PROPOSED CONSTRUCTION OF LADYSMITH PRIVATE HOSPITAL

AND

STORAGE AND HANDLING OF WASTE FACILITY

1st DRAFT

ENVIROMENTAL MANAGMENET PLAN

Version 1.1

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1 BACKGROUND

Environment Agency (Pty) Ltd has been appointed by Nulane Investment 254 (Pty) Ltd as an independent environmental practitioner to undertake the Basic Assessment for the proposed The Proposed construction of Ladysmith Private Hospital, Storage and Handling of Waste and Associated Facilities on Erf 17817 Ladysmith, Alfred Duma Local Municipality, Uthukela District Municipality, KwaZulu-Natal.

The Environmental Management Programme (EMPr) main purpose is to prevent avoidable damage or minimise and mitigate unavoidable environmental impacts associated with construction, operational and related activities.

The EMPr is an open and a living document of information gained during the Environmental Impact Assessment (EIA) Process, and from on-going monitoring of procedures on site which could lead to changes in the recommendations and specifications of this document.

This document will serve as guideline and baseline information for construction and operation of the proposed construction of Ladysmith Private Hospital and Storage and Handling Waste Facility on ERF 17817 Ladysmith. The proposed new hospital comprises of a 52 bed facility complete with theatres, radiology, general and medical wards, ICU, high care, consulting rooms, general waiting rooms, examination rooms, general administration areas and parking bays (approximately 81 parking areas).

2 LIST OF ACRONYMS USED

DEDTEA : Department of Economic Development, Tourism and Environmental Affairs - KwaZulu-Natal Province.
DWA : Department of Water and Sanitation
ECA : Environmental Conservation Act
ECO : Environmental Control Officer
EMP : Environmental Management Plan
EMPR/EMPr : Environmental Management Programme
GN : Government Notice
IAAPs : Interested and Affected Parties
LPG : Liquid Petroleum Gas
MSDS : Material Safety Data Sheets
NEMA : National Environmental Management Act
NWA : National Water Act
NEM : WA: National Environmental Management: Waste Act
OHSA : Occupational Health and Safety Act
WL : Waste License

3 LIST OF TERMS USED

- **Contractor:** Persons/organisations contracted by the Developer to carry out parts of the work for the planned development.

- **Construction Phase:** The Construction Phase is the period of commencement of physical disturbance to the land,

- **Demolition:** The removal of unwanted existing infrastructure and associated materials.

- **Environment:** The surroundings within which humans live and that consist of:
  a. the land, water an atmosphere of the earth;
  b. micro-organisms, plant and animal life
  c. any part or combination of (a) and (b) and the interrelationships among and between them; and the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

- **Environmental Audit:** A systematic, documented verification process of objectively obtaining and evaluating evidence to determine whether specified environmental activities, events, conditions, management systems, or information about these matters conform with audit criteria, and communicating the results of this process to the client.

- **Environmental Control Officer:** A person appointed and paid for by the Developer to ensure compliance with Environmental Authorisation and conditions, Duty of Care, and all other requirements as deemed fit by the Authorities charged with implementing environmental legislation, and the EMPR.

- **Hazardous substance:** A substance which can have a deleterious effect on the environment, as defined in the Regulations for Hazardous Biological Agents, 2001.

- **Inspector:** An official appointed and empowered to act in terms of the National Environmental Management Act

- **Interested and Affected Parties (IAAP's):** Those individuals or organisations that have an interest in the proposed development or will be directly affected by the activities of the development, as identified in the environmental impact assessment process.

- **Method Statement:** A method statement is a written submission by the Contractor to the Engineer in response to the specification or a request by the Engineer, setting out the plant, materials, labour and method the Contractor proposes using to carry out an activity, identified by the relevant specification or the Engineer when requesting a Method Statement. It contains sufficient detail to enable the Engineer to assess whether the Contractor's proposal is in accordance with the Specifications and/or will produce results in accordance with the Specifications.

- **Pollutant and Pollution**: a contaminant at a concentration high enough to endanger the environment or the human health.

- **Project:** The Proposed construction of Ladysmith Private Hospital, Storage and Handling of Waste and Associated Facilities on Erf 17817 Ladysmith, Alfred Duma Local Municipality, Uthukela District Municipality, KwaZulu-Natal.

- **Risk:** Ability and/or potential to harm or cause damage in relation to known occurrence

4 OBJECTIVES OF THE EMPR

Objectives of the EMPR can be summarised in a list below:

- To outlines activities to be performed and their environmental impacts and determines migratory measures.
- Outlines frequencies, aspects and detail of reporting mechanism to be installed.
- Management of complaints and resolution mechanism
- Define relevant roles and responsibilities of partners
- Defines what and which documents must be available on site
- Defines what and by who must be measured and reported
- Provides yardstick to measure and ensure compliance
- Gives effect to Sustainable Development principles

5 LEGAL COMPLIANCE OF THE PROJECT

5.1 The Constitution (section 24 Bill of Rights)

Guarantees every person's right to an environment that is not detrimental to health. Further it enables measures such as legislation to be implemented.

5.2 National Environmental Management Act, 107 of 1998 (as amended)

Defines and specifies environmental management practices that contribute and implements section 24 of the Constitution. Section 28 (1) of NEMA places an obligation to the person/s to exercise Duty of Care when dealing with activities detrimental to the Environment and to take reasonable measures to avoid degradation. Failure to do so is a criminal offense.

5.3 KwaZulu-Natal Planning and Development Act No 5 of 1998

This act Deals with planning and related issues and is implemented by Local Municipalities. This act defines planning so as to achieve coherent and compatibility in land uses in the Municipal area concerned.

5.4 Conservation of Agricultural Resources Act, No 43 of 1983

This legislation deals with utilisation and conservation of agricultural land and activities that impact on agricultural resources. It regulates the unsustainable utilisation of Agricultural Natural Resources and changes in Agricultural lands which may lead to unsuitable land uses and/or loss of viability of Agricultural lands and resources.

5.5 National Heritage Resources Act, No. 25 of 1999

Regulates the management of National heritage as identified or found on site during construction of the project. It specifies relevant authorities and measures to be taken when such occurrences are unearthed on site.

