

ENVIRONMENTAL MANAGEMENT PROGRAMME

SUMMERPRIDE MIXED-USE DEVELOPMENT, EAST LONDON, EASTERN CAPE

DEDEAT REF: EC/7/A/LN1/M/20-13

Prepared for:

Moneyline 1082 CC

Prepared by:



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TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	Objectives of an EMPr	1
1.2	Structure and Function of an EMPr	1
1.3	Legal requirements	2
2	DETAILS OF THE ENVIRONMENTAL ASSESSMENT TEAM.....	4
	<i>Ms Nande Suka (Pr.Sci.Nat.) – Project manager and reporting</i>	<i>6</i>
	<i>Mr Sibusiso Sinuka – Environmental Control Officer (ECO)</i>	<i>Error! Bookmark not defined.</i>
3	PROPOSED ACTIVITY	7
3.1	Description of proposed activity	7
4	SCOPE OF THE EMPr	9
4.1	Layout of the EMPr	9
4.1.1	<i>Planning and design (pre-construction) phase</i>	<i>9</i>
4.1.2	<i>Construction phase.....</i>	<i>9</i>
4.1.3	<i>Operational and maintenance phase</i>	<i>9</i>
5	ROLES AND RESPONSIBILITIES	10
5.1	Project manager/Environmental Site Officer	10
5.2	Contractor	10
5.3	Environmental Site Officer	10
5.4	Environmental Control Officer.....	10
6	MITIGATION AND/OR MANAGEMENT MEASURES	12
7	ENVIRONMENTAL MONITORING	20
8	COMPLIANCE WITH THE EMPr	21
8.1	Non-compliance	21
8.2	Emergency preparedness.....	21
8.3	Incident reporting and remedy	22
8.4	Penalties to contractors.....	22
9	REPORTING	24
9.1	Administration.....	24
9.2	Good housekeeping	24
9.3	Record keeping.....	24
9.4	Document control.....	24
10	ENVIRONMENTAL AWARENESS.....	26
10.1	Monitoring of environmental training	26
11	CLOSURE PLANNING.....	27
11.1	Final site restoration	27
11.2	Rehabilitation.....	27
11.3	Post-construction audit	27
12	CONCLUSIONS	28
	APPENDIX A	29
	APPENDIX B	ERROR! BOOKMARK NOT DEFINED.
	APPENDIX C.....	ERROR! BOOKMARK NOT DEFINED.
	APPENDIX D	ERROR! BOOKMARK NOT DEFINED.
	APPENDIX E.....	ERROR! BOOKMARK NOT DEFINED.

1 INTRODUCTION

Moneyline 1082 CC proposes to construct a mixed use development on the remaining extent of Erf 271 in Summerpride, approximately 12km north of the East London CBD, in the Buffalo City Metropolitan Municipality (BCMM). The applicant has appointed CES as an independent Environmental Practitioner to conduct the Environmental Impact Assessment (EIA) process.

1.1 Objectives of an EMPr

This Environmental Management Programme (EMPr) has been compiled to provide recommendations and guidelines according to which compliance monitoring should be conducted during the construction of the proposed mixed-use development. The purpose of the EMPr is to provide specifications for "good environmental practice" for application during all phases of the project.

This EMPr informs all relevant parties (the Project Manager or Co-ordinator, the Contractor(s) and all other staff employed at the site) as to their duties in the fulfilment of the legal requirements for Summerpride mixed-use development with particular reference to the prevention and mitigation of anticipated potential environmental impacts.

The objectives of an EMPr are to:

- Ensure compliance with regulatory authority stipulations and guidelines which may be local, provincial, national and/or international.
- Ensure that there is sufficient allocation of resources on the project budget so that the scale of EMPr-related activities is consistent with the significance of project impacts.
- Verify environmental performance through information on impacts as they occur.
- Respond to unforeseen events.
- Provide feedback for continual improvement in environmental performance.
- Identify a range of mitigation measures which could reduce and mitigate the potential impacts to minimal or insignificant levels.
- Detail specific actions deemed necessary to assist in mitigating the environmental impact of the project.
- Identify measures that could optimize beneficial impacts.
- Create management structures that address the concerns and complaints of I&APs with regards to the development.
- Establish a method of monitoring and auditing environmental management practices during all phases of the activity.
- Ensure that safety recommendations are complied with.
- Specify time periods within which the measures contemplated in the final environmental management programme must be implemented, where appropriate.

1.2 Structure and Function of an EMPr

An EMPr is focused on sound environmental management practices, which will be undertaken to minimise adverse impacts on the environment through the lifetime of a development. In addition, an EMPr identifies what measures will be in place or will be actioned to manage any incidents and emergencies that may occur during operation of the facility.

As such the EMPr provides specifications that must be adhered to, in order to minimise adverse environmental impacts associated with all phases of development. The content of the EMPr is consistent with the requirements as set out in Appendix 4 of the Environmental Impact Assessment (EIA) Regulations 2014 (as amended) stated below, for the planning and design, construction and operation phases.

According to APPENDIX 4 of GN R 326, an environmental management programme must include:

- (a) Details of –
 - (i) The EAP who prepared the environmental management programme; and
 - (ii) The expertise of the EAP to prepare an environmental management programme, including a curriculum vitae;
- (b) A detailed description of the aspects of the activity that are covered by the draft environmental management programme as identified by the project description;
- (c) A map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers;
- (d) A description of the impact management outcomes, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including –
 - (i) Planning and design;
 - (ii) Pre-construction activities;
 - (iii) Construction activities;
 - (iv) Rehabilitation of the environment after construction and where applicable post closure; and
 - (v) where relevant, operation activities;
- (f) a description of proposed impact management actions, identifying the manner in which the impact management outcomes contemplated in paragraphs (d) will be achieved, and must, where applicable include actions to –
 - a. Avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;
 - b. Comply with any prescribed environmental management standards or practices;
 - c. Comply with any applicable provisions of the Act regarding closure, where applicable;
 - d. Comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;
- (g) The method of monitoring the implementation of the impact management actions contemplated in paragraph (f);
- (h) The frequency of monitoring the implementation of the impact management actions contemplated in (f);
- (i) An indication of the persons who will be responsible for the implementation of the impact management actions;
- (j) The time periods within which the impact management actions contemplated in paragraph (f) must be implemented;
- (k) The mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);
- (l) A program for reporting on compliance, taking into account the requirement as prescribed by the Regulations;
- (m) An environmental awareness plan describing the manner in which –
 - a. The applicant intends to inform his or her employees of any environmental risk which may result from their work; and
 - b. Risks must be dealt with in order to avoid pollution or the degradation of the environment; and
- (n) Any specific information that may be required by the competent authority.

