha Airport is approximately 5 km (aerial) and 8 km via road north west of the site. However, the construction of the weather sensitive warehouse facility does not have elements that would affect civil aviation.
Spatial Planning and Land Use Management Act, 2013 (Act No. 16 of 2013) (SPLUMA)	The SPLUMA was promulgated in May 2015. SPLUMA is a framework act for all spatial planning and land use management legislation in South Africa. It seeks to promote consistency and uniformity in procedures and decision-making in this field. The Project took the SPLUMA into consideration. The area falls within an Industrial Zone; therefore, a zoning application would not be required for the Project.
Occupational Health and Safety Act (No. 85 of 1993), and Major Hazard Installation Regulations of 2019	The National Occupational Health and Safety Act (No. 85 of 1993) (OHSA) and the relevant regulations under the Act are applicable to the proposed project. This includes the Construction Regulations promulgated in 2014 under Section 43 of the Act. Adherence to South Africa's OHSA and its relevant Regulations is essential. The construction and operation of the proposed project will include activities that are deemed as hazardous and/or a risk to the health and safety of the personnel employed on the project. Such hazards/risks should be managed in accordance with the relevant requirements of the Act.
Promotion of Access to Information Act, 2000 (Act No. 2 of 2000) (PAIA)	The PAIA gives effect to the constitutional right of access to any information held by the state and any information that is held by another person and that is required for the exercise or protection of any rights, and to provide for matters connected therewith. The requirements of the Act have been and will continue to be considered when assessing and involving the public and registered I&APs.
Protection of Personal Information Act, 2013 (Act No. 4 of 2013) (POPI)	The POPI Act sets out the minimum standards regarding accessing and 'processing' of any personal information belonging to another. The Act defines 'processing' as collecting, receiving, recording, organizing, retrieving, or the use, distribution or sharing of any such information. The POPI Act was considered in the management of stakeholder information for the Project. The requirements of the Act have been and will continue to be considered when processing registered I&APs' data.
Hazardous Substances Act (No. 15 of 1973) (HSA)	This Act provides for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances. The HSA was promulgated in order to provide for the control of substances which may cause injury, ill-health, or death. Substances are defined as hazardous if their inherent nature is toxic, corrosive, irritant, strongly sensitising, flammable and pressure (under certain circumstances) which may injure ill-health, or death in humans. The Act provides for the division of hazardous substances or products into four (4) groups in relation to the degree of danger, the prohibition

Legislation and Guidelines	Description of Legislation and applicability
	and control of the importation, manufacture, sale, use, operation, application, and disposal of such substances. These groups are as follows: ▪ Group 1: hazardous substances defined in the Act; ▪ Group 2: mixtures of Group 1 substances; ▪ Group 3: substances found in certain electronic products (i.e., a product with an electronic circuit); and ▪ Group 4: radioactive substances. According to the HSA, the use or sale of Group I, II and III hazardous substances is prohibited. Should the use of these substances be required for the proposed project, a permit application should be submitted to the Department of Health (DoH), in terms of the Act.
Public Participation in terms of NEMA, EIA Regulations (2017)	The purpose of this guideline is to ensure that an adequate public participation process is undertaken for the BA process. These guidelines were considered and applied for the Public Participation Process of the Project.
Guideline on need and desirability in terms of the EIA Regulations of 2014 (as amended)	These guidelines inform the consideration of the need and desirability aspects of the proposed project. These guidelines were considered and applied when considering the needs and desirability of the Project.
SANS 10400: 2016 - The Application of the National Building Regulations	Form A of the SANS 10400: 2016 relates to the completion of the structural, fire protection, fire installation system or energy Usage in terms of the National Building Regulations and Buildings Standards Act (No. 77 of 1977). Therefore, this form is to be completed upon completion of the proposed fire protection system at Logistics Hub.

5.2 EXISTING APPROVALS FOR AMSA SALDAHNA STEEL FACILITY

The following provides a summary of the existing authorisation at the Saldanha Facility. The activities were authorised in terms of EIA Regulations of 2014 (as amended).

NEMA listed activities currently authorised for AMSA:

- Atmospheric Emissions Licence (Ref. No.: 12/3/1/11) (AEL Licence No. WCWD001) (04 December 2023);
- Atmospheric Emissions Licence (Ref. No.: 12/3/1/11) (AEL Licence No. WC/WC/020) (01 March 2019);
- Waste Management Licence (Ref. No.: 12/9/11/L974/9) (21 June 2013);
- RoD for Proposed Extension of Brine Evaporation Ponds at Saldanha Steel (Ref. No.: E12/2/1-229-Farm 129/2 Farm 127/8, Portion of Farm 195) (01 September 2003);
- RoD for Proposed Extension of Existing Raw Materials Stockyard at Saldanha Steel, Saldanha (Ref. No.: E12/2/1-229-Farm 129/2 Farm 127/8, Saldanha)(01 September 2003);
- EA for the Proposed Construction of a Briquetting Plant on Portion 13 of Farm Yzervarkensrug No. 127, Saldanha Bay (Ref. No.: 16/3/1/1/F4/17/3051/12) (04 February 2014);
- Non-substantive Amendment of RoD for Proposed Extension of Existing Raw Materials Stockyard at Saldanha Steel, Saldanha (Ref. No.: E12/2/3/6-F4/16-0409/08) (04 February 2009); and

- Amended RoD for Proposed Extension of Existing Raw Materials Stockyard at Saldanha Steel, Saldanha (Ref. No.: 16/3/1/5/F4/17/3009/13)(04 September 2014).

6 MANAGEMENT PROCEDURES AND ADMINISTRATIVE REQUIREMENTS

6.1 ORGANISATIONAL STRUCTURE AND RESPONSIBILITIES

Formal responsibilities are necessary to ensure that key management measures/procedures are executed. AMSA (the Project Proponent), will be responsible for the overall control of the project site during the pre-construction, construction, operation, decommissioning and rehabilitation phases of the project. AMSA's responsibilities (via the appointed contractors/service providers) will include the following:

- Appoint an independent (external) environmental control officer (ECO) for the duration of the construction phase and as specified by the DEA&DP to audit compliance against the EA, EMPr, management plans and SOPs to minimise environmental impacts of the project;
- Appoint an internal environmental control officer (ECO) for the duration of the construction and operation phase, and as specified by the DEA&DP to ensure day-to-day implementation of the requirements within the EA, EMPr, management plans and SOPs;
- Being fully familiar with the BAR, EA conditions and the EMPr;
- Applying for an amendment of the EA from the DEA&DP as and when required in line with the prevailing legislation;
- The overall implementation of the EMPr;
- Ensuring compliance, by all parties, and the imposition of penalties for non-compliance;
- Implementing corrective and preventive actions, where required;
- Ensuring that any necessary permits or licences are obtained and complied with;
- Preventing pollution and actions that will harm or may cause harm to the environment;
- Notifying the DEA&DP within 30 days that construction activity will commence (or as required by the EA);
- Notifying the DEA&DP in writing within 24 hours if any condition in the EA cannot be or is not adhered to; and
- Notifying the DEA&DP 14 days prior to commencement of the operational phase (or as required by the EA).

Table 6-1 provides an outline of the various roles and responsibilities of the project to ensure environmental compliance.

Table 6-1 – Roles and Responsibilities

Designation	Roles and Responsibilities
DEA&DP	▪ Is the designated authority responsible for authorising this EMPr and has overall responsibility for ensuring that AMSA complies with this EMPr, and any conditions listed in the EA. ▪ Is responsible for approving any significant amendments that may be required to the EMPr. ▪ May perform site inspections to check compliance with the EMPr.
Authorisation Holder and Proponent: AMSA and Bidvest **Operator/ Project Manager/Senior Manager/Engineer/Site Engineer**	▪ AMSA is the authorisation holder for the EA that authorises the development of the Logistics Hub and is ultimately responsible for the development and implementation of the activity, the implementation of the EMPr and compliance of the EA, AEL, permits and legislative requirements. ▪ Implement and adhere to the compliance conditions of the EA and EMPr, and that the AMSA Environmental and Health and Safety Managers appoint an external auditor to conduct monthly external audits during the construction phase of the Logistics Hub against compliance of the EA and EMPr and annual external audits during the operation phase of the Logistics Hub against compliance of the EA and EMPr. ▪ Implement corrective actions identified in monthly external audits during the construction phase and annual external audits during the operation phase (or as per the audit conditions of the EA). ▪ Ensure that AMSA and the relevant contractor/s are aware of all specifications, legal constraints pertaining to the project during construction, specifically with regards to the environment. ▪ Ensure that all stipulations within the EMPr and conditions of the EA are communicated and adhered to by AMSA and its contractor(s). ▪ Monitor the implementation of the EA and EMPr conditions throughout the project by means of site inspections and meetings. This will be documented as part of the site meeting minutes. ▪ Be fully conversant with the BAR for the project, the conditions of EA, EMPr and all relevant environmental legislation. ▪ Approve AMSA's SOPs to ensure compliance with the EA and EMPr conditions, and to mitigate against environmental impacts. ▪ Update the EMPr and submit to the DEA&DP for approval should construction or operational conditions change on site that has additional environmental impacts. Should operations change on site and this causes a reduction in environmental requirements, the EMPr should be amended to indicate this reduction in mitigation measures/conditions. ▪ Where required, update or coordinate the update of plans relevant and required to manage the operations of the Logistics Hub to mitigate environmental impacts. These include the: • air emissions management plan; • incident detection and response plan; • spill response plan; • emergency response plan, • stormwater management plan; • waste management plan. ▪ Update AMSA Environmental Management System (EMS) if required to ensure the Logistics Hub is included in the EMS. ▪ Ensure that a copy of the EA and the latest version of the EMPr are available on site at all times, and maintain a records-keeping system of all compliance and environmental documentation; ▪ Assist technical staff to identify environmental risks when making operational decisions and finding solutions operational environmental risks, concerns and issues. ▪ Conduct periodic (at minimum quarterly) internal environmental audits to ensure environmental compliance of the EA, AEL, EMPr and legislative requirements. ▪ Ensure external audits against the EA, AEL and EMPr are conducted annually and that audit reports are submitted to the DEA&DP and West Coast District Municipality in line with the requirements of the EA.

Designation	Roles and Responsibilities
	▪ Order the removal of persons and equipment that are not complying with engineering specifications and operating procedures. ▪ Maintain an Environmental File that contains the following: • An induction and training register with records of training material; • A site incident register; • A non-conformance register; • A corrective action register; • A register and checklist of internal inspection; • A register and record of internal and external audits. ▪ Ensure the environmental file is available on either hard and soft copy at the AMSA Saldanha Facility and available for external environmental audits or to individuals from the DEA&DP to indicate compliance with the EA, AEL and EMPr.
Site Manager **(Construction contractor)**	▪ Be fully conversant with the BAR, the conditions of environmental authorisation and the EMPr. ▪ Approve method statements. ▪ Provide support to the contractor's ECO. ▪ Be fully conversant with all relevant environmental legislation and ensure compliance thereof. ▪ Have overall responsibility for the implementation of the EMPr and conditions of the EA; specific to onsite construction-related activities. ▪ Ensure that EA and EMPr audits are conducted and that non-compliances noted during audits are addressed timeously. ▪ Liaise with the Project Manager or his delegate, or the ECO on matters concerning the environment and ensure minimal environmental impact. ▪ Prevent actions that will harm or may cause harm to the environment and take steps to prevent pollution and unnecessary degradation onsite. ▪ Confine construction activities to demarcated areas. ▪ Ensure that a copy of the EA and the latest version of the EMPr are available on site at all times, and maintaining a record-keeping system of all compliance and environmental documentation.
Environmental Officer (EO) **(Contractor)**	The EO must be appointed by the Contractor and is responsible for managing the day-to-day onsite implementation of the EMPr, and for the compilation of weekly environmental monitoring reports during construction. During the operational phase environmental monitoring reports may be as specified by the DEA&DP (such as annually) by the EO or external ECO. In addition, the EO must act as liaison and advisor on all environmental and related issues, seek advice from the ECO when necessary, and ensure that any complaints received from I&APs are duly processed and addressed and that conflicts are resolved in an acceptable and timely manner. The EO shall be a full-time dedicated member of the Contractor's team and must be approved by AMSA. The following qualifications, qualities and experience are recommended for the individual appointed as the EO: ▪ A relevant environmental diploma or degree in natural sciences, as well as a minimum of three years' experience in construction site monitoring, excluding health and safety; ▪ A level-headed and firm person with good communication and negotiating skills. The ability to handle and address conflict management situations will be an advantage; and ▪ Relevant experience in environmental site management and EMPr compliance monitoring. The EO's responsibilities include, but not limited to: ▪ Be fully conversant with the conditions of the EA, AEL, the EMPr and all management plans, and ensure compliance thereto.

Designation	Roles and Responsibilities
	▪ Monitoring, on a daily basis, environmental specifications on site and compliance with the conditions of the EA, EMPr and relevant environmental legislation; ▪ Keeping a register of compliance / non-compliance with the environmental specifications; ▪ Identifying and assessing previously unforeseen, actual, or potential impacts on the environment; ▪ Ensuring that a brief weekly environmental monitoring report is submitted to the Site Manager, AMSA Project Manager/Engineer or the ECO; ▪ Conducting site inspections during the defect's liability period, and bringing any environmental concerns to the attention of the ECO and Contractor; ▪ Advising the Site Manager and Contractor's staff on the rectification of any pollution, contamination or damage to the construction site, rights of way and adjacent land; ▪ Attending site meetings (scheduled and ad hoc); ▪ Presenting the environmental awareness training to all staff, (Contractor and Sub contractors), and monitoring the environmental awareness training for all new personnel on-site; ▪ Monitor performance of staff to implement the conditions of the EA and EMPr. ▪ Ensuring that a copy of the EA and the latest version of the EMPr are available on site at all times, and maintaining a records-keeping system of all compliance and environmental documentation; ▪ Ensure that the Site Manager and supervisors are made aware of all applicable changes to the EMPr that are approved by DEA&DP; ▪ Prepare Method Statements as per the EMPr, and ensure all activities are conducted as per the approved Method Statements; ▪ Undertake daily environmental monitoring to ensure the Contractor's activities do not impact upon the receiving environment. Such monitoring shall include dust, noise and water monitoring; and ▪ Maintain the following on site: • A weekly site diary; • A non-conformance register (NCR); • An I&AP communications register; • A register of audits; and • Records of all communication received in relation to compliance actions. The EO will remain employed until all rehabilitation measures due to construction works and disturbance are completed and the site is handed over to the AMSA.
Independent external ECO	A suitably qualified ECO must be appointed by AMSA to monitor the project compliance with the EA and EMPr on a monthly basis during construction. During the operational phase environmental monitoring may be undertaken as specified by the DEA&DP (such as annually) by this external ECO. Proof of external ECO appointment must be maintained onsite. Responsibilities of the ECO include: ▪ Be fully conversant with the BAR, the conditions of EA, and the EMPr; ▪ Be fully conversant with all relevant environmental legislation and ensure compliance thereof; ▪ Approve Contractor's method statements; ▪ Remain employed until the completion of the construction activities; and ▪ Report to the Project Manager, including all findings identified onsite. In addition, the ECO will: ▪ Undertake independent monthly inspections of the site and surrounding areas in order to audit compliance with the EA and EMPr conditions; ▪ Take appropriate action if the specifications contained in the EMPr and conditions of the environmental authorisation are not followed; ▪ Recommend fines to the Contractor for repeated non-compliances with the EA and EMPr. The value of fines to be agreed with the EA Licence Holder, Site Engineer, Contract's Manager and Site Agent prior to construction. Issuing of fines to be

Designation	Roles and Responsibilities
	coordinated by the EA Licence Holder, Proponent, Site Manager, Site Engineer and Contract's Manager. ▪ Monitor and verify that environmental impacts are kept to a minimum, as far as possible; and ▪ Ensure that activities onsite comply with all relevant environmental legislation.
Contractors, Staff and Service Providers	▪ Comply with AMSA EA and EMPr environmental management specifications; ▪ Completion of the appropriate training requirements as specified in the training program. ▪ Receive training from the Environmental Manager and be conversant with all conditions of the EA and the EMPr, and ensure compliance thereto; ▪ Adhere to any environmental instructions issued by the Environmental Manager during work on site. ▪ Implement and maintain environmental management controls and operations as set out in the project's environmental management documentation.

6.2 ENVIRONMENTAL AWARENESS PLAN

Legislation requires that AMSA and Bidvest (via the appointed contractor as well) must develop an environmental awareness plan that describes the way they intend to inform employees of any environmental risks which may result from their work and the manner in which the risks must be dealt with in order to avoid pollution or the degradation of the environment. In recognition of the need to protect our environment, environmental management should not only be seen as a legal obligation but also as a moral obligation.

It is important to ensure that all relevant personnel have the appropriate level of environmental awareness and competence to ensure continued environmental due diligence and ongoing minimisation of environmental degradation and harm.

To achieve effective environmental management, it is important that employees, contractors (including subcontractors) are aware of the responsibilities in terms of the relevant environmental legislation and the contents of the EMPr, and conditions of the EA.

AMSA and Bidvest will provide appropriate resources to facilitate social and environmental awareness training during the construction, operational and decommissioning phases of the project. AMSA and Bidvest will require that all managers associated with the project adhere to the mitigation/management measures detailed in the EMPr and identify, evaluate, and minimise risks to the social, physical and biophysical environments. This will be implemented by educating employees in social and environmental matters and responsibilities relating to performance of their assigned tasks. Furthermore, employees will be entrusted to maintain the necessary level of environmental performance for their activities. Contractors, and their associated sub-contractors, will also need to demonstrate compliance to mitigation/ management measures included in the EMPr.

The following methodology described must be used to implement and ensure environmental and social awareness and competence:

6.2.1 INTERNAL COMMUNICATION

Internal communication of environmental issues to ensure environmental awareness will be achieved by using any combination of the following means:

- Meetings;
- Memos;
- Notice boards;
- Briefs;
- Reports;
- Monthly themes;
- Daily operational bulletins/toolbox talks;
- Newsletter;
- E-mail;
- Telephone; and
- Induction training.

6.2.2 STANDARD MEETINGS

The following standard meetings will be held at specific times to ensure that environmental and social awareness; potential problems; complaints etc. are heard and addressed proactively:

- Safety, Health and Environmental Meetings will be held monthly by the Senior Management;
- Safety, Health and Environmental Meetings will be held weekly (during construction) and monthly (during operation) by the relevant personnel, environmental and social issues will form part of the agenda; and
- Communication between all personnel and Senior Management will be facilitated through the appropriate reporting lines, or by using complaint and incident forms.

6.2.3 ENVIRONMENTAL AND SOCIAL TALK TOPICS

Monthly environmental and social talk topics must be compiled and distributed/shared to relevant personnel and must be displayed on appropriate notice boards or shared by whatever means established on site. As a minimum, the following topics must be considered during the course of the construction phase:

- Water Quality;
- Water Use and Consumption;
- Air Quality i.e. dust;
- Power Consumption and Energy Efficiency;
- Waste Management;
- Construction Site Boundary;
- Fauna and Flora (no disturbance to fauna and flora outside construction footprint);
- Emergency Procedures;
- Incidents Reporting;
- Systems;
- Noise;
- Landowner Etiquette;
- Speed Limits;
- Health Risks (such as HIV/ Aids); and
- General Awareness (e.g. World Environment Day, National Arbour Day).

6.2.4 GENERAL COMMUNICATIONS

Communication to the community, government, landowners, neighbouring farmers, environmental groups, non-government organisations and other stakeholders will be communicated to ensure environmental and social awareness by means of the following:

- E-mail;
- Telephone; or
- Formal meetings.

6.2.5 TRAINING

It is important to ensure that all personnel, contractors and their sub-contractors have the appropriate level of environmental awareness and competence to ensure continued environmental due diligence and on-going minimisation of environmental harm. As a minimum environmental training must include the following:

- Employees must have a basic understanding of the key environmental features of the site and the surrounding environment.
- Employees will be thoroughly familiar with the requirements of the EA and EMPr and the environmental specifications as they apply to the project.
- Employees must undergo training for the operation and maintenance activities associated with project and have a basic knowledge of the potential environmental impacts that could occur and how they can be minimised and mitigated.
- Awareness of any other environmental matters, which are deemed to be necessary by the Environmental Officer.
- Training must include the environment, health and safety as well as basic HIV/AIDS education.

The following facets to training form part of this Environmental and Social Awareness Plan:

- **Induction:** Environmental and social awareness training will be given at induction when personnel join the company and/or return from leave. Induction training will also be given to visitors entering the site. Induction training will include, inter alia:
    - A discussion on the environment concept, what does it comprise of and how do we interact with it;
    - A description on the components and phases of the specific project and facility;
    - A general account of how the facility and its associated activities can affect the environment, giving rise to what are called environmental impacts;
    - A discussion on what staff can do in order to help prevent the negative environmental impacts from degrading the environment i.e. environmental impact management.
- **Job Specific Training:** Job specific training programmes will be developed as and when required. The programs will be based on the significant environmental and social aspects/ impacts that are identified during regular audits and site inspections. Supervisory staff will be equipped with the necessary knowledge and information to guide their employees on environmental and social aspects applicable to performing a specific task.
- **Competency Training:** The Environmental Officer will be responsible for the environmental and social competency and awareness training of Middle Management and supervisors. This training will be performed both on a one-on-one basis and through workshops and presentations.

Competence and the effectiveness of training and development initiatives will be determined through the following methods:

- Trend analysis of incidents reported; and
- Analysis of work areas during visits and audits.

- **Ongoing training for permanent staff:** Topics that should be included in ongoing environmental awareness training include, but are not limited to:

  - Topics applicable to the Logistics Hub operations;
  - Area specific topics (e.g., biodiversity, fauna and flora, etc.); and
  - General environmental awareness:
    - Safety and PPE requirements on site;
    - Dust management and control;
    - Waste management;
    - Housekeeping;
    - Spillages;
    - Saving water;
    - Electricity consumption;
    - Noise generation;
    - Indigenous Vegetation;
    - Fauna;
    - Alien vegetation;
    - Fire-making;
    - Stormwater management and control;
    - Incident reporting;
    - Monitoring protocols.

AMSA can prioritise certain topics detailed above based on the site operations or continuous environmental incidents that occur on site.

- **Training Records:** Training can be done either in a written or verbal format but will be in an appropriate format for the receiving audience. Persons having received training must indicate in writing that they have indeed attended a training session and have been notified in detail of the contents and requirements of the EA and EMPr. The attendance registers must be kept on file.

6.3 MONITORING

The Contractor's EO will monitor the day-to-day site activities on an ongoing basis and will produce weekly monitoring reports during construction. The independent, external ECO will undertake monthly audits to ensure compliance with the EA and EMPr conditions during the construction activities and will report to the Site Manager should any non-compliance be identified, or corrective action deemed necessary.

During the operational phase, AMSA will establish, implement, and maintain a procedure to monitor and measure, on a regular basis, the key characteristics of the operations that may have a significant environmental impact. The procedure shall include the documenting of information to monitor performance, applicable operational controls and conformity with the operation's environmental objectives and targets.

AMSA will ensure that all instruments and devices used for the measurement or monitoring are calibrated and appropriately operated and maintained. Calibration records must be kept on site or in close proximity to the equipment for ease of availability.

All the conditions outlined in the EMPr (**Section 7**) will be subject to required internal day-to-day monitoring and external compliance monitoring. Where required, any specific additional monitoring has been outlined in the EMPr (**Section 7**).

6.4 NON-CONFORMANCE AND CORRECTIVE ACTION

The auditing of the construction and operational activities may identify non-conformances to the EA and EMPr conditions. Non-conformances may also be identified through incidents, emergencies or complaints recorded. In order to correct non-conformances, the source must be determined, and corrective actions must be identified and implemented.

6.4.1 COMPLIANCE WITH THE EA AND EMPR CONDITIONS

- Any members of the workforce found to be in breach of any of the specifications contained within the EA and EMPr may be ordered by the Site Manager or the Project Manager to leave the site. A contractor will not direct a person to undertake any activity which would place them in contravention of the specifications contained within the EA or EMPr;
- Should a contractor be in breach of any of the specifications contained in the EA and EMPr, the Site Manager will, in writing, instruct the contractor responsible for the incident of non-compliance regarding corrective and/or remedial action required, specify a timeframe for implementation of these actions, implement a penalty and/or indicate that work will be suspended should non-compliance continue;
- Should non-compliance continue, further written notification will be forwarded to the contractor responsible for the incident of non-compliance outlining the required corrective and/or remedial action, the timeframe for implementation, penalties and/or work will be suspended as specified previously; and
- Departmental officials will be given access to the property referred to in the BAR and EMPr for the purpose of assessing and/or monitoring compliance with the EA and EMPr.

6.4.2 DUTY OF CARE

Under Section 28 of the NEMA, all personnel involved with the construction and operation activities onsite will be responsible for implementing measures to prevent pollution or degradation of the environment from occurring, continuing or recurring. Failure to comply with the above conditions is a breach of the duty of care. If such harm is unavoidable, steps must be taken to minimise and rectify such pollution or degradation of the environment.

6.5 DOCUMENTATION AND REPORTING

The following documentation must be kept onsite in order to record compliance with the EA and EMPr:

- Record of complaints; and
- Record of emergencies and incidents.

AMSA and the contractor (during the construction phase) will be required to report on the following:

- Environmental incidents involving contractor/ employees and/or the public;

- Environmental complaints and correspondence received from the public; and
- Incidents that cause harm or may cause harm to the environment.

