

ENVIRONMENTAL MANAGEMENT PROGRAMME

PROPOSED POULTRY FARM IN WATERDAL NEAR VANDERBIJLPARK, GAUTENG PROVINCE

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> Environmental Impact Management Services (Pty) Ltd Block 5 Fernridge Office Park, 5 Hunter Avenue, Ferndale, Randburg. P.O. Box 2083, Pinegowrie 2123 Tel: +27(0)11 789-7170 Fax: +27(0)11 787-3059

> > December 2014

Leaders in Environmental Management

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	Name	Signature	Date
Compiled:	Nobuhle Hughes		03 December 2014
Checked:	Nicus Durieux/ Liam Whitlow		03 December 2014
Authorized:	Liam Whitlow		03 December 2014

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SUMMARY DATA

PROJECT:	BASIC ASSESSMENT FOR THE PROPOSED POULTRY FARM IN WATERDAL NEAR VANDERBIJL PARK, GAUTENG PROVINCE	
Location:	Holding 18, Waterdal Agricultural Holdings in Waterdal, near Vanderbijlpark. The property is within the Emfuleni Local Municipality, under the Sedibeng District Municipality in Gauteng Province	
Client:	Navomix Suppliers (Pty) Ltd	
Consultant:	Environmental Impact Management Services (Pty) Ltd	
Contact:	Nobuhle Hughes	
Contact Details:	P.O. Box 2083, Pinegowrie, 2123	
	Tel: (011) 789 7170	
	Fax: (011) 787 3059	
	E-mail: nobuhle@eims.co.za	

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TERMS AND DEFINITIONS

Applicant	The person or party applying for Environmental Authorisation for a listed activity and who responsible for ensuring the development complies with all relevant legislation whether or not they are the land owner.
Bids	Formal proposals by prospective service providers for different components of the design and construction of the project.
CA	Competent Authority in respect of a listed activity or specified activity, means the organ of state charged by NEMA with evaluating the environmental impact of that activity and, where appropriate, with granting or refusing an environmental authorisation in respect of that activity
dBA	A unit of sound pressure
GDARD	The Gauteng Department of Agriculture and Rural Development
DWA	The Department of Water Affairs – including national offices and their various regional offices, which are divided across the country on the basis of water catchment areas
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment as contemplated under Regulation 545 of 2010 of the National Environmental Management Act (107 of 1998)
EIR	Environmental Impact Report
EO	Environmental Officer (Contractor)
EMI	Environmental Management Inspector ("Green Scorpion") – from DEA and/or Provincial Environmental Departments
EMPR	Environmental Management Programme
Environment	The Environment is defined in terms of the National Environmental Management Act (Act 107 of 1998) as the surroundings within which humans

	exist and that are made up of: The land, water and atmosphere of the earth: micro-organisms, plant and animal life, any part or combination of the first three items and the inter-relationships between them the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing
Environmental Authorisation (EA)	Previously referred to as a Record of Decision (RoD). This constitutes the approval or dismissal of project as issued by the relevant Competent Authority
Fauna	All living biological creatures, usually capable of motion, including insects and predominantly of protein-based consistency
Fence	A physical barrier in the form of posts and barbed wire or any other concrete construction, ("palisade"- type fencing included), constructed with the purpose of keeping humans and animals within or out of defined boundaries
Flora	All living plants, grasses, shrubs, trees, etc., usually incapable of easy natural motion and usually capable of photosynthesis
GN	Government Notice
I&AP	Interested and Affected Party/ies
IA	Independent Auditor who is independent from the applicant/client to audit
	ECO reports and findings
Induction Training	Training provided to all new employees prior to them being allowed on site
Induction Training Key Indicators	Training provided to all new employees prior to them being allowed on site Variables that provide a measure (indication) of environmental management performance
Induction Training Key Indicators Landowner	 Training provided to all new employees prior to them being allowed on site Variables that provide a measure (indication) of environmental management performance The person or legal institution whose name is reflected on the property title deeds and physically owns the land
Induction Training Key Indicators Landowner NEMA	 ECO reports and findings Training provided to all new employees prior to them being allowed on site Variables that provide a measure (indication) of environmental management performance The person or legal institution whose name is reflected on the property title deeds and physically owns the land National Environmental Management Act (Act 107 of 1998)

NHRA	National Heritage Resources Act (Act 25 of 1999)
Non-compliance	Failure to comply with the requirements of the EA, EMPR or any other statutory legal obligation
NWA	National Water Act (Act 36 of 1998)
РМ	Project Manager or Project Management
Potentially hazardous substance	Is a substance, which can have a deleterious effect on the environment. Hazardous Chemical Substances are defined in the Regulations for Hazardous Chemical Substances published in terms of the Occupational Health and Safety Act.
SAHRA	South African Heritage Resource Agency
Topsoil	The layer of soil covering the earth which provides a suitable environment for the germination of seed; allows the penetration of water; is a source of micro- organisms, plant nutrients and in some cases seeds; and is not of a depth of more than 0,5 metres or if applicable such depth as the Minister may prescribe for a specific prospecting or exploration area or mining area
Topsoil Vegetation	The layer of soil covering the earth which provides a suitable environment for the germination of seed; allows the penetration of water; is a source of micro- organisms, plant nutrients and in some cases seeds; and is not of a depth of more than 0,5 metres or if applicable such depth as the Minister may prescribe for a specific prospecting or exploration area or mining area Any and all forms of plants, see also Flora

1. INTRODUCTION

This Environmental Management Programme (EMPR) has been compiled as a guideline for the mitigation and management measures to be implemented to reduce and minimise potential environmental impacts arising from the proposed poultry farm (including abattoir as an activity alternative) in Waterdal, near Vanderbijlpark. The purpose of the EMPR is to give effect to precautionary measures, which are to be put in place for controlling the activities that took place on site. It has been developed to ensure compliance with national legislative and regulatory requirements. In addition, the EMPR is compiled based on the findings of the relevant Environmental management requirements. It should be borne in mind that the EMPR is a working document that should be updated on a regular basis as and when necessary. By virtue of the fact that the EMPR forms part of the documentation submitted to the Competent Authorities (CA) for decision-making purposes, and will therefore form part of the Environmental Authorisations (EA), the provisions contained herein will become legally binding.