1.3 Legal requirements

The construction of the Summerpride mixed-use development must be according to best industry practices, as identified in the project documents. This EMPr, which forms an integral part of the contract documents, informs the Contractor as to his/her duties in the fulfilment of project objectives, with particular reference to the prevention and mitigation of environmental impacts caused by construction activities associated with

the project. The Contractor should note that obligations imposed by the approved EMPr are legally binding in terms of environmental statutory legislation, and if not implemented may lead to environmental damage that could be in direct contravention of environmental legislation, and should therefore form part of the general conditions of contract that pertain to this project. In the event that any rights and obligations contained in this document contradict those specified in the standard or project specifications then the latter shall prevail.

The Contractor must identify and comply with all South African national and provincial environmental legislation, including associated regulations and all local by-laws relevant to the project. Key legislation currently applicable to the construction and implementation phases of the project must be complied with. The list of applicable legislation provided below is intended to serve as a guideline only and is not exhaustive:-

- The Constitution Act (No. 108 of 1996).
- National Environmental Management Act (No. 107 of 1998; NEMA).
- EIA Regulations (2014, amended 2017).
- National Environmental Management: Protected Areas Act (No. 57 of 2003; NEMPA).
- National Environmental Management: Biodiversity Act (No. 10 of 2004; NEMBA).
- National Water Act (No. 36 of 1998; NWA).
- Hazardous Substances Act (No. 15 of 1973; HSA).
- National Heritage Resources Act (No. 25 of 1999; NHRA).
- National Environmental Management: Waste Management Act (No. 59 of 2008; NEMWA).
- Occupational Health and Safety Act (No. 85 of 1993; OHSA).
- National Environmental Management: Air Quality Act (No. 39 of 2004; NEMAQA).
- National Dust Control Regulations (GN R.827) of the National Environmental Management: Air Quality Act (No.39 of 2004).
- All relevant provincial legislation, municipal by-laws and ordinances.

2

DETAILS OF THE ENVIRONMENTAL ASSESSMENT TEAM

According to APPENDIX 4 of GN R 326, an environmental management programme must include:

- (a) Details of –
 - (i) The EAP who prepared the environmental management programme; and
 - (ii) The expertise of the EAP to prepare an environmental management programme, including a curriculum vitae;

Environmental Assessment Practitioner (EAP):

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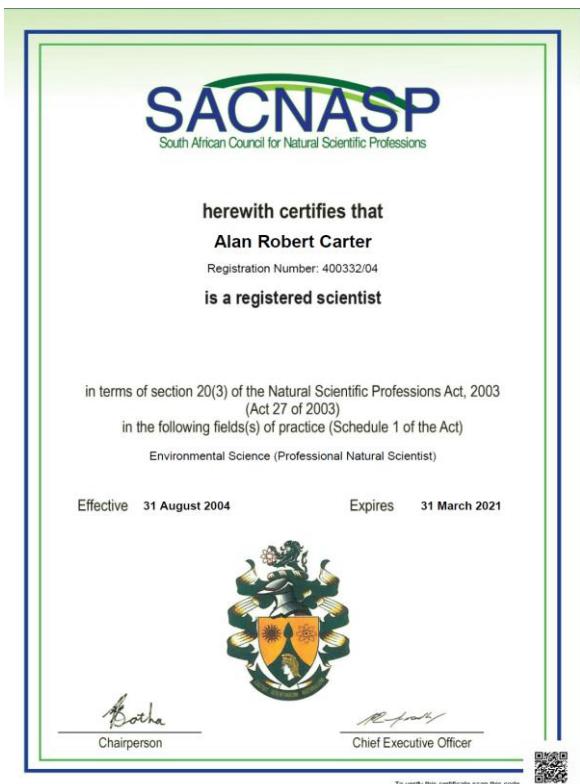
Project Team:

- Dr Alan Carter – *Project leader and quality control*
- Dr Greer Hawley – *Project manager*
- Ms Nande Suka – *Report compilation*

CES was established in 1990 as a specialist environmental consulting company and has considerable experience in terrestrial, marine and freshwater ecology, the Social Impact Assessment (SIA) process, State of Environment Reporting (SOER), Integrated Waste Management Plans (IWMP), Environmental Management Plans (EMPs), Spatial Development Frameworks (SDF), public participation, as well as the management and co-ordination of all aspects of the Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) processes.

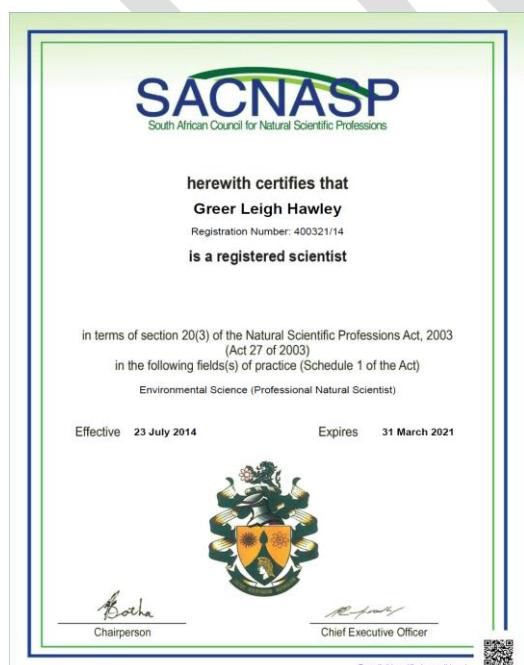
Dr Alan Carter (Pr.Sci.Nat.) - Project leader and quality control

Alan is the executive of the CES East London Office. He holds a PhD in Marine Biology and is a Certified Public Accountant, with extensive training and experience in both financial accounting and environmental science disciplines with international accounting firms in South Africa and the USA. He has 25 years' experience in environmental management and has specialist skills in sanitation, coastal environments and industrial waste. Dr Carter is registered as a Professional Natural Scientist under the South African Council for Natural Scientific Professions (SACNASP). He is also registered as an EAP with the Environmental Assessment Practitioners of South Africa (EAPSA) interim EAP certification body.