The above records will form an integral part of the ECO's reports and records thereof maintained for the duration of the project. These records will be kept and will be made available for scrutiny if requested by the Site Manager, Project Manager or the ECO.

AMSA and the contractor will ensure that the following information is recorded for all environmental complaints/incidents/emergencies:

- Date of complaint/incident/emergency;
- Location of complaint/incident/emergency;
- Nature of complaint/incident/emergency;
- Causes of complaint/incident/emergency;
- Party/parties responsible for causing complaint/incident/emergency;
- Immediate actions undertaken to stop/reduce/contain the causes of the complaint/incident/emergency;
- Additional corrective or remedial action taken and/or to be taken to address and to prevent reoccurrence of the complaint/incident/emergency;
- Timeframes and the parties responsible for the implementation of the corrective or remedial actions;
- Procedures to be undertaken and/or penalties to be applied if corrective or remedial actions are not implemented; and
- Copies of all correspondence received regarding complaints/incidents/emergency.

6.6 PUBLIC COMPLAINTS

AMSA and the Contractor (during construction) shall keep a Complaints Register on site to allow the general public to document any comments or complaints regarding the activities of the site.

The Complaints Register must:

- Have numbered pages – any missing pages must be accounted for by the Contractor;
- Be tabled during monthly site meetings;
- Be made available to the AMSA Project Manager, Site Engineer, the ECO, and/or any authority at any time if requested; and
- Include a section for the documentation of the action taken to address the complaint.

All complaints must be investigated, responded to, and recorded in the Complaints Register within 28 calendar days.

7 SITE SPECIFIC ENVIRONMENTAL CONTROLS

The EMPr contains guidelines, operating procedures, rehabilitation, and pollution control requirements which will be binding to the onsite personnel working for, or on behalf of the Logistics Hub Facility. It is essential that the EMPr be carefully studied, understood, implemented and adhered to at all times.

In instances where the method statements provided by the contractor conflict with the EMPr, such conflicts will be discussed between the Site Manager, ECO and contractor and if unresolved the EMPr will take precedent.

The EMPr identifies various actions which are undertaken throughout the construction and operational phases of the Logistics Hub Facility. Not every action will be required during the entire course of activities. Therefore, the actions identified in the EMPr have been given priority timeframes for proposed implementation. The columns in the structure of the EMPr have been described **Table 7-1** below.

Table 7-1 – Structure of EMPr

Column	Description
Activity/Aspect	Highlights the various activities/aspects associated with the project i.e. the contractors' activities that will interact with the environment.
Impact Management Outcome	The desired outcomes from effectively minimising negative impacts and/or enhancing positive impacts.
Impact Management Actions/Measures	Indicates the actions required to prevent and /or minimise the potential impacts on the environment that are associated with the project.
Indicator and Compliance Management	Items that will assist with determining compliance against management actions.
Responsibility	Indicates the party responsible for implementing the environmental measures and action plans laid out in the EMPr. Please note that the Contractor's Site Manager will have authority to stop works if/as necessary.
Priority Timeframe	Indicates when the actions for the specific aspect must be implemented and/or monitored.

The following assumptions have been made in the development of the environmental specification in this EMPr:

- An environmental file containing the information/documentation required by this EMPr is to remain onsite and to be made available at the request of the auditor or similar monitoring body; and
- For ease of reference, any person(s) employed to assist in the project i.e. contractors, sub-contractor and permanent and temporary staff, will be collectively referred to as 'onsite personnel'.

Table 7-2 – Contractor laydown area and site access: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
7.1 CONTRACTOR LAYDOWN AREA AND SITE ACCESS			
Impact Management Outcome: ▪ To implement measures to minimise impacts on the environment from the initiation of construction activities through planning, careful site access route selection and implementation of mitigation measures.			
Indicator and Compliance Mechanism: ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Close-out on incidents. ▪ Monitoring and audit reports. ▪ Induction training and register. ▪ Environmental awareness programme/toolbox talks.			
Project Initiation of Construction Activities	Appoint an EO and external ECO to manage and verify compliance with the EA and EMPr.	▪ Project Manager ▪ EO ▪ Contractor (Site Manager)	▪ Construction ▪ Decommissioning
	The EO to delineate the construction site boundary of the Logistics Hub and inform the Site Manager and staff of the site boundary. All new staff must be informed of the site boundary.		
	The contractor is to ensure construction activities remain within the demarcated project boundary/footprint.		
	Firefighting measures must be implemented onsite and equipment, such as fire extinguishers, must be available on site. The facility must have a trained fire team. Firefighting equipment must be securely placed and inspected as required by the OHS Act and best practice standards.		
	All onsite personnel to receive Environmental Awareness Induction Training, including awareness of the surrounding environment and area and the importance to conserve these areas. A signed register of attendance must be kept for proof.		▪ Construction ▪ Operation ▪ Decommissioning
	Site clearing must be limited to the footprint of the infrastructure required for the Logistics Hub. No clearing must be conducted outside of the design footprint.		▪ Construction

Table 7-3 – Vehicle, Equipment and Machinery Management: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
7.2 VEHICLE, EQUIPMENT AND MACHINERY MANAGEMENT			
Impact Management Outcome: ▪ To implement measures to minimise impacts on the environment from poorly maintained equipment, machinery and vehicles onsite.			
Indicator and Compliance Mechanism: ▪ Health, safety, environmental and community incident and complaints management register. ▪ Close-out on health, safety, environmental and community incidents and complaints. ▪ Monitoring and audit reports. ▪ Transport route delineation. ▪ Compliance with SANS 10228 for transport of dangerous construction-related goods. ▪ Daily equipment, machinery and vehicle checklists. ▪ Equipment and plant maintenance schedules and registers. ▪ Incident classification and reporting procedure.			
Vehicle Commissioning	Ensure that all contractor vehicles transporting dangerous goods to and from site meet the requirements of SANS 10228.	▪ EO (monitoring) ▪ Contractor	▪ Construction
Vehicle Maintenance	No vehicle washing or maintenance activities should occur onsite. Where required, emergency servicing/repairs should be conducted on a hardstand and drip trays must be utilized. Maintenance and repairs of equipment and vehicles to be conducted at a workshop.	▪ EO (monitoring) ▪ Contractor	▪ Construction
Operation of Equipment, Machinery and Vehicles	Ensure that the equipment, machinery, plant and vehicles are adequately maintained to: ▪ Reduce the potential for spillages of oil, diesel, fuel or hydraulic fluid. ▪ Ensure roadworthiness. ▪ Reduce emissions. Evidence of such maintenance must be recorded and kept onsite for verification.	▪ EO ▪ Contractor	▪ Construction ▪ Operation ▪ Decommissioning

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	The movement of vehicles into and out of the site must be managed to ensure the impact on public areas is minimised, such as ensuring that abnormal loads are moved outside of peak traffic hours, and reasonable measures are taken to ensure that public and staff safety is managed adequately.		
	Vehicles bearing open loads of potentially wind-borne materials must be covered or wet down in order to minimise dust generation.		
	No storage of equipment outside of the designated laydown areas.		
	No servicing and washing of plant and equipment should take place on site unless necessary.		
	Drip trays must be placed under stationary vehicles and hydrocarbon operated machinery to contain possible spills and leaks.		

Table 7-4 – Fuel and Chemical Management: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
7.3 FUEL AND CHEMICAL MANAGEMENT			
Impact Management Outcome: ▪ To ensure the correct storage, handling and disposal of fuels and chemicals in order to prevent impacts to the surrounding environment.			
Indicator and Compliance Mechanism: ▪ Plant, vehicle and equipment maintenance records. ▪ Safe disposal certificates (where applicable) ▪ Material and substance Safety Data Sheets (SDS). ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Chemicals management procedure. ▪ Monitoring and audit reports. ▪ Training records for staff handling, using and managing fuel and chemicals.			
Fuel and Chemical Management	All incidents regarding fuel and chemical management including storage, handling and spillages incidents must be reported and recorded in the incidents register. Corrective actions to address fuel and chemical incidents to be implemented when required. Corrective actions to be recorded.	▪ EO ▪ Contractor	▪ Construction ▪ Operation
	Provide secure storage for fuel, oil, chemicals and other hazardous materials. Securely fence and lock the storage areas to accommodate all hazardous substances such as fuel, oils and chemicals. The storage area must be roofed, and the floor must be an impermeable surface and suitably bunded as per the requirements outlined in SANS 10089-1 (2008). If storage capacity and/or location triggers licencing, those must be acquired.		
	Indicate the location of the fuel and chemical storage area on the layout plans.		
	Label all liquids (chemicals and hydrocarbons) stored onsite for easy identification. SDS for onsite chemicals, hydrocarbon materials and hazardous substances must be readily available. Handling and management procedures of fuel and chemical must include requirements from SDS which include		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	mitigation measures to ameliorate potential environmental impacts which may result from a spill, incorporating health and safety mitigation measures.		
	A spill management plan must be in place to ensure that any chemical or fuel spill does not migrate into the surrounding areas. Drip trays must be placed underneath vehicles/machinery and equipment when not in use. Spill kits containing oil absorbent material must be placed on site where spills could occur.		
	All contaminated soil / yard stone shall be treated in situ or removed and be placed in containers for safe disposal. Contaminated soil, yard stone and absorbent material must be handled and disposed of as hazardous waste.		
	The use of fuels, oils or other chemicals outside of the bunded area should be minimised. When required, a suitable secondary containment such as drip trays must be used to contain spills.		
	In cases where a surface leak occurs during loading and off-loading activities, the spill material will be cleaned using a spill kit.		
	Leaking equipment and vehicles must be repaired immediately or be removed from the project site area to facilitate repair.		
Health and Safety	Display “no smoking” and “no naked flame” signs in and around the project area, as well as near the hazardous material store.	▪ EO ▪ Contractor	▪ Construction ▪ Operation
	Contact details for emergency services as well as H&S officer’s must be displayed at the site camp where all site personnel can access.		
	Strategically place the correct types of fire extinguishers onsite and near the hazardous material store. Train key personnel on basic firefighting skills. Fire extinguishers to be serviced and well maintained.		
	Frequently inspect and maintain containment facilities and retain records onsite.		
	Implement the fugitive dust management plan developed for the proposed project (refer to Appendix B).		
	Monitor dust emissions to determine effectiveness of controls and impacts on the receiving environment.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Exposed areas created by the construction activities will be kept wet during construction to minimise dust emissions from the site activities. Wetting to be prioritised during high temperatures and high wind speeds.		
	Strict speed limits on dust roads will be enforced to prevent dust generation.		
	A complaints register will be available to stakeholders to report any dust complaints.		
	Construction material stockpiles will be restricted to designated areas where these can be managed.		
	No waste burning, such as plastic bags, cement bags, and litter, will be permitted.		
	All materials to the site must be transported so they do not fall off the construction vehicle. It may be necessary to cover or wet construction materials.		

Table 7-5 – Waste Management: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
7.4 WASTE MANAGEMENT			
Impact Management Outcome: ▪ To ensure the correct handling, storage, transportation and disposal of general and hazardous waste.			
Indicator and Compliance Mechanism: ▪ Staff induction training, records and signed attendance registers. ▪ Material and Substance Safety Data Sheets (SDS). ▪ Site-specific Waste Management Plan (WMP). ▪ Relevant SANS Codes of Practice. ▪ Waste manifests and safety disposal certificates (all waste streams). ▪ Emergency preparedness and response procedure. ▪ Incident classification and reporting management procedure. ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Monitoring and audit reports.			
General Waste Management	General waste generated as a result of construction and operational activities must be managed in accordance with the WMP. The WMP must ensure compliance with the EA, EMPr, NEM:WA, national norms and standards for waste management, national and provincial Waste Management Strategies.	▪ EO ▪ Contractor	▪ Construction ▪ Operation ▪ Decommissioning
	Train and inform all onsite personnel regarding general waste minimisation, management and disposal as per the WMP referred to in Section 8.2 .		
	Prohibit littering, burning and burying of waste onsite.		
	Place an adequate number of labelled or colour coded general waste bins around the laydown area and at the construction site during construction activities to avoid littering. The bins must be emptied on a regular basis to ensure they do not reach capacity and waste must be disposed at a licensed disposal facility.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Waste management must be a priority and all waste must be collected and stored adequately. It is recommended that all waste be removed from site on a weekly basis to prevent rodents and pests entering the site.		
	Small refuse bins should be secured and emptied daily (or as required) into a larger waste skip or container.		
	Temporary storage of domestic waste shall be in covered waste skips or wheelie bins.		
	Retain records such as waybills and waste manifests associated with waste removal, transportation and disposal (safe disposal certificates).		
	Prohibit the mixing of general waste with hazardous waste. Should general waste be mixed with hazardous waste, it will be considered hazardous waste. There should be waste segregation (e.g. electronic equipment, chemicals, oil contaminated rags, paper, plastic) and management on the site.		
	Recycle and reuse general waste as far as possible. Local recycling service providers should be contracted to collect recycled and reusable waste.		
Hazardous Waste Management	Hazardous waste generated as a result of construction, operational and decommissioning activities must be managed in accordance with the WMP. The WMP must ensure compliance with the EA, EMPr, NEM:WA, national norms and standards for hazardous waste management, and the national and provincial Waste Management Strategies.	▪ ECO ▪ EO ▪ Contractor	▪ Construction ▪ Operation ▪ Decommissioning
	Any material which is considered hazardous is to be collected and transferred by a permitted/trained hazardous waste contractor to the approved hazardous waste facility.		
	Strict use and management of all hazardous materials used on site must be implemented.		
	Strict management of potential sources of pollution (e.g. hydrocarbons from vehicles & machinery, cement during construction, etc.) should be conducted within demarcated / bunded areas or with the use of drip trays.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Train and inform all onsite personnel regarding hazardous waste minimisation, management and disposal as per the WMP.		
	Hazardous substances and chemicals should be stored within a designated, appropriately demarcated and covered hazardous waste storage area on a hard standing area.		
	Hazardous waste substances and chemicals should be stored within a designated, appropriately demarcated and covered hazardous waste storage area on a hard standing area.		
	Clean areas where hazardous substance or hazardous waste spills have occurred and dispose of the hazardous material appropriately. Key personnel must be trained on handling spillages.		
	Retain records such as safe disposal certificates associated with hazardous waste removal, transportation, and disposal.		
	The AMSA and Bidvest Emergency Preparedness and Response Plan should be applied to the project site. The plan should relate to any incidents related to hazardous waste handling and/or transportation activities.		
	Ensure that waste manifest documentation (as per the Waste Classification and Management Regulations – GNR 634) is prepared and maintained for the generation, transportation, and disposal of waste.		
	All spills should be reported to the authorities as per the emergency preparedness and response plan, the EA specifications and national legislation requirements.		
Soil	All soil, demolished concrete, and roadway surfaces, including sub-base and base layers, is to be placed separately in skips and disposed of at an approved waste disposal site in accordance with the legislative requirements. Contaminated construction and demolition waste (rubble) must be handled and disposed of as hazardous waste.	▪ EO ▪ Contractor	▪ Construction

Table 7-6 – Health and Safety: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
7.5 HEALTH AND SAFETY			
Impact Management Outcome: ▪ To ensure communication with members of the public to promote safety awareness. ▪ To prevent public access to construction sites and storage areas. ▪ To ensure safety for all onsite personnel.			
Indicator and Compliance Mechanism: ▪ Onsite personnel induction training records and registers. ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Monitoring and audit reports. ▪ Incident classification and reporting management procedure. ▪ PPE Register. ▪ Occupational health and safety plan. ▪ Health and safety protocol. ▪ Staff annual medical assessments for required work duties.			
Health and Safety	The construction phase will be managed according to all the requirements of the Occupational Health and Safety Act 85 of 1993, specifically the Construction Regulations.	▪ Site Manager ▪ Contractor ▪ EO	▪ Construction ▪ Operation
	All onsite personnel are required to undergo induction training and regular toolbox talks in order to raise awareness of the Health and Safety conditions that must be implemented onsite.		
	Develop and implement an occupational health and safety plan for the construction and operation phase.	▪ Contractor/Operator ▪ Site Manager	▪ Construction ▪ Operation
	The appointed contractor will be responsible for the development of a comprehensive health and safety protocol which must be adhered to.	▪ Contractor	▪ Construction

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Emergency response plan to be in place prior to beginning construction and to include aspects such as appointment of emergency controller, provision of first aid and first aiders, first responder contact/s numbers and emergency protocols.		
	Provide and wear appropriate PPE onsite.	▪ Contractor/Operator ▪ Site Manager	▪ Construction ▪ Operation
	All normal procedures for working at heights, hot work permits, confined space entry, cordon off excavations, etc. to be in place before construction begins	▪ Contractor/Operator ▪ Site Manager	▪ Construction
	All necessary good hygiene practices to be in place, e.g. provision of toilets, eating areas, infectious disease controls to be in place before construction begins.	▪ Site Manager ▪ Contractor ▪ EO	▪ Construction ▪ Operation
	Prior to construction determine the dangerous species/animals in the area and what responses are needed to bites/exposure/attacks.		
	Train all onsite personnel handling chemical or hazardous substances in the use of such substances and the environmental, health and safety consequences of incidents.		
	Outside work must be stopped during heavy rain and thunderstorms.		
	Conduct occupational health surveys to ensure dust emissions do not exceed the acceptable occupational health limits.		
	Provide workers with appropriate dust masks and, where appropriate, ventilators where dust emissions exceed the acceptable occupational health limits.		
	Annual medical assessments for staff to record and monitor health of staff. All staff to undergo assessments annually or as required by law, whichever is more frequent.		
Facility emergencies	Emergency response plan for full operation and maintenance phase to be in place prior to beginning commissioning and to include aspects such as: ▪ appointment of emergency controller, ▪ emergency isolation systems for electricity, ▪ emergency isolation and containment systems for electrolyte,	▪ Operator	▪ Operation

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	▪ provision of PPE for hazardous materials response, ▪ provision of emergency facilities for staff at the main office building, ▪ provision of first aid facilities, and ▪ first responder contact numbers etc.		
	SDSs must be made available for all chemicals and substances on site	▪ Site Manager ▪ Contractor ▪ Operator ▪ EO	▪ Construction ▪ Operation
Fire risk	Full Process Safety Management system with all elements to be implemented to international best practice levels.	▪ Site Manager ▪ Contractor ▪ Operator ▪ EO	▪ Construction ▪ Operation
	Suitable fire-fighting equipment on site near source of fuel, e.g. diesel tank, generators, mess area, workshops etc.		
	Safety integrity level rating of equipment (failure probably) with suitable redundancy if required.		
	Ensure regular testing of emergency alarm systems are undertaken.		
	Emergency Response plan in compliance with SANS 1514 to be compiled, e.g. plan from transport and construction phase to be extended to operational phase to include the hazards of the systems containing large quantities of highly hazardous chemicals.		
Public Safety	Restrict public access by employing full time security for the site.	▪ Site Manager ▪ EO	▪ Construction ▪ Operation
Decommissioning of facility	End of Life shutdown procedure including a risk assessment of the specific activities involved.	▪ Operator ▪ EO	▪ Decommissioning
	Re-purpose the equipment with associated environmental impact considered.		
	Disposal of waste materials according to national regulations and other applicable international directives.		
	Operator should seek the opinion from a waste consultant on how to correctly dispose of hazardous waste, equipment and material.		

Table 7-7 – Water Management: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
7.6 WATER MANAGEMENT			
Impact Management Outcome: ▪ To implement measures to prevent the contamination of surface and groundwater resources. ▪ To prevent erosion.			
Indicator and Compliance Mechanism: ▪ Induction training and records. ▪ Water Management Plan. ▪ Incident classification and reporting management procedure. ▪ Environmental awareness programme/toolbox talks. ▪ Stormwater management plan (SWMP).			
Surface Water Management	Machinery must be regularly checked to ensure hydrocarbon leaks (including fuel and hydraulic fluids) are not occurring. Drip trays must be used where necessary. Fuels and oils must be stored within bunded areas. Parking areas for staff vehicles should ideally be placed on hardstanding to limit the impacts of oil leaks to the environment.	▪ EO ▪ Contractor	▪ Construction ▪ Operation ▪ Decommissioning
	Where required, construct pollution control systems such as bunded areas, and runoff control systems such as diversion berms and water collection areas before undertaking any construction activities.	▪ Site Manager ▪ Contractor ▪ EO	▪ Construction ▪ Operation ▪ Decommissioning
	Runoff from construction areas should be designed and managed to ensure that sediments, hazardous substances and chemicals do not reach watercourses in the wider catchment during rainfall events.		
	If in-field refuelling is done from a tanker, it should be done in a designated dirty area and a spill kit and clean-up team must be available on site.	▪ Site Manager ▪ Contractor ▪ Operator	
	Provision of adequate sanitation facilities in the form of chemical toilets that are serviced weekly during the construction and decommissioning phase (at minimum).		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Service vehicles in a workshop. Emergency repairs and servicing to be conducted on a hardstand and with the use of drip trays. Contaminated soil and spills to be collected with the use of a spill kit.		
	Spillages should be cleaned up immediately and contaminated soil must either be remediated in situ or disposed of at an appropriately licensed landfill site.		
	Potentially contaminating wastes (empty containers for paint, solvents, chemicals, contaminated equipment, etc.) should be stored in bunded areas until removed by a reputable contractor for disposal at an appropriately licensed site.		
	Unused cement to be stored in designated store on a hardstand. Dry cement spills to be collected immediately and reused onsite where applicable. No cement to enter stormwater runoff.	▪ Site Manager ▪ Contractor ▪ EO	
	Maintenance of any abstraction pumps to prevent spills.	▪ Operator	
	Bunded areas to store chemicals and/or fuel. Chemical and fuel spills should be collected as soon as they occur.		
De-watering of excavations	The contractor is responsible for ensuring that excavations are kept free of rain and surface water. Trial excavations are to be dug prior to construction to determine the depth of the water table at the site. The Engineer is to be informed of the depth of the water table and will decide whether or not de-watering is required.	▪ EO (monitoring) ▪ Contractor	▪ Construction ▪ Decommissioning
Groundwater Management	Spoil recovered from trenches in the areas where contamination has been identified should be assessed and the spoil disposed in an appropriate manner.	▪ Site Manager ▪ Contractor ▪ EO	▪ Construction ▪ Operation ▪ Decommissioning
	All equipment that has the potential to leak contaminants to the environment should be stored on an impermeable hard standing and in a bunded (containment) area (e.g., fuel storage, soaps, greases, transformers etc.).	▪ Site Manager ▪ Contractor	▪ Construction ▪ Operation ▪ Decommissioning
	Vehicles should be routinely inspected, and maintenance carried out to reduce likelihood of spillages.	▪ Site Manager ▪ Contractor	▪ Construction ▪ Operation

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Transfer of fuels and parking of vehicles should be on hard standing.	▪ Site Manager ▪ Contractor	▪ Decommissioning
	Spill kits should be used to clean up spills when they occur.	▪ Site Manager ▪ Contractor	
	Redundant equipment that has the potential to leak contaminants to the environment must be placed within an appropriate waste facility that can contain contaminants or hydrocarbon leaks.	▪ Site Manager ▪ Contractor ▪ EO	▪ Construction ▪ Operation ▪ Decommissioning
Potable Water Management	Onsite staff are to be provided with an appropriate potable water supply, safe and healthy sanitary facilities and protection against exposure to environmentally dangerous or unhealthy situations or conditions.	▪ Contractor/Operator ▪ EO	▪ Construction ▪ Operation ▪ Decommissioning
	Appropriate ablution facilities should be provided for construction workers during construction and on-site staff during the operation of the facility. These must be situated within the construction and project footprint and outside stormwater runoff channel, and any delineated watercourses and wetlands.		
	Onsite staff must be made aware and encouraged to use water sparingly such that there is no water wastage.		