5.6 National Water Act, No 36 of 1998

The National Water Act regulates the management of water resources by specifying measures to be taken to protecting and conserving them.

5.7 Occupational Health and Safety Act (OHSA), No 85 of 1993

The OHSA and its regulations regulate the workplace and machinery used in the construction industry. The act specifies legal appointments of e.g. Safety Officers and assigns responsibility to Health and Safety to relevant persons in the organisations.

5.8 Mines and Works Act, No. 27 of 1956

This act regulates working in confirmed areas and in hazardous areas. A construction site for this project is covered by this act.

6 DETAILED SCOPE OF EMPR

6.1 Conditions of Contract / Roles and Responsibilities

The Developer and Contractor must be responsible for ensuring compliance with the provisions contained in the EMPR, and must be held accountable in terms of the EMPR.

6.2 Duties and powers of the Developer

The Developer has overall responsibility for compliance with the EMPR as it is a fundamental component of the authorisation requirements for the project. This means that the Developer must:

- Ensure that the professional team and the Contractors are appropriately briefed and that their appointment includes environmental requirements as relevant.
- Ensure that he is kept fully informed of the performance of the project against the requirements of the EMPR.
- Ensure that appropriate action is taken where consistent incidents of non-compliance are taking place.
- Ensure that any corrective action required by the authorities is implemented.

6.3 Duties and Powers of the Site Manager

The Site Manager is ultimately responsible for ensuring compliance with the Environmental Management Plan. The Site Manager:

- Maintains a register of complaints and queries by members of the public at the site office. This register is forwarded to the Environmental Control Officer on a bi-monthly basis.
- Enforces the EMPR on site and Monitors compliance with the requirements of the EMPR.
- Assesses the Contractor's environmental performance in consultation with the Environmental Control Officer.

6.4 Duties and Powers of the Environmental Control Officer

The Environmental Control Officer (ECO):

- Must be appointed by the Developer to visit the site from time to time once the first activities start on site.
- Undertake induction training and briefs the Site Manager and the Contractor about the requirements of the Environmental Management Plan.
- Advises the Site Manager about the interpretation, implementation and enforcement of the Environmental Specification and other related environmental matters.
- Advises and Attends site meetings, as necessary.
- Monitors the Contractor's compliance with the EMPR by undertaking an environmental audit at the start of the construction phase, then monthly thereafter until all works on site have been completed, and then a close-out audit is to be undertaken.

- Reports on the performance of the project in terms of environmental compliance with the EMPR to be submitted to the Site Manager, Local Municipality, DWAF and DEDTEA.
- Provides technical advice relating to environmental issues to the Site Manager.
- Acts as liaison with DEDTEA, and other environmental organisations or stakeholders as necessary.

6.5 Extent of the Contractor's Obligations

The Contractor is required to:

- Supply method statements and management plans for all activities requiring special attention as specified and/or requested by the Site Manager or Environmental Control Officer during the duration of the Contract.
- Be conversant with the requirements of the Environmental Management Plan.
- Brief staff about the requirements of the Environmental Management Plan.
- Comply with directives/instructions of the Environmental Control Officer in terms of this EMPR.
- Ensure any sub-contractors/ suppliers who are utilised within the context of the contract comply with the environmental requirements of the EMPR.
- Take full responsibility and be held responsible for non-compliance on their behalf.
- Bear the costs of any damages/ compensation resulting from non-adherence to the EMPR or written site instructions.
- Ensure that the Site Manager is timeously informed of any foreseeable activities that will require input from the Environmental Control Officer.
- The Contractor will conduct all activities in a manner that minimises disturbance to directly affected residents and the public in general, and foreseeable impacts on the environment.

7 PROJECT DESCRIPTION AND LOCATION

Proposed construction of Ladysmith Private Hospital, and Storage and Handling of Waste and Associated Facilities on ERF 17817 Ladysmith, Alfred Duma Local Municipality, Uthukela District Municipality, KwaZulu-Natal. The proposed development is located approximately 1,8 km Southwest of Ladysmith CBD. It a corner site at the intersection between the Delhi Road and N11. The proposed new hospital comprises of a 52 bed facility complete with theatres, radiology, general and medical wards, ICU, high care, consulting rooms, general waiting rooms, examination rooms, general administration areas and parking bays (approximately 81 parking areas). The proposed development area is 3, 4419 ha in extent. Refer to Figure 1 and 2 below:

Figure 1: Site Layout

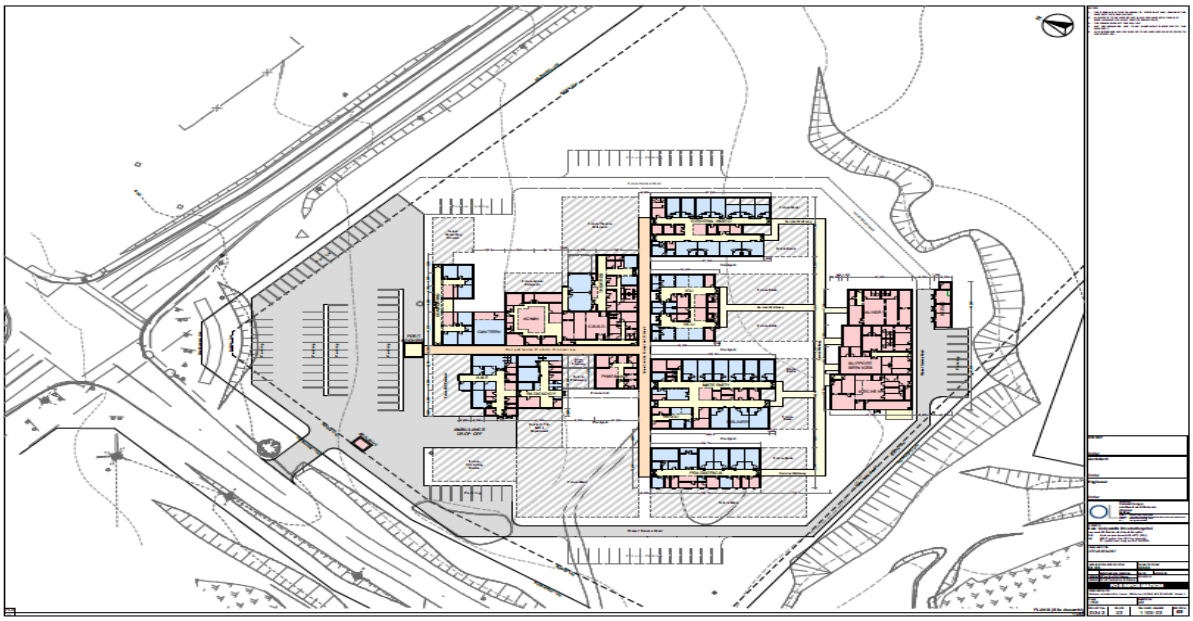

Figure 2: Aerial Map

8 SUMMARISED IMPACTS DUE TO CONSTRUCTION AND OPERATION OF THE PROJECT

8.1 Construction

a. Clearance of vegetation resulting to loss of indigenous vegetation.
b. Surface water pollution due to spills of mixed hazardous chemicals during construction.
c. Ground water contamination due to oil and fuel leaks from vehicles.
d. Traffic caused by delivery vehicles during construction.
e. Generation of noise due to construction activities
f. Dust generation by construction activities.
g. Visual impacts
h. Soil erosion as result of loose soils.
i. Light pollution during the night.
j. Sedimentation of water resources
k. Storm water run-off due to loose soils leading to sedimentation of water bodies. Storm water run-off may also arise due increase coverage of paved surfaces
l. Loss of habitat diversity

8.2 Operation

a. Increased storm water production from hardened and roofed surfaces.
b. Visual pollution from physical structures, and lighting at night.
c. Water pollution from surface runoff.
d. Soil erosion from storm water concentration in fewer areas.
e. Loss of animal species due to changed habitats.
f. Loss of vegetation species on concreted, built and disturbed areas.
g. Infestation of alien vegetation
h. Traffic congestion due to ambulances, delivery trucks and public vehicles
i. Increased pedestrian traffic.
j. Waste generation (medical waste)

9 PRE-CONSTRUCTION PHASE

Pre-Construction EMPR activities are those relating to the preparation of the site prior to the start of the Construction Phase.

9.1 Access to the Site

The proposed development is a corner site on at the intersection between the Delhi Road and N11, therefore there is an existing access road via Delhi Road which makes the site easily accessible. This site must have strict access control to reduce the risks associated with vehicular transportation and pedestrian access on the site. The Contractor must be made aware of this requirement by the Developer prior to construction commencing on site.

9.2 Preparation of Method Statements and/or Management Plans

A method statement describes the scope of the intended work in a step-by-step description in order for the ECO and Applicant to understand the contractor's intentions. This will enable them to assist in devising any mitigation measures, which would minimize environmental impact during these tasks. Method Statements and/or Management Plans must be submitted by the Contractor and must be adhered to by the Contractor and Site Manager. The water and storm water management requirements, traffic requirements, solid waste management requirements, fuel storage and filling and dispensing of fuel (diesel and petrol), hydrocarbon spills, contaminated water treatment, the storage of hazardous materials, standard emergency procedures, and biohazard control, shall forma part of the Method Statement. The Environmental Control Officer (ECO) must monitor the implementation of the Statements and Management Plans. All copies of the statements and plans must be submitted to the appointed Environmental Control Officer.

The method statement must cover applicable details with regard to:

- Construction procedures.
- Materials and equipment to be used.
- Getting the equipment to and from site.
- How the equipment/ material will be moved while on site.
- How and where material will be stored.
- Location & establishment of concrete batching plant facility.
- The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material (of any potential hazardous material) that may occur.
- Timing and location of activities.
- Compliance/ non-compliance with the Specifications.
- Any other information deemed necessary by the Applicant and the ECO.

9.3 Permits required

The necessary permits must be obtained by the Developer prior to the commencement of construction and sufficient time must be allowed to obtain such permits, for activities such as:

a. The sourcing of borrow material which if required, would constitute Mining Right Permits from the Department of Minerals & Energy.
b. The disposal of effluent offsite.
c. The management of storm water on site.
d. Abstraction of water (ground or from a river), and for stream flow reduction activities, from the Department of Water Affairs.
e. The relocation, removal or pruning of protected trees from the Department of Water Affairs.

9.4 Provision of Bulk Services

The Site Manager must confirm that the existing services on site are sufficient for demands of operating plant, such as water and electricity. Agreement will be required with Alfred Duma Municipality for these services.

9.5 Layout of Construction Camp

a. The Site Manager must in conjunction with the Contractor and Environmental Control Officer, identify the most suitable location for the Site Establishment Office/ Construction Camp.
b. The choice of a site for the Construction Camp requires the Municipal Engineer's permission and must consider the location of local residents and or ecologically sensitive areas, including flood zones, drainage areas and slip/unstable zones.
c. A site plan must be submitted to the Engineer for approval.
d. The camp may not be located on a floodplain or on slopes greater than 1:3.
e. Should the Contractor decide to locate the camp site on adjacent private land, he must get prior written permission from both the Engineer and the landowner.
f. An onsite accommodation may not be required. However, this will need to be determined by the user concerned.
g. The construction camp is usually comprised of:
    - a site office;
    - ablution facilities;
    - a designated first aid area;
    - eating areas;
    - staff lockers and showers (where waterborne sewers are available);
    - storage areas;
    - batching plant (if required);
    - refuelling areas (if required);
    - maintenance areas (if required).

h. Further considerations for the construction of the camp include the avoidance of cut and fill wherever possible during the establishment of the construction camp.
i. The size of the camp should be kept to a minimum (especially where natural vegetation or grassland has to be cleared for its construction).
j. Parking for staff and visitors needs to be adequately provided. The Contractor must also ensure that drainage on the camp site is such to prevent standing water and/or sheet erosion from taking place.

9.6 Storm Water Management

a. On-site storm water controls must be implemented prior to the start of construction. A Storm Water Management Plan needs to be submitted by the Contractor and approved by the Site Manager, unless otherwise submitted during the Environmental Authorisation stage. The increase in storm water run-off resulting from construction activities must be estimated and the drainage system assessed accordingly to prevent storm water damage.
b. It is important that the attenuation and/or retention ponds be aligned with future artificial wetlands that have been proposed for collecting runoff from the site prior to it entering the water course, where applicable.