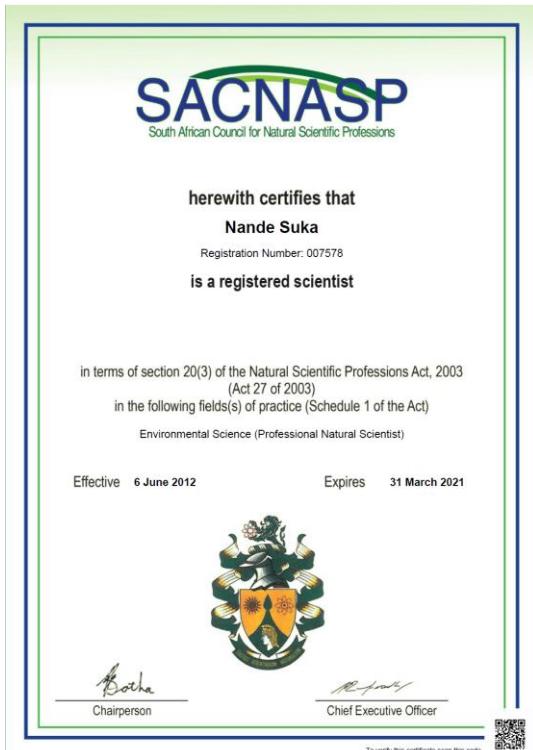
Dr Greer Hawley (Pr.Sci.Nat.) - Project manager

Greer has a BSc degree in Botany and Zoology, a BSc (Honours) in Botany from the University of Cape Town and a PhD (Microbiology) from Rhodes University. Greer has a diverse skill set including biodiversity surveys and assessments (plants, fungi and terrestrial ecosystems), developing environmental management policy (EMP's and EMF's), analysis and interpretation of environmental and biodiversity spatial datasets, training, feasibility assessments, environmental impact assessments for a wide range of land use activity proposals, aquaculture feasibility assessments, alien invasive management planning and conservation management planning. Greer has undertaken work in a number of African countries and has specifically surveyed many parts of the Eastern Cape. As a Principal Consultant, Greer manages large projects and has experience with co-ordinating big specialist teams. Greer has recently completed the review of the Eastern Cape Biodiversity Conservation Plan (2019) and continues to develop the Eastern Cape Biodiversity strategy and Action Plan



Ms Nande Suka (Pr.Sci.Nat.) – Report compilation

Nande is a Senior Environmental Consultant at the CES East London Office, she holds a BSc Biological Science degree with majors in Botany and Zoology, as well as a BSc (Hons) in Biological Science, with majors in Environmental Management, Environmental Management Procedures, Conservation Biology, Ecology and fundamentals in Biological Statistics. Both degrees were obtained at the Nelson Mandela Metropolitan University (NMMU) in Port Elizabeth. Nande is interested in all aspects of environmental quality management and has considerable experience in waste management, EIAs and construction compliance monitoring. Nande is a professionally registered environmental scientist with SACNASP.



3 PROPOSED ACTIVITY

According to APPENDIX 4 of GN R 326, an environmental management programme must include:

- (b) A detailed description of the aspects of the activity that are covered by the draft environmental management programme as identified by the project description;
- (c) A map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers;

3.1 Description of proposed activity

Moneyline 1082 CC proposes to construct a mixed use development on the remaining extent of Erf 271 in Summerpride, approximately 12km north of the East London CBD, in the Buffalo City Metropolitan Municipality (BCMM). The site (17.89 hectares) lies between the existing suburbs of Summerpride and Dawn, North of the N2 from King Williams Town to East London, adjacent to Voortrekker Road, and north of a main railway line. Existing access to the site is gained directly from Voortrekker Road. (Figure 1.1 below).

The proposed development will include a secure, mixed-use estate, for middle to upper income groups, with the following components:

Component	Zoning	Consent use	Area
Commercial “Village Centre”	Business 1	Commercial workshops, places of worship, institution, hypermarket	1.65 ha
806 Apartments/Flats <ul style="list-style-type: none">• 91 x 2 storey duplex units• 16 x 3 storey 24 unit apartment blocks• 20 x 3 storey 12 unit apartment blocks	Residential 5	Retirement village, day care centre, boarding house	12.74 ha
Internal Private Open Space Network with attenuation ponds	Open Space 2 (Private Open Space)	Associated facilities	1.74 ha
Public Roads	Transport 2 (Public Road)		0.53 ha
Private Roads	Private Road		1.23 ha



Figure 3.1: Locality map of the proposed access road from the R61 near St Barnabas Hospital to Hluleka Nature Reserve.

4 SCOPE OF THE EMPr

In order to ensure a holistic approach to the management of environmental impacts during the planning and design, construction and operation of the development this EMPr sets out the methods by which proper environmental controls are to be implemented by the Project Manager (or Co-ordinator) and/or the Contractor as well as all other parties involved.

The EMPr is a dynamic document subject to the changes in the scope of the project and to variations to the provisions of the project specification.

4.1 Layout of the EMPr

The EMPr is divided into three phases of development. Each phase has specific issues unique to that period of the construction and operation of the development. The impacts are identified and given a brief description. The phases of the development are identified as below:

4.1.1 Planning and design (pre-construction) phase

This section of the EMPr provides management principles for the planning and design phase of the project. Environmental actions, procedures and responsibilities as required during the planning and design phase are specified. These specifications will form part of the contract documentation and therefore the Contractor will be required to comply with these specifications to the satisfaction of the Project Manager and Environmental Control Officer (ECO) or Environmental Site Officer (ESO).

4.1.2 Construction phase

This section of the EMPr provides management principles for the construction phase of the project. Environmental actions, procedures and responsibilities as required during the construction phase are specified. These specifications will form part of the contract documentation and therefore the Contractor will be required to comply with these specifications to the satisfaction of the Project Manager and ECO or ESO.

4.1.3 Operational and maintenance phase

This section of the EMPr provides management principles for the operation and maintenance phase of the project. Environmental actions, procedures and responsibilities as required during the operation and maintenance phase are specified.