Table 7-8 – Air Quality: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
7.7 AIR QUALITY			
Impact Management Outcome: ▪ To ensure that air quality impacts to the surrounding environment are minimal or mitigated			
Indicator and Compliance Mechanism: ▪ Complaints register. ▪ Incident reporting system. ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Incident classification and reporting management procedure. ▪ Equipment, machinery and vehicle maintenance logs.			
Dust Management	Activities with high dust-causing potential, such as grading and moving of soil, must not be carried out during adverse wind conditions.	▪ EO ▪ Contractor ▪ Operator	▪ Construction ▪ Operation
	All stockpiles (if any) must be restricted to designated areas and may not exceed a height of two (2) metres;		
	Earth-moving works have the potential to generate large amounts of dust. Pre-planning of earth-moving works can reduce dust emissions by limiting the time the site is exposed. Options for dust control can include the following: ▪ Plan earth-moving works so that they are completed just prior to the time they are needed. ▪ Observe weather conditions and do not commence or continue earth moving works if conditions are unsuitable e.g., under conditions of strong winds.		
	Cover and/or maintain appropriate freeboard on trucks hauling any loose material that could produce dust when travelling. Minimise transfer points.		
	Once construction is complete and where applicable, vegetate open areas near the logistics hub to minimise erosion on site and reduce wind speed across exposed surfaces and minimise dust generation.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Dampen exposed soil to suppress dust if required. Use watering sprays on materials to be loaded and during loading. No non-environmentally friendly dust suppressants may be used.		
	Where possible, minimise speed limits, vehicle weights and the number of vehicles using unpaved roads.		
	A complaints register will be available to stakeholders to report any dust complaints.		
	Construction material stockpiles will be restricted to designated areas where these can be managed.		
	Train wagons carrying manganese will be covered to prevent dust.		
	Any commodities stockpiled will be restricted to designated areas where these can be managed, such as the warehouse.		
	Manganese stockpiles will be kept wet or treated with a dust-a-cide to reduce and manage dust.		
Logistic Hub	Ensure all material that has the potential to generate fugitive dust is stored and handled within the fully enclosed warehouse.		
	Conduct loading and off-loading of trucks within a fully enclosed warehouse.		
	Ensure all enclosures are maintained and any leaks from enclosures sealed.		
	Ensure water sprayers within enclosure are always operational and maintained accordingly. Operations to stop if sprayers are not operational. Undertake weekly inspections of sprayers and sprayer system to confirm operational status.		
	Ensure skips and trucks are clean of material dust, spillages, and other material obtained from destination while in transit returning to site. Including tyres, wheel arches and undercarriages.		
	Ensure skips and trucks are clean of material dust, spillages, and other material prior to exiting the warehouse and while on route to Transnet Port Terminals Saldanha. Including tyres, wheel arches and undercarriages.		
	Ensure that skips and trucks are always covered while in transit, when empty and/or containing commodity.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Ensure that skips and trucks are kept in a manner to prevent windblown fugitive dust even when empty and/or while in storage.		
	Compile and implement a cleaning procedure for the cleaning of skips, trucks, and warehouses.		
	Conduct daily road sweeping and spillage collections, applicable to the warehouse, and its entrance, and both paved and unpaved roads.		
Transfer Stations	Ensure chemical additive sprayer on Transfer Station 3 for the Logistics Hub is operational at all times and maintained accordingly. Operations to stop if sprayer is not operational. Undertake weekly inspections of all sprayers to confirm operational status.	▪ Operator	▪ Operation
	Where possible, add strip curtains to transfer stations and / or improve station enclosures to contain fugitive emissions. Weekly inspections to identify leaks / substantial emissions from transfer stations.		
Side and Rotary Tipplers	Where possible, add strip curtains to reduce fugitive emissions from tipplers, especially from the main openings. During unloading, undertake inspections of emissions identifying any substantial releases.	▪ Operator	▪ Operation
	Ensure all extraction equipment is maintained and serviced according to manufacturer's specifications, ensuring required extraction flow is maintained, as well as all leaks in extraction system are timeously repaired. Unloading to only occur when extraction system is operational.		
	Ensure chemical additive sprayer on the Rotary Tippler is always operational and maintained accordingly. Unloading to stop if sprayer is not operational. Undertake weekly inspections of all sprayers to confirm operational status.		
Stockpiles / Dumps and Exposed Areas	The commodities will be stockpiled in a warehouse and vehicles will only enter and exit the leeward side of the warehouse reducing impact of wind on the commodities. Stockpiled commodities will be sprayed to ensure they remain wet to minimise dust generation.	▪ EO ▪ Contractor ▪ Operator	▪ Operation
	Identify exposed areas, not used for operations, and vegetate to reduce the amount of dust available for wind entrainment. Ensure vehicles cannot access these areas.		
	Install sprayers within stockpile areas focusing on those stockpiles prone to wind entrainment. This will only apply to materials that do not react to water.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Implement front end loader (FEL) operational improvements, such as reduced drop heights of materials, reduced FEL speeds, and reduced disturbance of stockpiles.		
	Where possible, do not undertake material handling activities during windy conditions. Windy conditions exceeding 10 m/s (36 km/h), and blowing directly towards the nearest receptors, should be considered as windy.		
	Recommend use of chemical dust suppressant on unpaved roads and open areas on site. Prior to application, ensure all loose material is collected allowing the chemical suppressant to work effectively, e.g. road sweeping.		
Reclaimer and Stacker	Ensure water or chemical sprayer on reclaimer is always operational and maintained accordingly. Operations to stop if sprayers are not operational. Undertake weekly inspections of sprayer to confirm operational status.	▪ Operator	▪ Operation
	Where possible, reduce drop heights of stacker, and cease operations during windy conditions should this influence the stacking operations within the warehouse.	▪ Operator	▪ Operation
Conveyors	Ensure all conveyor enclosures are maintained and any leaks from enclosures sealed.	▪ Operator	▪ Operation
	Ensure conveyor belts are maintained to reduce spillages.		
	Ensure all conveyor sprayers required for the Logistics Hub are operational at all times, and maintained accordingly. Conveyor operations to cease when the sprayers are not operational.		
Paved and unpaved roads	Implement access control for areas that are out of operation on site.	▪ Contractor ▪ EO ▪ Operator	▪ Construction ▪ Operation
	Implement and enforce speed limits and controls onsite.		
	Conduct road sweeping and spillage collections, applicable to both paved and unpaved roads.		
	Application of chemical dust suppressants to all unpaved roads,		
	Frequent maintenance of vehicle fleet, inclusive of FELs, ensuring vehicle exhaust emissions are controlled.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Ensure all truck loads are covered.		
Truck Loading Gantry and Hoppers	Install chutes on the truck loading gantry's reducing the impact of wind during loading.	▪ Operator	▪ Operation
	Ensure water sprayers on the hoppers are always operational and maintained accordingly. Cease operations if the sprayers are not operational.		
	Ensure all material that has the potential to generate fugitive dust is stored and handled within a fully enclosed warehouse.		
	Conduct loading and off-loading of trucks to be conducted within a fully enclosed warehouse.		
	Ensure all enclosures are maintained and any leaks from enclosures sealed.		
General	Improve general housekeeping, specifically focusing on the collection of all spilled material e.g. transfer stations, tipplers, around conveyors, logistics hub warehouse, spilled materials along roads, etc.	▪ EO (monitoring) ▪ Contractor ▪ Operator	▪ Construction ▪ Operation
	Installation of a windsock within the stockpile yard providing operators with immediate information relating to wind direction and wind speed.		
	General inspections of all activities onsite, including within buildings, identifying any activity contributing to fugitive dust and reporting this accordingly to ensure timely resolution.	▪ Operator	▪ Operation
	Ensure all abatement equipment are maintained according to manufacturer's specifications, with emission tests undertaken to confirm control efficiency remains high and emission standards (where applicable) are met.		
	Installation and maintenance of a weather station, capable of providing live data and alerts enabling operators to stop operations during windy conditions e.g. within the stockpile yards.		
	Ensure spare parts are available for all dust suppression systems. Where possible, should dust suppression systems fail, operations to cease until repairs have been completed.		
	Employee training and awareness raising ensuring e.g. visible fugitive emissions, spillages, or poor operator behaviour, are immediately reported to relevant personnel for addressing.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
Control Inspections	Inspection logs to be developed and training provided to all relevant personnel, applicable to all control measures where inspections are required. Ensure systems are developed for storing of logs to ensure availability for future audits.	▪ EO (monitoring) ▪ Contractor ▪ Operator	▪ Construction ▪ Operation
	Ensure all equipment maintenance logs are compiled and saved, inclusive of all calibrations of equipment.	▪ Operator	▪ Operation
Dust Fallout Monitoring	Continue monitoring existing sampling locations according to the National Dust Control Regulations (NDCR). Ensure monthly reports are compiled meeting the NDCR requirements.	▪ Operator	▪ Operation
	Submit monthly monitoring reports to the West Coast District Municipality according to the agreed schedule.		
	Immediately notify the WCDM when non-compliance occurs and implement a review of the FDMP and submit the revised plan to the WCDM for approval		
	Installation and maintenance of an onsite meteorological station, recognising the NDCR requires site representative data to be presented in dust fallout reports.		
Ambient Continuous Monitoring	Install and commission a new continuous monitoring station, or re-commission the existing continuous monitoring station. Importantly, consider relocating the existing station to an area representative of ambient conditions i.e. offsite.	▪ Operator	▪ Operation
	Should non-compliant dust fallout rates occur, establish a PM_{10} and $PM_{2.5}$ monitoring network to confirm particulate fractions potentially impacting health remain within legal limits.		
	Ensure all monitors are maintained and calibrated according to supplier's specifications.		
Internal Communications	Ensure all personnel are trained appropriately to identify fugitive sources of dust emissions and understand the requirements to report elevated emissions.	▪ EO ▪ Contractor ▪ Operator	▪ Construction ▪ Operation
	Report to plant / process managers occurrences where the FDMP and its requirements or not being implemented.		
	Report dust monitoring performance and compliance status to plant / process managers and the proponent.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Report complaints received and findings of complaints investigations to plant / process managers and the proponent.		
External Communications	Ensure all reporting to the WCDM is conducted according to legislation, the AEL, or the WCDM requirements.	▪ EO ▪ Contractor ▪ Operator	▪ Construction ▪ Operation
	Ensure all reporting, such as to NAEIS, is undertaken as per the requirements of the AEL and relevant regulations.		
	Ensure a clear process / platform is available for complainants to log complaints.		
	Ensure all complaints are investigated timeously and according to the requirements of the AEL. Ensure all investigations are saved for future review.		
	Provide feedback to complainants on findings of complaints investigations.		
	Where the complaints investigation identifies the cause occurred from onsite activities, ensure that relevant personnel are made aware and identify any deficiencies with the prescribed control measures, and revise accordingly.		
	Schedule routine meetings with the WCDM representatives to provide updates on operations onsite, future plans, and overall air quality performance. This will foster a strong relationship with the WCDM.		
	Raise awareness of air quality performance, such as sharing of compliance status, fostering a strong relationship with stakeholders. Annual stakeholder engagement meetings should be considered or similar initiatives.		

Table 7-9 – Noise: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
7.8 NOISE			
Impact Management Outcome: ▪ To ensure that noise impacts to the surrounding environment are minimal or mitigated.			
Indicator and Compliance Mechanism: ▪ Complaints register. ▪ Incident reporting system. ▪ Induction training records. ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Incident classification and reporting management procedure. ▪ Records of Personal Protective Equipment (PPE) issued to staff. ▪ Equipment, machinery and vehicle maintenance.			
Noise Management	Plan construction activities in consultation with local communities so that activities with the greatest potential to generate noise are planned during periods of the day that will result in least disturbance. Information regarding loud noise construction activities should be provided to surrounding businesses and communities (where applicable). Such information includes: ▪ Proposed working times. ▪ Anticipated duration of activities. ▪ Explanations on activities to take place and reasons for activities. ▪ Contact details of a responsible person on site should complaints arise.	▪ EO ▪ Contractor	▪ Construction
	When working near a potential sensitive receptor, limit the number of simultaneous activities to a minimum as far as possible.		
	Use noise control devices, such as temporary noise barriers and deflectors for high impact activities, and exhaust muffling devices (silencers) for combustion engines.		
	Select equipment with the lowest possible sound power levels.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Avoid noisy activities at night-time and outside of normal weekend working hours where possible.		
	Employees / contractors are to be provided with appropriate hearing protection when undertaking noisy activities.	▪ EO ▪ Contractor ▪ Operator	▪ Construction ▪ Operation
	Provide complaints register to report any excessive noise incidents. Manage all complaints as per existing management procedure.		
	Regular maintenance of equipment, plant and vehicles to reduce the generation of additional unwanted noise.		
	Employees to be provided with hearing protection if working near equipment that exceeds the noise limits.		
	Occupational health surveys will be conducted to ensure that the noise emissions do not exceed the acceptable occupational health limits (85 dBA) for construction workers and staff during operation.		
	Workers will be provided hearing protection should they work in environments that exceed the acceptable occupational limits.	▪ Operator	▪ Operation
	Workers will be made aware of a complaints register should they wish to report noise issues.		
	Ensure equipment, plant and vehicles is well-maintained to avoid additional noise generation.		

Table 7-10 – Soil, Land Use and Agriculture: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
7.9 SOIL, LAND USE AND AGRICULUTURE			
Impact Management Outcome: ▪ To prevent any disturbance, erosion or contamination of soil resources.			
Indicator and Compliance Mechanism: ▪ Induction training and records. ▪ Waste Management Plan ▪ Incident classification and reporting management procedure (to be developed). ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Monitoring and audit reports. ▪ Stormwater Management Plan (SWMP)			
Loss of Soil	All stripping, clearing and stockpiling should be undertaken according to the guidelines below: ▪ If required, soils must only be stripped when they are dry. Clearing should not be undertaken in wet conditions. ▪ Demarcate the area to be stripped and cleared clearly, so that the contractor does not clear beyond the demarcated boundary. ▪ The cleared soil should be relocated by truck along set removal paths to a designated area for stockpiling. ▪ The area to be cleared requires storm water management and the in-flow of water should be prevented with suitable structures. ▪ If required, prepare the haul routes prior to clearing.	▪ Site Manager ▪ Contractor ▪ EO	▪ Construction
	Clear and stockpile all useable soil material.	▪ Site Manager ▪ Contractor ▪ EO	▪ Construction ▪ Decommissioning
	Soil stockpiles should not be higher than 2m.		
	Irrespective of where soil is stockpiled, it should be vegetated as soon as possible to protect against erosion, discourage weeds and maintain active soil microbes.		
	Soils can be ripped to make them more suitable for cultivation post-decommissioning.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Onsite vehicle routes must be limited by demarcating traffic areas and limiting vehicle access.		
Erosion and Sedimentation	Existing roads should be used instead of creating new roads wherever possible.	▪ Site Manager ▪ Contractor ▪ EO	▪ Construction ▪ Operation ▪ Decommissioning
	During periods of strong winds, stockpiles that have not yet been vegetated should be covered with appropriate material.		
	Limit earthworks and vehicle movement to demarcated paths and areas.		
	Limit the duration of construction activities, especially those involving earthworks / excavations.		
	Access roads associated with the development should have gradients or surface treatment to limit erosion, and road drainage systems should be accounted for.		
Soil Contamination	On-site vehicles should be well-maintained.	▪ Site Manager ▪ Contractor ▪ EO	▪ Construction ▪ Operation ▪ Decommissioning
	Drip trays should be placed under parked vehicles.		
	On-site pollutants/hazardous materials should be contained in a bunded area and on an impermeable surface.		
	Ensure proper control of hazardous and dangerous substances entering the site.		
	Adequate impermeable disposal facilities (waste bins or skips) must be provided.		
	Limit vehicle routes on site by demarcating traffic areas.		

Table 7-11 – Terrestrial Plant Species: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
7.10 TERRESTRIAL BIODIVERSITY SPECIES			
Impact Management Outcome: ▪ To minimise impact to the vegetation community ▪ To minimise impact to plant Species of conservation concern (SCC)			
Indicator and Compliance Mechanism: ▪ Induction training records and registers. ▪ Environmental awareness programme/toolbox talks. ▪ Monitoring and audit reports.			
Vegetation Management	Construction works should be confined to the proposed development footprint. No construction-related activities should occur on the adjacent vegetated area.	▪ Site Manager ▪ Contractor ▪ EO	▪ Construction
	All clearing for the Project should be restricted to the proposed Project footprints only, with no clearing permitted outside of these areas.		
	The footprints to be cleared should be demarcated prior to construction to prevent unnecessary clearing outside of these areas. No heavy vehicles should travel beyond the marked works zone.		
	The area adjacent to the proposed development to be cordoned off as a no-go area during the construction phase.		
	Temporary facilities associated with construction, such as contractor site offices, portable toilets, storage and laydown areas, should be located on land that is currently transformed or developed.		
	Where applicable, removed topsoil and soil should be stockpiled and used to rehabilitate all non-operational disturbed areas.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	A rehabilitation protocol should be developed and implemented to stabilise and vegetate all non-operational areas that have been disturbed by construction.		
Alien Vegetation Management	Implement an Alien Invasive Plant control and eradication plan that focuses on controlling and eradicating all alien invasive species (AIS) occurring throughout all project phases.	▪ Site Manager ▪ Contractor ▪ EO ▪ Operator	▪ Construction ▪ Operation ▪ Decommissioning

Table 7-12 – Archaeological and Cultural Heritage: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
7.11 ARCHAEOLOGICAL AND CULTURAL HERITAGE			
Impact Management Outcome: ▪ To ensure that sites/artefacts of heritage value are identified and protected.			
Indicator and Compliance Mechanism: ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Incident classification and reporting management procedure. ▪ Monitoring and audit reports.			
Cultural and/or Heritage Sites	If any evidence of archaeological sites or remains (e.g., remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments and charcoal/ash concentrations) are found during construction activities, the finds must be reported and the Chance Find Protocol (HWC Chance Fossil Finds Procedure, Pether, 2021) must be implemented.	▪ Site Manager ▪ Contractor ▪ EO ▪ Archaeologist ▪ Operator	▪ Construction ▪ Decommissioning
	If any graves are uncovered during construction activities, the archaeologist must be called in to inspect the finds and the police should be notified of the find. Construction works within the immediate area to cease.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	If any archaeological resources or unmarked human remains are uncovered or exposed during construction and decommissioning, these must immediately be reported to Heritage Western Cape (Att: Ms Stephanie Barnardt 021 483 9543).		

Table 7-13 – Palaeontology: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
7.12 PALAEONTOLOGY			
Impact Management Outcome: ▪ To ensure that palaeontological material is identified and protected.			
Indicator and Compliance Mechanism: ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Incident classification and reporting management procedure (to be developed). ▪ Monitoring and audit reports.			
Chance Finds	If any palaeontological material is exposed during digging, excavating, drilling or blasting, the finds must be reported and the Chance Find Protocol ((HWC Chance Fossil Finds Procedure, Pether, 2021) must be implemented.	▪ Site Manager ▪ Contractor ▪ EO ▪ Palaeontologist ▪ Operator	▪ Construction ▪ Decommissioning

Table 7-14 – Traffic: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
7.13 TRAFFIC			
Impact Management Outcome: ▪ To ensure that the traffic impacts of the project are mitigated and managed.			
Indicator and Compliance Mechanism: ▪ Induction training and records. ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Monitoring and audit reports. ▪ Incident classification and reporting management procedure ▪ Occupational health and safety plan. ▪ Traffic and transportation management plan.			
Signage and Notifications	Post relevant road signage along affected routes. Introduce sufficient and appropriate traffic signals at intersections to manage traffic flow. Proponent shall ensure that the contractor erects temporary signs warning motorists of construction vehicles on the approaches to the access road.	▪ Site Manager ▪ Contractor ▪ EO	▪ Construction
Dust Emissions	Reduce travel speed for construction vehicles on the gravel road to reduce dust. Dust suppression of the roads in the immediate vicinity of the site to be implemented. The gravel roads will be kept wet when trucks access the site to reduce dust.	▪ Site Manager ▪ Contractor ▪ EO	▪ Construction
Vehicle Management	Ensure all vehicles are roadworthy, well maintained, visible, adequately marked, and operated by an appropriately licenced operator. Trucks will be fitted with tracking devices to maintain speed limits and improve safety by monitoring driver behaviour.	▪ Site Manager ▪ Contractor ▪ EO	▪ Construction

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	A toll-free number will be provided on construction trucks, allowing drivers to report bad driving.		
	Vehicles will be regularly serviced to reduce exhaust emissions.		
Road Management	Ensure that the roads are left in the same or better condition, post-construction.	▪ Contractor ▪ Operator	▪ Construction
	Proponent shall ensure that the condition of the roads impacted by construction of the development is left in a similar or better state once the construction phase is complete.		
	The contractor and Proponent to ensure that the contractor provides the necessary driver training to key personnel to minimise the potential of incidents on the public road network.		
	Turning lanes should be provided when trucks coming to the Logistics Hub must turn off public roads.		
Permits	A permit must be obtained from the relevant authority for any abnormal loads transported. The site is zoned for industrial use, and only trucks coming to the Logistics Hub will access the site.	▪ Site Manager ▪ Contractor ▪ EO	▪ Construction ▪ Operation ▪ Decommissioning
Social	A complaints register should be available to any stakeholder who might want to complain about vehicles and trucks during construction, operation or decommissioning phase.	▪ Site Manager ▪ Contractor ▪ EO	▪ Construction ▪ Operation ▪ Decommissioning

Table 7-15 – Social: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
7.14 SOCIAL			
Impact Management Outcome: ▪ To ensure that the negative socio-economic impacts are mitigated and managed. ▪ To ensure that the positive socio-economic impacts are enhanced.			
Indicator and Compliance Mechanism: ▪ Induction training records and registers. ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Monitoring and audit reports. ▪ Incident classification and reporting management procedure (to be developed). ▪ PPE Register. ▪ Occupational health and safety plan (to be developed). ▪ Employment records and community engagement local enterprise development records.			
Health	Workers working with manganese must be regularly monitored for health impacts caused by exposure to manganese dust. They should be monitored long-term to identify any impacts from long-term extended exposures to manganese dust.	▪ HSE Officer	▪ Operation
Cultural Heritage	If archaeological resources are uncovered during excavation, work must cease near the find, the Environmental Officer must inform the Environmental Compliance Officer (ECO) who must contact Heritage Western Cape to determine the best way forward.	▪ Site Manager ▪ Contractor ▪ EO ▪ ECO ▪ Operator	▪ Construction ▪ Operation
	Proponent will not target one community or organisation for benefit above another.		
	Proponent should follow a fair process to identify CSI initiatives it will support.		
Influx of Jobseekers	As part of onboarding construction workers, training should be provided on preventing Gender Based Violence, Sexual Assault and Sexual Harassment.	▪ Site Manager ▪ Contractor	▪ Construction ▪ Operation

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	The Project must engage with communities using a dedicated community liaison officer and have an effective stakeholder engagement plan, including a grievance mechanism for communities to access and lodge complaints.	▪ Operator ▪ ECO	
	Local employment should be a priority for the construction contractor to lessen the number of employees away from their homes.		
	No recruitment should occur at the Project gate to prevent informal settlements around the Project site.		
	Increased security in the Project area should be provided to regulate access to the site and prevent informal settlements.		
Employment	It is suggested that non-locals should only be hired when specialist skills, which are unavailable locally, are required. The following aspects in this regard should receive priority: ▪ Residents and communities should be employed wherever possible; ▪ Local companies should be used whenever possible, especially for unskilled and semi-skilled work; ▪ Local workers should be used and mentored as far as possible; ▪ Rigorous and transparent recruitment processes should be followed, and regular audits should be undertaken to establish whether workers are locals.	▪ EO ▪ Site Manager ▪ Operator	▪ Construction ▪ Operation
Economy	The proponent should engage with local authorities and business organisations to investigate the possibility of procuring materials, goods and products from local suppliers where feasible.	▪ Operator	▪ Construction ▪ Operation
	Prior to decommissioning, engagements should happen with the local authorities to inform them that the operations will be closing.	▪ Site Manager ▪ Contractor ▪ Developer ▪ EO	▪ Decommissioning
	A closure plan should be developed to transition businesses and staff which will have become dependent on the Logistics Hub to other economic opportunities.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
Job Losses	A downscaling and retrenchment plan must be developed before the operation enters the decommissioning phase.		
	Reskilling should be offered to workers so they can find alternative jobs.		
	Workers should be assisted in accessing the Unemployment Insurance Fund.		
	Local social services should know that the operation will be closing and that workers will need assistance.		
Insufficient Saldanha Port Capacity	The proponent should ensure that the Port can accommodate the additional commodities.	▪ Operator	▪ Construction ▪ Operation
Added Pressure on The Saldanha Municipality	The proponent should inform the municipality of the Project and the potential for an influx of people looking for jobs so that the municipality can prepare for this.		

8 MANAGEMENT PLANS

A number of generic management plans have been included in the EMPr. The plans included below provide an indication of the requirements that must be followed on the proposed construction, operation or potential decommissioning of the Logistics Hub facility. The Logistics Hub will be developed on the existing AMSA Saldanha Works site that could have these management plans in place. Where feasible these management plans can be updated to include the construction, operation and decommissioning of the Logistics Hub and standalone plans do not have to developed for the Logistics Hub.

It must be noted that many of these plans can be updated at any stage depending on any changes that may occur on the site.

The following specific plans should be compiled and in place prior to construction and operation:

- Emergency Response Plan (ERP);
- Waste Management Plan (WMP);
- Hazardous Substance Management Plan;
- Fire Management Plan;
- Alien Invasive Plant Management Plan;
- Stormwater Management Plan;
- Erosion Management Plan;
- Traffic and Transport Management Plan;
- Soil Management Plan; and
- Heritage and Palaeontological Management Plan.

8.1 EMERGENCY RESPONSE PLAN

The existing Emergency Response Plan for the AMSA Site must be implemented and incorporate the Hub project along with associated infrastructure.

8.2 WASTE MANAGEMENT PLAN

8.2.1 WASTE HIERARCHY

A waste is any solid, liquid or contained gaseous material that is being discarded by, disposal, recycling, burning or incineration. Waste management options for a particular waste need to be considered according to the Waste Management Hierarchy (**Figure 8-1**) which reflects the relative sustainability of each of the options. One of the key principles underlying the waste management hierarchy is to ensure that waste is dealt with as high up the waste hierarchy as possible. Since all waste disposal options have some impact on the environment, the only way to avoid impact is not to produce waste in the first place, and waste reduction is therefore at the top of the hierarchy. Re-use, followed by recovery techniques (recycling, composting and generating energy from waste) follow, while disposal to landfill or by incineration (the worst options) are at the bottom of the hierarchy.

In deciding on the most appropriate disposal route, both environmental and economic costs and benefits need to be considered. This decision must be reached taking into account all the costs and impacts associated with waste disposal, including those associated with the movement of waste.