An EMPR is an environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation and decommissioning of a project are prevented; and that the positive benefits of the projects are enhanced. EMPRs should also allow for risk minimization, rather than just ensuring legal compliance. The purpose of this EMPR is thus also to allow the user to make minor amendments to ensure continual revision and improvement of risk mitigation through the continual re-assessment of risks associated with the activity. As a basic requirement, the EMPR complies with Regulation 33 of the 2010 Environmental Impact Assessment (EIA) Regulations as contained in GN R. 543, promulgated under the National Environmental Management Act (Act 107 of 1998 - NEMA) and these requirements are systematically addressed in the subsequent sections of this report.

Formal risk identification forms an integral part of EMPR management and assists with prioritizing and focusing the control of risks. The EMPR thus supports this on-going proactive mitigation and the duty of care to the environment. The EMPR has provided suitable measures to ensure the continual mitigation of impacts associated with the proposed activity. The NEMA Section 24E states that every environmental authorisation must as a minimum ensure that adequate provision is made for the on-going management and monitoring of the impacts of the activity on the environment throughout the life cycle of the activity.

2. OBJECTIVES

The primary objectives of the EMPR are as follows:

- To promote sustainability and describe an action programme to mitigate as far as possible negative impacts;
- This EMPR will be a practical document that sets out both the goals and actions required in mitigation. Though the term "Mitigation" can be broad in definition, it means in this context to "allay, moderate,

palliate, or intensify." Mitigation of a negative impact means that its effect is reduced. Mitigation of a positive impact means that its effect is increased or optimised; and

- To indicate responsibilities for the implementation of these action items within the programme.

This EMPR shall be deemed to have contractual standing on the basis that its contents are a detailed expansion of the EA and consequent requirements of the EA. Where relevant the Applicant is responsible for delegating responsibility for compliance to designated parties (internal or external). Such delegation must be legally binding to the extent relevant.

The objectives and targets in this EMPR are further guided by the NEMA and the 2010 EIA Regulations. Thus the underlying principles of sustainable development are the ultimate objectives and target of this report. The EMPR has included measures to ensure the development activity complies with the following principals as instilled in the NEMA, and associated specific environmental management acts:

- > That the disturbance of ecosystems and loss of biological diversity are minimised and remedied;
- That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied.
- That waste is avoided, minimised and reused or recycled where possible and otherwise disposed of in a responsible manner;
- That a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and
- > That negative impacts on the environment and on people's environmental rights be anticipated and prevented and remedied.

2.1. LEGAL MANDATE OF ENVIRONMENTAL MANAGEMENT

This section has attempted to identify relevant laws and regulations that are applicable to the proposed project. The purpose of this is to provide the applicant with an overarching understanding of how the different sections of legislations define and integrate the different spheres of the environment. Understanding these will ensure long term and continued alignment with their principals. The applicant should ensure that legislation applicable to the development is kept up to date.

All project activities must adhere to and comply with all South African legislation and regulations and this requirement must also be included in the Contractors' conditions. Should there be changes in legislation and/or regulations then action will be taken to incorporate such changes and to pass these requirements on to the Contractors. Specific legislation that must be complied with is represented in Table 1 below.

TABLE 1: GENERAL LEGISLATION

TITLE OF LEGISLATION	BROAD DESCRIPTION
National Environmental Management Act (Act No. 107 of 1998 - NEMA)	The NEMA, aims to protect the environment, and stipulates that development must be socially, environmentally and economically sustainable, and that disturbances and pollution of the environment must be avoided, minimised and remedied. The Act also provides for the equitable access to environmental resources, to meet basic human needs. Decisions on the environment must be taken in an open and transparent manner, and resources must be held in trust for the public and protected as such. NEMA also makes provision for the cost of remedying pollution, and all such costs shall be paid by the polluter.
National Water Act (Act No. 36 of 1998 - NWA)	NWA provides the law relating to the water resources of South Africa. The purpose of the NWA is to manage and control the means by which all water resources are protected, used, developed, conserved and controlled.
National Environmental Management: Air Quality Act (Act No. 39 of 2004 - NEMAQA)	NEMAQA is the main legislative tool for the management of air pollution and related activities. The objective of the Act is to protect the environment by providing reasonable measures for- the protection and enhancement of the quality of air in the Republic; the prevention of air pollution and ecological degradation; and securing ecologically sustainable development while promoting justifiable economic and social development; and generally to give effect to Section 24(b) of the Constitution in order to enhance the quality of

	ambient air for the sake of securing an environment that is not harmful to the health and wellbeing of people.
National Environmental Management: Waste Act (Act No. 59 of 2008 – NEMWA)	The purpose of the NEM:WA is to prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources, while promoting justifiable economic and social development. In addition sustainable development requires that the generation of waste is avoided, or where it cannot be avoided, that it is reduced, re-used, recycled or recovered and only as a last resort treated and safely disposed of.
National Environmental Management: Biodiversity Act (Act No. 10 of 2004 - NEMBA)	NEMBA "provides for: the management and conservation of South Africa's biodiversity within the framework of the NEMA; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters conducted therewith".
National Heritage Resources Act (Act No. 25 of 1999 - NHRA)	NHRA provides for the protection of heritage resources of South Africa, which are of cultural significance or other special value by introducing an integrated and interactive system for the management of national heritage resources.
Conservation of Agricultural Resources Act (Act No. 43 of 1983 - CARA)	CARA deals with, amongst others, declared weeds and invaders in South Africa and categorises these species according to level of

	control required.
Hazardous Substances Act (Act No. 15 of 1973)	Deals with the proper handling and disposal of hazardous substances and required licences.
Municipal Systems Act (Act No. 32 of 2000)	Deals with the management and operation of municipal systems.
Occupational Health and Safety Act (Act No. 85 of 1993 - OHSA)	Deals with the health and safety of all workers and includes employer obligation toward the safety of workers.

The legislation above provides the overall legal framework within which a project of this nature will be executed.

Table 2 below provides an overview of the specific listed activities and other applicable environmental legislation for which this application has been submitted to the relevant competent authority.

