KWAZULU-NATAL PROVINCE

ECONOMIC DEVELOPMENT, TOURISM AND ENVIRONMENTAL AFFAIRS

REPUBLIC OF SOUTH AFRICA

KWAZULU-NATAL PROVINCIAL WATERCOURSE INFRASTRUCTURE STANDARD AND ASSOCIATED EXCLUDED ACTIVITIES

KWAZULU-NATAL PROVINCIAL WATERCOURSE INFRASTRUCTURE STANDARD AND ASSOCIATED EXCLUDED ACTIVITIES

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CHAPTER 1

INTERPRETATION, PURPOSE AND APPLICATION

Definitions

1. In this Standard, unless the context indicates otherwise, a word defined in the National Environmental Management Act, 1998 (Act No. 107 of 1998) or the Environmental Impact Assessment Regulations has the same meaning, and–

"**competent authority**" means the organ of state that would have been designated by section 24C of the Act, in respect of a listed activity or specified activity;

"**days**" means calendar days, excluding public holidays and the period 15 December to 5 January;

"**environmental control officer**" means a suitably qualified and experienced environmental assessment practitioner appointed by the proponent to monitor and audit all activities carried out in undertaking a registered project;

"**Environmental Impact Assessment Regulations**" means the Environmental Impact Assessment Regulations, 2014 published in terms of section 24(5) of the Act under Government Notice No. R. 982 in Government *Gazette* No. 38282 of 4 December 2014, as amended from time to time;

"**environmental management framework**" means an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;

"**environmentally sensitive areas**" means areas, either within or near to a project footprint, that may be identified by an environmental control officer as being sensitive or vulnerable due to its location, susceptibility to degradation, natural state, social sensitivity or any other environmental factors, and that require specific attention in avoiding and mitigating impacts;

"estuary" means a body of surface water that is permanently or periodically open to the sea; in which a rise and fall of the water level as a result of the tides is measurable at spring tides when the body of surface water is open to the sea; or, in respect of which the salinity is higher than fresh water as a result of the influence of the sea, and where there is a salinity gradient between the tidal reach and the mouth of the body of surface water;

"estuarine functional zone" means the area in and around an estuary which includes the open water area, estuarine habitat (such as sand and mudflats, rock and plant communities) and the surrounding floodplain area, as defined by the area below the 5m topographical contour (referenced from the indicative mean sea level);

"**excluded activity**" means an activity identified in Annexure 1 to this Schedule that is excluded from the requirement to obtain an environmental authorisation;

"**formalisation**" means the formal establishment of infrastructure and structures to provide permanent vehicle or pedestrian access along existing, well-established informal tracks and pedestrian paths;

"**Generic EMPr**" means the generic environmental management programme as contained in Annexure 2, and includes all method statements or standard operating procedures approved for the registered project;

"**method statements**" means written site specific specifications linked to the Generic EMPr setting out the methods that the contractor will use to carry out an activity and approved by the contractor, the proponent and the environmental control officer as contemplated in the Generic EMPr;

"**mitigation measure**" means a set of actions undertaken as part of a commitment to avoid, reduce and remedy environmental impacts;

"**National Appeal Regulations**" means the regulations pertaining to the processing, consideration of and decisions on appeals, made under section 44(1)(a), read with section 43(4), of the Act;

"**project**" means an activity or set of activities undertaken for the formalisation, repair, replacement or upgrade of existing community access roads, pedestrian bridges or watercourse crossings or the repair, replacement or upgrade of existing water and sanitation reticulation infrastructure;

"**project types**" means the activities that fall within the defined criteria and thresholds contained in Annexure 1 to this Schedule;

"**proponent**" means the developer or person that intends to undertake an excluded activity, or is the holder of a registration number for a registered project and is also responsible for ensuring compliance with the Standard and Generic EMPr;

"**registered project**" means a project that falls within the scope of the Standard and that has been registered with the competent authority;

"**riparian rehabilitation**" means the stabilisation of riparian areas with the aim of preventing, halting or reversing stream bank degradation and erosion and improving the health of the watercourse and the ecological services that it delivers;

"**the Act**" means the National Environmental Management Act, 1998 (Act No. 107 of 1998);

"the Standard" means the KwaZulu-Natal Provincial Watercourse Infrastructure Standard, 2023; and

"**watercourse infrastructure**" means the construction, building or establishment of physical structures within a watercourse or wetland, or within 32m of the edge of either a watercourse or wetland.

Purpose of the Standard

2. The purpose of the Standard is to provide rules which must be complied with, ensuring –

   (a) compliance with the principles contained in section 2 of the Act and duty of care, in terms of section 28 of the Act;
   (b) environmental management measures are implemented to effectively mitigate environmental impacts; and
   (c) sustainable socio-economic development within the KwaZulu-Natal Province.

Application of the Standard

3. (1) The provisions of the Standard are applicable to the project types and associated excluded activities as contemplated in Annexure 1, when undertaken within KwaZulu-Natal province.

(2) The provisions of the Standard are not applicable if–

(a) the project requires environmental authorisation for any activity not contained in Annexure 1 of the Schedule, in which case environmental authorisation must be obtained for the entire proposed project, development or expansion;
(b) any portion of the project is intended to be undertaken outside of the KwaZulu-Natal province;
(c) any portion of the project has commenced prior to its registration as a registered project; or
(d) such excluded activity forms part of a mining application or constitutes a mining activity.

(3) Compliance with the Standard does not negate the obligation of the proponent to comply with all other applicable legislation.

CHAPTER 2

PROCEDURAL REQUIREMENTS

Notification and Registration

4. (1) A proponent must submit to the competent authority a KZN Watercourse Standard registration request form available from the competent authority, and must provide -

(a) a report from the national web based environmental screening tool, as contemplated in the Environmental Impact Assessment Regulations;
(b) a report from any relevant environmental management framework;
(c) a copy of the Generic EMPr and any associated site specific project method statements or standard operating procedures;
(d) a detailed site plan in accordance with the requirements specified in the Generic EMPr as set out in Annexure 2;
(e) where relevant, infrastructure design diagrams approved by a registered engineer;
(f) a letter of consent for the registration of the project from the owner or person in control of the land where the registered project is proposed to be undertaken, should the proponent not be the owner or person in control of the land where the registered project is to be undertaken; and
(g) a signed declaration by the proponent of acknowledgement to comply with the Standard and Generic EMPr.

(2) The competent authority must, within 30 days of receipt of the request to register the project, issue a registration number to the proponent or decline to register the project should the project not fall within the scope of the Standard.

(3) The competent authority must draw the attention of the proponent to the fact that an appeal may be submitted in terms of section 43 of the Act and the National Appeal Regulations against the decision to register the project or to decline registration of the project.

(4) The proponent must, within 14 days of the date of the decision to register the project or to decline the registration of the project, notify the parties contemplated in subparagraphs (a)-(e) of the decision and that an appeal may be submitted against the decision in terms of section 43 of the Act and the National Appeal Regulations, by giving written notice of the decision, to–

(a) the occupiers of the land and, if the proponent is not the owner or person in control of the land on which the registered project is to be undertaken, the owner or person in control of the land where the registered project is to be undertaken;
(b) owners, persons in control of, and occupiers of land within 100 metres of the site where the registered project is to be undertaken;

(c) the municipal councillor of the ward within which the registered project is to be undertaken, and any organisation of ratepayers that represent the community in that area;
(d) the municipality that has jurisdiction in the area; and
(e) any organ of state that has jurisdiction in respect of any aspect of the activity.