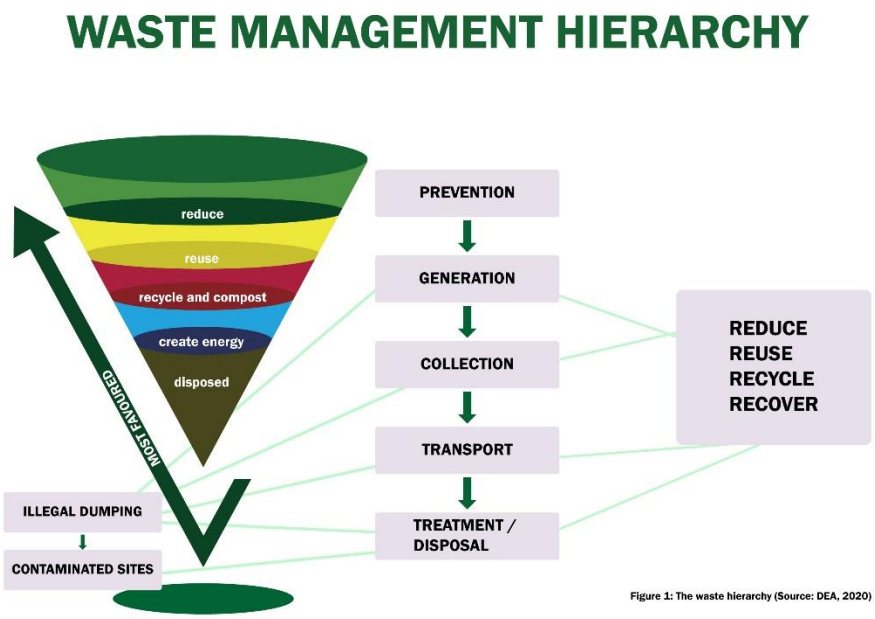

Figure 8-1 – Waste Hierarchy (DEFF, 2020)

8.2.2 PROJECT STAGES

The purpose of this section is to assess the construction, operational processes of the proposed Logistics Hub facility in order to identify short comings, like raw materials procurement, infrastructure, employee training, health and safety, transportation, storage, compliance with legislative requirements, emergency preparedness and waste streams arising from an operation and its related activities, as well as the current waste management practices per waste stream. The assessment serves as the baseline against which any problem areas or gaps in waste management practises, process technology and environmental authorisations are identified and against which future performance objectives, activities and targets can be set.

The project stages are described below with the waste generation and management methods described in the corresponding tables below them including:

- Details on how waste will be managed during the construction and operational phases taking into consideration the waste management hierarchy;
- Details of the procedure for the separation of non-recyclable and recyclable waste;
- Details of the management of non-recyclable waste i.e. how waste will be stored on site during construction and operational phases, including the frequency for the removal of waste from the site and an indication of the landfill site where it will be disposed;
- Details for the management of recyclable waste e.g. the type of waste materials that will be recycled on site and the details pertaining to the offloading, sorting, handling, storage and collection procedures for the waste types (e.g. compaction and bailing, breaking of glass etc.); and
- The frequency for the removal of waste from the proposed development to where it will be finally managed must be included.

Waste Management at the project site will be undertaken in line with the EMPr to consider the correct disposal of general and hazardous waste generated on the project. **Table 8-1** describes the different waste products that the proposed project will produce, as well as the various options to dispose of them. Waste will mainly be generated during the construction phase. During operation, contractors are only on the site for limited amount of time as and when maintenance is required.

Table 8-1 - Waste Management Options

Waste	Type of Waste	Management Options
Hydrocarbons (Contaminated soil)	Hazardous	▪ Fuel and oil spillages can be a source of contamination of water sources and the soil. Management options include: • Using spill kits to clean any spillages; • Ensure storage facilities are maintained and meet industry regulations; • Transportation and storage of fuel must be regulated and correctly managed according to the EMPr; and • All hazardous waste is to be disposed of at a registered hazardous landfill (safe disposal certificates must be obtained).
Contaminated Personal Protective Equipment (PPE)	Hazardous	▪ PPE can be contaminated during handling of hydrocarbons. Management options include: • Store contaminated PPE in hazardous waste bins or skips in a designated hazardous waste storage area that is roofed and developed on a hardstand; • Ensure contaminated PPE is disposed of at a registered hazardous landfill (safe disposal certificates must be obtained).
General waste	General	▪ General waste (inorganic matter) can be disposed of as per normal and form part of the municipal waste management system. Management options include: • Ensure waste is stored securely in refuse bins; • Co-ordinate waste removal with the general removal of waste from the contractor laydown area.
Food waste	General	▪ Food waste is generated as site personnel take their meals on the construction site and during operation. Management options include: • Store any waste and packaging into a labelled food waste bin; • Co-ordinate waste removal with the removal of waste from the contractor laydown area; and • Co-ordinate waste removal with the general removal of waste.

8.3 HAZARDOUS SUBSTANCES MANAGEMENT PLAN

Hazardous substances are chemicals or materials that can cause acute or chronic harm to health, be it humans or the environment. The key potential sources of impact related to the management of hazardous chemical substances (HCS) and fuel during construction relate to the risk of accidental release of hydrocarbons to the environment, accidental exposure to workers, and fire and explosion risks.

Potential impacts associated with these risks, if poorly managed, include:

- Impact to soil and/or groundwater, which may result in degradation of the resource and requirement for remedial action;
- Impacts on pastoralist livelihoods due to contamination of pasture or water resources and consequent impacts to their, health, livelihood and animals;
- Impacts on human health & safety due to either direct exposure or through fire/explosion;
- Gas emissions associated with the combustion of fuel, are mainly compounds of nitrogen, carbon including very small traces of sulphur and particulate matter; and
- Fugitive emissions from HCS & fuel storage.

The purpose of this Hazardous Substances Management Procedure (HSMP) is to provide a framework for the management of hazardous substances onsite during the construction and operation of the Logistics Hub facility:

- Ensure the handling and storage of hazardous substances are in accordance with relevant standards;
- To ensure that the storage and handling of chemicals and hydrocarbons on-site does not cause pollution to the environment or harm to persons;
- To ensure that the storage and maintenance of machinery onsite does not cause pollution of the environment or harm to persons.

8.3.1 HAZARDOUS SUBSTANCES MANAGEMENT PROCEDURE

A plan for managing the transportation, delivery, storage and handling of hazardous substances onsite is detailed below. A method statement detailing the specific storage and handling practices during construction must be prepared by the Contractor prior to the commencement of construction.

REGISTER OF HAZARDOUS SUBSTANCES

Contractors shall establish inventories or registers of hazardous substances on site. The inventory is to be updated when new hazardous substances are introduced to the workplace or the use of existing hazardous substances is discontinued. Both the chemicals' register and the MSDSs must be readily available at a central location or near where the chemicals are being stored or used.

SDS

It is standard practice that an SDS is provided by the manufacturer or supplier of all hazardous substances. A SDS is required for all chemicals and substances on site. These SDSs are to be made available to all parties affected by the use or storage of the chemical. SDSs are the key to communicating hazards and safe handling practices for chemicals. In addition, SDS information is to be made available to all employees.

DELIVERIES

Transport of all hazardous substances must be in accordance with the relevant legislation and regulations. Contractors are responsible for identifying and securing any necessary permits for any proposed bulk fuel storage arrangements. The supplier will fill contractors fuel tanks; fuelling is the responsibility of the licensed contractor who will be supervised by the storage/work area supervisor. No 'black-market' or 'grey-import' fuels shall be used. All fuels purchased must be legitimate and subject to required duties and taxes.

Prior to fuel transfer the operator will verify that: all fuel transfer hoses have been connected properly and couplings are tight; transfer hoses are not obviously damaged; fuel transfer personnel

are familiar with procedures; for fuelling stations, personnel are located at both the fuel truck and fuel transfer tank(s) and have the ability to shut off fuel flow manually; a means of communication has been established between the two people transferring fuel; and a high liquid level shutoff device can be substituted for the person at the delivery tank, in which case operation of the shutoff will be verified each time it is used; The fuel contractor will clean up and report any accidents or spills immediately to the project ESHS team.

ENVIRONMENT AND OCCUPATIONAL HEALTH AND SAFETY

The following requirements are additional to any applicable requirements established in other management plans such as the Occupational Health & Safety Management Plan:

- Storage facilities will have the applicable MSDS available;
- Smoking will be strictly prohibited from any areas where fuel loading operations take place;
- Appropriate signage will be used to identify potential spill risks;
- Any accidental damage to containment structures will be inspected immediately and appropriate repairs undertaken. The extent of damage will be reported in writing to the Site Engineer and Site Manager and remedial repairs effected together with the date of repairs and any follow up inspection. Any release of fuels or other substance will be cleaned up;
- All used fuel / oil products will be collected in tanks marked “Waste Oil”; and
- All hydrocarbon associated wastes will be managed in line with the Waste Management Plan.

MATERIALS STORAGE

- All temporary hydrocarbon storage will be situated above ground. There will be no buried storage tanks permitted.
- All chemicals, fuels and other hazardous materials are to be stored in designated and bunded areas, where the bunded area is impermeable and is impervious to the stored substance as per the requirements of SABS 089:1999 Part 1. The bunded area will contain 110% volume of the largest container stored.
- Bunds and service area platforms to be cleaned and maintained regularly.
- SABS approved spill kits must be made available on-site for the clean-up of spills and leaks of contaminants. The relevant construction crew members must be trained in their use.
- Keep a record of all hazardous substances stored on site. Clearly label all the containers storing hazardous waste.
- The storage of flammable and combustible liquids such as oils will be in designated areas which are appropriately bunded, and stored in compliance with MSDS files and applicable regulations and safety instructions.
- Chemical and hydrocarbon storage facilities shall be covered to prevent rainfall ingress into secondary containment units and well-ventilated
- Any storage and disposal permits/approvals which may be required must be obtained, and the conditions attached to such permits and approvals will be compiled with.
- An effective monitoring system must be put in place to detect any leakage or spillage of all hazardous substances during their transportation, handling, installation and storage.

SPILL AND LEAK MANAGEMENT AND PREVENTION

- In the event of a major spill or leak of contaminants, the relevant authorities must be informed. The relevant construction crew members must be trained in their use.

- Spilled cement must be cleaned up immediately and, stored as hazardous waste and disposed of at a suitably licensed hazardous waste disposal facility.
- Routine servicing and maintenance of vehicles must not be undertaken onsite (except for emergencies). If repairs of vehicles must take place, an appropriate drip tray must be used to contain any fuel or oils.
- Any water that collects in bunds must not be allowed to stand. Should the water be contaminated, it is to be removed and treated prior to discharge, or disposed of as hazardous waste. Clean stormwater contained within the bunds may be reused.
- No chemicals must be stored or vehicle maintenance undertaken within 100m of wetlands or drainage lines.
- Construction machinery must be stored in an appropriately sealed area. If machinery cannot be stored in a sealed area, then a drip tray must be used to prevent spillage from any leaks.
- As far as practicable, all equipment servicing / maintenance shall be undertaken within designated workshop areas.
- All generators on site, including generators that are not in use must be located in a bunded area or on a drip tray.
- Bunded areas and drip trays must be maintained on a regular basis.
- Diesel generators and water pumps shall be located in secondary containment areas or shall be self-contained to prevent loss of fuels and oils;
- Precautions must be in place to limit the possibility of oil and other toxic liquids from entering the soil or clean stormwater system.
- Upon completion of construction, the area must be cleared of potentially polluting materials.
- Emergency response planning will be managed via the Emergency Preparedness and Response Plan.

8.3.2 OPERATIONAL PHASE

During the operational phase of the project limited hazardous substances and chemicals will be stored onsite. During maintenance activities, contractors will need to produce a method statement detailing the specific storage and handling practices. The following measures need to be implemented onsite during the operational phase of the project.

- Hazardous substances must be stored in sealed containers within a clearly demarcated designated area.
- Care must be taken to ensure that spillage of oils and other hazardous substances are limited during maintenance. Handling of these materials must take place within an appropriately sealed and bunded area.
- Should any accidental spillage take place, it must be cleaned up according to specified standards regarding bioremediation.
- The storage of flammable and combustible liquids such as oils will be in designated areas which are appropriately bunded and stored in compliance with MSDS files and applicable regulations and safety instructions.
- Used oils and chemicals:
- Appropriate disposal must be arranged with a licensed facility in consultation with the administering authority.
- Waste must be stored and handled according to the relevant legislation and regulations.

8.3.3 INSPECTION, MONITORING AND TRAINING

Fuel storage areas must be inspected regularly to ensure bund stability, integrity, and function.

The contents of the Hazardous Substances Management Plan must be communicated to the staff through the induction training. On the job training can also be undertaken through the use of Environmental Toolbox Talks. All training must be undertaken as outlined in the relevant Training Procedure.

Examples of Toolbox Talks include:

- Storage of hazardous substances;
- Working with hazardous substances;
- Management of hazardous waste; and
- Spill Prevention.

8.4 FIRE MANAGEMENT PLAN

The purpose of this plan is to address firefighting requirements throughout the construction of the project and to preserve and protect human life as well as tangible goods and equipment in the event of a fire.

Mitigation and management measures include, but are not limited to the following:

- All construction camps shall be provided with portable fire extinguishing equipment, in accordance with all relevant legislation and must be readily accessible.
- The Contractor shall take specific measures to prevent the spread of veld fires, caused by activities at the campsites. These measures must include appropriate instruction of employees about fire risks and designated smoking areas.
- Fire prevention facilities must be present at all storage facilities. No open fires shall be allowed on site under any circumstance. No cooking on open fires shall be done onsite to prevent runaway fires.
- The Contractor shall have operational fire-fighting equipment available on site at all times. The level of firefighting equipment must be assessed and evaluated through a typical risk assessment process.
- Emergency numbers for local police and fire department etc. must be placed in a prominent area.
- Firefighting equipment must be placed in prominent positions across the site where it is easily accessible. This includes fire extinguishers, a fire blanket as well as a water tank.
- All construction staff must be trained in fire hazard control and firefighting techniques. Translators are to be used where necessary.
- All flammable substances must be stored in dry areas which do not pose an ignition risk to the said substances.
- Smoking must only be conducted in demarcated areas.
- Firefighting equipment must be regularly maintained by a suitable service provider.

8.5 STORMWATER MANAGEMENT PLAN

The main principles in stormwater management include:

- Confine or divert any unpolluted water to a ‘clean’ water system, and polluted water to a ‘dirty’ water system;
- ‘Clean’ and ‘dirty’ water systems must be designed and constructed to prevent cross-contamination between the ‘clean’ and ‘dirty’ water systems; and
- Appropriate maintenance and management of storm water related infrastructure.

The proposed water systems or infrastructure are to be designed to prevent any potential contamination of natural water resources in the area.

A Storm Water Management and Surface Water Protection Plan cannot be compiled until the detailed designs are complete. It is stipulated in this EMPr that a Storm Water Management Plan must be compiled before any construction commences and implemented during the construction phase. This plan must indicate how all surface runoff generated as a result of the project and associated activities (during both the construction and operational phases) will be managed prior to entering any natural drainage system or wetland, and how surface water runoff will be retained outside of any demarcated buffer zones and subsequently released to simulate natural hydrological conditions.

A Storm Water Management Plan will be required to support the relevant facility processes. A stormwater management plan must be developed in the preconstruction phase, detailing the stormwater structures and management interventions that must be installed to manage the increase of surface water flows directly into any natural systems. The stormwater control systems must be inspected on an annual basis to ensure these are functional. Effective stormwater management must include effective stabilisation (gabions, Reno mattresses or similar) of exposed soil and the re-vegetation of any eroded areas on site.

8.6 EROSION MANAGEMENT PLAN

Exposed and unprotected soils are the main cause of erosion in most situations. Therefore, this erosion management plan and the onsite rehabilitation are closely linked to one another and should not operate independently but should rather be seen as complementary activities within the broader environmental management of the site and should therefore be managed together. This Erosion Management Plan addresses the management and mitigation of potential impacts relating to soil erosion, including:

- Material stockpiled for long periods (2 weeks) must be retained in a bermed area.
- Stockpiles to be reused for site rehabilitation not used in three (3) months after clearing must be covered with hessian or a similar material to prevent dust and erosion.
- Sensitive areas need to be identified prior to construction so that the necessary precautions can be implemented.
- Silt fences and erosion control measures must be implemented in areas where these risks are more prevalent.
- Wind screening and stormwater control must be undertaken to prevent soil loss from the site.
- All erosion control mechanisms need to be regularly maintained.
- Vegetate disturbed or open surfaces near the warehouse or onsite access roads after construction activities are completed. This must be done through seeding with indigenous grasses.
- No impediment to the natural water flow other than approved erosion control works in line with the stormwater management plan is permitted.

- To prevent stormwater damage, the increase in stormwater run-off resulting from construction activities must be estimated and the drainage system assessed accordingly.

8.6.1 MONITORING

The site must be monitored continuously during construction and operation in order to determine any indications of erosion. If any erosion features are recorded as a result of the activities on-site the Environmental Officer (during construction) or Site Manager/Engineer (during operation) must:

- Assess the significance of the situation.
- Take photographs of the soil degradation.
- Determine the cause of the soil erosion.
- Inform the contractor/operator that rehabilitation must take place and that the contractor/operator is to implement a rehabilitation method statement and management plan.
- Monitor that the contractor/operator is taking action to stop the erosion and assist them where needed.
- Report and monitor the progress of the rehabilitation weekly and record all the findings in a site register.
- All actions with regards to the incidents must be reported on a monthly compliance report which will be submitted to the Competent Authority (during construction) and kept on file for consideration during the annual audits (during operation).

The Contractor or Site Manager/Engineer (in consultation with an appropriate specialist) must:

- Select a system/mechanism to treat the erosion.
- Design and implement the appropriate system/mechanism.
- Monitor the area to ensure that the system functions like it should. If the system fails, the method must be adapted or adjusted to ensure the accelerated erosion is controlled.
- Continue monitoring until the area has been stabilised.

8.7 TRAFFIC AND TRANSPORT MANAGEMENT PLAN

The purpose of a Traffic and Transportation Management Plan is to address regulatory compliance, traffic management practices, and protection measures to help reduce impacts related to transportation and the construction of temporary and long-term access within the vicinity of the project site. The objectives of this plan include the following:

- To ensure compliance with all legislation regulating traffic and transportation within South Africa National, Provincial, Local and associated guidelines.
- To avoid incidents and accidents while vehicles are being driven and while transporting personnel, materials, and equipment to and from the project site.
- To raise greater safety awareness in each driver and to ensure the compliance of all safe driving provisions for all the vehicles.
- To raise awareness to ensure drivers respect and follow traffic regulations.
- To avoid the deterioration of access roads and the pollution that can be created due to noise and emissions produced by equipment, machinery, and vehicles.

Mitigation and management measures include, but are not limited to the following:

- All vehicles used during the transport of materials and in the construction activities are required to be roadworthy per the National Road Traffic Act (NRTA) and display all pertinent certificates as required.
- All vehicles travelling to and from the site shall adhere to all laws imposed by the law enforcement agencies and shall comply with any requests made by the law enforcement officials.
- For each convoy of abnormal vehicles/loads a designated safety officer shall be nominated. All abnormal vehicles and loads to be transported are required to have a valid permit before any trip is begun.
- The route must be assessed to determine if any structures or vegetation need to be temporarily or permanently relocated so as to avoid damage to the load as well as public and private property during the trips.
- A designated transport coordination manager must be appointed to oversee and manage the traffic safety officers. Additionally, the designated transport coordination manager must inform and keep up-to-date the interested and affected parties of all the activities taking place that may have a direct impact on them.
- A traffic safety officer shall be nominated to make all the necessary arrangements to maintain the required traffic measures for the duration of the project as outlined in the "*Standard Specifications for Road and Bridge Works for State Road Authorities,*' 1998 edition. The safety officer shall liaise daily with the transportation coordination manager to keep them apprised of the state of all the traffic arrangements.
- All construction vehicles that are entering the site shall also be available via radio or telephone communication to the transport coordination manager. So that in the event of an emergency, all vehicles can be accounted for.
- All vehicles shall comply with the posted speed limits on public roads as well as the speed limits within the development area. For additional speed limits that are imposed on the construction traffic, refer to the South African Road Traffic Signs Manual (SARTSM), Volume 2, June 1999 for the restrictions.
- All construction traffic shall comply with the legal load requirements as outlined in the NRTA and National Road Traffic Regulations.
- Construction traffic entering the site along public roads must be limited to times when peak hour traffic can be avoided. The peak traffic occurs during 7h00 to 8h30, and 16h00 to 17h30.
- The South African Road Traffic Signs Manual (SARTSM), Volume 2, June 1999 is to be used for all traffic during the construction activities of the proposed project.
- During periods of high construction traffic entering and exiting the site, it is recommended that flagmen help direct the traffic. This will enable the safe movement of construction and public traffic at the entrance and reduce the number of potential conflicts.

8.8 SOIL MANAGEMENT PLAN

Some of the most significant impacts on soil properties occur as a result of activities associated with construction. Construction activity can have adverse impacts on soil in a number of ways by:

- Covering soil with impermeable materials, effectively sealing it and resulting in significant detrimental impacts on soils' physical, chemical and biological properties, including drainage characteristics.
- Contaminating soil as a result of accidental spillage or the use of chemicals.

- Over-compacting soil through the use of heavy machinery or the storage of construction materials.
- Reducing soil quality, for example by mixing topsoil with subsoil.
- Wasting soil by mixing it with construction waste or contaminated materials, which then have to be treated before reuse or even disposed of at landfill as a last resort.

Careful management of subsoil is an important aspect of sustainable use of materials that are being stripped. Without a proper Soil Resource Plan there is the risk of losing, damaging or contaminating valuable soil resources. The purpose of this Soil Management Plan is to outline principles for soil management to ensure the integrity of the resource during and post-construction. This plan must be read together with the Emergency Response Plan in order to minimise the risk of contamination of soils. The proposed location for the Logistics Hub is on a disturbed area previously used as a hardstand for iron ore for steelmaking. Handling of topsoil is included in the EMPr. however, it is not anticipated that it will be required.

8.8.1 PRINCIPLES FOR SOIL MANAGEMENT

THE CORRECT HANDLING OF TOPSOIL (IF APPLICABLE)

- Before beginning work on site, topsoil must be stripped from all areas that will be disturbed by construction activities. Appropriate equipment must be used and appropriate work practices must be implemented for soil stripping as mishandling soil can have an adverse effect on its properties.
- Topsoil must be stripped in the driest condition possible.
- Topsoil must be retained on site in order to be used in site rehabilitation. The correct handling of the topsoil layer is in most cases the key to rehabilitation success.
- It is important that the correct depth of topsoil is excavated in order to ensure good plant growth. If excavation is too shallow, then an important growth medium for new seedlings could be lost. If excavation is too deep, this could lead to the dilution of the seed and nutrient rich topsoil with deeper sterile soil.
- Topsoil and subsoil layers must never be mixed. The mixture of topsoil with the deeper sterile soil hinders the germination of seeds which are buried too deep in the soil layer. Mixture of soil layers also leads to the dilution of nutrient levels which are at highest concentration within the topsoil, resulting in lower levels of nutrients available for new seedlings.
- Topsoil must be stored separately from other soil in heaps until construction in an area is complete.
- The duration of topsoil storage must be minimised as far as possible. Storing topsoil for long periods leads to seed bank depletion following germination during storage, and anoxic conditions develop inside large stockpile heaps.
- All stockpiles must be positioned away from drainage lines.
- Sediment fencing must be erected downslope of all stockpiles to intercept any sediment and upslope runoff must be diverted away from stockpiles.

STRIPPING OF SUBSOIL

The following protocols must be followed when stripping subsoil:

- In some areas the subsoil will not need to be stripped but merely protected from damage. However, in other areas it might need to be temporarily removed. Where subsoil is required to be stripped, this must be undertaken before commencement of construction from all areas that are to be disturbed by construction activities or driven over by vehicles.

- Subsoil stripping depths depend on the correct identification of the sub-soil types on an ad-hoc basis, where no formal survey data exists.
- Subsoil must be stripped in the driest condition possible.
- To enable soil to be reused on site at a later stage, it needs to be stored in temporary stockpiles to minimise any damage or loss of function. There are a number of important considerations when creating stockpiles - including soil erosion, pollution to watercourses and the risk of flooding. These will be affected by the size, height and method of forming stockpiles, and how they are protected and maintained.
- All stockpiles must be positioned away from drainage lines.
- Sediment fencing must be erected downslope of all stockpiles to intercept any sediment and upslope runoff must be diverted away from stockpiles.

8.9 HERITAGE AND PALAEONTOLOGICAL MANAGEMENT PLAN

The purpose of this plan is to provide a response guideline should archaeological sites, palaeontological sites or graves become exposed during ground altering activities within the Logistics Hub project area. Heritage resources are protected in terms of the NHRA.

8.9.1 CHANCE FIND PROCEDURE

The following procedural guidelines must be considered in the event that previously unknown heritage resources are exposed or found during the construction of the Logistics Hub.