TABLE 2: AUTHORISATIONS, PERMITS AND LICENCES RELEVANT TO THE PROJECT

AUTHORISATION	ACTIVITY DESCRIPTION	ACT REGULATION / GN# otice 1	COMPETENT AUTHORITY
Environmental	The construction of facilities or infrastructure for the slaughter of animals with a product throughput of: (<i>i</i>) Poultry exceeding 50 poultry per day.	NEMA GN R. 544 Activity 3(i)	Gauteng Department of Agriculture and Rural Development (GDARD)
Authorisation	Infrastructurefortheconcentration of:(ii) more than 5 000 poultry perfacility situatedoutsideanurban area, excluding chicksyounger than 20days.	NEMA GN R. 544 Activity 5 (ii)	Gauteng Department of Agriculture and Rural Development (GDARD)

AUTHORISATION	ACTIVITY DESCRIPTION	ACT REGULATION / GN#	COMPETENT AUTHORITY
	The transformation of undeveloped, vacant or derelict land to – (ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares.	NEMA GN R. 544 Activity 23(ii)	Gauteng Department of Agriculture and Rural Development (GDARD)

2.2. DEVELOPMENT ACTIVITIES – PROPOSED POULTRY FARM IN WATERDAL NEAR VANDERBIJLPARK, GAUTENG PROVINCE

The proposed project involves the development of a poultry farm on Holding 18 of Waterdal Agricultural Holdings in Waterdal near Vanderbijlpark, which is within the Emfuleni Local Municipality and is part of the Sedibeng District Municipality, in Gauteng Province. The applicant, Navomix Suppliers (Pty) Ltd, is including an activity alternative of a poultry farm and abattoir in this application for Environmental Authorisation following a Basic Assessment process.

The main construction components associated with the proposed poultry farm as well as the alternative which includes an abattoir, are as follows:

Site establishment that involves:

- Line pegging and demarcation of facility positions;
- Transport and delivering of materials to site; and
- Identification and clearing of any temporary access roads required to facility position (other than existing roads).

Searthwork activities involving:

- o Site clearing;
- o Excavations for facility foundations; and
- Filling and compacting.
- Source that involve:

¹⁰¹⁴ Environmental Management Programme

- Preparation of, mixing, and placement of concrete;
- Assembling materials; and
- Erection of structures.

Impacts associated with the construction and operation of the activity proposal (poultry farm) as well as the activity alternative (poultry farm and abattoir) addressed in the Basic Assessment Report (BAR) include the following:

TABLE 3: SUMMARY	OF	ANTICIPATED	IMPACTS
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PHASE	IMPACT
	Dust pollution
	Noise pollution
Construction Phase	Surface and ground water pollution
	Waste management
	Traffic impact
	Visual impact
	Noise pollution
	Traffic impact
	Waste management
Operational Phase	Surface and ground water pollution
	Pest control
	Sense of place
	Health impact
	Odour nuisance

PHASE	ІМРАСТ
Decommissioning Phase	Waste management
	Surface and ground water pollution

3. ROLES AND RESPONSIBILITIES

In order to ensure that the EMPR and its mitigation measures are implemented, roles and responsibilities need to be clearly defined and documented prior to commencement. Table 4 below serves as a guide on which party is normally responsible for certain tasks. It is the applicant's responsibility to ensure that the project specific roles and responsibilities are defined and assigned prior to commencement.

ROLE	DESCRIPTION	REPORTING
Environmental Control Officer (ECO)	The ECO is appointed by the Applicant and is responsible for communicating environmental issues associated with the site to the Contractor/EO, the Applicant and the Competent Authority where applicable.	Applicant/ Competent Authority
Environmental Officer (EO)	The EO is typically appointed by the responsible contractor. The EO is a suitably qualified individual who will preferably be a senior member of staff that will be responsible to oversee day to day compliance with the EMPR by the contractor's staff and sub-contractors and their staff. The EO will also be responsible for correct implementation of the EMPR requirements. The EO must be a suitably qualified environmental scientist.	ECO/ Contractor/Applicant
Project Manager (PM)	The PM is the individual responsible for the overall implementation of the project in respect of time, cost and legal provisions. This role is usually fulfilled by the applicant but may be	Applicant

TABLE 4: TYPICAL ROLES AND RESPONSIBILITIES

	designated to another third party (e.g. contractor, project engineer, etc.).	
Applicant (App)	The applicant is the person who is legally responsible for ensuring compliance with the conditions contained in the EA. This includes any person acting on behalf the applicant, including but not limited to, an agent, servant, contractor, sub-contractor, employee, consultant or person rendering a service to the holder of the authorization.	Competent Authority
Contractor (Con)	The contractor is usually a third party appointed by the applicant to undertake the actual construction of the project. The principal contractor, any other contractors and sub- contractors will be required to comply with the provisions contained herein, and accordingly, the EMPR and its provisions must form part of any contractual arrangements between the applicant and contractors. The contractor (as agreed with the Applicant) will be responsible for ensuring compliance with the conditions of the EMPR during construction and must ensure that all his employees and sub-contractors appointed by him are familiar with the EMPR. The legal accountability for correct implementation of the relevant requirements of the EA and EMPR must be contractor.	Applicant / ECO

Specific roles are designated in the specific environmental management and mitigation requirements in this EMPR. The applicant together with the ECO and the EO shall identify and comply with all relevant national, provincial and local legislation, including associated regulations and bylaws and shall establish and maintain procedures to keep track of, document and ensure compliance with environmental legislative changes.

4. COMMUNICATION AND ENVIRONMENTAL AWARENESS

This section deals with the establishment of processes for internal and external communications on environmental management issues. Interested and Affected Parties (I&APs) should be allowed access to the EMPR document during construction and implementation. They have the right to comment on specific aspects of the EMPR that relate to impacts that extend outside of the site boundary during construction and operation (e.g. noise regulations, dust regulations, working hours stipulated). These discussions should be done in conjunction with the contractor and/or applicant in a reasonable and informal manner, without unreasonably disrupting construction and/or operation activities.

Training and environmental awareness is an integral part of a complete EMPR. The overall aim of the training will be to ensure that all site staff are informed of their relevant requirements and obligations pertaining to the EMPR and EA. All training must be formally recorded and attendance registers retained.