(5) The proponent must commence with a registered project within 5 years of the registration of the project contemplated in subparagraph (2) and must notify the competent authority, in writing, at least 14 days prior to such commencement, which notification must include—
(a) the registration number;
(b) the date on which it is anticipated that the registered project will commence; and
(c) the name and contact details of the appointed environmental control officer and a declaration of independence of such appointed environmental control officer.

(6) Registration lapses if commencement does not occur within 5 years of the date of registration of the project and the process contemplated in subparagraphs (1) – (4) will apply afresh in such instances.

(7) The competent authority must keep an inventory of all registered projects, including as a minimum the—
(a) name of the proponent;
(b) project name and description;
(c) registration number and excluded activities;
(d) erf number and geographic coordinates where the registered project is to occur;
(e) date on which the registration number of the project was issued; and
(f) validity period of the registration.

(8) The proponent must make available proof of registration-
(a) on site at all times during the site establishment, construction and rehabilitation phases;
(b) on request; and
(c) where the proponent has a website, on such publicly accessible website.

(9) Where a change of proponent of a registered project in terms of subparagraph (2) occurs, the new proponent must submit to the competent authority a duly completed change of proponent form available from the relevant competent authority, within 30 days of the completion of such change.

(10) The proponent must submit, in writing, any proposed changes to, or deviations from the information set out in the request for registration submitted to the competent authority, before such changes or deviations may be effected, and these proposed changes or deviations must accord with the Standard and Generic EMPr.

(11) The proponent must notify all parties contemplated in subparagraph (4) of any changes or deviations effected to the registered project.

CHAPTER 3

ENVIRONMENTAL MANAGEMENT SPECIFICATIONS

Generic Environmental Management Programme

5. The proponent must undertake a registered project in accordance with the Generic EMPr contemplated in Annexure 2 to this Schedule, which Generic EMPr must be supplemented with site specific measures to include –
    (a) method statements, or standard operating procedures where appropriate, for the management of:
        (i) storm water management;
        (ii) waste management;
        (iii) spill contingency;
        (iv) alien plant management; and
        (v) the rehabilitation of the site; and

    (b) a site plan and any infrastructure design diagrams.

CHAPTER 4

COMPLIANCE, MONITORING AND REPORTING

Compliance

6. (1) The proponent must ensure compliance with the Standard, the Generic EMPr and any approved method statements or standard operating procedures, as submitted with the request to register the project.

(2) The proponent must ensure that all parties operating on the site are made aware of the requirements to comply with the Generic EMPr and approved method statements or standard operating procedures.

(3) A proponent commits an offence in terms of section 49A(1)(bA) of the Act if that proponent contravenes or fails to comply with paragraphs 4(1), 4(5), 4(6), 4(9), 4(10), 4(11), 4(12) or paragraph 5.

(4) A person commits an offence in terms of section 49A(1)(d) if a project is commenced with without registration of such project in accordance with this Standard.

Appointment of an Environmental Control Officer

7. (1) The proponent must appoint, at own cost, an environmental control officer in order to monitor and audit compliance with the Standard, the Generic EMPr and any approved method statements or standard operating procedures for the registered project for the duration of the construction and rehabilitation phases of the registered project.

(2) The environmental control officer must ensure that –
    (a) a duly signed declaration of independence of the environmental control officer, is submitted by the proponent to the competent authority;
    (b) the requirements of the Standard are implemented and that there is compliance with the provisions and mitigation measures included in the Generic EMPr and approved method statements or standard operating procedure;
    (c) environmentally sensitive areas and designated work areas are identified and demarcated prior to construction commencing, and remain clearly demarcated and protected throughout the construction phase;

(d) records are maintained relating to monitoring and auditing of the registered project, and that these records are made available for inspection on request by the competent authority and other relevant authorities;
(e) site inspections of the registered project are conducted, at least once every 14 days during the construction phase, to monitor and document compliance with the Standard, the Generic EMPr and approved method statements or standard operating procedures of the Standard; and
(f) monthly audit reports, that substantially comply with the requirements of an environmental audit report as contemplated in the Environmental Impact Assessment Regulations, read in the context of the Standard, are submitted to the competent authority for the duration of the construction and rehabilitation phases.

(3) The environmental control officer must submit a final environmental audit and close-out report that meets the minimum requirements of an environmental audit report as contemplated in the Environmental Impact Assessment Regulations, read in the context of the Standard, to the competent authority within 30 days of the completion of construction activities for the registered project.

(4) Should the appointed environmental control officer for the registered project change at any time for any reason, the proponent must–
(a) appoint, at own cost, an independent environmental control officer, to replace the appointed environmental control officer for the remaining duration of the construction and rehabilitation phases of the registered project; and
(b) notify the competent authority, in writing and within 14 days of that change, of the reason for the change and provide the contact details of the new environmental control officer and the declaration of independence signed by the new environmental control officer.

Authority inspections

8. The proponent must provide the competent authority and any designated environmental management inspector with access to the site where the registered project is being undertaken, without prior notification, for the purposes of monitoring compliance with the Standard, Generic EMPr and any approved method statements or standard operating procedures.

CHAPTER 5

TRANSITIONAL ARANGEMENTS

Transitional arrangements

9. (1) An environmental authorisation issued prior to the coming into effect of the Standard, for an activity or activities that fall within the scope of the Standard, remains valid and subject to the requirements of the Environmental Impact Assessment Regulations and conditions set out in such environmental authorisation.

(2) Where an application for environmental authorisation for an activity falling within the scope of this Standard is pending at the time of coming into effect of the Standard, such application must, despite the publication of the Standard or the coming into effect of the Standard, be dispensed with in terms of the Environmental Impact Assessment Regulations and if environmental authorisation is issued for such application, such environmental authorisation remains valid and the Standard does not apply.

(3) An application for environmental authorisation as contemplated in subparagraph (2) may be withdrawn at any time prior to a decision being made on such application.

Short title and commencement

10. This Standard is called the KwaZulu-Natal Provincial Watercourse Infrastructure Standard, 2023, and comes into effect 60 days from date of publication in the *Gazette*.