9.7 Soil Management

a. The Contractor must ensure that wind screening and storm water management controls must be undertaken to prevent soil loss during site establishment. This will involve erection of shade cloth fencing around the site perimeter, where considered necessary by the Site Manager.
b. The time that stripped areas are exposed should be minimised wherever possible. Care should be taken to ensure that lead times are not excessive.
c. Procedures that are in place to conserve topsoil during the construction phase are to be applied during the site establishment phase, i.e. topsoil is to be conserved while providing access to the site and setting up the camp.
d. Prior to Site establishment the Contractor must strip and stockpile all soil within the works area for possible subsequent use. Stockpiled soil should not be in excess of 2 m in height, and should be protected from wind and rain with the use of tarpaulins where necessary.

9.8 Conservation of Natural Resources

The conservation of natural resources is applicable to areas inside and outside the perimeter of the property and governs the behaviour of contractors and employees.

a. No natural vegetation may be cleared during the site establishment without the prior permission of the Department of Economic Development, Tourism and Environmental Affairs after a motivation from the ECO.
b. Care must be taken to avoid the introduction of alien plant species to the site and surrounding areas.

9.9 Cultural Heritage Environment

a. The archaeological component (Phase 1) and any other applicable heritage components. Amafa KZN Heritage therefore requires the appointment of an Amafa accredited Heritage practitioner to assist in the provision of recommendations and mitigation procedures.
b. Any archaeological or historical assets found prior and during constructing must be protected and Amafa AkwaZulu-Natal be notified of such findings. No construction must continue at such area.

9.10 Security Fencing

a. During site establishment the site must be secured if necessary to minimize the opportunity for criminal activity in the locality of the site. The site must be fenced and security manned on a 24-hour basis.

9.11 Lighting On-site

a. Adequate but intrusive light must be provided onsite; such light must be minimised to the intended use only.
b. The light must not pollute aesthetically and/or interfere with surrounding environment and users.

9.12 Noise Impacts

a. All Construction vehicles must be in good working condition. Any unfit or badly maintained vehicles must be removed from site for repairs.
b. Construction vehicles must whenever possible be fitted with silencers to minimise noise levels during construction.
c. Construction activities must be limited to normal working hours, to avoid disturbance to the surrounding communities.

9.13 Designated Working Hours

a. In line with Department of Labour's requirements, operational hours must be as follows.

Day	Start Time	Finish Time	Hours per Day
Weekdays (Monday to Friday)	07h00	17h00	10
Saturdays	08h00	16h00	8
Sundays and Public Holidays	08h00	16h00	8

b. Any deviations from the above must be approved in writing by the Department of Economic Development, Tourism and Environmental Affairs or/or Alfred Duma Municipality.

9.14 Environmental Awareness & Induction

a. The Contractor must ensure that the construction team and all sub-contractor/s are familiar with the EMPR requirements and have a basic level of environmental awareness training.
b. The Environmental Control Officer must undertake environmental awareness induction training prior to the start of construction activities on site.
c. Topics to be covered by the Induction should include:

- Explanation of what is meant by “environment” and why the environment needs to be protected and conserved.
- How construction activities can impact on the environment, and what measures can be taken to militate against these impacts.
- Awareness of emergency and hazardous spills response provisions.
- Prevention of pollution and litter control and the minimization of disturbance to sensitive areas.
- Social responsibility during construction. This entails being considerate to local residents.
- Construction Workers need to be made aware that they are not to make excessive noise (e.g. shouting/hooting) as the site is borders the residential properties.
- The need for a “clean site” policy also needs to be conveyed to construction workers.
- Workers need to be made aware of the following general rules of behaviour.
- No alcohol/drugs to be present on site and no firearms permitted on site or in vehicles transporting staff to /from site, (unless used by security personnel).
- Bringing pets on site is forbidden, and no harvesting of firewood from the site or for areas adjacent to it.
- Workers are to make use of facilities provided for them, as opposed to ad-hoc alternatives (e.g. the use of surrounding bush as a toilet facility is forbidden; fires for cooking).
- Driving under the influence of alcohol is prohibited.
- Trespassing on private/commercial properties bordering the site is forbidden.
- Other than pre-approved security staff, no workers must be permitted to live on site unless deemed necessary due to the specific project.

10 CONSTRUCTION PHASE

The construction phase covers all activities during construction. There may be overlaps between pre-construction and construction phases. The overlaps may not be used as an excuse for non-compliance with either portion of the EMPR.

10.1 Access to the Site

a. All access to the property must be properly controlled 24 hours a day.
b. No unauthorised access must be granted to vehicles or persons.
c. A register of persons and vehicles accessing the site must be maintained and produced on request.
d. Access roads must be maintained in good conditions.
e. Vehicle movements must be controlled to avoid congestion, dust generation and road hazards.

10.2 The Construction Camp

a. All employees and contractors must adhere to camp rules.
b. Proper ablution chemical toilets must be available and properly serviced on site as per Public Health requirements. Ration of 1 toilet per 16 employees must be the minimum ration applied. The construction of “long drop” toilets is forbidden. Under no circumstances may the neighbouring open areas are used instead of toilets.
c. Waste must be handled using proper receptors, with bin liners, and cleaned regularly. Waste separation for recycling must be enforced on site using colour coding and clear markings on bins.
d. Waste receptors must be cleared and waste disposed-off on a licensed waste disposal facility. Records/certificates of such disposal must be produced on request by authorities.

10.3 Visual Impacts

a. All physical structures must, at least mirror colours of the natural environment as far as possible.
b. Screening cloths away from the public must be installed to mitigate any intrusive structures.
c. Lights must shine away from the road, residential areas to avoid light pollution from the site.
d. Reflective materials must be avoided whenever possible.

10.4 Waste Management

a. Waste generated on the site must be handled appropriately using appropriate receptacles, bin liners, and skips.
b. Regular trips to the Ladysmith Disposal Site must be made for general waste.
c. All hazardous waste must be sent to a Hazardous Disposal Site. Hazardous wastes include but not limited to fluorescent tubes, oil contaminated material, paints, etc.

d. Records of waste generated must be kept and be produced on request.
e. Recycling of waste must be encouraged on site.
f. Littering is prohibited on-site and off-site.
g. Burning and burying of waste is prohibited.
h. No servicing of vehicles is permitted on site.