The Contractor or other person discovering a potentially significant site or artefact will initiate the following actions:

- Once alerted to fossil occurrence(s): alert site foreman, stop work in area immediately, safeguard site with security tape / fence / sand bags if necessary.
- Record key data while fossil remains are still in situ:
    - Accurate geographic location – describe and mark on site map / 1: 50 000 map / satellite image / aerial photo
    - Context – describe position of fossils within stratigraphy (rock layering), depth below surface
    - Photograph fossil(s) in situ with scale, from different angles, including images showing context (e.g. rock layering)
- If feasible to leave fossils in situ:
    - Alert Heritage Resources Agency (HWC) (Att: Ms Stephanie Barnardt 021 483 9543 or email hwc.hwc@westerncape.gov.za) and project palaeontologist (if any) who will advise on any necessary mitigation.
    - Ensure fossil site remains safeguarded until clearance is given by the Heritage Resources Agency for work to resume
- If not feasible to leave fossils in situ (emergency procedure only):
    - Carefully remove fossils, as far as possible still enclosed within the original sedimentary matrix (e.g. entire block of fossiliferous rock)
    - Photograph fossils against a plain, level background, with scale
    - Carefully wrap fossils in several layers of newspaper / tissue paper / plastic bags

- Safeguard fossils together with locality and collection data (including collector and date) in a box in a safe place for examination by a palaeontologist
- Alert Heritage Resources Agency and project palaeontologist (if any) who will advise on any necessary mitigation

- If required by Heritage Resources Agency, ensure that a suitably-qualified specialist palaeontologist is appointed as soon as possible by the developer.
- Implement any further mitigation measures proposed by the palaeontologist and Heritage Resources Agency;
- The Specialist Palaeontologist must undertake the following:
  - Apply for Fossil Collection Permit Record / submit Work Plan to relevant Heritage Resources Agency.
  - Describe and judiciously sample fossil remains together with relevant contextual data (stratigraphy / sedimentology / taphonomy).
  - Ensure that fossils are curated in an approved repository (e.g. museum / university / Council for Geoscience collection) together with full collection data.
  - Submit Palaeontological Mitigation report to Heritage Resources Agency.
  - Adhere to best international practice for palaeontological fieldwork and Heritage Resources Agency minimum standards.
  - With reference to the mitigation work noted above, a qualified archaeologist must be appointed to undertake the work in terms of the permit applied for as noted above;
  - If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA;
- If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA DAU (Natasha Higgitt 021 202 8660/ nhiggitt@sahra.org.za) must be alerted as per section 35(3) of the NHRA. Non-compliance with this section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;
- If unmarked human burials are uncovered, the SAHRA DAU (Natasha Higgitt 021 202 8660/ nhiggitt@sahra.org.za) must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with this section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule.

8.9.2 TRAINING, INSPECTION AND MONITORING

Since it is not practical to have a regular monitoring presence over the construction period by either an archaeologist or palaeontologist, environmental awareness training must be conducted by the EO for all contractors and subcontractors. The training must include, as a minimum, the following:

- Identifying potential features of heritage significance;
- Procedures for dealing with heritage resources discovered on site;
- Applicable Legislation pertaining to the protection of heritage resources; and
- The importance of protecting heritage resources.

The contents of the Heritage Management Plan must be communicated to the staff through the induction training. On the job training can also be undertaken through the use of Environmental Toolbox Talks.

9 CONCLUSION

The proposed development of the Logistics Hub at the AMSA Saldanha Works facility, in collaboration with Bidvest Port Operations, holds significant importance within the context of the South African National Development Plan (NDP). The project aims to repurpose a dormant industrial site, contributing to economic revitalization and job creation within the Saldanha Bay Local Municipality, Western Cape Province.

Leveraging the strategic location and existing infrastructure of the site, the Logistics Hub seeks to optimize bulk cargo handling and export operations, aligning with the NDP's objectives of enhancing economic growth and competitiveness. By debottlenecking the Port of Saldanha and bolstering productivity at the Transnet National Ports Authority Multi-Purpose Terminal, the project is poised to facilitate smoother trade flows and strengthen South Africa's position in global markets. Importantly, the Hub's operations are designed to operate independently of the Saldanha Works plant, ensuring that the potential restart or operations of the plant are not hindered. Thus, the development and operation of the Logistics Hub represent a forward-looking initiative that aligns with the broader goals of sustainable development and economic advancement outlined in the NDP and various provincial and local development strategies.

It is therefore the opinion of the EAP that provided this project is mitigated, as per the mitigation and management measures outlined in this EMPr, the project will result in impacts that should not negatively affect the environment. It is the applicant’s responsibility to ensure that this EMPr is made binding on the contractor by including the EMPr in the contract documentation. The contractor must thoroughly familiarise himself with the requirements of the EMPr and appoint an EO to oversee the implementation of the EMPr on a day-to-day basis. In addition, the applicant must appoint an external ECO to undertake monthly compliance audits during construction against the requirements of the EMPr and the EA.

Parties responsible for transgression of this EMPr must be held responsible for any corrective actions that may need to be undertaken. Parties responsible for environmental degradation through irresponsible behaviour/negligence must receive penalties. This is to be enforced by the Authorisation Holder.

In terms of NEMA, everyone (i.e. all persons engaging in any component of this project) is required to take reasonable measures to ensure that they do not pollute the environment. ‘Reasonable measures’ includes informing and educating employees about the environmental risks associated with their work and training them to operate in an environmentally responsible manner.

The Proponent also recognises that, in terms of NEMA, the cost to repair any environmental damage will be borne by the person responsible for the damage. Should the above-mentioned environmental guidelines and mitigation measures be adopted, it is anticipated that the negative environmental impacts of the proposed Logistics Hub Facility will be mitigated adequately. The Proponent and the selected Contractor shall appoint relevant personnel, as well as an independent ECO, to monitor the site periodically throughout construction to ensure that the required environmental controls are in place and working effectively. During operation and maintenance, the area specific Environmental Manager, with the support of the maintenance supervisor and Site Manager/Engineer, will monitor environmental controls.

10 REFERENCES

Lochner, P. (2005). Guideline for Environmental Management Plans. CSIR Report No ENV-S-C 2005-053 H. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs & Development Planning, Cape Town.

National Environmental Management Act (NEMA) 107 of 1998

National Water Act (NWA) 36 of 1998.

Saldanha Bay Municipality. (2020). Statistics - Socio-Economic Plan . Retrieved from Saldanha Bay Municipality: https://sbm.gov.za/wp-content/uploads/Pages/Statistics/SEP-LG-2020-WC014-Saldanha-Bay-Municipality.pdf

Saldanha Bay Municipality. (2022). Retrieved from Statistics: https://sbm.gov.za/wp-content/uploads/Pages/Statistics/Saldanha-Bay-Municipality-SEP-LG-2022.pdf

Saldanha Bay Municipality. (2022). Statistics -Socio-Economic Profile. Retrieved from https://sbm.gov.za/wp-content/uploads/Pages/Statistics/Saldanha-Bay-Municipality-SEP-LG-2022.pdf

Saldanha Bay Municipality. (2022, May). Strategic plans. Retrieved from 4th Integrated Development Plan : https://sbm.gov.za/wp-content/uploads/Pages/IDP/Final-SBM-IDP-May-2022.pdf

Saldanha Bay Municipality. (2023). Strategic Plans - IDP. Retrieved from 5TH Generation Integrated Development Plan: https://sbm.gov.za/wp-content/uploads/Pages/IDP/SBM-First-Review-and-Amendment-of-the-5th-Generation-IDP-Plan-2022-2027.pdf

Saldanha Bay Municipality. (2023, August 21). Baobab Fibre Project. Retrieved from Saldanha Bay Municipality: https://sbm.gov.za/baobab-fibre-project/

West Coast District Municipality. (2021). Socio-Economic Profile. West Coast District.

WSP. (2023). Atmospheric Impact Report in Support of the Saldanha Steel AEL Amendment Application

Appendix A

EAP CV

Jacqui Fincham

Earth & Environment, Planning & Advisory – Director

CAREER SUMMARY

Jacqui Fincham has 26 years working experience as an Environmental Consultant, undertaking Environmental Impact Assessments (EIAs) and Basic Assessments. She has completed Environmental and Social Impact Assessments (ESIAs) to the African Development Bank and IFC Performance standards. She is experienced in developing Environmental Management Programmes (EMPs) undertaking site audits (due diligence and Environmental Control Officer), Sustainability Assessments (SAs) and Strategic Environmental Assessments (SEAs).

Jacqui worked in the United Kingdom for 8 years from 2000 to 2008 and the balance of her career she has worked on the African continent. She has vast project experience, with projects ranging from construction of transmission lines, pipelines, the relocation of powerlines, diesel storage installations, harbour developments, Agri-industrial parks, waste disposal sites, oil refineries, tank farm installations, recycling facilities, hospital redevelopment's, academy developments, bus station relocations, mixed-use developments, regeneration schemes, industrial developments and infrastructure projects which include wind and solar PV renewable energy technologies.

Countries of work experience include South Africa, Mozambique, Zambia, Namibia, Botswana, Kenya, Ethiopia and United Kingdom.

14 years with WSP

26 years of experience

Area of expertise

Environmental and Social Impact Assessments

Environmental and Social Due Diligence

Compliance Audits

Environmental Impact Assessment

Feasibility Studies

Screening Studies

ESIA Gap Analysis

Language

English – Fluent

EDUCATION

Diploma in Sustainable Development, Staffordshire University, United Kingdom	2003
Bachelor of Science (Honours), Biotechnology, Rhodes University, Grahamstown, South Africa	1997
Bachelor of Science, Microbiology & Biochemistry, Rhodes University, Grahamstown, South Africa	1996

ADDITIONAL TRAINING

COVID-19 Return-To-Work Induction Training Course	2020
Employment Equity Training Programme, POP Training & Consulting	2020
OHS Act Legal Liability, Webinar	2020

Jacqui Fincham

Earth & Environment, Planning & Advisory – Director

Impact Measurement & Management, UCT Graduate School of Business	2018
Hazard Identification & Risk Assessment, Safety Risk Management	2017
Snake Awareness, Scorpion Awareness and First Aid for Snakebite and Scorpion Sting, African Snakebite Institute	2016
Guest Lecturer at CPUT Applied Sciences Faculty	2015
Cumulative Effects Assessment in EIA and SEA, Oxford Brookes University	2004
Data Processing and Modelling Course, University of the OFS	1999
Environmental Auditing, WITS University	1999
EIA Course, Potchefstroom University	1999
Environmental Auditor Training, QAS, Australia	1999

PROFESSIONAL MEMBERSHIPS

EAPASA - Environmental Assessment Practitioners Association of South Africa Registration submitted No: 2019/362	2019
SACNASP - Pri.Sci.Nat South African Council for Natural Scientific Professions, Professional Natural Scientist No: 400638/15	2015
Approved Lead IEMA Tutor	2009

PROFESSIONAL HISTORY

WSP Group Africa (Pty) Ltd	May 2010 - present
Waterman Environmental, United Kingdom	2005 – 2009
WSP Environmental Ltd, United Kingdom	2003 – 2005
Ove Arup, United Kingdom	2000 – 2003
Jones and Wagener, South Africa	1998 – 2000

PROFESSIONAL EXPERIENCE

ESIA – Energy Sector

SolarCentury, 10MW Solar Plant, Namibia
2022
E&S Advisor
The proposed 10MW facility will require an environmental permit in line with Namibian National Regulations. WSP will provide guidance and review support to the local consultant and assist in ensuring the impact assessment is aligned to IFC Performance Standards.

Themis Energy, Kajiado Solar PV Plant, Kajiado State, Kenya
2019 – 2020
Project Manager
ESIA for the proposed 40MW Solar PV and Transmission Line Development.

Southern African Power Pool (SAPP), Zambi- Mozambique Interconnector Powerline,
2018 – Current
Project Director

Jacqui Fincham

Earth & Environment, Planning & Advisory – Director

This project involved the compilation of the Environmental and Social Impact Assessment and Environmental and Social Management Plan for a 300km 400kV powerline between Tete, in Mozambique, and Chipata, in Zambia.

Globeleq, Cuamba Solar PV Facility, Mozambique
2020
Project Director
ESIA Upgrade to IFC Performance Standards requirements.

Biotherm, Maralla East and West Wind Energy, South Africa
2019
Project Director
Part 2 Amendment Application for the Environmental Authorisation issued for the Maralla East and West Wind Energy Projects.

Indyeb, Rietkloof Wind Energy Facility, Matjiesfontein, Western Cape
2018 - 2019
Project Director
G7 Renewable Energies Part 2 Amendment Application, Compilation of An Amendment Report and amended Environmental Management Programme for a 140MW Wind Energy Facility.

National Department of Tourism, PV Facility on Robben Island, Western Cape
2017
Project Manager
Basic Assessment for the proposed development

ESIA – Waste Sector

FFS Refiners (Pty) Ltd (Pty) Ltd, FFS Vissershok refinery, Western Cape
2022
Project Director
Prepare an Environmental Management Plan for the proposed decommissioning of the Vissershok refiner and undertake Environmental Control Officer Auditing of the decommissioning activities.

Robben Island Museum, Wastewater Treatment Facility, Western Cape
2022
Project Manager
Basic Assessment for a proposed Wastewater Treatment Works on Robben Island World Heritage Site

City of Cape Town, Athlone Refuse Transfer Station, Western Cape.
2020 – On hold
Project Director
Scoping and Environmental Impact Assessment process for the proposed expansion Athlone Refuse Transfer Station.

AgriProtein, Nutrient Recycling Facility, Wadeville Gauteng, South Africa
2018
Project Manager
Scoping and EIA for the proposed development of a nutrient recycling facility.

Dekro Paints Pty Ltd, Waste Management License, Kuilsrivier, Western Cape
2016
Project Director
EAP & Waste Management License (WML) required for the development of a solvent recovery plant.

Atlantis Foundries (Pty) Ltd, S&EIA for a Waste Management License, Atlantis, Western Cape
2016
Project Manager

Production of automotive castings for both the passenger and commercial vehicle industries, and machines cylinder blocks and crankshafts. The process involves use of scrap steel.

Indigo Brands, Epping manufacturing facility, Cape Town, Western Cape, South Africa
2014
Project Director
Indigo Brands are a leading cosmetics manufacturing company. WSP were approached by Indigo Brands to develop a Waste Management Plan.

Fine Chemicals Corporation (Pty) Ltd, Cape Town, Western Cape, South Africa
2013
Project Director
Developed the Industry Waste Management Plan.

Transnet National Ports Authority (TNPA), Remediation Order, Port Elizabeth Harbour, Eastern Cape, South Africa
2014 – 2015
Project Manager
Part 8 Application for a Remediation Order to remediate the Vulindlela site

City of Cape Town, Landfill Gas to Energy, Bellville South, Coastal Park and Vissershok, Cape Town
2013 – 2014
Project Manager
Scoping and EIA process for WML for Landfill Gas to Energy projects for three City of Cape Town Landfill sites (Bellville South, Coastal Park and Vissershok).

AgriProtein, Technologies Basic Assessment, Cape Town, Western Cape, South Africa
2013 – 2015
Project Manager
Technologies Basic Assessment process for the proposed Development of an Insect Based Protein Manufacturing Facility.

Department of Public Works. Basic Assessment, Robben Island, Cape Town, South Africa
2013 – 2015
Project Manager
Basic Assessment for the proposed Sewage Package Plant.

Veolia Environmental Services (Pty) Ltd, WML, Uitenhage, Eastern Cape, South Africa
2011
Project Manager
WML amendment application for the Uitenhage Waste Recovery Facility Proposed New Waste Stream,

FFS Refiners (Pty) Ltd (Pty) Ltd, FFS Vissershok refinery, Western Cape
2011
Project Director
Basic Assessment for Waste Management License. Decommissioning of the HT Stills distillation columns at the Vissershok refinery.

Transnet National Ports Authority (TNPA), Basic Assessment, Port Elizabeth
2010
Project Manager
Basic Assessment and the development of a remediation plan for a Waste Management License for the Vulindlela site for Transnet Port Authorities.

ESIA – Agricultural Sector

Maltento, Nutrient Recycling Facility, Cape Town
2021 – May 2022

Jacqui Fincham

Earth & Environment, Planning & Advisory – Director

Project Manager
Basic Assessment for the Expansion of the Maltento Nutrient Recycling Facility, in Epping

Ministry of Industry and UNIDO, UNOPS Environmental and Scoping Impact Assessment, Agro-Industrial Parks, Ethiopia
2017
Project Manager
UNOPS Environmental and Scoping Impact Assessment to African World Bank Standards for large scale proposed Agro-Industrial Parks in four different regions across Ethiopia.

Lebombo Cape Properties, Environmental Impact Assessment, Wellington, Cape Town
2016
Project Manager
Environmental Impact Assessment process for the construction of a dam with a wall height exceeding 5m. In addition, progress the Water Use License Amendment Application for the Agri-industrial activities being undertaken.

ESIA – Urban Redevelopment

Bay Terminals Group (Pty) Ltd, Part 2 Amendment Application, Port Elizabeth
2021
Project Manager
Proposed bulk petrochemical fuel storage facility in Zone 7 of the Coega SEZ.

Orion Engineered Carbons (Pty) Ltd, Dom Pedro facility, The Port of Port Elizabeth
2019 to current
Project Manager
Management Consulting services to facilitate the development of a solution within the Coega SEZ. Orion Engineered Carbons currently receives Carbon Black Oil (CBO) (a type of Heavy Fuel Oil or HFO), this facility will cease operations in 2020 and an alternative solution is required.

City of Cape Town. Athlone Power Station, Western Cape
2018
Project Director
Scoping and Environmental Impact Assessment process for the proposed redevelopment.

Transnet, Port Terminals, Saldanha
2018
Project Manager
Develop an Operational Environmental Management Plan for Transnet Port Terminals Multipurpose Terminal.

OSHO SA Cement (PTY) Ltd, FPT facility, Cape Town Harbour, Western Cape
2016
Project Director
Basic Assessment process for an EA and AEL for a proposed Cement Packaging Facility.

GRI Wind Steel (Pty) Ltd. Metal spray booth, Country
2015
Project Manager
Basic Assessment process for an EA and AEL for a proposed metal spay booth within a facility, which produces wind towers.

City of Cape Town, Sewerage system, Gordon's Bay
2015
Project Manager
Water and Sanitation Basic Assessment for the proposed upgrade to the sewerage system that runs along the beach front in Gordon's Bay.

Jacqui Fincham

Earth & Environment, Planning & Advisory – Director

Aspen Pharmaceuticals Section 24G application, Gauteng, South Africa
2013
Project Manager
Completed the Section 24G application form and facilitated client meetings as well as meetings with the National Department of Environmental Affairs to facilitate the application process. Following a legislation change in November 2013 this application was closed.

Orion Engineered Carbons (Pty) Ltd, Carbon Black Oil Import, Ngqura Port, Port Elizabeth
2013
Project Manager
Feasibility studies conducted for a number of project solutions for the proposed import of Carbon Black Oil into South Africa. Projects investigated included a Single Bouy Mooring, a subterranean pipeline from the Port Elizabeth Port and the Ngqura Port, a river and barge solution, and a tank farm at Coega Strategic Economic.

Fine Chemicals Corporation (Pty) Ltd (Pty) Ltd, Bulk Storage Expansion, Epping 1 Industria, Cape Town, South Africa
2013 – 2015
Project Manager
Basic Assessment for the proposed consolidation and expansion of bulk storage and provision of hazardous substance storage capacity site.

FFS Refiners (Pty) Ltd, FFS Bulk Storage Facility, Cape Town Harbour, Cape Town, South Africa
2013 – 2015
Project Manager
Basic Assessment for the expansion of the FFS Bulk Storage Facility

FIS Biofuels (Ltd), Coega Industrial Development Zone, Port Elizabeth, South Africa
2013 – 2015
Project Manager
Scoping and EIA for the proposed biodiesel refinery.

New Reclamation Group, Stockpiling of ferrous material, Cape Town Harbour, Cape Town, South Africa
2014
Project Manager
Basic Assessment for the proposed stockpiling of ferrous material in the form of Heavy Metal Steel (HMS) 1 & 2 as well as shredded material not exceeding a tonnage capacity of 22500 Tons.

Fresh Produce Terminal, Berths B, C and D, Duncan Dock, Port of Cape Town, South Africa
2012 – 2013
Project Manager
Basic Assessment process for the redevelopment of a Fresh Produce Terminal,

Department of Public Works, Blue Stone Quarry wall, Robben Island, Cape Town, South Africa
2011 – 2015
Project Manager
Basic Assessment for the reconstruction of the Blue Stone Quarry wall at a World Heritage Site.

Exxaro Coal Mpumalanga (Pty) Ltd, Eerstelingsfontein Open Cast Coal Mine, Belfast, Mpumalanga, South Africa
2011 – 2013
Project Manager
Scoping and EIA

FFS Refiners (Pty) Ltd, Storage Tank Facility, Cape Town Harbour, South Africa
2010 – 2012
Project Manager

Jacqui Fincham

Earth & Environment, Planning & Advisory – Director

Basic Assessment for the Expansion of a Storage Tank Facility.

Vodacom, Diesel Tank Storage Installation, Bellville, Western Cape, South Africa
2010 – 2011
Project Manager
Basic Assessment for the proposed Diesel Tank installation.

FFS Refiners (Pty) Ltd, FFS Vissershok Facility, Cape Town, Western Cape, South Africa
2010 – 2011
Project Manager
Environmental Assessment

Chelsfield and London and Regional Properties, Elizabeth House, Waterloo, London, United Kingdom
2007 – 2009
Project Manager
EIA for the proposed Elizabeth House mixed use Development.

Blackstone Group and Generation Estates, 100 Middlesex Street, Tower Hamlets, London, United Kingdom 2007 – 2008
Project Manager
EIA for the proposed mixed-use development.

The Ritz, Extension, Westminster, London, United Kingdom
2006
Project Manager
EIA for the proposed Ritz Extension.

Land Securities, EIA, Oxford, Westminster, London, United Kingdom
2005 – 2006
Project Manager
EIA for the mixed-use Park House Development.

Emblem Homes & Workspace Group Plc, Greenheath Business Centre, London, United Kingdom
2004 – 2006
Project Manager
EIA for the proposed Greenheath Business Centre.

Westminster City Council, EIA, London, United Kingdom
2004
Project Manager
EIA for the proposed Westbourne Park Bus Garage Extension.

Westminster City Council, Westminster Academy, London, United Kingdom
2003 – 2004
Project Manager
EIA for the proposed Westminster Academy.

London Borough of Hammersmith & Fulham, Thames Bridge, London, United Kingdom
2003
Project Manager
Feasibility Study for the proposed new Thames Bridge.

Plandex Properties Ltd, Oriental City Redevelopment, London, United Kingdom
2002 – 2011
Project Manager
EIA for the proposed Oriental City Redevelopment

Hunston Properties, St Albans Farm, United Kingdom

Jacqui Fincham

Earth & Environment, Planning & Advisory – Director

2002 – 2003
Project Manager
EIA for the proposed St Albans Farm light industrial site.

Gallagher's Estate, SuperCAM, United Kingdom
2002 – 20013
Project Manager
EIA for the proposed SuperCAM rapid guided bus system.

Pembury Hospital, Pembury Hospital Redevelopment, United Kingdom
2001 – 2003
Co-ordinator
EIA for the proposed Pembury Hospital Redevelopment.

Environmental and Social Due Diligence

Themis Gap Analyses, Various Solar PV projects, Kenya
2019
Environmental Advisor
In relation to the proposed investment in various solar PV projects located across Kenya. WSP undertook a fatal flaw analysis of the proposed projects against the IFC Performance Standards.

LHDA, Lesotho Highlands, Lesotho
2018
Project Consultant
Contributed to the technical Due Diligence on the Environmental and Social components of Phase 2 of the proposed Lesotho Highlands Project.

HTi Consulting ESDD, Proposed Hotel, Addis Ababa, Ethiopia
2017
Project Manager
Gap analysis and update of an existing ESDD undertaken for a proposed Hotel. PTA Bank were investigating co-financing the construction and operation of the hotel with Proparco. PTA Bank is committed to adhering to high standards of environmental and social governance when assessing finance project opportunities, as such the IFC Performance Standards (PS), 2012, were used as the benchmark for all lenders in the transaction. Compliance with host country regulations is a core requirement of the IFC Performance Standards and as such the Ethiopian national regulations were also considered.

EIA Checklist

Fine Chemicals Corporation, Upgrades to the Bulk Goods Storage Facility, Western Cape
2022
Project Manager
EIA applicability checklist for upgrades completed on the Bulk Goods Storage Facility.

NUtec, Installation of Dangerous Goods Storage, Western Cape
2021
Project Manager
EIA applicability checklist for the Tank installation.

Tsogo Sun Hotels, Development, Somerset West, Western Cape.
2016
Project Manager
EIA applicability checklist for the proposed Tsogo Sun Hotel and Casino.

Jetvac Cape Town, Proposed wastewater treatment facility, Western Cape, South Africa
2014
Project Manager

EIA applicability checklist exercise to determine Environmental Authorisation requirements.

FPT Group (Pty) Ltd, Cape Town, Western Cape, South Africa
2014
Project Manager
EIA applicability checklist exercise to determine Environmental Authorisation.

Various Clients, EIA Applicability Checklist projects, Cape Town, South Africa
Project Manager
I was the primary project deliverer for all these projects. Following a site visit and the collation of baseline information I also completed a number of EIA Checklists and drafted the necessary motivation letter to Department of Environmental Affairs and Development Planning. This has assisted proponents by providing formal opinion on the applicability of the EIA Regulations to their proposed development.

Sustainability & Strategic Assessments

Transnet (Pty) Ltd, Richards Bay Expansion Port Project, Richards Bay, South Africa
2015
Sustainability Consultant
Developed a Sustainability Procurement Strategy.

Confidential Client, Proposed Development, Cape Town, Western Cape, South Africa
2014
Project Manager
High-level feasibility study for a proposed development within a CBA, WSP undertook technical specialist studies to determine the likely developable area and identify the potential of fatal flaws for any proposed development. This process provided valuable information to the client body in understanding the developable potential of the site and the likely impacts associated with development.

