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ENVIRONMENTAL MANAGEMENT SPECIFICATION

PREPARED

BY

**THE UNIVERSITY OF SOUTH AFRICA
(THE "CLIENT")**

PREPARED

FOR

PRINCIPAL CONTRACTOR

Table content

1. Preamble	3
2. Purpose.....	3
3. Scope of Environmental specification	3
4. Discussion	4
5. Definition.....	4
6. Standard for Environmental Management.....	5
6.1 Develop and implement Environmental Management Plan (EMPr)	5
6.1.1 Site establishment	6
6.1.2 Demarcation of site limits	6
6.1.3 Disposal of sewage and kitchen facility	6
6.1.4 Waste Management.....	6
6.1.5 Workshops, equipment maintenance and storage.....	6
6.1.6 Spill Response	6
6.1.7 Dust Management.....	7
6.1.8 Site closure and rehabilitation	7
6.1.9 Noise Management.....	7
6.1.10 Protection of Fauna and flora.....	7
6.1.11 Environmental Awareness Training	7
6.1.12 Concrete and Cement	8
6.1.13 Stockpiling	8
6.1.14 Housekeeping.....	8
6.1.15 Hazardous Substances	8
7 Submission for review	8
8 Roles and responsibilities environmental specialist and contractor	9
8.1 Responsibility of the Principal contractor.....	9
8.2 UNISA Environmental specialist	9
9 Compliance with requirements and penalties	10
9.1 Compliance.....	10
9.2 Removal from site and suspension of Works.....	10
9.3 Penalties	10

1. Preamble

The document constitutes a user-friendly construction specification and is an Environmental Management tool used at conceptualization stage during the construction of new developments and major upgrading/renovation projects. The EMPr forms part of the tender contract and is thus a legally binding document.

The specification is to ensure that all UNISA projects are highly implemented within the ambit of sound environmental practices and are compliant with applicable legislation and other legal requirements. The Environmental Management Plan (EMPr) is regulated in terms of National Environmental Management Act (Act No 107 of 1998) and associated EIA Regulations.

2. Purpose

This procedure describes the minimum standards for environmental management to which Contractors and sub-contractors on a construction site must comply. It is a generic Standard for use across all construction works executed by UNISA Projects. An Environmental Management Plan (EMPr) is a legislated working document and is a site-specific plan developed to ensure that all necessary measures are identified and implemented in order to protect the environment and comply with relevant legislation and other legal requirements.

Construction activities may have significant impact on the environment throughout the life cycle of the development. The compilation of EMPr in accordance with the specification in question is a direct response to the possible impact that may emanate as the result of construction/renovation projects.

3. Scope of Environmental specification

This Environmental Management Specification applies to all contractors and those working on behalf of the institution, who carry out the work which may pose negative impact on the receiving environment.

4. Discussion

Pollutants emanating from University projects or activities released into the biosphere have potential to cause serious land and water contamination. Sources of environmental pollution that could originate from construction activities are waste, dust, noises, fallen ground movements and many others.

UNISA is committed to reducing any nature of its significant impacts and aspects on the natural environment. It is University of South Africa's desire to assure the environmental integrity and to promote sound environmental practice in all the areas that it conducts its operations and activities.

5. Definition

Best practicable environmental practices means the options that provide the most benefit or cause the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term.

Environmental specification is the instruction and guidance for specific construction activities designed to help prevent, reduce and/or control the potential environmental implications of these activities.

Environmental Impact means any change to the environment, whether negative/positive, fully or partially UNISA's activities, products or services.

Environment means the surroundings within which humans exist and that are made up of the land, water and atmosphere of the earth and others

Environmental Aspect- means an element arising from the project's activities, which can interact with the environment.

Fauna Means a group of animals specific to a certain region or time period

Flora Means a group of plants specific to a certain region or time period

Harmful substance- means a substance either prohibited from being emitted / discharged to a receiving medium (atmosphere, ground or water) or a substance released in sufficient quantities to cause environmental pollution or damage.

Pollution means any change in the environment caused by— Substances such as; noise, odors, dust or heat, emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services

General waste Means waste that does not pose an immediate hazard or threat to health or to the environment.

Sensitive area means any area that is denoted as sensitive by this Specification due to its particular attributes, which could include the presence of rare or endangered vegetation, the presence of heritage resources, the presence of a unique natural feature, the presence of a watercourse or water body, the presence of steep slopes.

Solid waste means all solid waste, including construction debris, chemical waste, excess cement/ concrete, wrapping materials, timber, tins and cans, drums, wire, nails, food and domestic waste (e.g. plastic packets and wrappers).

Reinstatement is defined as the return of a disturb area to a state, which approximately the state which it was before disruption.

6. Standard for Environmental Management

The Contractor shall identify the potential environmental impacts that may occur as a result of construction activities and prepare construction Environmental Management Plan (CEMP) describing how each of these impacts will be prevented or managed so that the environmental standards set out in this document are achieved.

This CEMP shall be compiled in accordance with the requirements set out in National Environmental Management Act (Act No 107 of 1998) and associated EIA Regulations.

6.1 Develop and implement Environmental Management Plan (EMPr)

The consultant must develop and implement a CEMP on site to control the aspects of the construction work that can impact on the environment.

The Contractor must comply with the standards and requirements described below when crafting the CEMP:

6.1.1 Site establishment

The Contractor shall establish a construction camps with offices and any other facilities on the site in a manner that does not adversely affect the environment.

6.1.2 Demarcation of site limits

Prior to the commencement of construction, the actual site to be developed must be clearly demarcated by means of highly visible barriers such as fences and orange snow netting. Clearing of Vegetation must be limited to demarcated zone.