4.1. PUBLIC COMMUNICATION AND LIAISON WITH STAKEHOLDERS AND INTERESTED & AFFECTED PARTIES

Public participation will be undertaken as part of the Basic Assessment (BA) process and links to the community will been established by the EAP. These links must be maintained by the Applicant and utilised to the mutual benefit of all parties. The Applicant or designated contractor/s should establish a specific communication protocol with the local community representatives and should issue regular updates on scheduling and progress. The EO shall be responsible for addressing any relevant environmental problems or queries that are raised by the community and therefore must maintain close contact with the representatives of the immediate community. This EMPR will be made available, on request, for the public to peruse.

The contractor and EO shall ensure that a complaints register is maintained on site, which shall contain inter alia the following:

- > Name and contact details of complainant;
- Solution Nature of complaint;
- Solution Date and time of complaint;
- Solution All complaints must be responded to, in writing, and a record of such response maintained; and
- Solution All complaints and consequent corrective measures must be reported to the ECO.

4.2. TOOLS FOR INFORMING EMPLOYEES (INDUCTION / TOOLBOX)

The applicant and contractor must ensure that all relevant employees are trained and capable of carrying out their duties in an environmentally responsible and compliant manner, and are capable of complying with the relevant environmental requirements. To obtain buy-in from staff, individual employees need to be involved in:

Identifying the relevant risks;

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- Understanding the nature of risks;
- Sevising risk controls; and
- Siven incentive to implement the controls in terms of legal obligations.

The applicant shall ensure that adequate environmental training takes place. All employees shall have been given an induction presentation on environmental awareness. Where possible, the presentation needs to be conducted in the language of the employees. The environmental training should, as a minimum, include the following:

- Seneral background and definition to the environment;
- > The importance of compliance with all environmental policies;
- > The environmental impacts, actual or potential, of their work activities;
- Second compliance with mitigation measures proposed;
- > The environmental benefits of improved personal performance;
- Their roles and responsibilities in achieving compliance with the environmental policy and procedures and with the requirement of the applicant's environmental management systems, including emergency preparedness and response requirements;
- Solution The potential consequences (legal and/or other) of departure from specified operating procedures;
- > The mitigation measures required to be implemented when carrying out their work activities; and
- All operational risks must be identified and processes established to mitigate such risk, proactively. Thus the applicant needs to inform the employees of any environmental risks that may result from their work, and how these risks must be dealt with in order to avoid pollution and/or degradation of the environment.

In the case of new staff (including contract labour), the contractor / applicant shall keep a record of adequate environmental induction training.

4.3. AWARENESS AND DUTY OF CARE RESPONSIBILITIES

As alluded to above, training and awareness should be fostered in all staff working to ensure that they can perform their duties. Failure to comply with the provisions in the EMPR and NEMA would be a contravention of the Act. The relevant sections of NEMA are provided below, to outline the duty of care and responsibility that the applicant and all employees have towards the environment. The NEMA Section 28, makes provision for Duty of Care and remediation of environmental damage. The binding principals are described below:

Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot

reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.

4.4. FAILURE TO COMPLY WITH THE ENVIRONMENTAL CONSIDERATIONS

Should any non-compliance during construction or operation with the EMPR take place, the ECO must communicate this with the party(ies) responsible for the non-compliance as well as the contractor and the Applicant. If the non-compliance continues after written request by the ECO to rectify the situation, the ECO must inform the CA in writing.

Failure to show adequate consideration to the environmental aspects of the EMPR, as well as the conditions of approval, could result in the suspension of all work by the CA, thereto until such time that the CA determines that offending actions or procedures are corrected. All costs will be borne by the contractor or applicant. Additional other penalties/ fines should be considered by the applicant to ensure contractors abide by the environmental consideration prior to the start of the project and these need to be enforced.

5. MONITORING, REPORTING & RECORD KEEPING

The appointed ECO, EO as well as the applicant are responsible for ensuring compliance with the EMPR. The following monitoring and auditing is specifically required:

- Monthly Compliance Audits: These audits must be undertaken by the ECO during construction and must aim to monitor and report on compliance with the requirements of the EA and EMPR;
- Weekly Compliance Reports: These reports must be prepared by the designated EO and must aim to monitor and report of on compliance with the EA and EMPR as well as general environmental performance;
- > Daily Environmental Checklists: These checklists should be specific to the applicable activity being undertaken and should aim to provide a daily check and record of site environmental compliance;
- > Daily ECO Diary: the ECO must maintain a daily diary describing the areas visited, as well as any issues or concerns noted. This will be provided to the EO for action;
- > Bi-monthly monitoring report: This report must be compiled by the EO and must include the results of all environmental monitoring, including but not limited to:
 - \circ $\;$ Records of waste volumes and associated disposal records; and
 - Monitoring and detection results of all leakage or spillage of hazardous substances (incl. transport, handling, installation and storage); and

- Post Construction/ Rehabilitation Independent Audit: An environmental audit report must be submitted to the GDARD within 30 days of completion of the Construction Phase (i.e. within 30 days of site handover) and within 30 days of completion of rehabilitation activities. This report must:
 - o Be compiled by an independent environmental auditor;
 - o Indicate the date of the audit, the name of the auditor and the outcome of the audit;
 - o Evaluate compliance with the requirements of the approved EMPR and the EA;
 - o Include measures to be implemented to attend to any non-compliances or degradation noted;
 - Include copies of any approvals granted by other authorities relevant to the development for the reporting period;
 - Highlight any outstanding environmental issues that must be addressed, along with recommendations for ensuring these issues are appropriately addressed;
 - Include a copy of the EA and the approved EMPR;
 - Include all documentation such as waste disposal certificates, hazardous waste site licences etc., pertaining to the EA; and
 - Include evidence of adherence to the conditions of the EA and the EMPR where relevant, such as training records and attendance records.

The applicant must use the audit report findings to continually ensure that environmental protection measures are working effectively on site through a system of self-checking. The EMPR should be viewed as a dynamic document aimed at continual environmental performance improvement.

Changes to the EMPR, which are environmentally defendable, must be submitted to the GDARD for acceptance before such changes can be effected. Furthermore, the Authority reserves the right to request amendments to the EMPR should any impacts that were not anticipated or covered in the BAR be discovered.