ANNEXURE 1
LIST OF PROJECT TYPES AND EXCLUDED ACTIVITIES

Local access road culverts, causeways and bridges

PROJECT TYPE: LOCAL ACCESS ROADS CULVERTS, CAUSEWAYS AND BRIDGES	
Inclusion criteria	• The formalisation of existing local access roads or tracks, through the installation, replacement, upgrade or repair of culverts, causeway or bridge infrastructure, within a watercourse or within 32 meters of the edge of a watercourse, with a finished road width of 8 metres or less; • The expansion or widening of existing culverts, causeway or bridge infrastructure, within a watercourse or within 32 meters of the edge of a watercourse, where the existing structure will not be widened by more than 3 metres either side of the existing structure; or • The replacement of, upgrade to or repair of existing culverts, causeway or bridge infrastructure, within a watercourse or within 32 meters of the edge of a watercourse, that will not be widened.
Eliminating criteria	• The culvert, causeway or bridge project is integral to or forms part of a larger initiative that requires environmental authorisation for any activity not excluded in terms of the Standard, in which case environmental authorisation must be obtained for all applicable identified activities related to the entire proposed project, development or expansion; or • Culverts, causeways or bridges to be installed, replaced, upgraded or repaired within estuaries or estuarine functional zones.
ONLY IF THE PROPOSED PROJECT MEETS THE INCLUSION CRITERIA AND IS NOT WITHIN ANY OF THE ELIMINATING CRITERIA ABOVE MAY THE ACTIVITIES LISTED BELOW BE EXCLUDED FROM OBTAINING ENVIRONMENTAL AUTHORISATION	
Activities excluded from obtaining environmental authorisation if the project type for local access road culverts, causeways and bridges meets the inclusion criteria	**Environmental Impact Assessment Regulations: Listing Notice 1** (1) **activity 12(ii)** – infrastructure or structures of 100m^2 or more within watercourse or 32m of the edge of a watercourse; (2) **activity 19** – the infilling or excavation of 10m^3 or more of material in or from a watercourse; and (3) **activity 48(i)** – the expansion of infrastructure or structures by 100m^2 or more within a watercourse or 32m of the edge of a watercourse. **Environmental Impact Assessment Regulations: Listing Notice 3** (1) **activity 12(d)(iv) and (xii)** – the clearance of 300m^2 or more of indigenous vegetation within (iv) defined sensitive areas in an adopted EMF, and (xii) within proclaimed threatened or endangered ecosystems; (2) **activity 14(ii)** – infrastructure or structures of 10m^2 or more within all defined Listing Notice 3 geographic areas in KwaZulu-Natal; and

	(3) **activity 23(ii)** – the expansion of infrastructure or structures by 10m^2 or more within all defined Listing Notice 3 geographic areas in KwaZulu-Natal.

Pedestrian bridges

PROJECT TYPE: PEDESTRIAN BRIDGES	
Inclusion criteria	• Pedestrian bridges along existing formally or informally established watercourse crossings, where the width of the pedestrian bridge, within a watercourse or within 32 meters of the edge of a watercourse, will not exceed a maximum of 3.5 metres; or • The expansion, replacement, upgrade or repair of existing pedestrian bridge infrastructure, within a watercourse or within 32 metres of the edge of a watercourse, where the pedestrian bridge will have a maximum finished surface width of 3.5 metres.
Eliminating criteria	• The pedestrian bridge project is integral to or forms part of a larger initiative that requires environmental authorisation for any activity not excluded in terms of the Standard, in which case environmental authorisation must be obtained for all applicable identified activities related to the entire proposed project, development or expansion; or • Pedestrian bridges to be developed, replaced, repaired or expanded within estuaries or estuarine functional zones.
ONLY IF THE PROPOSED PROJECT MEETS THE INCLUSION CRITERIA AND IS NOT WITHIN ANY OF THE ELIMINATING CRITERIA ABOVE MAY THE ACTIVITIES LISTED BELOW BE EXCLUDED FROM OBTAINING ENVIRONMENTAL AUTHORISATION	
Activities excluded from obtaining environmental authorisation if the project type for pedestrian bridges meets the inclusion criteria	**Environmental Impact Assessment Regulations: Listing Notice 1** (1) **activity 12(ii)** – infrastructure or structures of 100m^2 or more within watercourse or 32m of the edge of a watercourse; (2) **activity 19** – the infilling or excavation of 10m^3 or more of material in or from a watercourse; and (3) **activity 48(i)** – the expansion of infrastructure or structures by 100m^2 or more within a watercourse or 32m of the edge of a watercourse. **Environmental Impact Assessment Regulations: Listing Notice 3** (1) **activity 12(d)(iv) and (xii)** – the clearance of 300m^2 or more of indigenous vegetation within (iv) defined sensitive areas in an adopted EMF, and (xii) within proclaimed threatened or endangered ecosystems;

	(2) **activity 14(ii)** – infrastructure or structures of 10m^2 or more within all defined Listing Notice 3 geographic areas in KwaZulu-Natal; and (3) **activity 23(ii)** – the expansion of infrastructure or structures by 10m^2 or more within all defined Listing Notice 3 geographic areas in KwaZulu-Natal.

Water and sewer pipelines

PROJECT TYPE: WATER AND SEWER PIPELINES	
Inclusion criteria	• The replacement, upgrade or repair of existing water, storm water or sewer pipe infrastructure, within a watercourse or within 32 meters of the edge of a watercourse, where the replaced, upgraded or repaired pipe infrastructure capacity will not be expanded; or • The expansion, replacement, upgrade or repair of existing water, storm water or sewer pipe infrastructure within a watercourse or within 32 meters of the edge of a watercourse, where the replaced or expanded infrastructure will not exceed a maximum internal diameter of 0.36 metres.
Eliminating criteria	• The water, storm water or sewer pipe infrastructure is integral to or forms part of a larger initiative that requires environmental authorisation for any activity not excluded in terms of the Standard, in which case environmental authorisation must be obtained for all applicable identified activities related to the entire proposed project, development and/or expansion; or • Water, storm water or sewer pipe infrastructure is to be expanded, replaced, upgraded or repaired within estuaries or estuarine functional zones.
ONLY IF THE PROPOSED PROJECT MEETS THE INCLUSION CRITERIA AND IS NOT WITHIN ANY OF THE ELIMINATING CRITERIA ABOVE MAY THE ACTIVITIES LISTED BELOW BE EXCLUDED FROM OBTAINING ENVIRONMENTAL AUTHORISATION	
Activities excluded from obtaining environmental authorisation if the project type for water and sewer pipelines meets the inclusion criteria	**Environmental Impact Assessment Regulations: Listing Notice 1** (1) **activity 12(ii)** – infrastructure or structures of 100m^2 or more within watercourse or 32m of the edge of a watercourse; (2) **activity 19** – the infilling or excavation of 10m^3 or more of material in or from a watercourse; and (3) **activity 48(i)** – the expansion of infrastructure or structures by 100m^2 or more within a watercourse or 32m of the edge of a watercourse. **Environmental Impact Assessment Regulations: Listing Notice 3** (1) **activity 12(d)(iv) and (xii)** – the clearance of 300m^2 or more of indigenous vegetation within (iv) defined sensitive areas in an adopted EMF, and (xii) within proclaimed threatened or endangered ecosystems; (2) **activity 14(ii)** – infrastructure or structures of 10m^2 or more within all defined Listing Notice 3 geographic areas in KwaZulu-Natal; and (3) **activity 23(ii)** – the expansion of infrastructure or structures by 10m^2 or more within all defined Listing Notice 3 geographic areas in KwaZulu-Natal.