10.5 Water Quality Management

a. The proximity of, and the distances to all surface water bodies in the vicinity must be established.
b. A borehole and spring census must be carried out within a one kilometre radius of the site.
c. The yield of each borehole, their logs and water quality must be supplied.
d. The geohydrology of the proposed site must be assessed by surface mapping, accessing existing information and Geohydrological maps of the area, together with appropriate subsurface investigative measures.
e. Where appropriate geophysics must be carried out across the site to assist in the identification of faults or to establish if any other geological anomalies exists beneath the proposed site.
f. The latter boreholes must be utilised for ground water monitoring.
g. No polluted water or grey water must be disposed-off to the natural environment. All contaminated water and effluent must be disposed-off at the Municipal Sewer System.
h. The contractor must ensure that no water contamination occur and that strict measures are instituted when such pollution occur.
i. Polluted water must not come into contact with clean water.
j. Polluted water must not be flushed down the drains.
k. The Environmental Control Officer will be responsible for reporting the storage/use of any other potentially harmful materials to the relevant authority.

10.6 Air Pollution – Dust Prevention

a. All reasonable measures must be taken to ensure that dust generation is minimised.
b. Dust suppression by regular water spraying must be done.
c. A 20km/hr. speed limit must be enforced to all vehicles entering the site.
d. Shade cloths properly fastened must be used to prevent dust escaping the property.
e. No fires are to be permitted on site except for the burning of firebreaks.

10.7 Noise Pollution

a. All construction vehicles must be in good working conditions.
b. Noise reducing instruments such as silencers and side flaps must be installed on construction vehicles and machinery.
c. Noisy activities must be limited to normal working only (7:00 to 17: 00)
d. Noisy activities such as blasting must occur during the day.

10.8 Hazardous Chemical Storage and/or Handling

a. Storage of fuel, oils, or hazardous chemicals or substances is prohibited, unless in small daily used up quantities. Such storage is limited to fuels and oils used by heavy machinery or mobile tools which cannot readily move in and out of the site.
b. Storage of limited hazardous substances must be clearly demarcated, bundled and installed with safety considerations, and installations approved by the Town Engineer or Fire Department.
c. The bund must at least have a concrete plinth with a containment capacity 110% to the container being bundled.
d. Spillages from containers must be reported to ECO who in turn must report using the s48 incident form of the Department of Economic Development, Tourism and Environmental Affairs, and must immediately notify the said Department.
e. Ensure that the mixing /decanting of all chemicals and hazardous materials should take place on tray or impermeable surface.
f. All contaminated soils and materials must be removed and sent to the Hazardous Landfill site Ladysmith Landfill Site. A Safe Disposal Certificate must be sort from the transporter of such contaminated material and/or the Disposal Facility concerned. Failure to do so is an offence in term of NEMA section 48.

10.9 General & Hazardous Substances and Materials

a. The location of storage sites for material especially hazardous materials must be sited in consultation with the ECO. The ECO must consider logistics, prevailing wind directions, fugitive emissions, and water resources when deciding of locations.
b. Locations must be clearly demarcated and fenced off to avoid unauthorised access.
c. Material must be located with consideration of fire and spillage incidents and to the approval of the Municipality's Fire Department.
d. Hazardous materials to be stored on site are those that are potentially poisonous, flammable, carcinogenic or toxic. These materials include diesel, petroleum, oil, bituminous products; cement; solvent based paints; lubricants; explosives; drilling fluids; pesticides and herbicides and Liquid Petroleum Gas (LPG). Material Safety Data Sheets (MSDS's) must be readily available on site for chemicals and hazardous substances to be used on site. MSDS's should also include information on ecological impacts and measures to minimize negative environmental impacts during accidental releases or escapes.
e. Hazardous storage and refuelling areas must be bundled with an approved impermeable liner to protect groundwater quality.
f. A Method Statement and plans for the storage of hazardous materials and emergency procedures.
g. The contractor must ensure that all used oils/lubricants are placed into drums and recycled.
h. The ECO and the Contractor must ensure that all hazardous materials and substances are reported to Alfred Duma Municipality.
i. The ECO is responsible for reporting all spillages and incidents in a prescribed section 48 of NEMA Form, and to inform Department of Economic Development, Tourism and Environmental Affairs.
j. A register of incidents referred to in i) above must be kept on site and be produced on request by officials.
k. The Environmental Control Officer and Contractor must be responsible for ensuring that potentially harmful materials are properly stored in a dry, secure environment,

with concrete or sealed flooring and a means of preventing unauthorized entry. The Environmental Control Officer must further ensure that materials storage facilities are cleaned / maintained on a regular basis, and that leaking containers are disposed of in a manner that allows no spillage onto the bare soil.

l. The Contractor must ensure that there is available adequate supply of absorbent material to use in emergency spills to deal with at least 200 litres or 200kg of material/chemical/substance spillages on site. All used absorbent together with spilled material must be disposed-off at a Hazardous Disposal Site and a disposal certificate secured, filed and presented on request by the ECO.

10.10 Materials and Stockpile Management

a. Stockpiles and materials must be stored away from water resources, access roads and wind prone areas of the working area.
b. Excessive exposure of stockpiles to rain or clean water must be avoided by cloth or other screening material, or berms where appropriate.
c. Stockpiles must not exceed 2 meters in height unless approved by the Engineer.
d. Soil stockpiles must be kept free of cement, growing plants and chemicals/oils.
e. Topsoil's must be used within 6 months of being stripped to avoid dust pollution, water contamination and erosion.

10.11 Staff Conduct

a. All contractors and sub-contractors must ensure that employees are well behaved on site, in compliance with EMPR and other applicable laws.
b. All employees must undergo Environmental Induction Training, which may be part of Safety Induction, but presented by the ECO.

10.12 Soil Erosion

a. Soil clearing must be undertaken with great care to avoid unnecessary vegetation destruction on site.
b. The contractor must avoid removal of vegetation groundcover on steep slopes and inclined.
c. Remediation of exposed areas must be undertaken as soon as those areas are no longer required for use.