5 ROLES AND RESPONSIBILITIES

According to APPENDIX 4 of GN R 326, an environmental management programme must include:

- (i) An indication of the persons who will be responsible for the implementation of the impact management actions;

5.1 Project manager/Environmental Site Officer

The Project Manager is responsible for overall management of the project and EMPr implementation. The following tasks will fall within his / her responsibilities:

- Be familiar with the recommendations and mitigation measures of this EMPr, and implement these measures.
- Monitor site activities on a daily basis for compliance.
- Conduct internal audits of the construction site against the EMPr.
- Confine the construction site to the demarcated area.
- Rectify transgressions through the implementation of corrective actions.

5.2 Contractor

The contractor will be responsible for the overall execution of the activities envisioned in the construction phase including the implementation and compliance with recommendations and conditions of the EMPr. The contractor must therefore ensure compliance with the EMPr at all times during construction activities and maintain an environmental register which keeps a record of all environmental incidents which occur on the site during construction activity. These incidents may include:

- Public involvement / complaints.
- Health and safety incidents.
- Incidents involving Hazardous materials stored on site.
- Non-compliance incidents.

The contractor is also responsible for the implementation of corrective actions issued by the ECO/ESO and Project Manager within a reasonable or agreed period of time.

5.3 Environmental Site Officer

The Environmental Site Officer (ESO) is employed by the contractor and monitors daily compliance with the EMPr on site during the construction phase and reports to the ECO (if appointed) and Project manager on environmental matters relating to construction.

The ESO's duties will include:

- Keep a daily onsite diary during the construction phase and report back to the ECO (or Project Manager) on a bi-weekly basis on the implementation of the construction component of the EMPr on site.
- Keep records of all incident reports and complaints and report back to the ECO (or Project Manager) on a weekly basis.
- Report any serious environmental incidents or environmental impacts immediately to the Project Manager or ECO.
- Conduct regular site audits.

5.4 Environmental Control Officer

The ECO will be the responsible person for ensuring that the provisions of the EMPr are complied with during

the construction period. The ECO's duties in this regard will include, inter alia, the following:

- Conduct regular site visits to be able to report on and respond to any environmental issues.
- Report compliance and non-compliance issues to the Project Manager;
- Advise the Contractor on environmental issues within the defined work areas.
- Review access and incident records that may pertain to the environment and reconcile the entries with the observations made during site inspection, monitoring and auditing.
- Recommend corrective action when required for aspects of non-compliance with the EMPr.
- Take immediate action on site where clearly defined and agreed "no-go" areas are violated or in danger of being violated and inform the project manager of the occurrence immediately and to take action.
- Take immediate action on site when prescriptive conditions are violated, or in danger of being violated and to inform the project manager of the occurrence and action taken.

The ECO must have:

- A good working knowledge of all relevant environmental policies, legislation, guidelines and standards.
- The ability to conduct inspections and to produce thorough, readable and informative reports.
- The ability to manage public communication and complaints.
- The ability to think holistically about the structure, functioning and performance of environmental systems.
- Proven competence in the application of the following integrated environmental management tools:
 - Environmental Impact Assessment.
 - Environmental management plans/programmes.
 - Environmental auditing.
 - Mitigation and minimisation of impacts.
 - Monitoring and evaluation of impacts.
 - Environmental Management Systems.

The ECO must be fully conversant with this EMPr and all relevant environmental legislation.

The Project Manager will have the authority to replace the ECO if, in their opinion, the appointed officer is not fulfilling his/her duties in terms of the requirements of the EMPr or this specification. Such instruction will be in writing and will clearly set out the reasons why a replacement is required and within what timeframe.

6 MITIGATION AND/OR MANAGEMENT MEASURES

According to APPENDIX 4 of GN R 326, an environmental management programme must include:

- (d) A description of the impact management outcomes, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including—
 - (i) Planning and design;
 - (ii) Pre-construction activities;
 - (iii) Construction activities;
 - (iv) Rehabilitation of the environment after construction and where applicable post closure; and
 - (v) where relevant, operation activities;
- (f) A description of proposed impact management actions, identifying the manner in which the impact management outcomes contemplated in paragraphs (d) will be achieved, and must, where applicable include actions to –
 - (i) Avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;
 - (ii) Comply with any prescribed environmental management standards or practices;
 - (iii) Comply with any applicable provisions of the Act regarding closure, where applicable;
 - (iv) Comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;

A variety of potential impacts are associated with the planning and design phase (pre-construction), construction and the operational phase of the project. This section focuses on the mitigation measures associated with each project phase in order to reduce negative impacts that may be associated with the access road, approved borrow pits and hard rock quarry.

Table 6.1: Issues and Mitigation Measures associated with the project.

PLANNING & DESIGN PHASE
<i>Legal and policy compliance</i>
<ul style="list-style-type: none">• All relevant legislation and policy must be consulted and the proponent must ensure that the project is compliant with such legislation and policy.• These should include (but are not restricted to): NEMA, Eastern Cape Biodiversity Conservation Plan (ECBCP), Local Municipal bylaws.• All relevant permits and authorisations including Water Use Licences and Building Plan Approvals must be in place prior to commencement of construction.
<i>Technology employed</i>
Water: <ul style="list-style-type: none">• Rainwater tanks must be considered in the design and planning phase. Tanks will reduce the runoff created by the housing footprint and reduce municipal water usage.• Water piping material and infrastructure must comply with SABS to insure as far as possible pipeline failures and future indirect impacts resulting from burst pipes do not result in water loss.
Energy: <ul style="list-style-type: none">• Insulation of houses and use of solar water heaters should be considered.• Use of alternative renewable energy sources such as solar power (PV) should be considered in the design and layout. However, if renewable energy technology is not implemented initially, provisions should be made in design to allow for easier post-construction retrofitting.
<i>Site establishment</i>

- Appropriate areas for site establishment must be identified prior to construction preferably on the existing site or alternative transformed land and away from sensitive areas.

Bulk services and infrastructure

- Planning for and placement of infrastructure must be done so as to avoid sensitive areas as far as possible.

Stormwater management

- A Stormwater Management Plan must be developed by the Engineer or Contractor prior to construction to control runoff and prevent erosion of the site and its surroundings.
- An Erosion Management Plan must be developed by the Engineer/Contractor during the final design stages to mitigate the unnecessary loss of soil and sedimentation of watercourses during all phases of the project.
- The Erosion Management Plan must be approved by the appointed ECO.
- Regular monitoring of implementation of this plan for the rehabilitation of disturbed areas must be conducted.
- Appropriate stormwater structures alongside a stormwater management plan must be designed to minimise erosion of the surrounding environment and sedimentation of surrounding watercourses.
- Pervious surfaces should be used for the parking lot, roads and footpaths where possible to promote infiltration and reduce concentrated runoff.
- Impermeable bunded areas must be designed to store all oil tanks. These areas must be 110% the volume of the oil storage tanks within them and there must be an outlet valve with an oil trap for release of uncontaminated stormwater from the bunded areas.