ANNEXURE 2

GENERIC ENVIRONMENTAL MANAGEMENT PROGRAMME FOR KZN PROVINCIAL WATERCOURSE INFRASTRUCTURE STANDARD

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LIST OF ABBREVIATIONS AND DEFINITIONS

ABBREVIATIONS

CBA	critical biodiversity area
CA	competent authority
EDTEA	Department of Economic Development, Tourism and Environmental Affairs
EA	environmental authorisation
ECO	environmental control officer
EMPr	environmental management programme
GPS	global positioning system
IAP	interested and affected party
KZN	KwaZulu-Natal
MSDS	material safety data sheet
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NWA	National Water Act, 1998 (Act No. 36 of 1998)
OHSA	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)
SOP	standard operating procedures

DEFINITIONS

In this Generic EMPr, unless the context indicates otherwise, a word defined in the National Environmental Management Act, 1998 (Act No. 107 of 1998) or the Environmental Impact Assessment Regulations has the same meaning" and–

"**competent authority**" means the organ of state that would have been designated by section 24C of the Act in respect of a listed activity or specified activity;

"**days**" means calendar days, excluding public holidays and the period 15 December to 5 January;

"**environmental control officer**" means a suitably qualified and experienced environmental assessment practitioner appointed by the proponent to monitor and audit all activities carried out in undertaking a registered project;

"**Environmental Impact Assessment Regulations**" means the Environmental Impact Assessment Regulations, 2014 published in terms of section 24(5) of the Act, under Government Notice No. R. 982 in Government *Gazette* No. 38282 of 4 December 2014, as amended from time to time;

"**environmentally sensitive areas**" means areas, either within or near to a project footprint, that may be identified by an environmental control officer as being sensitive or vulnerable due to its location, susceptibility to degradation, natural state, social sensitivity or any other environmental factors, and that require specific attention in avoiding and mitigating impacts;

"**excluded activity**" means an activity identified in the schedule and as specified in Appendix 1 of the KZN Provincial Watercourse Infrastructure Standard, that is excluded from the requirement to obtain an environmental authorisation;

"**formalisation**" means the formal establishment of infrastructure and structures to provide permanent vehicle or pedestrian access along existing, well-established informal tracks and pedestrian paths;

"**Generic EMPr**" means the generic environmental management programme contained in Annexure 2 of the Standard, and includes all method statements or standard operating procedures approved for the registered project;

"**method statements**" means written site specific specifications linked to the Generic EMPr setting out the methods that the contractor will use to carry out an activity and approved by the contractor, the proponent and the environmental control officer as contemplated in the Generic EMPr;

"**mitigation measure**" means a set of actions undertaken as part of a commitment to avoid, reduce and remedy environmental impacts;

"**project**" means an activity or set of activities undertaken for the formalisation, repair, replacement or upgrade of existing community access roads, pedestrian bridges or watercourse crossings, or the repair, replacement or upgrading of existing water and sanitation reticulation infrastructure;

"**proponent**" means the developer or person that intends to undertake an excluded activity, or is the holder of a registration number for a registered project and is also responsible for ensuring compliance with the Standard and Generic EMPr;

"**registered project**" means a project that falls within the scope of the Standard and that has been registered with the competent authority;

"**riparian rehabilitation**" means the stabilisation of riparian areas with the aim of preventing, halting or reversing stream bank degradation and erosion and improving the health of the watercourse and the ecological services that it delivers;

"**the Act**" means the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended;

"**the Standard**" means the KwaZulu-Natal Provincial Watercourse Infrastructure Standard, 2023; and

"**watercourse infrastructure**" means the construction, building or establishment of physical structures within a watercourse or wetland, or within 32m of the edge of either a watercourse or wetland.

PART A: CONTEXT, PURPOSE AND APPLICATION OF THE GENERIC EMPr

1. BACKGROUND AND CONTEXT

Essential community services, including community access roads, pedestrian bridges or for the provision of community water or sanitation infrastructure a fundamental role in social well-being and economic development by linking communities to basic needs and services and facilitating local economic development and employment opportunities.

The Act provides a framework for the development, adoption and implementation of a variety of environmental management instruments. A Standard and Generic EMPr has been developed in terms of sections 24(2)(d) and (10) of the Act, containing measures to be complied with as an appropriate tool for the management of environmental impacts associated with watercourse infrastructure related to specific basic service delivery projects within KwaZulu-Natal.

The Standard establishes the processes and procedures for identified watercourse infrastructure activities that may be excluded from obtaining EA, subject to registration of these projects with the competent authority and adherence of the projects to the Generic EMPr.

2. PURPOSE

The purpose of the Generic EMPr is to manage and mitigate any potential environmental impacts associated with undertaking activities identified in the Standard.

It is necessary to ensure that an exclusion is based on compliance with generally acceptable impact management measures and legislative requirements, including-

a) ensuring compliance with the principles contained in section 2 and the duty of care requirements contained in section 28 of the Act; and
b) establishing impact management measures and actions to ensure that the impacts associated with infrastructure projects are avoided, or where these cannot altogether be avoided, mitigated and/or remedied.

3. SCOPE

3.1. Extent of application

This Generic EMPr applies to all registered projects.

All registered projects identified in the Standard must utilise and comply with the Generic EMPr to manage environmental impacts.

4. ROLES AND RESPONSIBILITIES

4.1. Context

The Generic EMPr establishes the institutional framework and gives guidance and defines responsibilities and reporting lines for each role-player involved in the successful implementation of the Generic EMPr.

4.2. Competent authority

a. The competent authority may be either the Minister or the KwaZulu-Natal MEC.
b. The competent authority will be responsible for registering a project on receipt of a complete registration request.
c. The competent authority shall register the project and keep records of all registered projects.
d. The competent authority will monitor compliance with the Standard and the Generic EMPr.

4.3. Proponent

a. The proponent is responsible for overall environmental control during all project phases and for ensuring that the project is implemented according to the requirements of the Standard and Generic EMPr.
b. The proponent must ensure that the project is registered with the competent authority prior to commencing and is responsible for ensuring that all requirements linked to the registration of a project are met timeously and in full.
c. The proponent must sign a declaration acknowledging that he/she will act in compliance with the Standard and Generic EMPr and must facilitate the signing of the declaration by the contractor.
d. The proponent is liable, should any non-compliance with the Standard or the Generic EMPr take place and non-compliance with certain provisions of the Standard constitutes an offence as contemplated in section 49A(1)(bA) of the Act and commencement of a project prior to its registration by the competent authority constitutes an offence in terms of section 49A(1)(d) of the Act.
e. The proponent must ensure that all parties are familiar with the requirements of the Standard and Generic EMPr and must take action against any non-compliance with the Standard or Generic EMPr by the contractor and/or their sub-contractors.
f. The proponent must include the Generic EMPr in all requests for quotation or tender documentation so that contractors who are appointed are aware of the requirements of the Generic EMPr. The Generic EMPr must be appended to all project construction contract documentation.
g. The proponent must appoint a suitably competent person to act as environmental control officer during all phases of the project to oversee all the environmental aspects relating to the project.
h. The proponent must ensure that the compliance monitoring and enforcement unit of the competent authority is notified of the commencement date of the project as required in the Standard.

4.4. Contractor

a. The contractor, as the proponent's agent on site, is bound by the requirements of the Generic EMPr through their contract with the proponent.
b. The contractor must familiarise themselves with the Generic EMPr and ensure that sufficient budget and resources are provided for complying with all Generic EMPr requirements.
c. The contractor must comply with instructions issued by the ECO in terms of the Generic EMPr and construction contract document.