10.13 Storm water Control

a. Metal grits must be used to cover grains and culverts to prevent soil silting and blockages.
b. Contaminated water must be treated prior to disposal to the natural water system.
c. Clean and dirty water must be separated and not allowed to mix.
d. Material such as soils, stones, rubble etc. must not obstruct natural waterways.
e. The site manager and ECO must ensure that drains and water ways are not obstructed in anyway by regular inspections.
f. Storm water attenuation must be practiced on site.

g. Measures to ensure a net zero increase in run-off as a result of the Project on completions, must be implemented.
h. Drains must be cleared and cleaned on weekly basis.
i. No polluted water must be washed or disposed-off in drains.

10.14 Vegetation

a. Damage to vegetation must be kept at minimum and limited to areas required for use only.
b. A vegetation plan must be developed and implemented in consultation with the Grassland or Horticulturalist to ensure indigenous vegetation is planted on site.
c. Introduction of alien vegetation and animals prevented.
d. Re-vegetation and remediation must be undertaken as soon as practically possible to prevent unnecessary exposure to risks of erosion and water pollution.
e. Screening trees along N11 and Delhi road and on the property boundary must be planted to provide screening function. Only indigenous trees must be used and these must mirror the natural vegetation of the surrounding environment.
f. Harvesting of vegetation for medicinal, recreational, fire wood, or any other use is prohibited.

10.15 Vehicular and Traffic Management

a. All vehicles must be operated in compliance with the Road Traffic Act.
b. Safety of passengers, pedestrians, and other road users must be a consideration by all road users in the property.
c. A speed limit of 20km/hour must be enforced by the Site Manager.
d. Ensure erection of Traffic signs showing construction sign ahead.
e. Traffic management must be done in consideration of physical site constraints, dust pollution, safety of road users and property, and general environmental and EMPR provisions.
f. Overloading of vehicles is prohibited.
g. Unsafe loading of inappropriate material will not be allowed.
h. Traffic exiting or entering the site to and from N11 and Delhi road must be assisted to do so safely. This may require management of traffic and signalling inside the site.

10.16 Social Impacts

The project is likely to have a minimum negative impact on the neighbouring communities.

a. Any complaints and interactions must be cordial and understanding.
b. Concerned and complaints of neighbouring communities must be recorded and discussed at site meetings. EMPR related complaints must be dealt with by the ECO.
c. Cognisance must be made of social and economic issues raised by the neighbouring and interested and Affected Parties.

10.17 A Complaint's Register

a. A Complaints Register must be kept at the site office.
b. It must have duplicate numbered pages.
c. The IAAP's need to be made aware of the register and have access to it.
d. The Contractor needs to appoint a staff member(s) to act as liaison officer for formal consultation with IAAP's.
e. The ECO must check Complaint Register every day to ensure that EMPR and Environmental specific complaints are addresses immediately.
f. A set protocol must be implemented to deal with complaints and communication with stakeholders.
g. Complaints must be resolved and records of complainant, issues and resolution filed.

10.18 Fire Control and Welding

a. Fire Management Plan must be produced when required and be approved/ accepted by the Municipality's Fire Department.
b. No cooking or heating must occur on-site other than those specific to building and governed by the OHSA.
c. Burning of fire belts is the only allowed activity by an appointed person using appropriate methods, at appropriate time of the year, and with adequate equipment to prevent development of wild fires.
d. Welding must be done in compliance with OHSA Regulations and applicable procedures as may be determined by the Fire Department.

10.19 General Provisions

a. All unusual disturbances e.g. blasting, traffic closures, etc. must be communicated by the Site Manager to stakeholders including neighbouring communities at least 24 hours prior to occurrences.
b. Local residents must be given opportunities for employment, and skills development.

11 POST-CONSTRUCTION PHASE

The Post-Construction refers to activities after the construction activities have been completed.

11.1 Construction Camp

a. The construction camp must be demolished, dismantled or moved off the site.
b. All concrete and hard surfaces removed and rubble disposed-off at an appropriate disposal site. If such surfaces are to be reused, a confirmation of acceptance of such rubble must be obtained from the recipient property owner.
c. All services must be terminated e.g. temporal ablution facilities.
d. Hazardous installations must be dismantled and containers with residues disposed-off at an appropriate landfill site.
e. Failure to adhere to proper dismantling and disposal directives/instructions are a direct violation of EMPR and applicable legislation.

11.2 Site Clearance

a. Construction material and equipment must be removed on site once construction and rehabilitation is completed.
b. Vegetation and beatification activities must align with the EMPR objectives and sustainable development principles.
c. ECO and the Contractor have to approve all the remediation measures and to ensure that the site has been in compliance with the EMPR.

11.3 Site Re-vegetation

a. Remediation by re-vegetation and landscaping of the site would have been in progress throughout the construction phase and will be completed at this stage. On-going management and maintenance will proceed as per the contractual agreement between the Lessor and Lessee's.
b. All rubble is to be removed from the site to an approved landfill site as per construction phase requirements. No remaining rubble is to be buried on site.
c. The site is to be free of litter and surfaces are to be checked for waste products from activities such as concreting or asphalting and cleared.

12 OPERATIONAL PHASE

All activities relating to the actual operation or use of the Ladysmith Private Hospital are dealt with in this section. This section covers matter relating to tenants behaviour, centre management and general housekeeping issues.

12.1 Traffic Management

a. The road must be maintained to a good condition at all times, to avoid potholes.
b. Traffic management signs must be erected to prohibit delivery vehicles or trucks to park on public roads.
c. Delivery of hospital Equipment must be avoided during peak hours

12.2 Visual Environment

a. Erection of friendly outdoor lighting.
b. Screening with trees and shrubs must be applied.
c. The site must be kept clean and neat at all times to avoid litter and excessive waste.