Waste management

- A proper waste management plan for handling onsite general and hazardous waste during the construction and operation phases must be developed and implemented.
- An appropriate area must be identified where waste can be stored before disposal.

Soils

- An Erosion Management Plan must be developed by the Engineer/Contractor prior to construction to mitigate the unnecessary loss of soil and sedimentation of watercourses during all phases of the project.
- The Erosion Management Plan must be approved by the appointed ECO prior to implementation.

Control of alien and invasive vegetation

- An Alien Vegetation Management Plan must be developed by the Contractor prior to construction to mitigate the establishment and spread of undesirable alien plant species during all phases of the project.
- The Alien Vegetation Management Plan must be approved by the appointed ECO prior to implementation.
- Regular monitoring of the implementation of this plan for the rehabilitation of disturbed areas must be conducted by the appointed ECO.

Habitat loss, destruction and pollution

Layout and design must take into account watercourses on and surrounding sites.

- All necessary Water Use Authorisations must be obtained for any of the following activities:
- Construction within 500 m of a wetland
- Construction within a watercourse.
- Abstraction from a dam or watercourse.

Health, safety and crime

- A health and safety plan in terms of the Occupational Health and Safety Act (Act No 85 of 1993) must be drawn up by an HSE officer prior to construction to ensure workers safety.

Visual

- Architectural guidelines must be formulated with a view to blending buildings into the landscape through selection of specific materials and colours. Natural materials should be adopted if possible.

On-site fire risk

- An Emergency Preparedness Plan must be in place for both the construction and operational phases and before these phases commence.

Traffic routing and control

- The recommendation of the Traffic Impact Assessment covering the construction of a traffic circle at the main access point between Voortrekker Road and Arnold Road, should be adhered to and integrated into the final design.
- All internal roads must be routed away as far as possible from the watercourse.
- There could be two access points to the development from Thornycroft Road and one access point from Beulah Road (providing access to houses situated on the eastern side of the development) in order to avoid constructing an internal road across the watercourse.

Inadequate rehabilitation and maintenance

- A Rehabilitation Plan must be developed and implemented during construction and operation phases.

CONSTRUCTION PHASE

Legal and policy compliance

- The Applicant must appoint an independent Environmental Control Officer (ECO) for the duration of the construction phase to audit the contractor's compliance with the specifications in the EA, EMPR and any other relevant permits/authorisations.

Site establishment

- Site camp must be established away from sensitive areas on previously transformed areas where possible.
- Vegetation clearance must be kept to a minimum during site clearance activities. An ECO must be present when the site is surveyed to determine exact positions of buildings and roads.

Bulk services and infrastructure

- Vegetation clearance must be kept to construction footprint and extra care must be taken when working within close proximity to sensitive areas.

Material stockpiling

- Material stockpiles must be located away from sensitive areas and they must be monitored for erosion and alien vegetation.
- Material stockpiles locations must be approved by the ECO.

Stormwater management

- The construction site must be managed in a manner that prevents pollution to downstream watercourses or groundwater, due to suspended solids, silt or chemical pollutants.
- Berms and swathes must be placed in areas that may be prone to erosion.
- Temporary cut-off drains and berms may be required to capture storm water and promote infiltration.

Waste management

- A Waste Management Plan for handling onsite general and hazardous waste during the construction and operation phases must be developed and implemented.
- All general waste must be disposed of in bins/waste skips labelled "general waste".

- Sufficient waste bins must be provided throughout the construction site for collecting waste.
- All general waste collected on site must be disposed of at a licensed general waste disposal site.
- All hazardous waste generated on site must be placed in a temporary impermeable bunded containment area which must be disposed of at a hazardous landfill site or be collected by the appropriate service provider.
- Proof of receipt of hazardous waste by a licensed service provider must be maintained on the site.
- Adequate sanitary facilities must be provided for construction workers and they must be properly secured to the ground.
- Maintenance of the chemical toilets should be done on a regular basis to prevent any leakages.

Hazardous substances

- Any storage tanks containing hazardous materials (i.e. fuel, diesel) must be placed in bunded containment areas with sealed surfaces and the capacity of the bunded containment areas must be 110% the volume of the storage tanks within it.
- Cement and concrete must not be mixed directly on the ground, or during rainfall events when the potential for transport of pollutants to watercourses is the greatest.
- Used cement bags should be collected and stored in containers to prevent wind-blown cement dust and water contamination.
- Mixed cement/concrete must not be allowed to flow into any watercourses.
- Drip trays must be placed under stationary construction machinery overnight to avoid soil contamination from oil and fuel leaks.
- Absorbent materials in the form of a spill kit must be provided on site.
- The ECO must determine the precise method of treatment of polluted soil. This could involve the application of soil absorbent materials or oil-digestive powders to the contaminated soil.
- Contaminated soil must either be excavated or treated on-site, depending on the nature and extent of the spill.
- Contaminated remediation materials must be carefully removed from the area of the spill so as to prevent further release of petrochemicals to the environment, and stored in suitable containers until appropriate disposal.

Soils

- Wind screening and stormwater control must be undertaken to prevent soil loss from the site.
- The contractor must develop and implement an Erosion Management Plan.
- All erosion control mechanisms must be regularly maintained.
- Natural vegetation must be retained where possible to avoid soil erosion.
- Construction must be phased in order to minimise the area of exposed soil at any one time.
- Disturbed areas of natural vegetation must be rehabilitated immediately to prevent further soil erosion.
- Fill and stabilise all erosion rills before they develop into larger gullies that advance from erosion and runoff due to construction activities.

Natural vegetation

- Prior to the commencement of construction, a permit must be obtained to remove and transplant protected plant and tree species.
- The construction footprint must be surveyed and demarcated prior to construction commencing and must be approved by the Environmental Control Officer.
- No construction activities will be allowed outside the demarcated footprint.
- Construction activities must be kept to a minimum where untransformed areas of natural vegetation occur.
- Construction activities should be preferred in areas where degraded natural vegetation is found.
- Where vegetation has been cleared, site rehabilitation in terms of soil stabilisation and vegetation must be undertaken.

