

Annex G

Environmental Management Plan

1 ENVIRONMENTAL MANAGEMENT PLAN (PROJECT ENVIRONMENTAL SPECIFICATION)

1.1 TRANSNET EMP DOCUMENTATION

Transnet, with agreement from the Department of Environmental Affairs and Tourism, has created an Environmental Management Plan (EMP) that consists of three documents and is applied to all Transnet projects. The three EMP documents are:

- The Construction EMP (CEMP) see Appendix G1;
- The Standard Environmental Specification (SES) see Appendix G2; and
- The Project Environmental Specification (PES).

In brief, the CEMP outlines the roles and responsibilities during the construction phase. The SES provides generic guidance and mitigation for potential impacts while the PES outlines potential impacts and their mitigation that are specific to the project. All three documents are used by the contractor to draw up detailed method statements outlining their approach to construction taking all the potential generic and specific impacts into account.

The potential operational phase impacts are addressed in the generic Transnet Environmental Management System (EMS) and as such no operational impacts will be addressed in this chapter.

1.2 SITE ESTABLISHMENT

Refer to Section 3.1 of the SES (Appendix G2)

1.3 WASTE MANAGEMENT

Refer to Section 3.3 of the SES (Appendix G2)

1.4 VEHICLE AND EQUIPMENT REFUELLING

Refer to Section 3.5 of the SES (Appendix G2)

1.5 DUST MANAGEMENT

Refer to Section 3.8 of the SES (Appendix G2) for management measures and project specific mitigation measure are included below.

- The removal of vegetation will be limited to the construction areas only;
- Minimise disturbance of natural vegetation during right-of-way construction (e.g. transmission lines and erection of fences) to reduce potential erosion, run-off, and air-borne dust;

- Strip and store topsoil in separate stockpiles with mounds not exceeding 2 m in height to prevent wind-blown dust;
- Apply dust suppression that is appropriate, reasonable and practicable to the scale of the stock piles (it is anticipated that these will be small) that are based on accepted principles such as wetting. This would restrict the consumption of water and allow the contractor to implement other appropriate measures that could be equally effective e.g. dust suppressors, shade cloth etc.;
- Access roads should be wetted down where reasonable and practicable to limit dust generation;
- Construction material being transported by trucks will be suitably moistened or covered to prevent dust generation;
- Legal speed restrictions will be implemented on construction sites and access roads to limit dust entrainment by vehicles;
- Verges, cuttings, lay-down areas and construction areas will be re-vegetated according to specific site conditions as soon as the construction activity is completed and in accordance with the operational or post-construction utilisation of that particular portion of the site.;
- Material in transit will be loaded and contained within the load bin of the vehicle in such a way as to prevent any spillage onto the roads and the creation of dust clouds. If necessary, the load bin of the vehicle will be covered with a tarpaulin to prevent dust;
- Minimise haulage distances, if possible; and
- Environmentally friendly soil stabilisers may be used as additional measures to control dust on gravel roads and at construction work areas.

1.6 *STORM WATER AND DEWATERING*

Refer to Section 3.9 of the SES (Appendix G2)

1.7 *REHABILITATION*

Refer to Section 3.11 of the SES (Appendix G2)

1.8 *NOISE MANAGEMENT*

Refer to Section 3.12 of the SES (Appendix G2) for management measures, project specific mitigation measure are included below.

- Operate equipment within its specification and capacity so as not to result in overload or ineffective operation;
- Regularly maintain equipment (particularly with regards to lubrication) and vehicles (exhausts) so that they operate efficiently;
- Operate equipment with appropriate noise abatement accessories, such as sound hoods, where required;

- Drive at the legal speed limit on public, gravel and private roads to limit the noise generated;
- Restrict construction activities to daylight hours that are reasonable and practicable to the specific site conditions and compliance with the relevant legislation is required in cases where activities are to be undertaken at night; and
- Sensitive social receptors (e.g. surrounding towns or landowners) will be given adequate notice of when noisy activities, such as blasting, will occur (if applicable).

1.9 *PROTECTION OF HERITAGE RESOURCES*

Refer to Section 3.13 of the SES (Appendix G2) for management measures, project specific mitigation measure are included below.

- A chance-find procedure will be implemented so that in the event of graves or stone age artefacts/fossils being uncovered, the Environmental Officer (EO)/Site Engineer will take the appropriate action, which includes:
 - Stopping work in the immediate vicinity and fencing off the area with tape to prevent further access;
 - Reporting the discovery to the provincial heritage agency and/or SAHRA;
 - Appointing a local archaeological/palaeontological expert to inspect the artefacts/fossils;
 - Implementing further mitigation measures proposed by the expert; and
 - Allowing work to resume only once clearance is given in writing by the relevant authorities.
- In the case of a chance-find of a grave, the South African Heritage Resources Agency (SAHRA) will be contacted and arrangements made for an undertaker to carry out exhumation and reburial. The undertaker will, together with SAHRA, be responsible for attempts to contact family of the deceased and for the site where the exhumed remains can be re-interred. A detailed process would be stipulated by SAHRA prior to undertaking any form of exhumation.