Transnet National Ports Authority, Port of Saldanha, Western Cape, South Africa
2012 – 2013
Project Manager
Environmental Input for Services Masterplan, Advising WSPs Civil Engineering and external Planning team as to the environmental constraints associated with developing the remaining area within the port boundary at Saldanha in order to guide the development of the masterplan for future service provision.

Tunbridge Wells Borough Council, Tunbridge Wells, London, United Kingdom
2007 – 2008
Project Manager
SA/SEA of Tunbridge Wells Local Development Framework.

Whiteness Property Company Ltd.SA, Ardersier, Scotland, United Kingdom
2007
Sustainability Consultant
Developed a Sustainability Procurement Strategy.

Nottingham Regeneration Ltd, Nottingham East Side, Nottingham, United Kingdom
2005 – 2006
Sustainability Consultant
Developed a Sustainability Procurement Strategy.

The Ritz, Ritz Hotel Extension, London, United Kingdom
2006
Sustainability Consultant
Developed a Sustainability Procurement Strategy.

CALA-AWG Ltd, International Conference Centre, Edinburgh, United Kingdom
2005

Jacqui Fincham

Earth & Environment, Planning & Advisory – Director

Sustainability Consultant
Developed a Sustainability Procurement Strategy.

Land Securities, Park House, Oxford Street, London, United Kingdom
2005 – 2006
Sustainability Consultant
Developed a Sustainability Procurement Strategy

Southside and City Developments Napier Park, Luton, England, United Kingdom
2005
Sustainability Consultant
Developed a Sustainability Procurement Strategy

Thamesgate Group, Thamesgate SEA, United Kingdom
2004 – 2005
Sustainability Consultant
Developed a Sustainability Procurement Strategy

Emblem Homes, Greenheath, London, United Kingdom
2004
Sustainability Consultant
Business Centre Sustainability Appraisal.

Berkeley Group Northern Bridge Office, London, United Kingdom
2004
Sustainability Consultant
Sustainability Appraisal

Allies and Morrison, Highbury Quarter Scheme, London, United Kingdom
2004
Sustainability Consultant
Sustainability Appraisal

Centros, Portsmouth Northern Quarter Redevelopment, United Kingdom
2004
Sustainability Consultant
Sustainability Appraisal

Thornfield Properties Ltd, London, United Kingdom
2003 – 2004
Sustainability Consultant
Sustainability Statement

Landmark Development Projects and St James Securities, Bridgewater Place, London, United Kingdom
2003
Sustainability Consultant
Sustainability Appraisal

Ballymore Group, Minoco Wharf, London, United Kingdom
2003
Sustainability Consultant
Sustainability Appraisal

Plandex Properties Ltd, Oriental City, London, United Kingdom
2003
Sustainability Consultant

Jacqui Fincham

Earth & Environment, Planning & Advisory – Director

Sustainability Appraisal

Ministry of Defence, Apache Helicopter Training programme, United Kingdom
2003
Sustainability Consultant
Sustainability Appraisal

Skidmore, Owings & Merrill LLP (SOM), Chongming Island, United Kingdom
2003
Sustainability Consultant
Masterplan Development Competition

Northwest Regional Development Agency, Mixed-use Development, United Kingdom
2003
Sustainability Consultant
Sustainability Appraisal for OMEGA phased mixed use development over 30 years.

Jointly commissioned by Cluttons (on behalf of the Church Commissioners) and Berkeley Community Villages North Berste, North Bersted development, Bognor Regis, West Sussex. United Kingdom
2003
Sustainability Consultant
Sustainability Appraisal for the proposed

Crest Nicholson Residential (South) Ltd, Pitwines, United Kingdom
2003
Sustainability Consultant
Sustainability Statement for the development of 534 dwellings (affordable and private) on an area of land formally used as gasworks.

Wokingham District Council, Replacement of roundabouts A327, Wokingham District Council
2003
Sustainability Consultant
Sustainability Statement for the proposed replacement of two small roundabouts on the A327 with a single, signalised, gyratory system.

Metropolis Group, Metropolis House Redevelopment, London, United Kingdom
2003
Project Manager
Compiled the impact assessment report.

Thameslink 2000, Blackfriars Station Project, London, United Kingdom
2002
Sustainability Advisor / Consultant
The Blackfriars Station scheme included the re-modelling of the track layout in order to provide two new through Thameslink rail lines to the east and two new terminating tracks to the west.

Ove Arup, Fitzrovia Redevelopment Project, London, United Kingdom
2002
Project Manager
Environmental Impact Assessment

Lee Valley Park Authority, Lee Valley National Athletics Stadium, United Kingdom
2001 – 2002
Sustainability Consultant
SPeAR® was used at concept design for the Athletics Stadium to be located at Pickett's Lock, Enfield. The SPeAR® diagram formed part of the Environmental Assessment Process and will be submitted with the EIA in support of the Planning Application.

Jacqui Fincham

Earth & Environment, Planning & Advisory – Director

Stanhope, New Complex Development, London, United Kingdom
2001
Sustainability Consultant
SPeAR® was used to assess the design for a business park of between 500,000 and 700,000 sq ft. to the east of Hemel Hempstead town centre. The SPeAR® appraisal was used to assess the concept design to ensure that the central theme of sustainability is maintained.

Environmental and Social Management Plans & ECO ROLE

FPT Group Pty Ltd, FPT proposed Berth B, C and D redevelopment, Cape Town Harbour, Western Cape, South Africa
2015 – 2016
Environmental Management Plan (EMP) for the proposed redevelopment of the Berths at the FPT facility at the Cape Town Harbour.

New Reclamation Group, Port of East London, Eastern Cape, South Africa
2013
Project Manager
Environmental Management Programme.

PetroSA, Develop the Operational Environmental Management Plan for the Refinery, Mossel Bay, Western Cape, South Africa
2011 – 2013
Project Manager
Environmental Management Programme

WSP SA Civil and Structural Engineers, Faure, Cape Town, Western Cape, South Africa
2008 – 2009
Project Manager
Environmental Control Officer for the Waste Disposal Site Closure activities.

WSP SA Civil and Structural Engineers (Pty) Ltd, Gordon's Bay, Cape Town, Western Cape, South Africa
2008 – 2009
Project Manager
Environmental Control Officer for the Waste Disposal Site Closure Activities.

WSP SA Civil and Structural Engineers (Pty) Ltd. Swartklip, Cape Town, Western Cape, South Africa
2011 – 2014
Project Manager
Environmental
Environmental Control Officer for the Waste Disposal Site Closure Activities.

City Offices and UBS Global Asset Management Watermark Place, City of London, United Kingdom
2009
Project Director
EMP of the demolition and construction of the prominent Mondial House in the City of London on the north bank of the River Thames.

Land Securities, Park House, Oxford Street, Westminster, London, United Kingdom
2008
Project Director
EMP of the demolition and construction of the derelict office block and UCL Goldsmidt Building on the south side of the Oxford Street.

London Remade, Towards a Sustainable London, United Kingdom
2005

Jacqui Fincham

Earth & Environment, Planning & Advisory – Director

Project Consultant
Phase 1 and Phase 2 Reducing the Capital's Ecological Footprint

London Remade, Towards a Sustainable London, Convoys Wharf, United Kingdom
2005
Project Consultant
Case Study 1 - Reducing the Capital's Ecological Footprint

Environmental Compliance Auditing

Sasol Franchise, Modderdam Road and Erica Road Facilities Operations, South Africa
2019
Auditor
Sasol Environmental Authorisations and Environmental Management Plans for the Lead Auditor and environmental compliance audits.

FFS Refiners (Pty) Ltd. FFS Brackenfell, Cape Town, Western Cape, South Africa
2015
Auditor
ROSE Foundation Compliance Audit

FFS Refiners (Pty) Ltd. FFS Vissershok, Cape Town, South Africa
2015
Project Manager
ROSE Foundation Compliance Audit

Transnet, Upgrade of the Dry Dock, Cape Town
2022
Project Director
Environmental Control Officer for the upgrade activities.

V&A Waterfront, Desalination Plant, Cape Town
2022
Project Director
Environmental Control Officer for the construction of the Desalination Plant.

Saldanha Bay Saldanha IDZ Complex, Western Cape, South Africa
2018 – 2019
Environmental Control Officer
ECO for the construction of the Saldanha IDZ oil and gas offshore service complex.

Hitachi Limited, the eThekwini Municipality Central Wastewater Treatment Works, Durban Bluff
2018 – 2019
Environmental Control Officer
ECO for the construction of the demonstration desalination plant located adjacent to the eThekwini Municipality Central Wastewater Treatment Works

CapeNature, Landdroskop Jeep Track, Hottentots Holland Nature Reserve, Western Cape, South Africa
2018
Environmental Control Officer
ECO for the repair of the Landdroskop Jeep Track.

Permoseal, ECA, Montague Gardens, Cape Town, Western Cape
2016
Project Manager
Environmental Compliance Audit for the existing Permoseal facility.

CapeNature, Landdroskop Jeep Track, Hottentots Holland Nature Reserve, Western Cape, South Africa

Jacqui Fincham

Earth & Environment, Planning & Advisory – Director

2014
Environmental Control Officer
ECO for the repair of the Landdroskop Jeep Track

FFS Refiners (Pty) Ltd, Storage Facility, Cape Town, South Africa
2013 – 2014
Environmental Control Officer
ECO for the expansion of the FFS Cape Town Harbour Storage Facility

FFS Refiners (Pty) Ltd, De-Ash plant, Cape Town, South Africa
2011 – 2013
Environmental Control Officer
ECO for the FFS Vissershok Construction

FFS Refiners (Pty) Ltd, Cape Town Harbour Storage Facility, Cape Town, South Africa
2011 – 2012
Environmental Control Officer
ECO for the expansion of the FFS Cape Town Harbour Storage Facility

WSP SA Civil and Structural Engineers (Pty) Ltd, Site Closure, Cape Town, Western Cape, South Africa
2011 – 2014
Environmental Control Officer
ECO for the Swartklip Waste Disposal Site Closure

WSP SA Civil and Structural Engineers (Pty) Ltd, Faure Waste Disposal Site Closure, Cape Town, Western Cape, South Africa
2008 – 2009
Project Manager
Environmental Control Officer
ECO for the Faure Waste Disposal Site Closure activities.

WSP SA Civil and Structural Engineers (Pty) Ltd, Gordon's Bay Waste Disposal Site Closure, Cape Town, Western Cape, South Africa
2008 – 2009
Environmental Control Officer
ECO for the Gordon's Bay Waste Disposal Site Closure

Various clients, Various construction projects, London, United Kingdom
2004 – 2007
Environmental Control Officer
Managed over 10 ECO projects located within London. These were related to mixed use developments being constructed within a highly urbanised environment where noise and dust emissions were key issues being monitored by the Environmental Health Officers at the relevant Boroughs.

Master Planning & Feasibility

SANParks, Signal Hill People Mover, Cape Town, Western Cape, South Africa
2014 – 2015
Project Director
SANParks engaged WSP Civil Engineers to establish the feasibility of developing a "people mover" system to transport people from the Strand Street Quarry in Cape Town to the summit of Signal Hill located in the Table Mountain National Park.

Confidential, Beach View Screening, Cape Town, Western Cape, South Africa
2014
Project Manager

Jacqui Fincham

Earth & Environment, Planning & Advisory – Director

This screening assessment assisted in the determination of the key baseline characteristics of the site in relation to ecology, planning, accessibility, heritage and the ocean and dune dynamics.

AgriProtein Technologies, Insect Based Protein Manufacturing Facility, Cape Town, Western Cape, South Africa
2013 – 2014
Project Manager
Site selection process for the proposed development of an Insect Based Protein Manufacturing Facility

City of Cape Town, Mapping and Land Audit Study, Cape Town, Western Cape, South Africa
2013
Project Consultant
Spatial Planning and Urban Design Branch, Du Noon Contextual Framework.

Appendix B

FUGITIVE EMISSIONS MANAGEMENT PLAN

SALDANHA STEEL (PTY) LTD

FUGITIVE DUST MANAGEMENT PLAN

ARCELORMITTAL SOUTH AFRICA LIMITED

MAY 2024

CONFIDENTIAL

SALDANHA STEEL (PTY) LTD

FUGITIVE DUST MANAGEMENT PLAN

ARCELORMITTAL SOUTH AFRICA LIMITED

FUGITIVE DUST MANAGEMENT PLAN (VERSION 1): CONFIDENTIAL

PROJECT NO.: 41103718

DATE: MAY 2024

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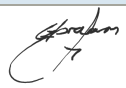
Signature				
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1. INTORDUCTION

Saldanha Steel (Pty) Ltd (Saldanha Steel), a subsidiary of ArcelorMittal South Africa Limited (AMSA), is a steelwork focused on the export market located in Saldanha Bay, West Coast District Municipality (WCDM), Western Cape, South Africa. Given the activities undertaken at Saldanha Steel, the facility has obtained its Atmospheric Emission License (AEL) (Ref: WCWCD001), aligned with Government Notice Regulation 893 of 2013[1], promulgated in line with Section 21 of the National Environmental Management: Air Quality Act (Act 39 of 2004) (NEM:AQA)[2], which is valid until 04 December 2028.

In line with the Listed Activities contemplated in Section 21, the categories applicable to Saldanha Steel are *Category 4: Metallurgical Industry, subcategories 4.2, 4.6, 4.7, 4.8, 4.11, 4.12* and *Category 5: Mineral Processing, Storage and Handling, subcategories 5.1 and 5.2*.

Importantly, Saldanha Steel is currently in Care and Maintenance (C&M), with the ironmaking operations ceasing 15 January 2020 and the remaining operations ceasing 26 March 2020 due to challenges in the global steel market. Given this, there are currently no operations occurring on the steelworks site. While steel production remains unlikely due to continued global market challenges, AMSA have been investigating alternatives to enable Saldanha Steel to return a portion of the facility back to economic productivity along with job regeneration at the site.

Given a component of the existing design at Saldanha Steel is for bulk materials handling and storage, as required as part of the steel production process, Saldanha Steel, in conjunction with Bidfreight Port Operations (BPO), have identified the opportunity to recommence with their storage and handling of bulk materials, for export through the Transnet Port Terminals (TPT) Saldanha Bay terminal.

Saldanha Steel and BPO intend to establish a Logistics Hub to store, handle and export up to 5,000,000 tpa of bulk material commodities, requiring an amendment of the current AEL. The bulk commodity will be stored within a fully enclosed warehouse, with most activities, such as the offloading and loading of haul trucks, stockpiling, stockpile management and material handling occurring within the warehouse. Bulk material received via haul road into the warehouse will be wetted by water sprayers to reduce emissions, whereas material received via rail will be chemically sprayed at the tippler and wetted along the conveyor belts prior to being deposited within the warehouse. Within the warehouse, the material stockpiles will be wetted by water sprayers to reduce emissions.

[1] Department of Environmental Affairs: (2013): List of Activities which result in Atmospheric Emissions which have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage (No. R. 893), Government Gazette, 22 November 2013, (No. 37054), as amended by GN 551 in 2015 and GN 1207 in 2018.

[2] South Africa (2005): *National Environmental Management: Air Quality Act* (No. R. 39 of 2004) Government Gazette, 24 February 2005 (No. 27318)

Following the final decision of AMSA to proceed with this project, a letter of notification (Dated 08 March 2024) was provided to the WCDM (Licensing Authority) detailing the intention and project details of Saldanha Steel.

Following the review of this notification, the WCDM confirmed the intent of Saldanha Steel AEL to store and handle bulk commodities for export. Therefore, to commission the Logistics Hub, Saldanha Steel are required to, amongst others, compile a Fugitive Dust Management Plan (FDMP).

WSP Group Africa (Pty) Ltd (WSP) has therefore been appointed by Saldanha Steel to assist with compiling the FDMP, as presented herein.

2. PROCESS OVERVIEW

Saldanha Steel was commissioned in 1998 and is the first steel mill in the world to have successfully combined the Corex / Midrex process into a continuous chain, replacing the need for coke ovens and blast furnaces, assisting with emission control and environmental management.

The Saldanha Steel operation converts lump iron ore into steel and hot rolled coil (HRC), with various other products being produced such as Corex slag, sludge granules, coal fines, dolomite fines and briquettes.

Saldanha Steel, in conjunction with Bidfreight Port Operations (BPO), intend to establish a Logistics Hub at the bulk materials storage and handling area of the steelworks.

2.1. EXISTING PROCESS – STEELMAKING

Saldanha Steel employs operational equipment and technologies to convert lump iron ore into steel and Hot Rolled Coil (HRC), with the following key unit processes being undertaken**:**

- **Raw Materials Handling and Stockyard Area**

Raw Materials areas and the Stockyard area are located west of the plant and are used for the bulk storage and handling of Iron Ore and Coal; offloading and storage of various other raw materials. These commodities are transported via ship and rail and offloaded on the stockyard via conveyor belts and conveying via transfer stations equipped with dust extraction systems, various by-products are also stored on the stockyard and at various locations on site for re-use within the process or sale to external users.

- **The Corex Plant**

The Corex unit converts about 60% of the iron ore consumed into liquid iron. The plant consists of two main components, a reduction shaft and a melter-gasifier. Pellets can also be used to replace iron ore, or a mixture of pellets and iron ore can be used for the production of liquid iron.
In the reduction shaft the lump iron ore, transported via a conveyor belt, is first reduced to sponge iron by reaction with a reducing gas generated in the melter-gasifier. The reduced iron ore is then melted in the melter-gasifier using heat generated by the combustion of coal and coke with injected oxygen. Coal or coke can only be used during the combustion process. Small volumes of by-products are fed into the Corex as part of the waste reduction initiative on site. The Corex process is similar to a blast furnace facility.

- **The Midrex Plant**

Excess reducing gas generated in the Corex plant is used in the Midrex to convert the remaining 40% of the iron ore and pellets (transported via conveyor belts) into solid sponge iron (a highly metallised product suitable for steel commonly referred as DRI (Direct Reduced Iron).

- **The Steel Meltshop**

The liquid iron (transported via ladles) and DRI (transported via conveyor belts) are converted into steel at the Conarc in the Steel Meltshop. The Corex liquid iron contains about 4% carbon, virtually all of which is removed by electric arc and oxygen injection in the Conarc process, a hybrid between an Electric Arc Furnace and a Basic Oxygen Furnace. Ferrous scrap steel, Hot Briquetted Iron (HBI) and various fluxes are also charged into the Conarc furnace in the Steel Meltshop. Further steel refining takes place in the Ladle Heating Furnace (LHF) & Vacuum Oxygen Decarburizer (VOD). The Conarc at the Steel Meltshop may also operate on Scrap only as an input material to produce steel.

- **The Thin Slab Caster (TSC)**

At the Thin Slab Caster (TSC) the liquid steel from the LHF and/or VOD in the Steel Meltshop, transported via ladles and overheard cranes in ladles are continuously cast into slabs that vary from 50 - 100 mm thickness and from 900 - 1560 mm in width.

- **Roller Hearth Furnace (RHF)**

After casting at the TSC, the slabs proceed directly into a long (about 180 m) temperature equalising Roller Heath Furnace (RHF) where the temperature of the slabs is increased and maintained according to specification, for the rolling of the steel. The Corex gas and/or LPG is used as fuel in this RHF.

- **Hot Strip Mill**

The steel slab is reduced or rolled to its final thickness in two stages: the Roughing Mill and the Finishing Mill. In the roughing mill, the steel slabs are rolled in two roughing mill stands (4-high) to create a transfer bar with a gauge of approximately 20 mm. The steel slabs are subjected to compressive and frictional forces which reduce the gauge of the steel slabs and elongate them into coils.

In the Finishing Mill the transfer bar is rolled to the final thickness in a five-stand (4-high) finishing mill. The final thickness is 0.8 mm to 8.5 mm, which is then rolled up in a coil.

- **Temper Mill**

The steel coils are transferred from the Hot Strip Mill to the Temper Mill with a walking beam. The Temper Mill rolling facility is available to process up to 70% of the hot rolled coils. The main objective of this mill is not to reduce the strip thickness but to achieve good strip flatness quality and rewind defective coils.

- **Briquetting Plant**

Briquetting is the process of compressing and compacting fine powders, granular or shredded materials into a solid mass (briquette). The by-products produced at Saldanha Steel are to be utilized in the manufacturing of briquettes. The Press Briquetting method is a roll type press which comprises of two rotating wheels. Materials are fed into the mixer where water is added. The rolls compress the materials under high pressure to form a briquette. The briquette is then discharged from the machine. The briquette will be wet due to the water added into the mixer. It is then stored in a dry and well-ventilated area before being reused in the iron and steel making process.

2.2. PROPOSED PROCESS – LOGISTICS HUB

Saldanha Steel, in conjunction with Bidfreight Port Operations (BPO), intend to establish a Logistics Hub at the bulk materials storage and handling area of the steelworks. The following process will apply to the Logistics Hub:

- Up to 5,000,000 tpa of bulk material commodities will be handled within an enclosed warehouse by the Logistics Hub for export purposes. The individual bulk commodity quantities may fluctuate, depending on the bulk commodity required for export, although importantly, the total quantity of material handled, when operations are underway, will not exceed the threshold stipulated of 5,000,000 tpa.
- Up to 4,000,000 tpa will comprise of Manganese (Mn) ore. Of the 4,000,000 tpa Mn ore, up to 50% will be delivered via rail (2,000,000 tpa), with the remaining amount being delivered by truck (2,000,000 tpa).

- The anticipated volume to be delivered by road presents a worst-case scenario, making allowance for current challenges regarding rail infrastructure. Following planned rail infrastructure upgrades in 2026, it is anticipated the volume of material delivered by road will decrease, with the majority then delivered by rail, via the tipplers.

- Up to the maximum tonnage of the other bulk material commodities, which will be delivered via road, will comprise:

  - Phosphate Concentrate (maximum tonnage: 1,200,000 tpa)
  - Garnet Sands (maximum tonnage: 500,000 tpa)
  - Zircon Sands (maximum tonnage: 500,000 tpa)
  - Lead Concentrate (maximum tonnage: 250,000 tpa)
  - Copper Concentrate (maximum tonnage: 250,000 tpa)
  - Zinc Concentrate (maximum tonnage: 250,000 tpa)

  These quantities may fluctuate, depending on the bulk commodity required for export, although importantly, the total quantity of material handled, when operations are underway, will not exceed the threshold stipulated of 5,000,000 tpa.

- Regarding the 50% of Mn ore delivered via rail, this will comprise:

  - Delivery from rail to the existing rotary tippler, contained within a building with dust extraction and sprayers delivering chemical suppressant to the Mn ore while being tipped from the rail wagons.
  - Mn ore will move from the rotary tippler along conveyor CV111 (underground conveyor) to Transfer Station 1 (TS1), contained within a building enclosure.
  - From TS1 the ore will be transferred to a new conveyor, which is an above-ground conveyor, semi-enclosed equipped with longitudinal water sprayers.
  - From the new conveyor, ore will be loaded onto the main Mn ore stockpile, within the warehouse. Notably, this ore will still be wet from the chemical suppressant applied at the rotary tippler and water applied by the longitudinal sprayers on the new conveyor. Further, the main Mn ore stockpile will be wetted via water sprayers and within an enclosed warehouse to reduce dust emissions.

- Regarding the bulk material commodities delivered by truck, 50% Mn ore and other commodities, to the warehouse, this will comprise:

  - Trucks will enter the Saldanha Steel site via the truck entrance road located southeast of the site, via the weighbridge. It is noted, prior to reaching the weighbridge, approximately 1 km of this road is unpaved, although this section receives chemical dust suppressant. From the weighbridge, onto the Saldanha site, the proposed entrance road is unpaved, which will also receive chemical suppressant.
  - Trucks will carry approximately 34 t of commodities per load, covered by the standard strapped tarpaulins required for side tippler road trucks.
  - Trucks will unload in the southern end of the warehouse to a truck stockpile, with water being applied to the truck stockpile to reduce dust emissions.

- Yellow equipment (front-end loaders) will be used to transfer material from the truck stockpile to the main commodity stockpiles for reclaiming.

- Trucks delivering commodities to the TPT terminal will carry approximately 69 t of commodities per load, comprising three skips covered by heavy duty, fixed tarpaulins.

  - Trucks will exit the warehouse, and Saldanha Steel, via paved roads, making use of the existing paved haul road established for terminal access. Trucks exporting commodities to the terminal will not make use of public roads.
  - The bulk of the trucks for commodities export to the terminal will remain onsite between deliveries, located at the designated truck staging area, avoiding unnecessary use of public roads. Note, this will be dependent on the trucking requirements of the cargo handling company, so the number of trucks onsite may vary from time to time.

3. LEGISLATIVE OVERVIEW

Until 2004, South Africa's approach to air pollution control was driven by the Atmospheric Pollution Prevention Act 45 of 1965 (APPA), which was repealed with the promulgation of the National Environmental Management: Air Quality Act 39 of 2004 (NEM:AQA). The NEM:AQA represents a shift in South Africa's approach to air quality management, from source-based control to integrated effects-based management. Significant functions detailed in the NEM:AQA include:

- The National Framework for Air Quality Management.
- Institutional planning matters, such as the appointment of Air Quality Officers within government and the implementation of Air Quality Management Plans (AQMPs).
- Air quality management measures including, but not limited to:
    - The listing of activities that result in atmospheric emissions and which have the potential to impact negatively on the environment and the licensing thereof through an Atmospheric Emissions License (AEL).
    - Procedures to enforce Pollution Prevention Plans or Atmospheric Impact Reporting for the control and inventory of atmospheric pollutants of concern.
    - Requirements for addressing dust and offensive odours.