- Cleared vegetation must not be piled on top of natural vegetation but must be stockpiled temporarily on bare ground and removed to a registered landfill site. Alternatively, cleared vegetation may be mulched and used as ground cover during rehabilitation.
- The contractor's staff must not harvest any natural vegetation.

Establishment of alien species

- The approved Alien Vegetation Management Plan must be implemented by the contractor during the construction phase to reduce the establishment and spread of undesirable alien plant species.
- Alien plants must be removed from the site through appropriate methods such as hand pulling, application of chemicals, cutting etc. as in accordance to the NEMBA: Alien Invasive Species Regulations.
- All temporarily impacted areas must be rehabilitated with indigenous vegetation as soon as construction in the particular area or phase of work is complete, i.e. rehabilitation is on-going throughout construction.
- Restoration must be conducted as per the approved Erosion and Alien Vegetation Management Plans.

Habitat loss, destruction and pollution

- All chemicals/hazardous substances must be stored safely in bunded area at least 100m from any watercourse.
- Emergency plans must be in place in case of spillages of hazardous substances/materials.

Watercourse erosion and sedimentation

- The construction of the bridge must take place in the shortest possible time period and during the low rainfall season.
- Bank restoration, re-vegetation and stabilization must be implemented once construction is complete and must include the use of gabions for bank stabilization.

Influx of job seekers

It is suggested that Moneyline and appointed contractor must:

- Conduct an audit of the affected communities in terms of employment capacity.
- Identify potential workers from the affected and surrounding communities.
- Set up a central labour desk where all workers register and only workers registered on the database should be considered for employment.
- All construction workers must be clearly identifiable and wear easily recognisable uniforms. They need to carry identification cards issued by the contractor.
- The SAPS must have access to construction sites.
- Local communities should be encouraged to report suspicious activity to the community liaison or nearest site officer.
- The use of local labour will minimise safety and security concerns to a great extent.
- The contractor must prevent loitering around the construction camp by providing transport to and from the camp sites.
- Implement safety and security measures on site, such as security guards and access control.
- A Health and Safety Officer must be appointed on site and must comply with the Occupational Health and Safety policies.

Impact on health and general quality of life

- Service providers such as local clinics, schools and the SAPS must be made aware of the potential increase in demand for services, and the anticipated increased pressure to provide services for new households.

Stimulation of economic growth

- Equal jobs opportunities for women and men must be promoted.
- Culture and tradition must be considered when planning the division of labour for construction.

- Employment must be managed by the PSC that uses a selection system that ensures recruitment of semi and unskilled workers from all local impacted communities in accordance with recent government policies related to local procurement. This must ensure a fair and equitable recruitment process.
- Where appropriate, employees involved in the construction phase should be incorporated into the permanent maintenance staff for the operational phase.
- Moneyline must ensure that the principle of utilising local business resources (suppliers and SMMEs), in accordance with recent government policies related to local procurement, forms part of the procurement specifications.
- Moneyline should implement a skills development programme which will also include training in business, project management, monitoring and evaluation.

Air quality and dust control

- During windy periods un-surfaced and un-vegetated areas must be dampened down.
- Vegetation must be retained where possible as this will reduce dust travel.
- Any complaints or claims emanating from dust issues must be attended to immediately and noted in the complaints register.
- A community liaison officer (CLO) must be appointed during the construction phase to facilitate a close working relationship with the Contractor and/or Moneyline and the surrounding landowners and general public.
- Vehicles and construction plant must be serviced regularly so as to reduce excessive vehicle emissions.

Noise

- Activities which include the movement of construction vehicles and the operation of machinery should be restricted to normal working hours (07:00am – 17:00pm).
- There must be a complaints register on site for nearby residents to make complaints. These must be addressed and recorded.

On-site fire risk

- All flammable substances must be stored in dry areas which do not pose an ignition risk to the said substances.
- Smoking must not be permitted near flammable substances.
- All cooking must be done in demarcated areas that are safe in terms of runaway or uncontrolled fires.
- No open fires must be allowed on site.
- Fire extinguishers must be available onsite.

Traffic

- Local residents should be made aware of the presence of construction vehicles by making use of high-visibility signage.
- All traffic safety (flagmen) and traffic calming measures should be in place within the site and where traffic enters the main road.
- It is recommended that any damage to the road as a result of construction activities and vehicles should be repaired immediately and maintained in the original or improved state prior to construction.
- Photographs should be taken of the road condition prior to construction, during construction and post-construction.

Heritage and paleontological resources

- All clearing activities and construction activities must be monitored. Managers/foremen should be informed before clearing/construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites. Alternatively it is suggested that a person must be trained (ECO) as a site monitor to report to the foreman when heritage sites/materials are found.

Inadequate rehabilitation and maintenance

- The rehabilitation plan must be implemented during and after the construction has been completed.
- All temporarily disturbed areas must be rehabilitated with indigenous vegetation as soon as construction in the particular area or phase of work is complete, i.e. rehabilitation is on-going throughout construction as phases have been completed.

OPERATIONAL PHASE

Legal and policy compliance

- The proponent must ensure that operation of the Summerpride mixed-use development is compliant with the relevant legislation and policy.
- These should include (but are not restricted to): NEMA, EA, WULA, plant removal permits and any other permits/authorisations.

Bulk services and infrastructure

- Regular maintenance and inspections of all infrastructure and services must be undertaken by a designated person (i.e. Caretaker).
- Any leakages of sewage infrastructure on site must be stopped immediately and contaminated areas remediated.

Stormwater management

- Stormwater management measures such as attenuation structures, channels, etc. must be properly maintained and monitored.
- If the stormwater management measures put in place are deemed insufficient, a qualified engineer must be approached to assist with additional storm water attenuation mechanisms and remediation.

Waste management

- A waste management plan must be implemented to ensure appropriate handling, collection, processing and disposal of solid waste. (An adequate backup system for waste management should be in place in case of service delivery strikes).
- Reuse, recycling and separation-at-source of waste should be promoted.
- If any hazardous waste that is generated on site it must be stored in an impermeable container until such time as it can be disposed at a registered hazardous landfill site or be collected by the appropriate service provider (e.g. Enviroserv).