12.3 Waste Management

a. The proposed waste storage facility for medical waste must be segregated according to classification, corresponding with the proposed waste management plan.
b. Ensure waste segregation to reduce health and environmental risk, preventing contamination of other waste (such as recyclable waste) with infectious waste.
c. Hazardous and medical waste packaging must be done accordingly, with use of colour code and visible sign indications.
d. Waste bins/containers must be hermetic to avoid unnecessary exposure, resistance to sharps, easy to wash, carry and transport.
e. Waste generated on the site must be handled appropriately using appropriate receptacles, bin liners, and skips.
f. Records of waste generated must be kept and be produced on request.
g. Recycling of waste must be encouraged on site.
h. Littering is prohibited on-site and off-site.
i. Burning and burying of waste is prohibited.
j. Waste must be collected and disposed of correctly on regular basis.

12.4 Water Quality Management

a. No polluted water or grey water must be disposed-off to the natural environment. All contaminated water and effluent must be disposed-off at the Municipal Sewer System.
b. The contractor must ensure that no water contamination occur and that strict measures are instituted when such pollution occur.

c. Polluted water must not come into contact with clean water.
d. Polluted water must not be flushed down the drains.
e. The Environmental Control Officer will be responsible for reporting the storage/use of any other potentially harmful materials to the relevant authority.

12.5 Soil Erosion

a. The Hospital Management must ensure that erosion causing activities are controlled in such a manner that prevents erosion setting off on site.
b. Grounds must be maintained such that no soil loss occurs, thereby causing erosion of this natural resource.
c. Ensure re-vegetation to bare areas to avoid erosion.

12.6 Storm water Control

a. Metal grits must be used to cover grains and culverts to prevent soil silting and blockages.
b. Contaminated water must be treated prior to disposal to the natural water system.
c. Clean and dirty water must be separated and not allowed to mix.
d. Material such as soils, stones, rubble etc. must not obstruct natural waterways.
e. The Centre Manager must ensure that drains and water ways are not obstructed in anyway by regular inspections.
f. Storm water attenuation must be practiced on site.
g. Measures to ensure a net zero increase in run-off as a result of the Project on completions, must be implemented.
h. Drains must be cleared and cleaned on weekly basis.
i. No polluted water must be washed or disposed-off in drains.

12.7 Vegetation

a. Introduction of alien vegetation and animals is prohibited. Only indigenous plants and vegetation must be used on the gardens.
b. Screening trees along the (N11 and Delhi) road and on the property boundary must be maintained for screening function.
c. Only indigenous trees must be used and these must mirror the natural vegetation of the surrounding environment.

13 OPERATIONAL WASTE MANAGEMENT REQUIREMENT

The Environmental Impact Assessment identified various issues and concerns that were addressed through the process. Many of the issues need to be mitigated by management procedures and therefore waste management actions/mitigation measures are described for the operation of the proposed Ladysmith Private Hospital.

13.1 Medical Waste Management

Medical waste consists of general waste and hazardous waste. General waste is separated into bio-degradable waste, building waste and inert waste. Hazardous waste includes infectious, sharps, sanitary, genotoxic waste, pharmaceutical, radioactive waste, etc. Therefore, it is very crucial that medical waste handle with care to avoid any type of contamination or health threatening risks. Proper waste management involves Identification of waste, Collection and housekeeping, Segregation of waste, Storage, Collection and Disposal. The following must be adhered to in respect of Medical Waste:

- All medical waste must be stored in designated areas and undercover.
- Waste must not be exposed to air and water/rain water.
- Collection must be done by a Registered Hazardous Waste Transporter.
- Waste collection must be done weekly.
- Proper and accurate records of collection and disposal must be kept on premises of the Ladysmith Private Hospital for inspection and audit purposes.

13.2 Identification of Waste

a) Identification of waste is very important to ensure that hazardous waste don't mix with general waste.
b) Waste generated on the site must be handled appropriately using appropriate receptacles, bin liners, and skips. Waste bins must be marked accordingly and signs be visible enough.
c) No hazardous waste may be handled unless containerized
d) All stuff must be trained on waste management.

13.3 Collection and Housekeeping

a) Garbage collection or housekeeping must be conducted early in the morning hours every day by cleaners/sweepers.
b) Collected waste need to be segregated then stored adequately, then stored in designated storages.
c) Waste collector must wear appropriate protective equipment to ensure no harm come to them.
d) The necessary equipment must be provided to avoid manual handling of full hazardous waste containers.

13.4 Segregation of Waste

a) Ensure waste segregation to reduce health and environmental risk, preventing contamination of other waste (such as recyclable waste) with infectious waste.
b) Hospital solid waste which will be in a form of food waste (food left overs, fruits, vegetables, etc.) known as bio-degradable waste, other general waste (plastics, papers etc.) and hazardous waste (needles, human bloods, body fluids, sanitary etc.) must be separated accordingly using different colours bins.
c) Recyclable waste must be separated from non-recyclable waste.
d) Segregation must always be the responsibility of the waste producer, must be conducted onsite and be maintained in storage areas.
e) Colour coded plastic bags and re-usable containers will be used for segregation of waste.

13.5 Waste Storage

a) A multi-bin system must be used for storing of medical, food and general waste.
b) All storage facilities/ containers for hazardous waste must be lead and puncture proof, have tight fitting lids, be clean and in good repair.
c) Red bags must be used for hazardous waste with re-usable containers and clear plastic bags for general waste.
d) The storage facilities/containers must be in adequate size to accommodate waste packaging for at least 3 days until collection and disposal by waste contractor.
e) Limited access to the storage area is recommended.
f) The area must be clearly marked by warning signs. The biological hazard symbol should be posted on the storage area door, waste containers, freezers or refrigerators.
g) The storage facilities must be kept clean daily or after removal of waste by the waste contractor.

13.6 Collection and Disposal of Waste by Waste Contractor

a) All disposals content must be in accordance with the waste management plan implemented for the development.
b) Proper Protective Clothing must be used when handling of waste.
c) Transponder must be used to scan each waste container before removal by Waste Contractor.
d) All personnel collecting and transporting hazardous waste containers must be provided training on protective equipment, hazards of waste management and corrective measures.
e) Records of safe disposal must be provided by the waste contractor
f) The disposal of waste must be done by an approved medical waste contractor.

14 RENOVATIONS

14.1 Renovations/ building maintenance:

a. Paints water based paints used wherever possible;
b. Renovations and maintenance planned to minimise the production of waste;
c. Waste segregation and recycling planned prior to commencement; and
d. Any waste generated segregated to maximise re-use or recycling.