All employees and the applicant shall at all times have access to the EMPR in their respective locations. The EMPR will form part of the contract and will therefore be a legally binding document. In the event of discrepancy with regard to environmental matters or environmental specifications this document shall take precedence- unless there is conflict with environmental legislation. The Applicant or his delegated representative is responsible for ensuring compliance with the EMPR. Periodic EMPR compliance reports (audits) are compiled by the ECO and submitted to the applicant for his review and correction of non-compliance issues. It is the responsibility of the ECO to report any non-compliance, which is not correctly rectified.

During the operational phase, monitoring against the EMPR should be done immediately before, during and after any future maintenance activities are undertaken. The findings of the monitoring should be made available to the relevant local competent environmental authorities.

RESPONSIBLE PARTY	FREQUENCY	TASKS
Applicant	Continuously throughout project construction and operation	Must use the ECO audit report findings to continually ensure that environmental protection measures are working effectively on site through a system of self-checking. The applicant must use the audit report findings to continually ensure that environmental protection measures are working effectively on site through a system of self-checking. The EMPR should be viewed as a dynamic document aimed at continual environmental performance improvement.
ECO	Periodically throughout project construction Frequency is determined by the monitoring plan (refer to Table 7)	The appointed ECO is responsible for monitoring compliance with the EMPR. The applicant must use the ECO audit report findings to continually ensure that environmental protection measures are working effectively on site through a system of self-checking. The EMPR should be viewed as a dynamic document aimed at continual environmental performance improvement. The following monitoring and auditing is specifically required: Compliance Audits: These audits must be undertaken by the ECO and must aim to monitor and report on compliance with the requirements of the EA and EMPR.
EO	Frequency is determined by the monitoring plan (refer to Table 7)	Daily Environmental Checklists: These checklists/ diary should be prepared by the designated EO specific to the applicable activity being undertaken and should aim to provide a daily check and record of site environmental compliance.
All	Frequency is determined by the monitoring plan (refer to	All monitoring and auditing must be accompanied by applicable records and evidence (e.g. delivery slips, photographic records, etc.). All reports must be retained and made available for inspection by the ECO, the Applicant and /or the Relevant Competent Authorities.

TABLE 5: MONITORING AND REPORTING RESPONSIBILITIES

Table 7)	An environmental conformance register must be prepared and maintained throughout construction and operation in order to monitor
	environmental concerns, incidents, and non-conformances. This
	register should be utilised to measure overall environmental
	performance.

Non-compliances (NC) will be recorded in a register with details of date, location, NC or Incident EMPR aspect, corrective action taken, adequacy of corrective action, date rectified, photographic record etc. (refer to Table 6 below).

NON-CONFORMA	ANCE REGISTER
DETAILS OF NON-CONFORMANCE / INCIDENT	CORRECTIVE ACTION
Reference Number	Suggested Corrective Action
NC/Incident	Actual Corrective Action Taken
Date of Occurrence	Suggested Due Date
Environmental Aspect type:	Corrective Action Status (Pending / Complete / Overdue)
Time	Actual Date Corrected
Responsible Contractor	Date Closed
Location Reference number	Transgression Status (Open / Closed)
GPS Coordinate (Latitude/Longitude)	Response Time of Corrective Action (Or Time / Late)
Description of NC/Incident	
Photographic Reference	
EMPR Reference	

TABLE 6: RECORDING KEEPING: NON-CONFORMANCE REGISTER TEMPLATE

6. MANAGEMENT AND MITIGATION

TABLE 7: GENERAL EMPR PROVISIONS FOR THE PROPOSED UPGRADE OF FNB DATA CENTRE

ID	Site specific (SS) or generic (G) condition	Activity/Aspect	Mitigation	Monitoring Frequency	Indicator / Target	Responsible party for / monitoring tool
1	Planning and	design				
No specif	ic managemer	nt and mitigation me	easures have been identified which will be applicable for the p	lanning and desig	n phase.	
2	Construction					
2.1	G	Site selection and clearance	 A suitable area must be cleared surrounding the site selected for the development's infrastructure to ensure that accidents are minimised. Impacts should be contained, as much as possible, within the footprint of the proposed development. No areas may remain cleared (bare soil exposed) for longer than 3 weeks and invasive species must be controlled effectively within the site. Efficient construction planning must ensure that all relevant materials, construction equipment and manpower are available upon commencement of construction in an area. 	Prior to Commencement	Visual observation.	Applicant/ Contractor

			*	Rehabilitation and re-vegetation of the disturbed areas should be done immediately after completion of the construction work and should be done to the satisfaction of the ECO and the GDARD. Strict control should be maintained over all activities during construction, in particular heavy machinery and vehicle movements, and staff.			
2.2	G	Health, Safety and Security, Courtesy and worker conduct	t t	Navomix Suppliers (Pty) Ltd (Navomix), Navomix's contractors and their Employees shall at all times be courteous towards landowners, tenants and the local community. Activities that may cause conflict with land owners, tenants, the local work force or the local community shall be avoided. Should conflict arise it shall be immediately reported to the Navomix manager or co-ordinator. Speed of construction vehicle must comply with relevant provincial and national road speed limits. Construction workers must be made aware of their specific responsibilities in terms of the environmental impacts i.e. controlling noise levels, reducing dust, etc. Construction workers must be made aware that no alcohol/drugs on site and no workers under the influence permitted on site. Construction workers must be made aware that firearms or traditional weapons will not be allowed on site unless is for use by approved security.	Continuous	Minimum records on the complaints register. Visual observation. Safe waste disposal certificates. Adequate on- site waste management.	Applicant/ Contractor

			t t t	Construction workers must be made aware that no fires will be permitted on site. Municipal water (or another approved licensed source) should be used for all activities such as washing of equipment or disposal of any type of waste, dust suppression, concrete mixing, compacting etc. Construction teams should be clearly identified by wearing uniforms and/or wearing identification cards that should be exhibited in a visible place on their body. Ensure refuse management and removal is undertaken regularly.			
2.3	G	Construction activity	6 6	Ensure the regular removal of waste generated by the construction activities. Ensure correct disposal of grey water. Site rehabilitation should be undertaken once construction is completed.	Continuous	Proof of ECO approval. Record of site establishment costs.	Contractor ECO
2.4	G	Construction vehicles	f f	Construction vehicles are only permitted within the demarcated construction site, as required, to complete their specific task. Such vehicles should be clearly identifiable and marked with appropriate signs. All construction vehicles should be in a good working order to reduce possible noise pollution. All maintenance of construction vehicles that could cause harm to the environment must be done off-site. No	Fortnightly	Visual observation.	Applicant/ Contractor