Establishment of alien plant species

- The approved Alien Vegetation Management Plan must be implemented to reduce the establishment and spread of undesirable alien plant species.
- Alien plants must be removed from the site through appropriate methods such as hand pulling, application of chemicals, cutting etc. as in accordance to the NEMBA: Alien Invasive Species Regulations.

Visual

- Appropriate lighting must be installed which is shaded and directed.
- Natural vegetation must be retained where possible, especially along the existing fence line along the road where there is already a “natural screen” that has developed.

On-site fire risk

- Fire extinguishers must be placed throughout the site.
- No smoking or open flame should be permitted on the site.
- An Emergency Response Plan must be in place and must be known by all employees.
- Fire breaks should be considered by the applicant.

Traffic

- Traffic calming measures should be in place along approaching roads.

- Measures to accommodate pedestrians should be in place and continually enforced.

Inadequate rehabilitation and maintenance

All disturbed areas must be continuously rehabilitated with indigenous vegetation post-construction to limit the effect of the operational impact of the mixed-use development on the surrounding natural environment.

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7 ENVIRONMENTAL MONITORING

According to APPENDIX 4 of GN R 326, an environmental management programme must include:

- (g) The method of monitoring the implementation of the impact management actions contemplated in paragraph (f);
- (h) The frequency of monitoring the implementation of the impact management actions contemplated in (f);

A monitoring programme should be implemented for the duration of the construction of the project. This programme should include:

- Establishing a baseline of pre-construction site conditions validated with photographic evidence.
- Monthly audits must be conducted by an ECO for the remainder of the construction phase to ensure compliance with the EMPr conditions, and where necessary make recommendations for corrective action. Compliance monitoring can be conducted randomly and do not require prior arrangement with the Project Manager.
- Compilation of an audit report with a rating of compliance with the EMPr. The ESO/ECO must keep a photographic record of the demarcated site and construction area. The Contractor will be held liable for all unnecessary damage to the environment. A register must be kept of all complaints from the community. All complaints/claims must be handled immediately to ensure timeous rectification/payment by the responsible party.
- Compilation of a final audit report after all site construction and rehabilitation is complete. A final report containing a summary of all compliance monitoring during construction should be compiled at the end of construction.

8 COMPLIANCE WITH THE EMPr

According to APPENDIX 4 of GN R 326, an environmental management programme must include:

- (j) The time periods within which the impact management actions contemplated in paragraph (f) must be implemented;
- (k) The mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);

A copy of the EMPr must be kept on site at all times during the construction and operation period. The EMPr will be binding on all staff operating on the site and must be included within the Contractual Clauses.

It should be noted that in terms of Section 28 of NEMA those responsible for environmental damage must pay the repair costs both to the environment and human health and the preventative measures to reduce or prevent further pollution and/or environmental damage (The ‘polluter pays’ principle).

8.1 Non-compliance

The contractors must act immediately when notice of non-compliance is received from any government entity and corrective actions must be implemented. Complaints received regarding activities on the construction site pertaining to the environment must be recorded in a dedicated register and the response noted with the date and action taken.

The Contractor is deemed not to have complied with the EMPr if, *inter alia*:

- There is evidence of contravention of the EMPr specifications within the boundaries of the construction site, site extensions and roads.
- There is contravention of the EMPr specifications which relate to activities outside the boundaries of the construction site.
- Environmental damage ensues due to negligence.
- Construction activities take place outside the defined boundaries of the site.
- The Contractor fails to comply with corrective actions or other instructions issued by the Engineer within a specific time period.

It is recommended that the Contractor institutes penalties for the following less serious violations and any others determined during the course of work as detailed below:

- Littering on site.
- Lighting of illegal fires on site.
- Persistent or un-repaired fuel and oil leaks.
- Any persons, vehicles or equipment related to the Contractor’s operations found within the designated “no-go” areas.
- Excess dust or excess noise emanating from site.
- Possession or use of intoxicating substances on site.
- Any vehicles being driven in excess of designated speed limits.
- Removal and/or damage to fauna, flora or cultural or heritage objects on site.
- Urination and defecation anywhere except at designated facilities.

8.2 Emergency preparedness

The Contractor must compile and maintain environmental emergency procedures to ensure that there will be an appropriate response to unexpected or accidental actions or incidents that will cause environmental impacts, throughout the construction period. Such activities may include, *inter alia*:

- Accidental discharges of polluting substances to water and land.
- Accidental exposure of employees to hazardous substances.
- Accidental fires.
- Accidental spillage of hazardous substances.
- Accidental toxic emissions into the air.
- Specific environmental and ecosystem effects from accidental releases or incidents.

These plans must include:

- Emergency organisation (manpower) and responsibilities, accountability and liability.
- A list of key personnel and contact details.
- Details of emergency services available (e.g. the fire department, spill clean-up services, etc.).
- Internal and external communication plans, including prescribed reporting procedures where required by legislation.
- Actions to be taken in the event of different types of emergencies.
- Incident recording, progress reporting and remediation measures required to be implemented.
- Information on hazardous materials, including the potential impact associated with each, and measures to be taken in the event of accidental release.
- Training plans, testing exercises and schedules for effectiveness.

The Contractor must comply with the emergency preparedness and incident and accident-reporting requirements, as required by the OHSA, NEMA, and the NWA and/or any other relevant legislation.

8.3 Incident reporting and remedy

If a leakage or spillage of hazardous substances occurs on site, the local emergency services must be immediately notified of the incident. The following information must be provided:

- The location.
- The nature of the load.
- The extent of the impact.
- The status at the site of the accident itself (i.e. whether further leakage is still taking place, whether the vehicle or the load is on fire).

Written records must be kept on the corrective and remedial measures decided upon and the progress achieved therewith over time. Such progress reporting is important for monitoring and auditing purposes.

8.4 Penalties to contractors

Where environmental damage is caused or a pollution incident, and/or failure to comply with any of the environmental specifications contained in the EMPr, the Project Manager and/or contractor will be liable to pay a penalty fine.

The following violations, and any others determined during the course of work, should be penalised:

- Hazardous chemical/oil spill and/or dumping in non-approved sites.
- Damage to sensitive environments.
- Damage to cultural and historical sites.
- Unauthorised removal/damage to indigenous trees and other vegetation, particularly in identified sensitive areas.
- Uncontrolled/unmanaged erosion.
- Pollution of water sources.

Guidelines on appropriate fines for environmental damages or EMPr transgressions, can be sourced from the City of Cape Town EMP Specifications.