15 MONITORING

15.1 Monitoring

a. The monitoring of works on site is necessary to demonstrate compliance with the specifications of the EMPR and to allow for problems or issues of non-conformance to be identified and appropriate
b. Monitoring should include visual checks by the Site Manager on a daily basis, checks on particular requirements for site activities by the ECO, as well as a review of site documentation.
c. The ECO must complete the performance record at the end of each table above, as a record of transgressions or problems experienced on site, and how they were dealt with.
d. Monitoring of activities on site by the ECO should be done on a weekly basis.

15.2 Transgression and Penalties

a. Transgressions relate to actions by the owner and operating team members whereby damage or harm is inflicted upon the environment or any feature thereof and where any of the conditions or specifications of the EMPR are infringed upon.
b. In the instance of environmental damage, the damage where possible, is to be repaired and rehabilitated using appropriate measures, as specified and undertaken by appropriate specialists, for the account of the contractor or other guilty party.
c. Transgressions are most likely to occur with respect to litter on site, damage or the disturbance of sensitive areas, for example the indigenous vegetation, and erosion.
d. Issues of non-compliance noted by the ECO are to be communicated to the site operator, who holds the responsibility of ensuring that the relevant parties are made aware of the lack of compliance with EMPR specifications, and that appropriate action is taken to rectify the situation. The ECO will advise on appropriate corrective actions when necessary. The contractor is ultimately responsible for compliance of the EMPR.

15.3 Site record

Minutes of meetings on site must reflect environmental queries, complaints, actions agreed upon, dates of eventual compliance and must form part of the official environmental site record. In additions to the summary report, the ECO must keep a

monthly photographic record of issues on site and an ad hoc record of incidents or events on site, especially in the case of transgressions from EMPR specifications.

16 EMPR VIOLATIONS

EMPR violations are a violation of the Environmental Authorisation issued for the project, and are therefore a violation of NEMA provisions.

16.1 Contractor and/or Developer

The Contractor is deemed not to have complied with this generic EMPR if:

a. within the boundaries of the Project Area, during the Construction Phase, adjacent areas and haul/ access roads there is evidence of contravention of EMPR clauses, Environmental Authorisation conditions, or any legally issued directive or instruction;
b. environmental damage ensues due to negligence;
c. he fails to comply with corrective or other instructions issued by the Relevant Authority, Site Manager or Environmental Control Officer within a specified time,
d. Failure to take any reasonable measure to protect the environment if there is a perceived or identified environmental risk associated with an activity that has not been defined in the EMPR.
e. Pollution of land surfaces and air pollution results from construction and related activities.
f. The Contractor fails to comply with corrective or other instructions issued by the Engineer within a specified time.
g. The Contractor fails to respond adequately to valid complaints from the public.

16.2 Sub-contractor

The Sub-contract is deemed NOT to have complied with the EMPR if:

a. She violates any part of the EMPR whether in stipulated in her contract or not,
b. He causes environmental damage due to negligence,
c. He fails to comply with directives/instructions of the relevant authority, site manager or engineer, or ECO,
d. Fails to respond and act adequately to public complaints.

17 REPORTING ON EMPR

17.1 Reporting Regime

The following reporting regime will be implemented.

	What	Details, Who, Outcomes	Frequency/ When
1	ECO appointment	The Developer/Contractor appoints ECO and informs DEDTEA in writing of the name and contact details.	At least 30 days prior to construction activities
2	Safety File	ECO and Developer ensure EMPR included in the Contractors' Safety File.	At least 10 days prior to construction
3	Baseline Audit	ECO conducts a baseline audit of all environmental assets, conditions, and landscapes. A Report is generated.	10 days prior to construction
4	Inform Authorities of Intention to Commence with Construction	The developer must inform DEDTEA in writing on date of starting of construction activities.	At least 5 days prior.
5	Complaints Register	ECO and Contractor develops Complaints Register for the site	At least 5 days prior to Commencement of Construction
6	Induction	ECO conducts Environmental Awareness and Induction of Management, employees, etc. An attendance register is generated.	On first day of construction commencement
7	Monthly Audits	ECO conducts monthly audits for the first 3 months of commencement of construction. Monthly Audit Reports are produced	Every Month-end. Reports to Authorities in 14 days.
8	Quarterly Audits	ECO conducts quarterly audits every 3 months for the duration of the construction. Quarterly Audit Reports are produced	Every Quarter-end. Reports to Authorities in 21 days.
9	Annual Audit	ECO conducts annual audits every 12 months for the duration of the construction. Annual Audit Reports are produced.	Every 12 month-end. Reports to Authorities in 6 weeks.

17.2 Contents of the Audit Report

The audit report must typically contain this information:

- Date of the audit;
- Aspects covered;
- Stage of the construction project;
- List of activities undertaken during the reporting period;
- Environmental impacts identified;
- Mitigation measures implemented;
- Corrective actions;
- Violations of the EMPR;
- Level of compliance with Environmental Legislation and EMPR;
- Suggestions on the EMPR amendments;
- Incidents i.t.o. section 48 of NEMA and other incidents;
- Complaint register entries and resolution of complaints;
- Any other matter of interest to the authorities.

17.3 Environmental Audits

a. A suitably qualified Environmental Auditor is to be appointed, at the expense of the Developer, to undertake audits of compliance with the EMPR. This should happen every 6 months.
b. Objectives should be to audit compliances with the key components of the EMPR, to identify main areas requiring attention and recommend priority actions. The audit should cover across the section of issues, including implementation of environmental controls, environmental management and environmental monitoring.
c. Results of the audits should inform changes required to the specifications of the EMPR or additional specifications to deal with any environmental issues which arise on site and have not been dealt with in the current document.

18 AMENDMENTS TO THE EMPR

Any major issues not covered in the EMPR as submitted must be addressed as an addendum to the EMPR, submitted for approval by the Department of Economic Development, Tourism and Environmental Affairs, prior to implementation.

19 CLOSURE

Decommissioning and/or closure of the Hospital is not anticipated. However, should this be required for any reason, the Department of Water Affairs and Department of Economic Development, Tourism and Environmental Affairs must be consulted for guidance.