			 servicing of construction vehicles is allowed on site, with the exception of minor repairs to prevent further environmental pollution or damage. On-site vehicles must be limited to approved access routes and areas (including turning circles and parking) on the site so as to minimise excessive environmental disturbance to the soil and vegetation on site. All construction vehicles, trucks and other vehicles including vehicles of contractors and sub-contractors should be road worthy, well maintained (to prevent oil leaks). Where oil leaks are identified, drip trays must be used immediately, never overloaded, and drivers should be properly trained and licensed. Speed limits should be set and speeding by construction vehicles should be strictly monitored, not only on-site but also to and from the site (where possible). In areas where movement of construction vehicles is likely to generate dust, dust suppression measures must be implemented to prevent excessive dust. 			
2.5	G	Access roads	Access to the construction and works areas to utilise existing roads. Any temporary access routes (if required) shall be rehabilitated to the satisfaction of the ECO.	Fortnightly	No soil erosion present. Road surface in good condition.	Applicant/ Contractor

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2.6	G	Ablution facilities	 The contractor will be responsible for provision of sanitation for his and the sub-contractor's staff. Toilets (a minimum of one chemical toilet shall be provided per 15 persons) provided by the contractor must be easily accessible. The toilets shall be of a neat construction and shall be provided with doors and locks and shall be secured to prevent them from falling over. The contractor shall supply toilet paper at all toilets at all times. The contractor (or reputable toilet-servicing company) shall be responsible for the cleaning, maintenance and servicing of the toilets. The contractor shall ensure that no spillage occurs when chemical toilets are cleaned and emptied. Any accidental spillage must be reported to the ECO and the applicant, and cleaned up immediately. The contractor shall ensure that the toilets are protected from vandals. If the contractor (or reputable toilet-servicing company) fails to provide and/or maintain all site sanitation facilities in a clean and hygienic condition, the ECO may require the contractor to suspend work until the requirements have been met. 	Visual observation.	Applicant/ Contractor
2.7	G	Oil Spillages	 Vehicles must be maintained to proactively prevent Continuous unnecessary spills (fuels, lubricants, etc.). All working fronts must be provided with a spill 	Service records. Spill containment	Contractor EO

			containment kit to contain and collect spills. All spills must be reported to the appointed ECO.		kits. Spill/incident registers.	
2.8	G	Excavations	 The movements of the construction vehicles must only be confined to the construction site. Top soil is to be stockpiled upslope of the excavation. Rocks and debris are to be stockpiled at some other point and used as fill where necessary. Once construction is complete the topsoil is to be respread over the site and re-seeded or replanted with grass sods if specified by the ECO. Topsoil must not be used as fill. 	Continuous	No construction vehicles outside construction site. Topsoil stockpiled appropriately. Soil erosion prevention.	Contractor ECO
2.9	G	Dust and noise	Dust and noise are especially important considerations close to inhabited areas. A written record of all communications with local residents must be kept and witnessed by those contacted.	Continuous	Record of communication with residents/lando wners.	Contractor EO
2.10	SS	Noise pollution	All reasonable precautions must be taken to minimize noise generated on site. Construction vehicles must be kept in good working order so as not to generate excessive noise. The contractor may not use sound amplification equipment on site.	Continuous	No complaints regarding noise	Contractor EO

			Activities which will lead to excessive noise near residential areas should be limited to take place during the day. Working hours to be restricted to between 07h30 and 18h00 weekdays and between 09h00 and 16h00 on weekends.			
2.11	SS	Dust pollution	 Dust and noise during construction must be monitored so as not to cause a nuisance to the surrounding landowners and/or their facilities. Clearance of any landscaped areas must be kept to a minimum and exposed soils must be regularly sprayed should dusty conditions be noted. Haul vehicles carrying potentially dusty material should be covered with a tarp to prevent dust. The ambient air quality standard of the National Environmental Management: Air Quality Act must be complied with (GNR 1210 of December 2009), specifically pertaining to particulate matter (PM10). Where topsoil and sub-soil is removed and stored these must be protected from excessive wind erosion. 	Continuous	No complaints regarding dust	Contractor EO
2.12	SS	Soil and water pollution	 Concrete and/or cement must not be mixed directly on the ground but must be mixed on a mortar board. Visible remains of concrete as a result of construction must be physically removed and disposed of as building waste. No hazardous substances must come into direct contact 	Continuous	Spill/ incident register. No spills/ pollution. Spill kits on site. Safe waste	Contractor

				with the soil. In the event of accidental spillage and contamination events, the source of the spill must be rectified. Construction vehicles must be maintained to proactively prevent unnecessary spills (such as fuels, lubricants, etc.). All working areas must be provided with a spill containment kit to contain and collect spills. All spills must be reported to the appointed ECO. Monitoring of the water quality must be undertaken during construction and operation.		collection & disposal certificates.	
2.13	SS	Waste management	t t t t	No waste is to be disposed of directly into the local environment. Adequate refuse facilities (bins or skips with lids to protect against scavengers and odour nuisance) must be placed on site during construction. Contaminated water, and effluents must be prevented from entering the local environment (soil and water), and disposed of at a suitably licensed disposal facility. Waste bins must be emptied on a regular basis and the contents disposed of at a suitably licensed waste disposal site. Safe disposal certificates to be obtained for any waste leaving the sites.	Continuous	No litter on site. Safe waste collection & disposal certificates.	Contractor Applicant