4.5. Environmental Control Officer [ECO]

a. The ECO must be an external contractor appointed at the cost of the proponent and must be a registered environmental assessment practitioner and have relevant environmental knowledge

and experience to understand and implement the Generic EMPr, including the following competencies:

- Understanding of the relevant environmental legislation and processes;
- Understanding of the concept of compliance monitoring and reporting, and the implications of partial and non-compliance; and
- Be able to resolve conflicts and make recommendations on site in terms of environmental management and impact mitigation.

b. The ECO must ensure that contractor(s) abide by all requirements stipulated in the Standard and Generic EMPr and linked documentation.
c. The ECO is responsible for monitoring compliance with the Standard and Generic EMPr, and is responsible for guiding environmental issues as addressed in the Generic EMPr.
d. The ECO must form part of the project team and be involved in all aspects of project management that can influence environmental conditions on site.
e. The ECO must conduct inspections to assess compliance with the Generic EMPr and be responsible for providing feedback to the proponent and the competent authority on potential environmental problems associated with the project.
f. The ECO must have the authority and responsibility to stop work if, in the ECO's opinion, a serious threat to or impact on the environment may be caused directly from activities on or associated with the site.
g. The ECO must report to the proponent and through the agreed channels of communication established for the site.
h. The ECO must ensure that a copy of the Generic EMPr is kept on site and that records of any instructions or recommendations issued to the contractor; and any non-compliance identified are maintained within an environmental incident log.
i. The ECO must establish and maintain a Generic EMPr site file.
j. The ECO must maintain a site specific environmental incident and complaints record log and liaise with the relevant authorities, should this be required.
k. The ECO must immediately report all significant or continual non-compliance issues identified to the competent authority.
l. The ECO must produce, and submit, monitoring and audit reports as required in the Standard.

5. METHOD STATEMENTS

Method statements, written by either the proponent, contractor or ECO, are written site specific specifications linked to the Generic EMPr and set out the methods that the contractor will use to carry out an activity. Method statements must contain sufficient detail such that the ECO and proponent can assess whether the activities are in accordance with the requirements of the Generic EMPr. Any method statements must be approved by the contractor, the proponent and the ECO to formalise the approved method statement prior to the commencement of construction.

Any changes to the method statement must be reflected by amendments to the original approved method statement. Any changes in this regard must be approved by the ECO, the contractor and the proponent.

Any changes to the method statements must be environmentally acceptable and in accordance with the requirements of the Generic EMPr.

Method statements must be included as annexures to the Generic EMPr for the following:

- Storm water management;
- Waste Management;
- Spill contingency and emergency response procedures;
- Alien invasive plant management; and
- Site rehabilitation.

The ECO must monitor compliance with the approved method statements throughout the project.

Method statements may be replaced by standard operating procedures (SOP's) for specific project types or aspects where similar activities are being undertaken by one proponent. Such SOP's must be approved, following the same requirements for the approval of a method statement.

6. SITE DOCUMENTATION

6.1. Contents of Generic EMPr site file

A Generic EMPr site file must be held on site and maintained by the ECO. The Generic EMPr document file must be made available to all relevant authorities on request.

The Generic EMPr site file must as a minimum include:

- a copy of the registration number issued by the competent authority;
- copies of any approvals, permits or licences (e.g. water use licence, heritage approval etc);
- a copy of the detailed site plan, as submitted with the registration request;
- the Generic EMPr and all approved method statements (or SOP's if relevant);
- any approved and amended method statements (or SOP's if relevant);
- any site instruction, the incident and complaints register and any related reports;
- copies of any ECO reports; and
- an ongoing photographic record of the site from prior to construction commencing, until project close out.

6.2. Site plan

The detailed site plan must include as a minimum the following:

- the demarcated areas where activities will take place, including all aspects of the construction such as the construction camp, toilet facilities, stockpile areas, workshop and vehicle storage, material and hazardous substance storage areas, construction footprint, etc;
- sensitive environmental areas identified on the site and adjacent to the site that need to be demarcated and protected;
- sensitive receptors, such as residential areas, schools, clinic or similar facilities where relevant; and
- access routes to the site(s) where activities are to take place.

6.3. Site Plan Requirements

The site map(s) must be of an appropriate scale and must printed at a minimum size of A3. The following minimum information must be indicated:

- A unique site plan reference number and date;
- The position of the project site(s);
- A north arrow;
- Legend;
- The location of the construction footprint and all associated facilities and aspects related to the project, including for example:
  - Site camps, ablutions, storage areas;
  - Where soil/sediment/debris will be stored/loaded, etc.
- The identified sensitive areas and receptors at or near the site;
- The 1:100 year flood line (if known) and the 32 metre line from the edge of a watercourse; and
- GPS coordinates of all site(s) at which activities will take place must be provided in degrees, minutes and seconds using the Hartebeesthoek94 WGS84 co-ordinate system**.**

PART B: THE GENERIC EMPr

7. GENERIC ENVIRONMENTAL MANAGEMENT PROGRAMME

The Generic EMPr is a dynamic outcomes-based environmental management tool. As such the impact management outcomes must be complied with as prescribed in the Generic EMPr, however the impact management actions can be amended, if required, to achieve the impact management outcomes.

Should an impact management action need to be changed, the new impact management action can be agreed between the proponent, contractor and the ECO. Once agreed the amended page and the amended method statement must be signed and dated by the ECO, contractor and proponent. The amended action and method statement are to be replaced in the EMPr file.

8. PRE-CONSTRUCTION PHASE

The 'pre-construction' phase refers to the period leading up to and prior to commencement of construction activities and aims at identifying avoidable environmental damage prior to construction commencing and promoting environmental impact management throughout the construction phase. The project design criteria provide guidelines in respect of the planning, design and consideration of proposed projects and must be used to inform the design, and engineering options in order to avoid, minimise or mitigate environmental impacts.

8.1. General planning

Impact management outcomes	Impact management actions	Monitoring
Measures contained in the Generic EMPr are incorporated into the general planning of the project.	▪ Ensure that the Generic EMPr is included as part of the tender documentation and enforceable under the conditions of contract. ▪ Ensure a copy of the Generic EMPr is available on site for all phases of the project. ▪ The contractor must ensure that all the personnel on site, sub-contractors and their team, suppliers, etc. are familiar with and understand the specifications contained in the Generic EMPr. ▪ Before construction activities commence, role players must have a clear indication of their role in the implementation of this Generic EMPr. ▪ Where applicable, the contractor must provide job-specific training on an *ad hoc* basis when workers are engaged in activities, which require method statements.	▪ Review and file contract records, method statements and signed declarations of compliance. ▪ Verify that the following documentation is held on site and up to date: o Generic EMPr; o Approved method statements; o Instruction book /Incident reports; o Copies of ECO reports; o Complaints register; and o Training records.
Site plan and site layout clearly demarcate working area	▪ Prior to construction commencing the construction areas, including construction site camp, access roads, stockpile areas, construction and excavation areas, storage facilities and parking areas, must be clearly demarcated for the duration of the construction period. ▪ Storage areas must be located more than 50m from any watercourse. ▪ The width of the defined working area within a watercourse and within 32 metres on either side of the watercourse must not exceed 20 metres wide.	▪ Approved site plan identifying construction areas available on site. ▪ Construction area demarcated prior to construction commencing.
Environmentally sensitive areas and features are identified and demarcated	▪ The ECO must define and establish buffer areas of undisturbed vegetation of an appropriate width to minimise negative environmental impact between construction areas and bodies of water, watercourses and wetlands, and must ensure that these buffers are maintained for the duration of the construction period. ▪ Environmentally sensitive areas must be clearly demarcated for the duration of the construction period. ▪ Sensitive plant species that must be protected within the working area footprint must be clearly demarcated during construction period.	▪ Demarcation of sensitive areas and plant species in line with the Generic EMPr.