6.1.3 Disposal of sewage and kitchen facility

The contractor to install adequate portable chemical toilets to meet the sanitation needs on the construction site (14 people per toilet).The contractor should dedicate an area for kitchen facility for employees on site. Refuse bags must be provided at all established eating areas. The Contractor shall arrange for regular emptying of toilets.

6.1.4 Waste Management

The Contractor is responsible for the removal of all waste from site generated through the Construction activities. The Contractor ought to ensure that all waste is removed to appropriate licensed waste management facilities.

6.1.5 Workshops, equipment maintenance and storage

All vehicles and equipment must be kept in good working order to maximize efficiency and minimize pollution. Maintenance of construction equipment and vehicles on site must be done at designated.

6.1.6 Spill Response

The Contractor shall have adequate spill response materials/equipment on site which must be aligned with the volumes of hazardous substances used on site and the risk of pollution to sensitive environmental attributes.

6.1.7 Dust Management

The liberation of dust into the surrounding environment shall be effectively controlled by the use of, water spraying. The speed of haul trucks and other vehicles must be strictly being controlled to avoid dangerous conditions, excessive dust or deterioration.

6.1.8 Site closure and rehabilitation

Any areas that the UNISA environmental specialist believes that may have been impacted upon or disturbed, shall be rehabilitated to the satisfaction of the client and Consultant. Once construction is complete, the contractor shall clear all construction debris and materials from the Site. The area to be rehabilitated shall first be landscaped to match the topography of the surrounding area as it was prior to construction.

6.1.9 Noise Management

Construction and other noise generating activities should be restricted to between 06h00 and 18h00 Monday to Friday, unless otherwise approved by the appropriate competent person in consultation with adjacent landowners/affected persons and SHEQ officer.

6.1.10 Protection of Fauna and flora

No endemic flora and fauna species will be deliberately destroyed or permanent alienated from their natural habitat during construction. Construction staff should be advised not to chase, kill or catch animals found or encountered during construction.

6.1.11 Environmental Awareness Training

An Environmental Awareness is considered a necessary part of the Construction Environmental Management Plan (CEMP) for the Project. All individuals on the Project construction site will need to have a minimum awareness of environmental requirements and responsibilities. Training of the appropriate construction personnel will help ensure that all environmental regulations and requirements are being complied with to the latter

6.1.12 Concrete and Cement

Hand mixing of cement and concrete shall be done on mortarboards and/or within the bundled area with impermeable surface or concrete slab. No washing of ready-mix concrete trucks on site. Concrete and cement or any solid waste materials containing concrete and cement will be disposed of at a registered disposal facility.

6.1.13 Stockpiling

Stockpiling may only take place in designated. Sensitive areas shall be avoided in this regard.

6.1.14 Housekeeping

The Contractor must ensure proper housekeeping of the site for the duration of the project. Construction materials shall be stored in a neat and tidy manner in designated areas. The contractor must make available the time and resources needed to undertake routine housekeeping of the works areas and site establishment.

6.1.15 Hazardous Substances

Hazardous materials to be stored correctly, marked, labelled, without the risk of contamination and hazardous waste to be disposed of correctly with the necessary certificates issued. All oils, hydraulic fluids and other hazardous materials will be stored in suitable containers in a structure or facility designated for this purpose.

7 Submission for review

The copy of EMPr must be submitted to the Environmental compliance Sub-directorate prior commencement of the construction work for approval.

8 Roles and responsibilities of Environmental specialist and contractor

8.1 Responsibility of the Principal contractor

- Ensure that all the environmental specifications contained within CEMP is adhered to on the site all times;
- Ensure that all sub-contractors and construction by the contractor are aware of their environmental responsibilities while on site or during the provision of their services off site;
- Ensure that all sub-contractors and workers are complying with, and implementing the CEMP during duration of their specific contract;
- Ensure environmental awareness among employees, sub-contractor and worker a
- Be familiar with the content of the EMP and the specification contained herein

8.2 UNISA Environmental specialist

Once the CEMP is approved, UNISA Environmental Specialist shall initiate an environmental monitoring program to collect baseline data on all sectors of the environment. After the monitoring plan has been developed, environmental specialist shall carry out the following, but not limited to:

- Conducts environmental audit in relation to compliance with the legal requirements and other requirements;
- Ensures that all Sub-contractors and other workers appointed by the main contractor are conversant of their environmental responsibilities while on site;
- Assists with advices where environmental problems are encountered and mitigate measures are required within defined construction areas;
- Monitors complaints, concerns or incidents reported in the complaints register and investigate them if need be;
- Ensures that the contaminated area is returned to its prestige state or rehabilitated to the satisfactory of the Client once the construction is completed.

9 Compliance with requirements and penalties

9.1 Compliance

Environmental management is concerned not only with the final results of the Contractor's activities to carry out the Works but also with the control of how those activities are carried out. It is thus required that the Contractor shall comply with the environmental requirements on an ongoing basis and any failure on his part to do so will entitle the Environmental specialist (ES) to certify the imposition of a penalty as detailed below.

9.2 Removal from site and suspension of Works

Environmental compliance shall remove any persons(s) from site who in his opinion is guilty of misconduct, or is incompetent, negligent or constitutes an undesirable presence on Site. Where the Environmental specialist deems the Contractor to be in breach of any of the requirements of this Specification, he may order the Contractor to suspend the progress of the Works or any part thereof.

9.3 Penalties

Penalties will be issued for certain transgressions. Penalties may be issued per incident at the discretion of the UNISA environmental specialist. Such penalties will be issued in addition to any remedial costs incurred as a result of noncompliance with this Specification. The specialist will inform the Contractor of the contravention and the amount of the penalty, and shall be entitled to deduct the amount from monies due under the Contract.