1.10 *FIRE PREVENTION*

Refer to Section 3.14 of the SES (Appendix G2)

1.11 *WATER PROTECTION AND MANAGEMENT*

Refer to Section 3.15 of the SES (Appendix G2)

1.12 *PROTECTION OF FAUNA AND THE COLLECTION OF FIREWOOD*

Refer to Section 3.16 of the SES (Appendix G2)

1.13 *ENVIRONMENTAL AWARENESS TRAINING*

Refer to Section 3.17 of the SES (Appendix G2)

1.14 *PREVENTION OF VEGETATION LOSS OR DISTURBANCE*

The objective of mitigation is to minimise the impacts on vegetation communities, faunal habitats and species diversity. Specific measures include:

- An alien invasive and weedy species removal programme will be implemented throughout the construction phase and the site will be regularly (biannually) inspected for the re-establishment of invader species and the follow-up removal thereof.
- All declared invader and weed species occurring on site and within the rail reserve will be eradicated.
- All plant material that is cleared should be removed from the site, to a designated storage area (in the case of replanting) or waste site so that seeds cannot disperse.
- Cleared areas will be succeeded by proper soil stabilisation procedures and rehabilitation to prevent soil erosion.
- Establish the footprint of laydown areas as far as possible on existing disturbed areas.
- The extent of the laydown/construction area will be fenced-off and all materials and equipment will be restricted to this work area.
- The extent of the construction site will be demarcated on the site layout plans, and no construction personnel or vehicles will be allowed to encroach beyond the demarcated area without prior authorisation to do so.
- A qualified local botanist will be appointed to supervise the identification, marking and transferring of plant taxa, where required. This is only expected to occur at sites where protected vegetation species are directly impacted and require removal.

- Regular checks will be carried out by the EO or Site Engineer to identify areas where erosion is occurring as a result of the vegetation removal. Appropriate remedial action, including the rehabilitation of the eroded areas, and where necessary, the relocation of the paths/sources causing the erosion, will be undertaken.
- Where necessary, special erosion prevention/ protection measures will be implemented.
- Topsoil removed (during levelling of areas where loops are to be constructed in levelling of laydown areas and yards or topsoil removal at access roads) should be kept separate and used for vegetation rehabilitation purposes.
- The extent of the construction site will be demarcated on the site layout plans, and no construction personnel or vehicles will leave the demarcated area without authorisation to do so.
- Construction vehicles should be restricted to driving during daylight hours only. This will reduce the likelihood of 'road kills'.
- As a minimum, the legal speed limit on public roads will be enforced on all drivers.
- Hunting, the unnecessary destruction of burrow systems or nesting sites and interactions with wildlife will be prohibited.
- Littering at work sites and in adjacent areas will be prohibited. Suitable facilities will be provided for waste management.
- Contractors, labourers and visitors will be educated on the regulations and good practice regarding general housekeeping and the ecological process, biodiversity value and function of the area, during induction or their first visit to the site (in the form of a pamphlet or training session).

1.15

SOCIAL ISSUES

Project specific measures aimed at addressing and mitigating social issues are outlined below.

The scope with respect to social issues is as follows:

- Ensure that the project activities do not place any direct pressure on the already strained local infrastructure and services;
- Minimise the transmission of diseases and reduce their impact on the health of employees/contractors to the lowest possible level, through effective control measures;

- Limit, where possible, social pathologies brought about by in-migration into the project area; and
- Ensure that Transnet and contractors manage their employees in such a way that the impacts on local communities are limited.

- Transnet to minimise the damage to farmland caused by construction activities by ensuring strict compliance with construction plans to minimise the development footprint and to implement a 'Code of Conduct' governing workers.

- The Code of Conduct must address the following aspects:
 - respect for local residents;
 - respect for farm infrastructure and agricultural activities;
 - no hunting or unauthorised taking of products or livestock;
 - compliance with the Traffic Management Plan and all road regulations; and
 - description of disciplinary measures for infringement of the Code of Conduct and company rules.

- If workers are found to be in contravention of the Code of Conduct, which they signed at the commencement of their contract, they will face disciplinary procedures that could result in dismissal.

- Transnet will consult the affected landowners to discuss sensitive areas on their property and design the infrastructure layout in a manner that limits impact on agricultural activities or infrastructure.

- Any damage to natural vegetation (specifically grazing) will be rehabilitated in accordance with mitigation proposed for the rehabilitation of natural vegetation.

- Construction activities to be undertaken according to a schedule that is agreed upon with the landowners.

- Construction workers to ensure that the gates are closed at all times and that any damage to the infrastructure is repaired immediately.

- Transnet will implement a grievance procedure that is easily accessible to local communities, through which complaints related to contractor or employee behaviour can be lodged and responded to. Transnet will respond to all such complaints. Key steps of the grievance mechanism include:
 - Circulation of contact details of 'grievance officer' or other key Transnet contact.
 - Awareness raising among local communities (including all directly affected and neighbouring farmers) regarding the grievance procedure and how it works.

- Establishment of a grievance register to be updated by Transnet, including all responses and response times.

1.16 *TRAFFIC HAZARDS AND DISRUPTION*

Minimise the potential traffic hazards and disruption. Specific measures include:

- The impacts of delivery trucks during construction can be reduced by transporting more construction materials via rail;
- The impacts on the existing traffic can be reduced by scheduling the arrivals and departures of construction vehicles;
- Educate both the construction crew and the local community on traffic safety and possible hazards arising from the construction activities;
- All warning, regulatory and prohibition signs recommended by the National Department of Transportation, *South African Roads Traffic Signs Manual (SARTSM)* should be implemented;
- All regulatory and warning signs recommended by the National Department of Transportation, *South African Roads Traffic Signs Manual (SARTSM)* should be adhered to; and
- All plans and specifications should provide details on how the traffic control operations are to be carried out.

1.17 *DOCUMENTATION*

Refer to Section 4 of the SES (Appendix G2)

1.17.1 *Records*

Refer to Section 5 of the SES (Appendix G2)