3.1. MINIMUM EMISSION STANDARDS

Saldanha Steel has obtained its AEL (Ref: WCWCD001), triggering *Category 4: Metallurgical Industry and Category 5: Mineral Processing,* valid until 04 December 2028. In line with the Listed Activities contemplated in Section 21, the category which is applicable to this AIR and triggers an AEL amendment is *Category 5: Mineral Processing, Storage and Handling, subcategories 5.1*.

Category 4: Metallurgical Industry, subcategories 4.2, 4.6, 4.7, 4.8, 4.11, 4.12 and *subcategories 5.2* are applicable to the Saldanha Steel operations and do not require amendment in this application.

The specific subcategories applicable to the steelmaking process, and as contained within the existing AEL, are:

- Subcategory 4.2: Combustion Installations
- Subcategory 4.6: Basic Oxygen Furnaces
- Subcategory 4.7: Electric Arc Furnaces (Primary and Secondary)
- Subcategory 4.8: Blast Furnaces
- Subcategory 4.11: Agglomeration Operations
- Subcategory 4.12: Pre-Reduction and Direct Reduction
- Subcategory 5.1: Storage and Handling of Ore and Coal
- Subcategory 5.2: Drying

3.2. NATIONAL AMBIENT AIR QUALITY STANDARDS

Ambient air quality standards are defined as "*targets for air quality management which establish the permissible concentration of a particular substance in, or property of, discharges to air, based on*

what a particular receiving environment can tolerate without significant deterioration"[3]. The aim of these standards is to provide a benchmark for air quality management and governance.

The National Ambient Air Quality Standards (NAAQS) presented in **Table 3-1** became applicable for air quality management from their promulgation in 2009[4] and 2012[5]. The NAAQS generally have specific averaging periods, compliance timeframes, permissible frequencies of exceedance and measurement reference methods. Given this report only focuses on dust management, pollutants of concern comprise particulate matter (PM_{10} and $PM_{2.5}$), which are discussed hereafter.

Table 3-1: South African National Ambient Air Quality Standards

Pollutant	Averaging Period	Concentration µg/m³	Permissible Frequency of Exceedance
Particulate matter (PM_{10})	24 hours	75	4
	1 year	40	0
Particulate matter ($PM_{2.5}$)	24 hours	40	4
		25[a]	4
	1 year	20	0
		15[a]	0

[a]: Effective date is 01 January 2030

3.3. NATIONAL DUST CONTROL REGULATIONS

On 01 November 2013 the legislated standards for dust fallout were promulgated in the form of the National Environmental Management: Air Quality Act (NEM:AQA) National Dust Control Regulations (GNR 827)[6]. These regulations provide the acceptable / allowable dust fallout rates for both residential and non-residential areas, as presented in **Table 3-2**.

[3] Department of Environmental Affairs (2000): *Integrated Pollution and Waste Management Policy for South Africa.* Government Gazette (No. R 227 of 2000), 17 March 2000 (No. 20978)
[4] Department of Environmental Affairs (2009): National Ambient Air Quality Standards. Government Gazette (No. R 1210 of 2009), 24 December 2009 (No. 32816)
[5] Department of Environmental Affairs (2012): National Ambient Air Quality Standard for Particulate Matter with Aerodynamic Diameter less than 2.5 Micro Metres ($PM_{2.5}$). Government Gazette (No. R 486 of 2012), 29 June 2012 (No. 35463)
[6] Department of Environmental Affairs (2013): National Dust Control Regulations. Government Gazette (No. R 827 of 2013), 01 November 2013 (No. 36974)

Table 3-2: Acceptable Dust Fallout Rates as per the National Dust Control Regulations

Restriction Areas	Dust Fallout Rate (D) (mg/m^2/day) 30-day average	Permitted frequency of exceeding dust fallout Rate	Reference Method
Residential Area	D < 600	Two within a year, not sequential months	ASTM D1739
Non-Residential Area	600 < D < 1,200	Two within a year, not sequential months	ASTM D1739
The method to be used for measuring dust fall rate and the guideline for locating sampling points shall be ASTM D1739:1970, or equivalent method approved by any internally recognised body. As confirmed by Saldanha Steel, the dust fallout method applied onsite for existing dust fallout monitoring is the ASTM D1739:1970 methodology, as per the requirements of GNR 827 of 2013.			

In addition to the permitted dust fallout rates contained within the National Dust Control Regulations, the regulations also set out guidance relating to the development of a Dust Management Plan, comprising:

- Identification of all possible sources of dust within the affected site.
- Detail best practicable measures to be undertaken to mitigate dust emissions.
- Detail an implementation schedule.
- Identify the line management responsible for implementation.
- Incorporate the dust fallout monitoring plan.
- Establish a register for recording all complaints received by the person regarding dustfall and for recording follow up actions and responses to the complainants.

The plan must be implemented one month after the approval by the Licensing Authority, with an implementation progress report being submitted to the Licensing Authority at agreed intervals

4. DUST FALLOUT MONITORING PLAN

Dust fallout at Saldanha Steel is monitored monthly, and as confirmed by Saldanha Steel, complies with the ASTM D1739:1970 methodology, as per the requirements of GNR 827 of 2013. The network comprises a total of eight samplers, with two fenceline samplers, four onsite samplers, and two offsite samplers. **Table 4-1** presents the monitoring network, detailing sampler coordinates and location classifications, while **Figure 4-1** illustrates sampling locations.

Table 4-1: Saldanha Steel dust fallout monitoring network

Station Name	Latitude (°S)	Longitude (°E)	Classification	Fence line / Offsite / Onsite
AM_NE [Northeast]	32.973397°	18.031272°	Non-Residential (1,200 mg/m^2/day)	Fence line
AM_SE [Southeast]	32.987269°	18.031633°	Non-Residential (1,200 mg/m^2/day)	Onsite
AM_SW [Southwest]	32.987317°	18.014097°	Non-Residential (1,200 mg/m^2/day)	Onsite
AM_NW [Northwest]	32.971192°	18.011889°	Non-Residential (1,200 mg/m^2/day)	Offsite
AM_N [North]	32.971314°	18.023183°	Non-Residential (1,200 mg/m^2/day)	Offsite
AM_S [South]	32.991094°	18.023197°	Non-Residential (1,200 mg/m^2/day)	Onsite
AM_E [East]	32.987814°	18.038583°	Non-Residential (1,200 mg/m^2/day)	Fence line
AM_W [West]	32.982314°	18.012867°	Non-Residential (1,200 mg/m^2/day)	Onsite

Figure 4-1: Saldanha Steel dust fallout monitoring network

5. EXISTING AIR QUALITY SITUATION

Table 5-1 presents the exceedances measured at the Saldanha Steel monitoring locations for the period January 2017 – December 2020, while **Figure 5-1**, **Figure 5-2** and **Figure 5-3** present the monthly fallout rates measured at the northern, south and southeast, and west and southwest samplers, respectively. While Saldanha Steel was in operation, fallout rates typically remained low at all sampling locations (prior to April 2020); the red, highlighted area in the fallout figures indicate the period of C&M.

For the period under review, one exceedance of the non-residential standard was recorded at AM_SE (Jan'17), AM_NW (May'17) and AM_S (Feb'19), remaining compliant with the standard as two non-sequential exceedances are permitted per twelve-month rolling period. Two exceedances were recorded at AM_SW (Apr'17 and Sep'18) and AM_W (Sep'18 and Apr'19), again remaining compliant as two non-sequential exceedances are permitted per twelve-month rolling period. AM_NE recorded three exceedances of the standard, in Feb'20, Nov'20 and Dec'20, resulting in non-compliance with the standard as three exceedances were recorded within a twelve-month period, two of which were sequential (Nov'20 and Dec'20). Notably, the two sequential exceedances measured occurred seven months after Saldanha Steel went into C&M. Given the C&M, no operations occurred at Saldanha Steel, with all stockpiles being removed during shutdown. Despite this, the highest fallout levels at AM_NE, from the available dataset, occurred during C&M, indicating other contributing sources in the area.

On average, dust fallout shows a decrease after Saldanha Steel went into C&M, as would be expected given the complete shutdown. However, location AM_NE shows a 98% increase in average fallout compared to historic data, while sampler AM_S shows a 10% increase in average fallout, again indicating potential contributions to fallout from neighbouring sources.

Table 5-1: Saldanha Steel dust fallout exceedances, Jan'17 – Dec'20

Station Name	1st Exceedance	2nd Exceedance	3rd Exceedance	Total Exceedances (Jan'17 – Dec'20)	Compliance Status
AM_NE [Northeast]	Feb'20	Nov'20	Dec'20	3	Non-compliant, three exceedances in 12-month period, two sequential
AM_SE [Southeast]	Jan'17	-	-	1	Compliant, two non-sequential exceedances permitted / 12 months
AM_SW [Southwest]	Apr'17	Sep'18	-	2	Compliant, two non-sequential exceedances permitted / 12 months

Station Name	1st Exceedance	2nd Exceedance	3rd Exceedance	Total Exceedances (Jan'17 – Dec'20)	Compliance Status
AM_NW [Northwest]	May'17	-	-	1	Compliant, two non-sequential exceedances permitted / 12 months
AM_N [North]	-	-	-	0	Compliant, no exceedances
AM_S [South]	Feb'19	-	-	1	Compliant, two non-sequential exceedances permitted / 12 months
AM_E [East]	-	-	-	0	Compliant, no exceedances
AM_W [West]	Sep'18	Apr'19	-	2	Compliant, two non-sequential exceedances permitted / 12 months

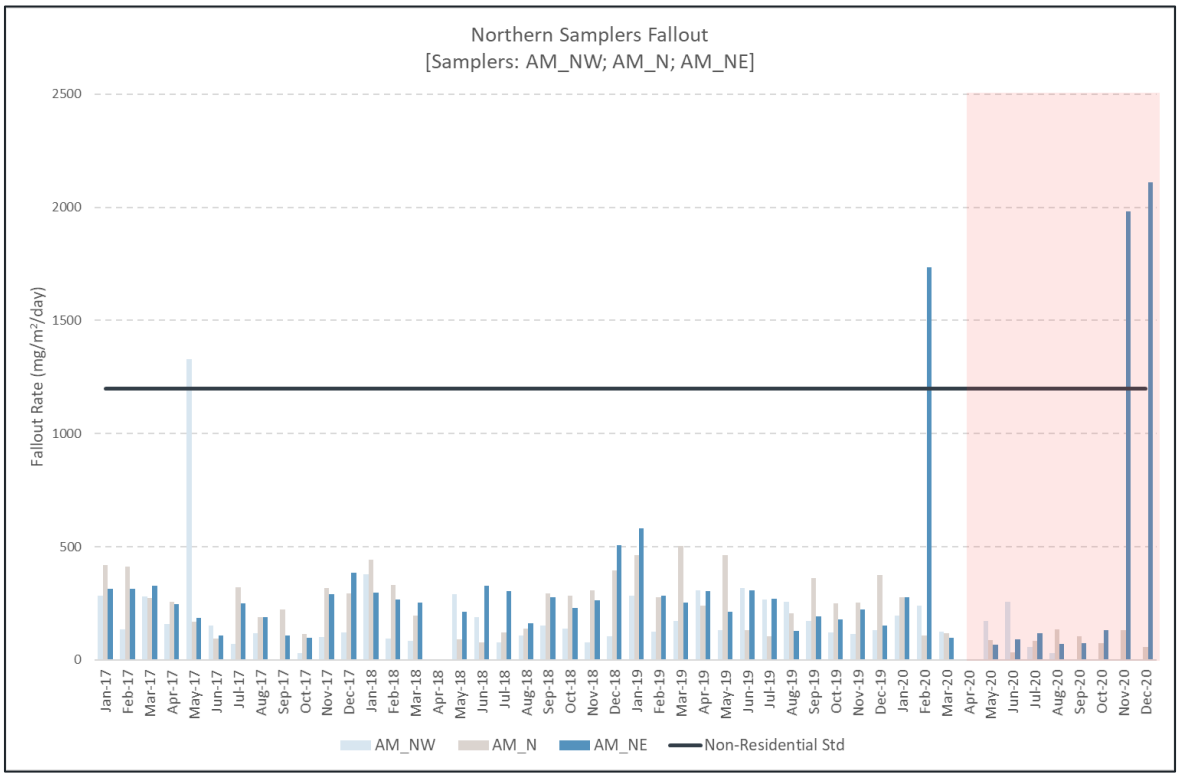

Figure 5-1: Saldanha Steel northerly samplers fallout rates, Jan'17 – Dec'20

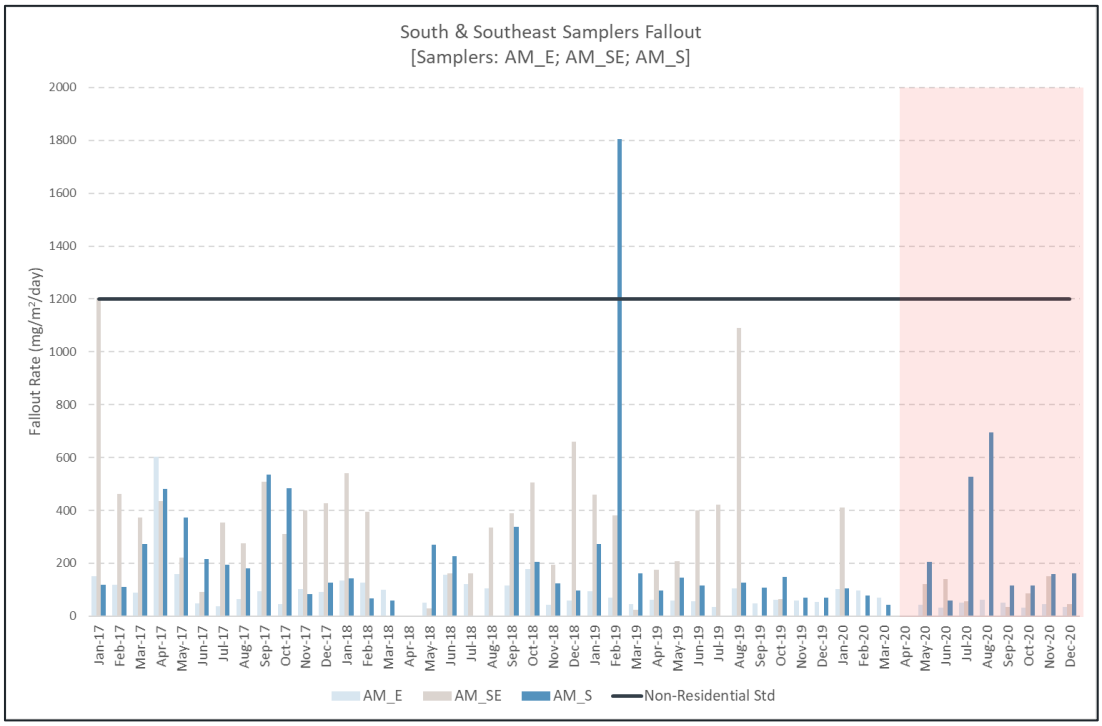

Figure 5-2: Saldanha Steel south and southeast samplers fallout rates, Jan'17 – Dec'20

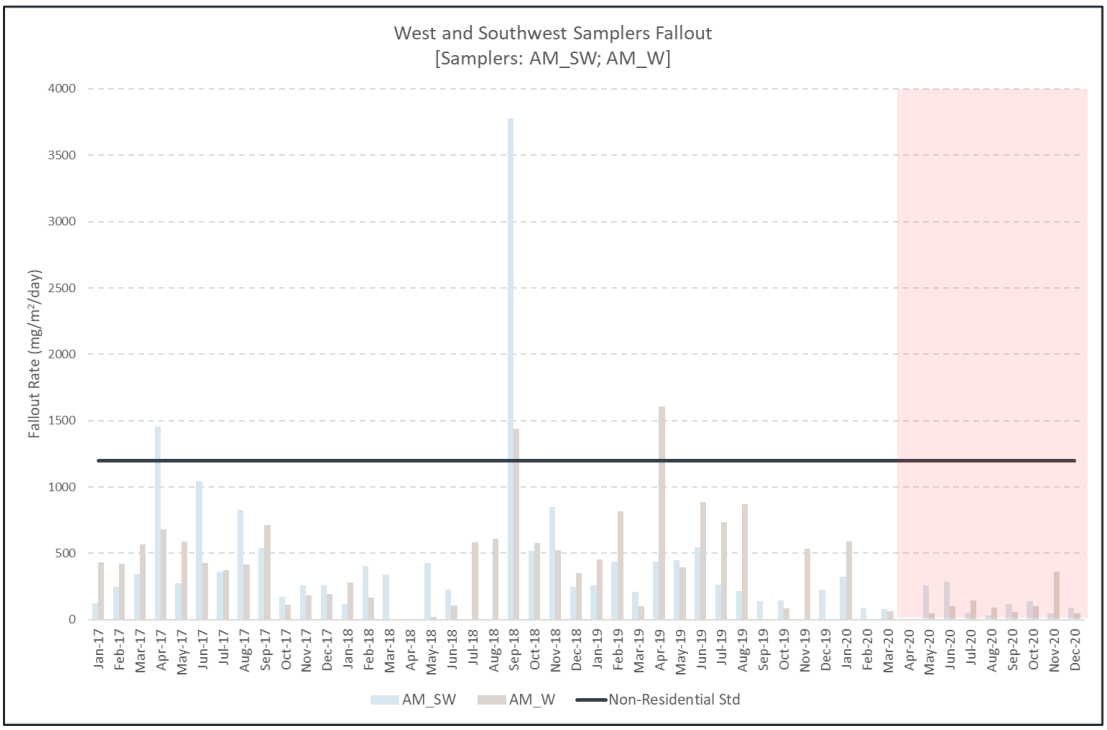

Figure 5-3: Saldanha Steel west and southwest samplers fallout rates, Jan'17 – Dec'20

6. KEY SOURCES OF DUST EMISSIONS

Various sources of dust emissions are associated with the steelmaking process at Saldanha Steel, although currently no operations are occurring at Saldanha Steel. Additionally, the proposed Logistics Hub comprises various activities that have the potential to produce dust. The following section highlights key sources of dust emissions associated with steelmaking operations (despite being in C&M) and the Logistics Hub.

6.1. STEELMAKING OPERATIONS

6.1.1. STACK EMISSIONS

Although stack emissions (point sources) are not recognised as a fugitive source of emissions, for the purposes of this FDMP, stack emissions and the management thereof are included ensuring all sources of dust emissions are addressed within this FDMP.

The stacks contributing to overall dust emissions, as illustrated in **Figure 6-1**, include:

- Coal Drier
- Coal Transport
- Coal Blending and Screening
- Corex Cast House
- Coal Stock House
- Ore Stock House
- Midrex Metallised Fines
- Midrex Product Dedusting
- Conarc
- Roller Hearth Furnace Stack #1
- Roller Hearth Furnace Stack #2
- Midrex Gas Heater Stack
- VOD Boiler
- Furnace Dedusting (Midrex)
- Iron Granulation Plant (IGP)
- Alloy Store Dedusting Unit

Stacks not considered as sources of dust emissions include:

- Flare – emergency release only.
- Granulation Plant – wet process, therefore no particulate emissions.
- Caster Stack – Steam stack, therefore no particulate emissions.

Figure 6-1: Saldanha Steel point source locations

6.1.2. VOLUME SOURCES OF EMISSIONS

Operations at Saldanha Steel comprise several volume sources relating to material handling activities occurring within buildings or structures, as well as fugitive releases from buildings due to furnace operations. Key volume source locations, as illustrated in **Figure 6-2**, include:

- Stock House
- Transfer Station 1
- Transfer Station 2
- Transfer Station 3
- Transfer Station 4
- Transfer Station 5
- Transfer Station 6
- Transfer Station 8
- Coal Screen House
- Coal Blending Station
- Coal Drying Plant
- Side Tippler
- Tapping Aisle North Building
- Tapping Aisle South Building
- Conarc North Building
- Conarc South Building

Figure 6-2: Saldanha Steel volume source locations

6.1.3. AREA SOURCES OF EMISSIONS

Operations at Saldanha Steel comprise several area sources relating to open air material handling activities, including impacts of wind entrainment on these sources. Key area source specifications are presented in **Table 6-1**, while **Figure 6-3** presents the source locations.

Table 6-1: Area source dimensions

Source Description	Height (m)	Length (m)	Width (m)	Diameter (m)
Corex slag dump	30	208	352	-
Conarc slag dump	30	208	352	-
9000t iron ore stockpile	5	62	55	-
Briquetting plant	4.3	22	12	-
VDD Coal Stockpile	20	132	24	-
Coal stockpile 1	20	137	24	-

Source Description	Height (m)	Length (m)	Width (m)	Diameter (m)
Coal stockpile 2	20	127	24	-
VDD Coal Stockpile	20	123	24	-
Limestone stockpile	20	-	-	12
Coke (STP 20) stockpile	20	-	-	12
Limestone stockpile	20	-	-	12
Coke stockpile	20	115	24	-
Pellets stockpile	20	115	24	-
Pellets stockpile	20	115	24	-
Iron Ore stockpile	20	70	42	-
Iron Ore stockpile	20	70	42	-
Dolomite stockpile	20	24	24	-
Dolomite stockpile	20	24	24	-
Coke (STP 17) stockpile	20	-	-	12
Coke stockpile	20	-	-	12
Limestone stockpile	20	70	24	-
DRI stockpile	10	-	-	12
Coke Chinese stockpile	10	207	24	-
Limestone stockpile	10	-	-	12
DRI stockpile	10	-	-	12
DRI stockpile	10	-	-	12
DRI/Pellet fines stockpile	10	-	-	12
Pellet (black) stockpile	10	-	-	12
DRI Clusters stockpile	10	-	-	12
99% dolomite fines + 1% coal mix stockpile	10	-	-	12
Pellets stockpile	20	-	-	12
Coke Fines stockpile	10	-	-	12

Source Description	Height (m)	Length (m)	Width (m)	Diameter (m)
Oxide waste stockpile	10	-	-	12
Caster Scale stockpile	10	-	-	12
Waste mix 10 stockpile	10	-	-	12
RHF scale stockpile	10	-	-	12
Screened Classifier Sands stockpile	10	-	-	12
Coke Chinese stockpile	20	-	-	12
Screened Shaft Cleaning mat stockpile	10	-	-	12
Screened RHF Scale stockpile	10	-	-	12
Classifier sand stockpile	10	-	-	12
Medium ore (6-12mm) stockpile	20	-	-	12
Iron ore fines (6-8mm) stockpile	10	-	-	12
Iron ore fines (red square) stockpile	10	-	-	12
Iron ore fines (red square) stockpile	10	-	-	12
Iron ore fines (6-8mm) stockpile	10	-	-	12
Iron ore fines (<6mm) stockpile	10	-	-	12

Figure 6-3: Saldanha Steel area source locations

6.1.4. CONVEYOR EMISSION SOURCES

Saldanha Steel operations require the use of various conveyor (CV) systems onsite, comprising partially enclosed, fully enclosed, and underground conveyors. For the purposes of this FDMP, only partially enclosed conveyors are considered as underground and fully enclosed conveyors will not contribute to overall dust emissions. Partially enclosed conveyors are illustrated in **Figure 6-4**, comprising:

- CV101
- CV102
- CV103
- CV105
- CV107
- CV108
- CV112
- 143F01
- 145F11
- 145F01

Figure 6-4: Saldanha Steel conveyors

6.1.5. ROAD EMISSION SOURCES

The Saldanha Steel facility makes use of a road network, as illustrated in **Figure 6-5**, predominantly for the export of final product from site, however, in some cases for the delivery of raw materials to site, for e.g. coke. Only one, key unpaved road is currently in use, which is the truck entrance leading to the truck weighbridge. **Table 6-2** presents the unpaved road dimensions, with estimated truck activities.

Table 6-2: Unpaved road specifications

Unpaved Road Name	Length (m)	Vehicles / Year	Vehicles / Day	Trips / Day	Total VKT* / Day	Total VKT / Year
Truck Entrance (to weighbridge)	1,036	4,000	11	22	23	8,285

*VKT = vehicle kilometres travelled

Figure 6-5: Saldanha Steel main roads

6.1.6. STEELMAKING SOURCE APPORTIONMENT

The following section highlights the portions of dust emissions associated with each source activity. The data presented below is extracted from the emissions inventory compiled by WSP and presented within the Atmospheric Impact Report (AIR) compiled for the AEL amendment application for the proposed Logistics Hub (WSP, 2021).

Table 6-3 presents the total emissions for each group of sources, as well as the contribution of these sources to overall total suspended particulates (TSP), PM_{10} and $PM_{2.5}$ emissions. The largest source of emissions at Saldanha Steel are the volume sources, contributing 72% of total TSP, 73% of total PM_{10} and 70% of total $PM_{2.5}$ emissions. Within this group, the largest sources are the Corex and Conarc building emissions due to the furnaces. The second largest contributor to emissions is the point source group, followed by the area sources, although these emissions constitute a small portion of total emissions when compared to contributions from volume sources.

Given these findings, volume sources, and specifically fugitive emissions associated with the furnaces, require specific management focus to control emissions.