8.2. Project design guidelines and norms

An activity or set of activities undertaken for the formalisation, repair, replacement or upgrade of existing community access roads, pedestrian bridges or watercourse crossings or the repair, replacement or upgrade of existing water and sanitation reticulation infrastructure, must consider, and where possible and appropriate, implement the project design guidelines and norms.

Impact management outcomes	Impact management actions	Monitoring
Reduced environmental impacts through project design and alignment	**Local access road culverts, causeways and bridges** ▪ The bridges, culverts and causeways should be perpendicular to the watercourse. ▪ Bridge piers and foundations must preferably be established outside of the preferential flow path of the watercourse to avoid obstruction, or where this cannot altogether be avoided, designed to minimise water flow obstruction and scouring. ▪ If the piers and footings must be placed in the watercourse channel, they should be parallel to the flow, so the flow is not directed onto the banks. ▪ The minimum number of piers should be used to minimise impacts and potential scouring and erosion. ▪ The design and construction of the bridge must be undertaken in a manner that natural movement patterns of aquatic life and the ecological functioning of the watercourse system is not compromised. ▪ Maintain downstream flow and restore the hydraulic characteristics of the watercourse to their original condition and ensure subsurface flow along the stream channel is maintained. ▪ Water velocities with bridges, culvert or causeways should be similar to those at the site before construction. There should preferably also be no differences in the flow rates upstream, in and downstream. ▪ Bridge soffit levels and flood spans should be at least 1 metre above the maximum known flood level to allow floating debris to pass freely through the structure. ▪ The bridge, culvert or causeway's capacity must be able to accommodate peak flow volumes. ▪ Open-bottom culverts with the natural streambed running through them are the preferred culvert structures. ▪ Culvert gradients should be similar to that of the stream bed and should be gently sloping. ▪ Balancing filling and cutting requirements through appropriate route choice, so as to avoid the production of excess spoil material and reduce the need for borrow pits.	▪ Review of project designs to confirm alignment with design mitigation measures.

Impact management outcomes	Impact management actions	Monitoring
	▪ Where disturbance to the watercourse is unavoidable, modification should be kept to a minimum in terms of the removal of riparian vegetation or the excavation of the stream channel, bed or banks. ▪ Stream bank vegetation may only be removed where absolutely necessary and the river banks must be stabilised and re-vegetated following construction.	
	Pedestrian bridges ▪ The pedestrian bridge should be perpendicular to the watercourse. ▪ Bridge piers and foundations must preferably be established outside of the preferential flow path of the watercourse to avoid obstruction, or where this cannot altogether be avoided, designed to minimise water flow obstruction and scouring. ▪ If the piers and footings must be placed in the watercourse channel, they should be parallel to the flow, so the flow is not directed onto the banks. ▪ The minimum number of piers should be used to minimise impacts and potential scouring and erosion. ▪ The design and construction of the bridge must be undertaken in a manner that natural movement patterns of aquatic life and the ecological functioning of the watercourse system is not compromised. ▪ Maintain downstream flow and restore the hydraulic characteristics of the watercourse to their original condition and ensure subsurface flow along the stream channel is maintained. ▪ Water velocities with pedestrian bridges should be similar to those at the site before construction. There should preferably also be no differences in the flow rates upstream, in and downstream. ▪ Pedestrian bridge soffit levels and flood spans should be at least 1 metre above the maximum known flood level to allow floating debris to pass freely through the structure. ▪ The pedestrian bridge flood design capacity must be able to accommodate peak flow volumes. ▪ Balancing filling and cutting requirements through appropriate route choice, so as to avoid the production of excess spoil material and reduce the need for borrow pits. ▪ Where disturbance to the watercourse is unavoidable, modification should be kept to a minimum in terms of the removal of riparian vegetation or the excavation of the steam channel, bed or banks.	

Impact management outcomes	Impact management actions	Monitoring
	▪ The natural shape and contour of watercourses should be maintained as far as practical and watercourses should not be deepened or widened up or downstream. ▪ Stream bank vegetation may only be removed where absolutely necessary and the river banks must be stabilised and re-vegetated following construction.	
	Water and sewer pipelines ▪ Trenchless methods of installing pipes underneath watercourses, such as pipe jacking or horizontal drilling, are the preferred methodology where engineering and geotechnical limitations permit. ▪ If existing bridges or watercourse crossings are available and can permit the attachment of the pipeline in order to cross a watercourse, then these existing structures must be used. ▪ Piers and foundations for suspended pipe bridges must preferably be established outside of the preferential flow path of the watercourse to avoid obstruction, or where this cannot altogether be avoided, designed to minimise water flow obstruction and scouring. ▪ The design and construction of suspended pipe bridges must be undertaken in a manner that natural movement patterns of aquatic life and the ecological functioning of the watercourse system is not compromised. ▪ Where disturbance to the watercourse is unavoidable, modification should be kept to a minimum in terms of the removal of riparian vegetation or the excavation of the steam channel, bed or banks. ▪ Stream bank vegetation may only be removed where absolutely necessary and the river banks must be stabilised and re-vegetated following construction. ▪ Install trench breakers or other compacted impervious materials, where required on steep slopes to prevent pipeline trench subsurface erosion and scouring. ▪ Install trench breakers adjacent to watercourses, at edges of wetlands and on other similar sites where unconsolidated backfill or organic materials are prone to washing out. ▪ Install trench breakers on each side of a wetland where the pipeline trench crosses and may drain the wetland.	

8.3. Method statements and management plans

Impact management outcomes	Impact management actions	Monitoring
Site specific Method Statements are developed and approved	▪ Method statements (or SOPs) for all activities that may impact on the environment must be developed and approved by the proponent, ECO and contractor. ▪ Method statements must be developed and approved by the proponent, ECO and contractor for: o Storm water management; o Waste Management; o Spill contingency and emergency response; and o Rehabilitation and alien plant management.	▪ Copies of approved Method Statements on site. ▪ Copies of approved Management Plans on site for: o Storm water management; o Waste Management; o Spill contingency and emergency response; and o Rehabilitation and alien plant management.

8.4. Authorisations and permits

Impact management outcomes	Impact management actions	Monitoring
All relevant authorisations and permits issued prior to construction commencing	▪ Copies of all applicable permits or authorisations must be obtained and copies should be kept on the site in the Generic EMPr document file. ▪ The removal, cutting, pruning or relocation of indigenous species or vegetation must be approved by the ECO.	▪ Copies of all applicable permits or authorisations on site.

8.5. Health, safety and emergencies risks

Impact management outcomes	Impact management actions	Monitoring
All health and safety risks are minimised and all emergency situations are controlled.	▪ Development of a spill contingency and emergency response plan that aims to safeguard life and wellbeing, property and the environment. ▪ The contractor must provide method statements on the protocols to be followed, and contingencies to be put in place for spill contingencies and emergency situations. ▪ Liaise with local emergency and health services on emergency response and preparedness procedures. ▪ Before construction takes place, the ECO must undertake an environmental training session with all staff working on site. This training session should cover:	▪ Copy of approved spill contingency and emergency response plan on site. ▪ Copies of approved method statements on site. ▪ Copies of training register for all staff working on site.

Impact management outcomes	Impact management actions	Monitoring
	○ Description of the environment; ○ Responsibility of all people to the environment; ○ Details of the Generic EMPr; ○ Spill contingency and emergency response; and ○ People's environmental rights.	