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2.14	SS	Traffic	 Identify where on the existing secondary roads possible increase in traffic flow could occur and when, and then communicate this to the relevant authorities and affected parties (e.g. landowners/ occupiers). 	Continuous	Traffic inventory (where and when).	Contractor EO
2.15	SS	Visual	 Ensure that all construction materials are stored neatly. Remove construction rubble at least once a week. Undertake periodic litter collection patrols. Any vegetation clearing should only be done when it is absolutely necessary (i.e. directly prior to commencing with construction activities). 	Continuous	Visual observation.	Contractor EO
3		Operation				
3.1	SS	Noise pollution	 All construction vehicles must be serviced regularly to control unnecessary noise. Working hours to be restricted to between 07h30 and 18h00 weekdays, and between 09h00 and 16h00 on weekends. The regulatory noise requirements must be complied with. With regards to noise, the provisions of Section 25 of the Gauteng Noise Regulations Environment Conservation Act (Act 73 of 1989); the related noise control regulations (Noise Regulations (GNR 154 of 1992)); and the provisions of SANS 10103, must be complied with. Equipment must be maintained to prevent unnecessary 	Continuous	Visual observation.	Applicant

			 noise. Any deliveries and/ or collection of waste should be scheduled when the noise impact from these vehicles on surrounding residents is likely to be the least. Suggested times are between 07h30 and 10h00, as well as between 14h00 and 16h00 on weekdays. Ensure that fan exhausts, doors and other openings in broiler houses are located in the opposite direction from the side with the closest neighbouring residence to reduce the noise impact to these receptors. It is recommended that the USEPA (Environment Protection Act 1993) guidelines on poultry houses be followed, where poultry houses should not be located within 500 metres buffer of residences to reduce noise, dust and odours. 			
3.2	SS	Traffic	Deliveries should be scheduled during office hours, and only take place between 07h30 and 10h00 as well as between 14h00 and 16h00 on weekdays.	Continuous	No complaints or incidents related traffic.	Applicant
3.3	SS	Waste management	 Waste (domestic waste and chicken manure) from the operational phase activities must not be disposed of on site. The waste must be removed by a licensed contractor and disposed of at a licensed disposal facility. None of the operational phase waste should be processed or handled on site. The impact of leachate contaminated with chicken manure to 	Continuous	Safe waste collection & disposal certificates. Water monitoring records.	Applicant/ Waste removal contractor

			be mitigated by the sealed nature of the broiler houses		No complaints	
			preventing rainwater from penetrating the broiler houses and		related to waste	
			creating leachate or contaminated stormwater.		an associated	
			Safe disposal certificates and records must be kept on site to		nuisances.	
			prove that licensed waste contractors where used for the			
			removal and disposal of the waste to licenced disposal			
			facilities.			
			Chicken manure will be removed every six weeks by a			
			licensed contractor, however the applicant should make			
			provision for more regular manure removals if complaints are			
			received for neighbours regarding odour nuisance from the			
			manure.			
			Any chicken fatalities must be removed by a licensed			
			waste transporter or may be removed from the site by the			
			farm operator in a vehicle that complies with relevant			
			legislation, i.e. liquids and odours must be fully contained			
			by the vehicle.			
			Freezing of dead birds may be an option to reduce odour			
		1	problems associated with their transportation			
3.4	Soil and wat	er 💊	Stormwater should not be allowed to come into contact	Continuous	Water quality	Applicant
	 pollution		with liquid effluent or solid waste from the broiler houses.		monitoring	
			Regular monitoring of the water quality from the on-site		records.	
			borehole must be undertaken during the operation phase			
			of the poultry farm			
		>	Best practice measures to manage and control emissions,			

			pollution, and waste on poultry farms must be employed.			
3.5	SS	Pest control	 Flies and rodents should be managed through the use of suitable hygiene management. All waste should be removed timeously and effectively. Poultry legislation best practice guidelines should be implemented, to reduce the ingress of pests into the broiler houses, coupled with a regular pest and control program should this impact become a concern. 	Continuous	No pests.	Applicant
3.6	SS	Sense of place	 The exterior of the broiler houses must be treated with a natural matt colour paint to reduce their long range visibility and to reduce their visual disruption. The noise and odour impacts also form part of this impact, they are mitigated under their own sections. It is recommended that a vegetative screen be planted between the development site and the nearest receptors where possible. 	Continuous	No complaints from surrounding residents.	Applicant
3.7	SS	Health	 The applicant must comply with relevant poultry legislation and Best Practice Guidelines and Animal Disease Act (Act 35 of 1984). The applicant must ensure that feral animals do not come into contact with the poultry. All regulatory requirements and relevant standards must be complied with for necessary fire prevention, detection, 	Continuous	Visual observation. No complaints or health and safety related incidences.	Applicant

			 and response at the poultry farm. The poultry farm infrastructure as well as any maintenance vehicles must be equipped with adequate fire control equipment. The design and construction of all poultry farm infrastructure must conform to the following fire safety standards and legislation: SANS 10089 (building code); Hazardous substances Act (Act 15 of 1973); Occupational Health and Safety Act (Act 85 of 1996); Fire Services (Act 99 of 1956); National Building Regulations (Act 103 of 1977. Fire extinguishers must be easily accessible on site. 			
3.8	SS	Odour nuisance	 Solid waste such as chicken manure and spilt chicken feed must be cleaned and removed from the broiler houses every six weeks to prevent odour. None of the operational waste must be handled or treated on site. Safe waste disposal certificates and records must be kept to prove that licensed waste contractors were used for the removal and disposal of all waste from the broiler houses. The applicant should make provision for more regular waste removal if complaints of nuisance odour are received for neighbours. 	Continuous	Records of safe waste collection and disposal (indicating frequency). No complaints.	Applicant

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4.1	G	Rehabilitation and re-vegetation (where necessary)	 Rehabilitation will be required within the development footprint. Once construction of a particular section of the development is complete, rehabilitation (e.g. the planting of indigenous vegetation) must be undertaken in order to restore the aesthetic and ecological value of the area. Only indigenous vegetation should be utilised for the rehabilitation of disturbed areas. Rehabilitation, where required, should be undertaken according to the following schedule: Infilling of all excavation work, ensuring that subsoil is filled in first, to ensure that topsoil is present on the surface in order to ensure a suitable plant growth medium. Substrate that is not suitable for plant growth should not be used for infilling of excavations. Removal of all construction rubble from the site, including substances that cannot be used for infilling of excavations must be undertaken. Any exposed ground should be seeded and mulched with an appropriate stabilising grass mixture. It is recommended that higher seeding density grass mix be used. No trees are to be planted on near the infrastructure servitudes as the roots may cause damage to this infrastructure.