Table 6-3: Source Contributions

Description	TSP Emissions (tpa)	TSP Source Contribution (%)	PM_{10} Emissions (tpa)	PM_{10} Source Contribution (%)	$PM_{2.5}$ Emissions (tpa)	$PM_{2.5}$ Source Contribution (%)
Point Source Emissions	127.3	7.7%	59.7	7.3%	36.6	9.8%
Volume Source Emissions	613.2	71.5%	304.2	72.8%	128.8	69.5%
Area Source Emissions	75.9	4.6%	37.7	4.6%	17.2	4.6%
Line Source Emissions	28.4	1.7%	13.4	1.6%	2.0	0.5%
Road Source Emissions	12.9	0.8%	2.6	0.3%	0.7	0.2%
TOTAL EMISSIONS	**857.8**	**100%**	**417.6**	**100%**	**185.2**	**100%**

6.2. LOGISTICS HUB OPERATIONS

The following section presents the Logistics Hub operations. Key sources of emissions are illustrated in **Figure 6-6**.

Figure 6-6: Logistics Hub source layout

6.2.1. VOLUME SOURCES OF EMISSIONS

Logistics Hub operations will comprise several volume sources relating to material handling activities occurring within buildings or structures.

Key volume sources include:

- Transfer Station 1
- Warehouse
- Rotary Tippler

6.2.2. CONVEYOR EMISSION SOURCES

The Logistics Hub will require the use of existing conveyor systems onsite with only partially enclosed conveyors considered in this FDMP i.e. underground or fully enclosed conveyors are excluded given they will not contribute to emissions. Conveyors associated with the Logistics Hub include:

- CV111
- New Conveyor

6.2.3. ROAD EMISSION SOURCES

The proposed Logistics Hub will make use of the existing road network for the export of material commodities from site to the terminal. 50% of the total Mn ore delivered and all other bulk material commodities delivered to the Logistics Hub will be via the existing truck entrance road and weighbridge. Importantly, once the export trucks have been loaded with bulk material within the warehouse, all truck bins will be covered with heavy-duty tarpaulin covers to ensure no dust emissions will occur from the truck bins during transit to the terminal. **Table 6-4** presents the unpaved road dimensions, with estimated truck activities.

Table 6-4: Unpaved road specifications

Unpaved Road Name	Length (m)	Trips / Day	Total VKT / Day	Total VKT / Year
Truck Entrance (to warehouse)	3,481	241	838	305,970
Truck Road Exit	1,630	241	393	143,272

6.2.4. SOURCE APPORTIONMENT

The following section highlights the portions of dust emissions associated with each source activity. The data presented below is extracted from the emissions inventory compiled by WSP and presented within the Atmospheric Impact Report (AIR) compiled for the AEL amendment application for the proposed Logistics Hub (WSP, 2024).

Table 6-5 presents the total emissions for each group of sources, as well as the contribution of these sources to overall emissions associated with the proposed Logistics Hub. The largest source of emissions associated with the Logistics Hub operations are road emissions (including vehicle exhaust emissions), contributing 99% of total TSP emissions, 98% of total PM_{10} emissions and 98% of total $PM_{2.5}$ emissions. The second largest contributor to emissions is the line sources (conveyors), although these emissions remain relatively low and constitute a small portion of total emissions. The road emissions contribute the largest portion of emissions estimated as the Logistics Hub activities will occur within an enclosed warehouse, therefore these contributions remain extremely low.

Table 6-5: Source Contributions

Description	TSP Emissions (tpa)	TSP Source Contribution (%)	PM_{10} Emissions (tpa)	PM_{10} Source Contribution (%)	$PM_{2.5}$ Emissions (tpa)	$PM_{2.5}$ Source Contribution (%)
Volume Sources	0.18	0.2%	0.07	0.3%	0.01	0.3%
Roads (incl. exhaust)	113.55	99.2%	20.05	98.0%	3.01	98.0%
Line Sources	0.72	0.6%	0.34	1.7%	0.05	1.7%
TOTAL EMISSIONS	**114.45**	**100.00%**	**20.46**	**100.00%**	**3.07**	**100.00%**

7. FUGITIVE DUST MANAGEMENT PLAN

The following section presents the Fugitive Dust Management Plan, with the key components comprising:

- The aim and objective of the plan.
- Line management responsible for the management of dust sources and implementation of mitigation measures.
- Recommended mitigation measures for key sources of emissions.
- An implementation schedule.

7.1. AIM

The overall aim of the Fugitive Dust Management Plan (FDMP) is to:

Identify all significant sources of fugitive dust, existing controls applied on these sources, and proposed improvements in controls to further reduce dust emissions and the impact thereof on the receiving environment.

It is envisaged the above aim will be achieved through:

- Goal 1: Reduction of dust emissions.
- Goal 2: Monitoring of dust emissions to determine effectiveness of controls and impacts on the receiving environment.
- Goal 3: Effective internal and external communications, inclusive of management of a complaints register.

7.2. LINE MANAGEMENT AND RESPONSIBILITY

The successful implementation of the FDMP requires a clear structure of responsibility. Importantly, the structure presented herein relates only to the team responsible for the successful implementation of the FDMP. However, this successful implementation relies on all employees at AMSA, ensuring the required mitigation measures are appropriately implemented and tracked. **Table 7-1** presents the roles and responsibilities to ensure the successful implementation of the FDMP.

Table 7-1: Roles and responsibilities of FDMP

Role	Responsibility
Accounting Officer (ACO): Aldrich Louis	▪ Final approval of information shared externally, e.g. submissions to the Licensing Authority (LA). ▪ Air quality performance feedback to the broader Saldanha Steel / AMSA business, inclusive of EXCO. ▪ Ensuring the FDMP is implemented accordingly.
Emission Control Officer (ECO): Shoenay Siebritz	▪ Reporting of ambient monitoring data to ACO, specifically identifying areas of concern. ▪ Reporting of the FDMP performance and compliance to the ACO. ▪ Review of complaints investigations, and provision of feedback to complainants, following approval of ACO. ▪ Sharing complaints within the Saldanha Steel team raising awareness of impacts on the receiving environment. ▪ Engagement with the LA, ensuring communication channels are always open and LA informed of any changes onsite. ▪ Management of subcontractors relating to provision of air quality services. ▪ Ensure the FDMP remains relevant to operations onsite. Any changes onsite, or increases in measured data, must trigger the need for a review of the FDMP. ▪ Provision of training / awareness campaigns to be rolled out ensuring all employees are aware of dust generating activities, and the expectations of controlling these sources. ▪ Should monitoring data indicate potential impacts on the receiving environment, ensure the FDMP is updated to address sources of concern e.g. any non-compliance with the National Dust Control Regulations standards requires the FDMP be updated.
Environmental Coordinator: Shoenay Siebritz	▪ Day to day implementation of the FDMP, ensuring each operational area is implementing applicable control measures. ▪ Completion of weekly inspections of key sources of emissions. ▪ Undertake complaints investigations aligned with AEL requirements. ▪ Continuous communication with operational areas ensuring raised awareness of the FDMP requirements and addressing shortcomings in implementation. ▪ Development of inspection sheets, log sheets etc and the database for saving of these to ensure availability for LA and / or independent AEL audits. ▪ Undertake routine reviews of inspection logs to ensure these are completed as required.
Process and Plant Managers	▪ Implementation of the FDMP controls applicable to their particular area of operation. ▪ Completion of all inspection sheets and / or implementation logs to be held as evidence of implementation of the FDMP.

7.3. DUST MANAGEMENT AND IMPLEMENTATION

The dust management plan defines specific objectives for each of the above goals, with specific actions defined for each key source of emissions. Each action is assigned an implementation timeframe and an implementation tracker assigned to assess and manage progress. Importantly, a log sheet must be completed and saved for all items, including for visible inspections, ensuring evidence of implementation and performance is available for auditing purposes. **Table 7-2** below provides mitigation measures and an implementation schedule for Saldanha Steel. **Table 7-3** and **Table 7-4** below provides details on dust monitoring, control effectiveness and effective communication measures.

Table 7-2: Goal 1 - Dust mitigation and implementation schedule

Source	Specific Measures	Timeframe	Implementation Tracker
Furnace Building Fugitives	Investigate and upgrade building dust extraction systems e.g, extraction fan and baghouse capacity.	Prior to re-commissioning	Records of investigation and upgrades
	Following upgrade, test building fugitive emissions to fully understand actual emissions from buildings.	Immediately following re-commissioning	Test reports
	Improve building enclosures to improve the containment of fugitive emissions.	Prior to re-commissioning	Maintenance records
	Improve efficiency of extraction hoods e.g. during Conarc tapping.	Prior to re-commissioning	Test reports and visual inspections
	Improve general housekeeping within buildings.	On re-commissioning	Weekly inspections
	Install abatement system specific to slag and metal pooling.	Prior to re-commissioning	Proof of installations, visual inspections relating to extraction performance
	Ensure all extraction equipment is maintained and serviced according to manufacturer's specifications, ensuring required extraction flow is maintained, as well as all leaks in extraction system are timeously repaired.	Prior to re-commissioning and ongoing	Maintenance logs and monthly inspections of extraction system
	Ensure baghouses are maintained according to manufacturer's specifications, with emission tests undertaken to confirm control efficiency remains high and emission standards (where applicable) are met.	Prior to re-commissioning and ongoing	Maintenance logs, monthly inspections and stack emissions tests
	Installation of rooftop cameras enabling operators to identify when rooftop emissions are excessive. These cameras must be fit for purpose and maintained regularly as per manufacturers recommendations.	Prior to re-commissioning and ongoing	Maintenance and inspections logs
	Ensure operational inefficiencies of the furnace are reduced e.g. blocking of the tap hole.	Ongoing	Monthly operational performance reviews

Source	Specific Measures	Timeframe	Implementation Tracker
Stock Houses (incl. drying plant, blending plant & screen house)	Ensure all extraction equipment is maintained and serviced according to manufacturer's specifications, ensuring required extraction flow is maintained, as well as all leaks in extraction system are timeously repaired.	Prior to re-commissioning and ongoing	Maintenance logs and monthly inspections of extraction system
	Ensure baghouses are maintained according to manufacturer's specifications, with emission tests undertaken to confirm control efficiency remains high and emission standards (where applicable) are met.	Prior to re-commissioning and ongoing	Maintenance logs, monthly inspections and stack emissions tests
	General inspections of all activities within the furnace buildings identifying any activity contributing to fugitive dust and reporting this accordingly to ensure timely resolution.	Ongoing	Weekly inspections
Transfer Stations and Surge Bin	Ensure chemical additive sprayer on Transfer Station 3 (TS3) is always operational and maintained accordingly. Operations to stop if sprayer is not operational. Do inspections of all sprayers to confirm operational status.	Prior to re-commissioning and ongoing	Maintenance logs and weekly inspections
	Where possible, add strip curtains to transfer stations and / or improve station enclosures to contain fugitive emissions. Inspections to identify leaks / substantial emissions from transfer stations.	Prior to re-commissioning and ongoing	Weekly inspections
Side and Rotary Tipplers	Where possible, add strip curtains to reduce fugitive emissions from tipplers, especially from the main openings. During off-loading, undertake inspections of emissions identifying any substantial releases.	Prior to re-commissioning and ongoing	Inspections during off-loading
	Ensure all extraction equipment is maintained and serviced according to manufacturer's specifications, ensuring required extraction flow is maintained, as well as all leaks in extraction system are timeously repaired. Off-loading to only occur when extraction system is operational.	Prior to re-commissioning and ongoing	Maintenance logs and monthly inspections of extraction system
	Ensure chemical additive sprayer on the Rotary Tippler is always operational and maintained accordingly. Off-loading to stop if sprayer is not operational. Undertake inspections of all sprayers to confirm operational status.	Prior to re-commissioning and ongoing	Maintenance logs and weekly inspections

Source	Specific Measures	Timeframe	Implementation Tracker
	Ensure water sprayer on Side Tippler is always operational and maintained accordingly. Off-loading to stop if sprayer is not operational. Do inspections of all sprayers to confirm operational status.	Prior to re-commissioning and ongoing	Maintenance logs and weekly inspections
Stockpiles / Dumps and Exposed Areas	Identify exposed areas, not used for operations, and revegetate to reduce the amount of dust available for wind entrainment. Ensure vehicles cannot access these areas.	Prior to re-commissioning and ongoing	Quarterly inspections of exposed areas
	Install sprayers within stockpile areas focusing on those stockpiles prone to wind entrainment. This will only apply to materials that do not react to water.	Ongoing	Weekly inspection of sprayer systems
	Implement front end loader (FEL) operational improvements, such as reduced drop heights of materials, reduced FEL speeds, and reduced disturbance of stockpiles.	Ongoing	FEL operator training, weekly inspections.
	Implement access restrictions at stockpile yards reducing the number of vehicles within the areas e.g. light vehicles using the stockpile yards as thoroughfares.	Ongoing	Permission system for stockpile yard access
	Where vehicles are permitted to access the stockpile yards, ensure speed controls are implemented and enforced.	Ongoing	Implement speed control protocol, and reporting system
	Where possible, do not undertake material handling activities during windy conditions. Conditions exceeding 10 m/s, and blowing directly towards the nearest receptors, should be considered as windy.	Ongoing	Visible inspections
	Where material will not be required for the foreseeable future, and the stockpile is of a size that allows covering, cover the stockpile with hessian sheets to reduce the impact of wind on the stockpile.	Ongoing	Visible inspections
	Where possible, and relating to fine material stockpiles, install barriers around the stockpiles to reduce the impact of winds on stockpiles.	Prior to re-commissioning and ongoing	Quarterly inspections of stockpiles

Source	Specific Measures	Timeframe	Implementation Tracker
	Install cameras in stockyard enabling control rooms to identify events of high dust emissions resulting in either water tankers being directed to the area of emissions, or instruction to stop operations until windy conditions subsided.	Prior to re-commissioning and ongoing	Maintenance and inspections as per manufacturers recommendations
	Ensure water tanker deployed to stockyard during windy events.	Ongoing	Log sheets maintained, and routes clearly captured for auditing purposes.
	Establish vehicle routes within stockyards allowing dust control measures to be focused on these areas.	Prior to re-commissioning	Operator training and implementation of access-controlled areas
	Recommend use of chemical dust suppressant on stockyard roads and open areas. Prior to application, ensure all loose material is collected allowing the chemical suppressant to work effectively, e.g. road sweeping.	Ongoing	Weekly inspections
Reclaimer and Stacker	Ensure water sprayer on reclaimer is always operational and maintained accordingly. Operations to stop if sprayers are not operational. Do inspections of sprayer to confirm operational status.	Prior to re-commissioning and ongoing	Maintenance logs and weekly inspections
	Where possible, reduce drop heights of stacker, and cease operations during windy conditions.	Ongoing	Visible inspections
Conveyors	Ensure all conveyor enclosures are maintained and any leaks from enclosures sealed.	Ongoing	Visible inspections
	Ensure all longitudinal sprayers on CV102, CV103, CV105 and CV112 are operational at all times, and maintained accordingly. Conveyor operations to cease when these are not operational.	Prior to re-commissioning and ongoing	Maintenance logs and weekly inspections
	Ensure conveyor belts are maintained to reduce spillages.	Prior to re-commissioning and ongoing	Maintenance logs and weekly inspections

Source	Specific Measures	Timeframe	Implementation Tracker
Paved and Unpaved Roads	Implement and enforce speed limits and controls onsite.	Ongoing	Personnel training, visible inspections, and reporting program
	Implement access control for areas that are out of operation.	Ongoing	Quarterly review
	Conduct road sweeping and spillage collections, applicable to both paved and unpaved roads.	Ongoing	Visible inspections, and setup of reporting program for spillages
	Application of chemical dust suppressants to all unpaved roads, inclusive of stockyard roads for FEL operations.	Ongoing	Weekly inspections and application logs
	Frequent maintenance of vehicle fleet, inclusive of FELs, ensuring vehicle exhaust emissions are controlled.	Ongoing	Maintenance schedules, visible inspections and reporting system
Truck Loading Gantry and Hoppers	Install chutes on the truck loading gantry's reducing the impact of wind during loading.	Prior to re-commissioning and ongoing	Records of investigation and upgrades
	Reduce drop heights when FEL loading iron ore into hoppers	Ongoing	Visible inspections
	Ensure water sprayers on the hoppers are always operational and maintained accordingly. Cease operations if the sprayers are not operational.	Prior to re-commissioning and ongoing	Maintenance logs and weekly inspections
Logistics Hub	Ensure all material that has the potential to generate fugitive dust or is regarded as a hazardous material is stored and handled within a fully enclosed warehouse.	Prior to commissioning and ongoing	Visible inspections
	Conduct loading and off-loading of trucks to be conducted within a fully enclosed warehouse.	Prior to commissioning and ongoing	Visible inspections
	Ensure all enclosures are maintained and any leaks from enclosures sealed.	Prior to commissioning and ongoing	Visible inspections. Maintenance logs and weekly inspections

Source	Specific Measures	Timeframe	Implementation Tracker
	Ensure water sprayers within enclosure are always operational and maintained accordingly. Operations to stop if sprayers are not operational. Undertake weekly inspections of sprayer to confirm operational status.	Prior to re-commissioning and ongoing	Maintenance logs and weekly inspections
	Ensure skips and trucks are clean of material dust, spillages, and other material obtained from destination while in transit returning to site. Including tyres, wheel arches and undercarriages.	Prior to commissioning and ongoing	Visible inspections by security when trucks are entering / leaving premises, with logs kept
	Ensure skips and trucks are clean of material dust, spillages, and other material prior to exiting the warehouse and while on route to TPT. Including tyres, wheel arches and undercarriages.	Prior to commissioning and ongoing	Visible inspections by security when trucks are entering / leaving premises, with logs kept
	Ensure that skips and trucks are always covered while in transit, when empty and/or containing commodity.	Prior to commissioning and ongoing	Visible inspections by security when trucks are entering / leaving premises, with logs kept
	Ensure that skips and trucks are kept in a manner to prevent windblown fugitive dust even when empty and/or while in storage.	Prior to commissioning and ongoing	Personnel training, visible inspections, and reporting program
	Compile and implement a cleaning procedure for the cleaning of skips, trucks, and warehouses.	Prior to commissioning and ongoing	Training program
	Conduct road sweeping and spillage collections, applicable to the warehouse, and its entrance, and both paved and unpaved roads.	Prior to commissioning and ongoing	Visible inspections, and setup of reporting program for spillages
General	Improve general housekeeping, specifically focusing on the collection of all spilled material e.g. within furnace buildings, transfer stations, tipplers, around conveyors, logistics hub warehouse, spilled materials along roads, and spilled materials within stockpile yards etc.	On re-commissioning	Weekly inspections, with establishment of a clear reporting system when spillages are identified

Source	Specific Measures	Timeframe	Implementation Tracker
	General inspections of all activities onsite, including within buildings, e.g. furnace buildings, identifying any activity contributing to fugitive dust and reporting this accordingly to ensure timely resolution.	Ongoing	Weekly inspections, with establishment of a clear reporting system when spillages are identified
	Ensure all abatement equipment e.g. baghouses and scrubbers, are maintained according to manufacturer's specifications, with emission tests undertaken to confirm control efficiency remains high and emission standards (where applicable) are met.	Prior to re-commissioning and ongoing	Maintenance logs, monthly inspections and stack emissions tests
	Installation and maintenance of a weather station, capable of providing live data and alerts enabling operators to stop operations during windy conditions e.g. within the stockpile yards.	Ongoing	Monthly maintenance, and establishing training and reporting program for weather conditions
	Installation of a windsock within the stockpile yard providing operators with immediate information relating to wind direction and wind speed.	On re-commissioning	N/A
	Ensure spare parts are available for all dust suppression systems. Where possible, should dust suppression systems fail, operations to cease until repairs have been completed.	Ongoing	N/A
	Employee training and awareness raising ensuring e.g. visible fugitive emissions, spillages, or poor operator behaviour, are immediately reported to relevant personnel for addressing.	Ongoing	Training program

Table 7-3: Goal 2 – Dust monitoring and control effectiveness

Description	Action	Timeframe	Performance Indicator
Control Inspections	Inspection logs to be developed and training provided to all relevant personnel, applicable to all control measures where inspections are required. Ensure systems are developed for storing of logs to ensure availability for future audits.	On commissioning and ongoing	Review of inspection logs
	Ensure all equipment maintenance logs are compiled and saved, inclusive of all calibrations of equipment.	Ongoing	Review of maintenance records
Dust Fallout Monitoring	Continue monitoring existing sampling locations according to the National Dust Control Regulations (NDCR). Ensure monthly reports are compiled meeting the NDCR requirements.	Ongoing	Review of monitoring reports
	Submit monthly monitoring reports to the WCDM according to the agreed schedule.	Ongoing	Proof of submissions
	Immediately notify the WCDM when non-compliance occurs and implement a review of the FDMP and submit the revised plan to the WCDM for approval.	On occurrence of non-compliance	Review of dust fallout rates
	As mentioned previously, installation and maintenance of an onsite meteorological station, recognising the NDCR requires site representative data to be presented in dust fallout reports.	Ongoing	N/A
Ambient Continuous Monitoring	Install and commission a new continuous monitoring station, or re-commission the existing continuous monitoring station. Importantly, consider relocating the existing station to an area representative of ambient conditions i.e. offsite.	Prior to startup of steelmaking	N/A
	Ensure all monitors are maintained and calibrated according to supplier's specifications.	Ongoing	Maintenance and calibration certificates

Table 7-4: Goal 3 – Effective internal and external communications

Description	Action	Timeframe	Performance Indicator
Internal Communications	Ensure all personnel are trained appropriately to identify fugitive sources of dust emissions and understand the requirements to report elevated emissions.	Ongoing	Evidence of training and reporting structure
	Report to plant / process managers occurrences where the FDMP and its requirements or not being implemented.	Ongoing	Establish formal reporting structure / process
	Report to plant / process managers, Saldanha Steel EXCO and AMSA, dust monitoring performance and compliance status.	Ongoing	Establish formal reporting structure / process
	Report to plant / process managers, Saldanha Steel EXCO and AMSA, complaints received and findings of complaints investigations.	Ongoing	Establish formal reporting structure / process
External Communications	Ensure all reporting to the WCDM is conducted according to legislation, the AEL, or the WCDM requirements.	Ongoing	Evidence of submissions
	Ensure all reporting, such as to NAEIS, is undertaken as per the requirements of the AEL and relevant regulations.	Ongoing (annual)	Evidence of submissions
	Ensure a clear process / platform is available for complainants to log complaints.	Ongoing (review)	N/A
	Ensure all complaints are investigated timeously and according to the requirements of the AEL. Ensure all investigations are saved for future review.	Ongoing	Complaints investigations
	Provide feedback to complainants on findings of complaints investigations.	Ongoing	Evidence of feedback
	Where the complaints investigation identifies the cause occurred from onsite activities, ensure that relevant personnel are made aware and identify any deficiencies with the prescribed control measures, and revise accordingly.	Ongoing	Evidence of internal reporting

Description	Action	Timeframe	Performance Indicator
	Schedule routine meetings with the WCDM representatives to provide updates on operations onsite, future plans, and overall air quality performance. This will foster a strong relationship with the WCDM.	Ongoing	Recommend quarterly, or biannual
	Raise awareness of air quality performance, such as sharing of compliance status, fostering a strong relationship with stakeholders. Annual stakeholder engagement meetings should be considered or similar initiatives.	Ongoing	Annual sharing of summarised air quality data and status of operations.

8. MONITORING, EVALUATION AND REVIEW

This Fugitive Dust Management Plan must be viewed as a live, working document, with revisions occurring:

- At a minimum, the plan should be reviewed annually, ensuring it remains representative of activities occurring onsite, or
- Where deficiencies in control measures are identified, or where a new source of fugitive emissions is identified, this plan must be reviewed and updated accordingly, or
- When non-compliance with the dust fallout regulations occur.

Importantly, when the plan is revised:

- The revised plan must be submitted to the LA notifying of the amendments and requesting approval of the plan.
- Following receipt of the approved plan, revisions must be implemented onsite.
- All relevant onsite personnel must be made aware of the revisions, and especially important that training is provided to those who may be impacted by the changes.

9. REFERENCES

- Department of Environmental Affairs (2000): *Integrated Pollution and Waste Management Policy for South Africa.* Government Gazette (No. R 227 of 2000), 17 March 2000 (No. 20978)
- Department of Environmental Affairs (2009): National Ambient Air Quality Standards. Government Gazette (No. R 1210 of 2009), 24 December 2009 (No. 32816)
- Department of Environmental Affairs (2012): National Ambient Air Quality Standard for Particulate Matter with Aerodynamic Diameter less than 2.5 Micro Metres ($PM_{2.5}$). Government Gazette (No. R 486 of 2012), 29 June 2012 (No. 35463)
- Department of Environmental Affairs (2013): National Dust Control Regulations. Government Gazette (No. R 827 of 2013), 01 November 2013 (No. 36974)
- Department of Environmental Affairs: (2013): List of Activities which result in Atmospheric Emissions which have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage (No. R. 893), Government Gazette, 22 November 2013, (No. 37054), as amended by GN 551 in 2015 and GN 1207 in 2018.
- Department of Environmental Affairs (2018*): The 2017 National Framework for Air Quality Management in the Republic of South Africa* (No.R.1144 of 2018) Government Gazette, 26 October 2018 (No. 41996)
- South Africa (2005): *National Environmental Management: Air Quality Act* (No. R. 39 of 2004) Government Gazette, 24 February 2005 (No. 27318)
- WSP (2021): *Logistics Hub Atmospheric Impact Report (No 41103219, 1 of 1)*, 29 October 2021

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