8.6. Socio-Economic

Impact management outcomes	Impact management actions	Monitoring
Socio-economic impacts are minimised	▪ Develop a complaints register and file for all communications. ▪ Identify sensitive social facilities or features adjacent to the construction site that will require screening or other measures to safeguard the community or people from nuisance or other impacts or risks of the construction site.	▪ Complaints register and IAP communication file available on site. ▪ Sensitive social facilities or features identified for mitigation during construction.

9. CONSTRUCTION PHASE

The 'construction' phase of this Generic EMPr refers to all construction activities that will occur within the approved area.

9.1. Construction areas

Impact management outcomes	Impact management actions	Monitoring
Risk of pollution and degradation in construction areas are minimised based on good maintenance and storage practices.	▪ Any topsoil, which includes the top layer of soil containing organic material, nutrients and plant seeds, that is excavated during site preparation and construction must be stored separate from sub-soils and used for site rehabilitation post-construction. ▪ Store sand, stone and cement in demarcated areas and minimise wind erosion and deposition of dust on the surrounding indigenous vegetation. ▪ Provide and service temporary chemical toilets as per prescribed legislation. ▪ Place temporary chemical toilets at least 100 metres from any watercourse or wetland systems. ▪ Contractor employees must avoid walking on or through areas of natural vegetation or watercourses (cause disturbance in the form of bank destabilisation which may lead to erosion during periods of rain), they are to remain on the demarcated construction site. ▪ The method statement must set out how compaction of soils, erosion and sedimentation are to be minimised within construction areas.	▪ Monitor the lateral spread of construction outside of demarcated areas. ▪ Monitor maintained demarcation of construction footprint. ▪ Monitor management of stockpile areas. ▪ Monitor pollution in construction areas.

9.2. Workshop equipment, maintenance and storage

Impact management outcomes	Impact management actions	Monitoring
Risk of pollution in workshop/service areas is minimised based on good maintenance and storage practices.	▪ The contractor must ensure that the construction equipment is under the control of suitably qualified and certified personnel and is in proper working order to avoid excessive noise and fumes, and limit fuel or lubricant leakages. ▪ During servicing of vehicles or equipment, a suitable drip tray must be used to prevent spills onto the soil, especially where emergency repairs are done outside the workshop/service area. ▪ Leaking equipment must be repaired immediately or be removed from site to facilitate repair.	▪ Monitor spillages at the fuel storage area and construction site. ▪ Verify the integrity of all bunds and that contaminated rainwater is disposed of appropriately. ▪ Inspect for contaminated soil or water in the workshop area.

Impact management outcomes	Impact management actions	Monitoring
	▪ The contractor must check for spillages at the fuel storage area on a daily basis. ▪ Chemicals, dangerous goods and fuels must be stored in a suitably bunded area, with an impervious surface and a bund capacity of at least with 110% of the material storage capacity. The integrity of all bunds is checked on a daily basis. ▪ The contractor must be in possession of an emergency spill kit that is complete and available at all times on site. The contractor must ensure that senior and other relevant members of the workforce are trained in dealing with spills by using emergency spill kits. ▪ Contaminated soils resulting from spills must be removed and disposed of within the hazardous waste stream at an appropriately licenced landfill site. ▪ Any concrete or cement mixing required during the construction phase must be undertaken on an impervious surface; and, tools, equipment or other items contaminated with cement residue may not be cleaned in a water resource or in a manner that may result in contamination of a water resource. ▪ No construction vehicles may be washed within a watercourse or in a manner that may result in contamination of a water resource. ▪ All spills of hazardous substances must be reported to the ECO. ▪ Significant spills of dangerous or hazardous goods must be immediately reported to the competent authorities. ▪ Material Safety Data Sheets (MSDS) must be available on site for all hazardous substances stored on site.	

9.3. Waste and pollution management

Impact management outcomes	Impact management actions	Monitoring
The pollution of the surrounding environment including the soil and water resources, resulting from waste management is minimised.	▪ Waste management measures must be established to separate, collect, store and dispose of general and hazardous waste streams. ▪ General waste must be suitably stored and disposed of at an appropriate and lawful general waste disposal facility. ▪ Hazardous waste streams must be established, separate from general waste streams and hazardous waste must be disposed of at an appropriate and lawful hazardous waste disposal facility. ▪ No waste may be burnt on site.	▪ Waste management undertaken in accordance with the approved Waste Management Plan. ▪ Inspect for separation of waste streams. ▪ Inspect for contaminated areas on the site.

Impact management outcomes	Impact management actions	Monitoring
	▪ Recycling, reuse and waste reduction strategies must be implemented. ▪ Waste removal and disposal certificates must be maintained and made available on request. ▪ The location of cement batching areas must be determined in consultation with the ECO to ensure residues are contained and that the proposed location does not fall within sensitive areas, such as drainage lines, sensitive natural vegetation. ▪ Temporary chemical or other appropriate toilets facilities must be provided; and where necessary chemical toilets must be serviced by registered service provider on at least a weekly basis. ▪ Temporary ablutions and toilets must be established at least 50 meters from any watercourse or water source.	▪ Inspect the provision of appropriate toilet facilities on site.

9.4. Soils and erosion control

Impact management outcomes	Impact management actions	Monitoring
Disturbance and loss of soil are minimised, and the integrity of water courses is maintained.	▪ The storm water management plan must be implemented. ▪ Storm water drainage must not damage surrounding properties or infrastructure. ▪ Appropriate and adequate erosion protection measures must be implemented throughout the construction phase. ▪ Silt laden water must be diverted into sediment ponds and sediments allowed to settle before water is discharged into any watercourse. ▪ Silt fences or other silt and sediment trapping devices must be installed around all areas used for the storage of excavated and fill materials. ▪ If necessary, soil should be carefully removed and stored for subsequent reinstatement. Excavated soils must be replaced in the same sequence as they were removed and must be compacted to an equivalent compaction as the surrounding soil profile. ▪ Water from flumes, diversions or other methods used to maintain downstream flow must not cause erosion or introduce sediment into the channel. ▪ Techniques to minimise compaction of soils, such as restricting access during wet conditions, and using protective boarding and low ground pressure machinery must be used. ▪ Construction in the watercourse channel and riparian area must be undertaken as quickly as possible to limit environmental impact. ▪ Construction work within the watercourse channel and riparian area should be undertaken outside of the peak rainfall period of the year.	▪ Storm water management undertaken in accordance with the approved storm water management plan. ▪ Inspect any sign of sedimentation and erosion.

9.5. Environmental awareness and social responsibility

Impact management outcomes	Impact management actions	Monitoring
Environmental Awareness Training is implemented.	▪ All staff, contractors and their workforce must receive an induction and an environmental awareness training session prior to commencement of work on site. ▪ Conduct toolbox talks (focusing on safety issues) to facilitate health and safety discussions on the job site. ▪ Make training material accessible to all staff using various supports and languages as required.	▪ Review and update content of the Environmental Awareness Induction Training as required. ▪ Review records and attendance registers of all Environmental Awareness Induction Training.

Impact management outcomes	Impact management actions	Monitoring
		▪ Environmental awareness information posters are visible and maintained at key locations on site.

9.6. Health and safety

Impact management outcomes	Impact management actions	Monitoring
All health and safety risks are minimised.	▪ Ensure compliance with the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and Regulations.	▪ Monitor compliance with Occupational Health and Safety Act, 1993 (Act No 85 of 1993) and Regulations.