4.2	G	Site rehabilitation	Should the contractor not comply with this requirement either upon completion of the work or within 14 days of a written request from Navomix to do so, Navomix shall be entitled to employ other persons to carry out this work. All expenses consequent thereon or incidental thereto shall be borne by the contractor and shall be recoverable from him by Navomix, or may be deducted by Navomix from any moneys due, or which may become due, to the contractor.	Continuous	Implementation of rehabilitation measures.	Contractor
4.3	G	Land Rehabilitation	 All exposed surfaces hardened / compacted due to construction activities are to be ripped and imported materials thereon removed. All rubble is to be removed from site to a licensed landfill site. Burying of rubble on site is prohibited. The site is to be cleared of all litter. Surfaces are to be checked for waste products such as concrete, and oil or fuel spills are to be cleared from the site and disposed of at a suitably licensed disposal facility under the advice of the ECO. 	Continuous	Proof of adequate waste disposal records and receipts.	Contractor
4.4	SS	Waste management	 Prior to the decommissioning, a detailed decommissioning plan must be prepared. This plan should aim to follow the waste management hierarchy (reuse, recycle, reduce and dispose) in order to prevent unnecessary waste. All waste which requires disposal must be disposed of at a suitably licensed facility. 	Prior to commencement of de- commissioning.	De- commissioning plan. Infrastructure inventory and waste	Contractor EO

			6	An inventory of infrastructure and waste together with the ultimate destination (e.g. recycler, waste disposal) should be kept for future records. The sites must be rehabilitated to the pre-construction condition or alternatively to align with the surrounding land-uses at the time.		destination records.	
4.5	SS	Soil and water pollution	*	Storage of hazardous substances prior to disposal must be done in accordance with best practice standards in a secure location isolated from direct contact with the soils and should be covered and within a bunded area where necessary. Pollution of surface water and aquifers is to be prevented at all costs. Concrete, cement and other hazardous substances during decommissioning must be stored in accordance with best practice standards and disposed of at a suitably licensed facility and by a licensed contractor.	Continuous	Visual observation.	Contractor

7. EMERGENCY RESPONSE PLAN

The applicant and/or contractor together with the ECO must identify potential emergencies and develop procedures for preventing and responding to them. There are several options for dealing with high priority impacts and risks, as the paradigm has two components, probability and consequence. The design of control measures rest on the understanding the cause and effect. Best practise is to intervene with the ultimate factors were feasible, rather than treat the outcomes. Emergency response therefore has the option of reducing probability, or reducing the consequence, reducing the probability is the preferred option. Below are some common emergency preparedness approaches:

- Solution Threat consequence if and when the risk materialises, when the risk becomes an issue.
- Solution Combine reducing the probability and treating the consequence.
- Solution Contential losses by investing in other assets.
- >> Not manage some of the risks because there are too many.
- Make provision to manage residual impacts or issues that arise because of shortcomings in risk identification and rating, avoidance and mitigation or because a rare event has occurred.

Residual impacts, are those impacts that despite reducing the probability and consequence, it might still occur. In these cases parties will have to be compensated, pollution cleaned up and damage to the environment remediated. The contractor must ensure that all emergency procedures are in place prior to commencing work. Emergency procedures must include, but are not limited to, fire, spills, contamination of the ground, accidents to employees, use of hazardous substances and materials, etc.

The contractor must ensure that lists of all emergency telephone numbers/contact persons (including fire control) are kept up to date and that all numbers and names are posted at relevant locations throughout the duration of the construction period.

7.1. FIRE

Sparks generated during welding, cutting of metal or gas cutting can result in fires. Every possible precaution shall therefore be taken when working with this equipment near potential sources of combustion. The contractor must take all reasonable measures to ensure that fires are not started as a result of construction activities on site. No smoking is allowed near containers with flammable contents or at areas that are highly flammable. Smoking is only permitted at areas designated for smoking. No open fires are permitted on site and no burning of waste is to be allowed on site. The contractor shall ensure that there is basic fire-fighting equipment available on site at all times. Such precautions include having an approved fire extinguisher immediately available at the site of any such activities. The contractor is to ensure that he/she has the contact details of the nearest fire station in case of

an emergency. Appropriate and correctly serviced equipment must be available for all activities that are likely to generate fire.

7.2. HEALTH AND SAFETY

The Contractor shall make allowance for the supply, erection, maintenance and removal of the information boards. Information boards shall also provide the name of the contractor, relevant contact person and contact number. This will ensure that the public access to request information and/or to lodge any complaints. The boards will essentially be to advise the public of the construction activities to be undertaken, or being undertaken and to advise of the prohibition of entering demarcated "no-go" areas.

The Contractor must ensure that compliance with the OHSA is strictly adhered to. All reasonable measures must be taken to ensure the safety of all site staff and the surrounding community is not compromised. Security personnel and skeleton staff shall be supplied (by the contractor) with adequate protective clothing, ablution facilities, water and refuse facilities (with regular collection). No weapons may be brought onto the property by any person. Where fencing is temporarily affected, temporary security must be provided at all times until the fence is reinstated.

The contractor must ensure that all construction vehicles using public roads are in a roadworthy condition, that drivers adhere to the speed limits and that their loads are secured and that all local, provincial and national regulations are adhered to. The contractor shall make provision for flagmen to regulate traffic and construction vehicles when necessary.

The Applicant and contractor must ensure that all accidents and incidents are recorded and reported to the ECO. The Applicant/ contractor must have easy access to all relevant emergency numbers for example, spill response teams, fire authorities, medical emergency, etc. (refer to Table 8 for an example) of the nearest emergency rooms (hospitals) to the site, of both private and public hospitals. The Contractor must take all reasonable measures to ensure the health and safety of his employees, visitors and the public.

NAME	TELEPHONE / MOBILE	CONTACT NAME
Applicant		
Contractor		
Health and Safety Officer		
EO		

TABLE 8: EMERGENCY CONTACT DETAILS (TO BE COMPLETED BY THE APPLICANT)

ECO	
Emergency Fire	
Emergency Medical	
Emergency Spill	

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