9.7. Visual impacts and nuisance management

Impact management outcomes	Impact management actions	Monitoring
Visual and nuisance impacts of the construction are minimised.	▪ Where necessary and required, the construction site must be screened from surrounding sensitive social facilities (such as schools and clinics) and residences. ▪ Proper disposal of litter must be regularly undertaken to ensure the construction area is neat and tidy at all times. ● Prior notice must be given to residents, sensitive social receptors, such as schools or clinics, and businesses adjacent to work areas of any noisy or dusty activities that may be undertaken. ▪ Where appropriate and necessary, dust suppression measures must be applied to limit dust impacts on adjoining land uses. ▪ All vehicles must travel at speeds that will not generate excessive dust. ▪ Rehabilitation / reinstatement must occur immediately following the completing of construction related activities. ▪ Contractors must endeavour to limit unnecessary noise. ▪ Construction site yards, workshops, concrete batching plants and other noisy fixed facilities must not be located in close proximity to sensitive receptors (e.g. residential areas), without the prior approval of the proponent and ECO. In such cases, the contractor must notify affected parties prior to the commencement of the noisy activity.	▪ Monitor waste management measures to ensure a neat and tidy construction area. ▪ Records of notice provided to adjoining residents, sensitive receptors and businesses. ▪ Monitor aesthetic impact of construction area and complaints. ▪ Monitoring of dust impacts and complaints. ▪ Monitor noise impacts and complaints.

9.8. Use of roads and traffic management

Impact management outcomes	Impact management actions	Monitoring
Access to the site is undertaken in a manner that construction vehicles do not degrade the environment or negatively impact existing road access.	▪ Construction vehicles must make use of existing access routes. If none exist the access route to the construction site must be agreed to by the ECO. ▪ Wherever possible, heavy vehicles must not be allowed within 32m of the watercourse. Where this is not possible, measures must be put in place to limit soil compaction and the extent of the working areas. ▪ Traffic control measures; restricted and defined access to the site; defined speed limits; appropriate signage; and the establishment of alternative routes, as may be needed, must be established. ▪ Access roads shall be maintained in an acceptable condition for safe travel. ▪ Vehicular access is not permitted into natural areas outside the demarcated construction areas. ▪ Vehicle speed must be managed on site to limit dust generation.	▪ Monitor any damage done to surrounding areas due to construction vehicles. ▪ Monitor traffic control measures.

9.9. Water and construction materials

Impact management outcomes	Impact management actions	Monitoring
Water and construction materials are lawfully sourced.	▪ Water use during construction phase may only be extracted or used from a water source approved by the relevant authority. ▪ All stone, sand and other building materials must be sourced from sites that have a lawful environmental authorisation and/or mining licence, as the need may be. Copy of proof of the source of materials must be kept and made available on request.	▪ Approvals of water extraction by relevant authority. ▪ Proof of construction materials sourced from legally compliance sites.
No pollution or loss of water takes place due to construction related activities interfacing with ground water (i.e. ingress of groundwater into trenches, requiring dewatering), unmanaged runoff of surface water through un-stabilised areas.	▪ Water contaminated by hydrocarbons or cement may not be released directly into the environment. ▪ A storm water management plan must be developed to prevent erosion and the contamination of water, and deal with storm water release into the environment. ▪ Storm water must be directed towards stabilised areas which can dissipate the energy of the water flow. No deliberate ponding is permitted. ▪ No handling of hazardous substances is allowed within close proximity to water resources and storm water drains.	▪ Review Water Management Method Statement.

Impact management outcomes	Impact management actions	Monitoring
Watercourses/wetland water quality does not decrease and water quantity used does not increase.	▪ Waste water shall be reused wherever possible. Water to be reused shall be tested for water quality (in terms of variables and limits in regulated prescribed minimum requirements) and treated where necessary before reuse. ▪ All construction related activities may only take place within watercourses, wetlands, riparian ecosystems and all sensitive areas if approved by the proponent and ECO. ▪ During all works, no activity such as ablution, disturbance of natural habitat, storing of equipment or waste disposal may be permitted within any wetland or riparian zone. ▪ Implementation of anti-erosion and storm water works in areas susceptible to erosion.	▪ Review Water Management Method Statement.

9.10. Heritage, archaeological, and palaeontological resources

Impact management outcomes	Impact management actions	Monitoring
Archaeological, palaeontological and heritage resources are protected and/or managed.	▪ The competent authority for cultural heritage must be contacted if any heritage objects or graves are identified during excavation activities and all construction work must cease until authorisation to proceed is issued by the competent authority for cultural heritage.	▪ Record date and location of any human remains, archaeological, palaeontological and meteorite materials uncovered on the site. ▪ Review and notifications sent by the ECO to the Heritage Authority.

9.11. Community liaison

Impact management outcomes	Impact management actions	Monitoring
Ensure effective communication with community members affected by construction-related activity	▪ Landowners, people that have right to use the land, and surrounding communities must be actively engaged and be kept informed of the project and associated impacts. ▪ Effective communication channels must be established and maintained. ▪ An incident and complaints reporting structure must be established and maintained.	▪ Records of community and IAP engagement. ▪ Monitoring of incident and complaints register to ensure effective responses and closure. ▪ Comment and response trail of all communications.

10. POST-CONSTRUCTION AND OPERATIONAL PHASE

The "post-construction" phase includes all activities to decommission the construction camp, remove any temporary structures and rehabilitate impacted areas. The operational phase commences when the proposed project is being used for its intended purpose.

10.1. Rehabilitation, monitoring and management

Impact management outcomes	Impact management actions	Monitoring
Site construction areas are rehabilitated	▪ Site rehabilitation undertaken in accordance with the approved rehabilitation and alien plant management method statements or SOP's. ▪ All disturbed areas associated with the construction activities must be reshaped, rehabilitated and re-vegetated immediately following the construction phase. ▪ All temporary dams, berms and other material used to divert the stream flow must be completely removed from the channel and the streambed and bank profiles must be returned to preconstruction conditions following construction. ▪ Rehabilitation of disturbed areas must occur at the earliest time within the construction schedule, as prescribed by the ECO. ▪ Rehabilitation and re-vegetation of disturbed areas must make use of locally indigenous species. ▪ All construction debris and waste materials must be removed and disposed of at an appropriate and lawful general waste disposal facility. ▪ The control of alien plant infestation within the project footprint must be undertaken in accordance with the approved alien plant management method statement or SOP.	▪ Site rehabilitation inspection reported in close out report.
Rehabilitated areas are monitored to ensure sites are effectively rehabilitated	▪ Alien plant control must continue post-construction until the site has been suitably rehabilitated and re-vegetated with locally indigenous species. ▪ Quarterly vegetation rehabilitation monitoring must be undertaken for at least 1 year after the construction phase has been completed.	▪ Site rehabilitation inspection reported in close out report.
Ongoing site management and maintenance to ensure structures remain effective and functional	▪ Clearance of alien vegetation re-growth at disturbed areas must be conducted as per the requirements of the Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983), National Environmental Management: Biodiversity Act, 2004 (Act	▪ Site management inspection reported in the final audit and close-out report.

Impact management outcomes	Impact management actions	Monitoring
	No. 10 of 2004), and the Alien and Invasive Species Regulations, 2020 (as amended) during the operational phase of the project.	