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9 REPORTING

According to APPENDIX 4 of GN R 326, an environmental management programme must include:

- (I) A program for reporting on compliance, taking into account the requirement as prescribed by the regulations;

9.1 Administration

Before the construction activities begin, the Contractor must give the ECO and developer a written method statement setting out the following:

- The type of construction activity.
- Locality where the activity will take place.
- Identification of impacts that might result from the activity.
- Identification of activities that may cause an impact.
- Methodology and/or specifications for impact prevention for each activity or aspect.
- Methodology and/or specifications for impact containment for each activity or aspect.
- Emergency/disaster incident and reaction procedures.
- Treatment and continued maintenance of the impacted environment.

New submissions must be given to the Project Manager and/or the ECO/ESO whenever there is a change or variation to the original.

The Project Manager and/or the ECO/ESO should provide comment on the methodology and procedures proposed by the Contractor but they will not be responsible for the Contractor's chosen measures of impact mitigation and emergency/disaster management systems.

9.2 Good housekeeping

The Contractor must undertake "good housekeeping" practices during construction. This will help avoid disputes on responsibility and allow for the smooth running of the contract as a whole. Good housekeeping extends beyond the wise practice of construction methods to include the care for and preservation of the environment within which the construction activities are situated.

9.3 Record keeping

The Project Manager and/or the ECO/ESO must continuously monitor the Contractor's adherence to the approved impact prevention procedures and the ECO/ESO must issue the Contractor a notice of non-compliance whenever transgressions are observed. The ECO/ESO should document the nature and magnitude of the non-compliance in a designated register, the action taken to discontinue the non-compliance, the action taken to mitigate its effects and the results of the actions. The non-compliance will be documented and reported to the Project Manager in the monthly report.

9.4 Document control

The Project Manager and/or the ECO/ESO will be responsible for establishing a procedure for electronic document control. The document control procedure should comply with the following requirements:

- Documents must be identifiable by organisation, division, function, activity and contact person.
- Every document must identify the personnel and their positions, who drafted and compiled the document, who reviewed and recommended approval, and who finally approved the document for distribution.

- All documents must be dated, provided with a revision number and reference number, filed systematically, and retained for a five year period.

The Project Manager and/or the Contractor must ensure that documents are periodically reviewed and revised, where necessary, and that current versions are available at all locations where operations essential to the functioning of the EMPr are performed. All documents must be made available to the ECO/ESO and other independent external auditors.

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10 ENVIRONMENTAL AWARENESS

According to APPENDIX 4 of GN R 982, an environmental management programme must include:

- (m) An environmental awareness plan describing the manner in which –
 - (i) The applicant intends to inform his or her employees of any environmental risk which may result from their work; and
 - (ii) Risks must be dealt with in order to avoid pollution or the degradation of the environment;

Contractors must ensure that its employees and any third party who carries out all or part of the Contractor's obligations are adequately trained with regard to the implementation of the EMPr, as well as regarding environmental legal requirements and obligations. Training must be conducted by the ECO/ESO where necessary.

Environment and health awareness training programmes should be targeted at three distinct levels of employment, i.e. the executive, middle management and labour. Environmental awareness training programmes should contain the following information:

- The names, positions and responsibilities of personnel to be trained.
- The framework for appropriate training plans.
- The summarised content of each training course.
- A schedule for the presentation of the training courses.

The ECO/ESO must ensure that records of all training interventions are kept in accordance with the record keeping and documentation control requirements as set out in this EMPr. The training records will verify each of the targeted personnel's training experience.

The developer must ensure that adequate environmental training takes place. All employees must be given an induction presentation on environmental awareness and the content of the EMPr. The presentation needs to be conducted in the language of the employees to ensure it is understood. The environmental training must, as a minimum, include the following:

- The importance of conformance with all environmental policies.
- The environmental impacts, actual or potential, of their work activities.
- The environmental benefits of improved personal performance.
- Their roles and responsibilities in achieving conformance with the environmental policy and procedures.
- The potential consequences of departure from specified operating procedures.
- The mitigation measures required to be implemented when carrying out their work activities.
- Environmental legal requirements and obligations.
- The importance of not littering.
- The importance of using supplied toilet facilities.
- The need to use water sparingly.
- Details of and encouragement to minimise the production of waste and re-use, recover and recycle waste where possible.
- Details regarding archaeological and/or historical sites which may be unearthed during construction and the procedures to be followed should these be encountered.

10.1 Monitoring of environmental training

The Contractor must monitor the performance of construction workers to ensure that the points relayed during their introduction have been properly understood and are being followed. If necessary, the ECO/ESO and / or a translator should be called to the site to further explain aspects of environmental or social behaviour that are unclear. Toolbox talks are recommended.

11 CLOSURE PLANNING

11.1 Final site restoration

The Contractor must clear and restore the site and ensure that all excess building material and construction debris is removed from site once the construction phase has been completed.

11.2 Rehabilitation

The Contractor (landscape architect/horticulturist) will be responsible for the rehabilitation and re-vegetation of all disturbed areas earmarked for conservation during construction to the satisfaction of the Project Manager and/or the ECO/ESO.

11.3 Post-construction audit

A post-construction audit must be carried out for submission to the developer. Objectives should be to audit compliances with the key components of the EMPr, to identify the main areas requiring attention and recommend priority actions. The audit should be undertaken annually and should cover a cross section of issues, including implementation of environmental controls, environmental management and environmental monitoring.

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.

12 CONCLUSIONS

Although all foreseeable actions and potential mitigations or management actions are contained in this document, the EMPr must be seen as a day-to-day management tool. The EMPr thus sets out the environmental and social standards, which would be required to minimise the negative impacts and maximise the positive benefits of the construction and operational activities associated with the Summerpride mixed-use development.

This EMPr must be included in all Contractor tender documentation associated with this project, so that the Contractor is made aware of the potential cost and timing implications needed to fulfil the implementation of the EMPr, thus adequately costing for these.

The EMPr will be reviewed by the ECO/ESO on an on-going basis. Based on observations during site inspections and issues raised at site meetings, the ECO/ESO will determine whether any procedures require modification to improve the efficiency and applicability of the EMPr on-site.

Any such changes or updates will be registered in the ECO's/ESO's records, as well as being included as an annexure to this document.

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APPENDIX A

PROPOSED ENVIRONMENTAL EDUCATION COURSE OUTLINE



<http://www.webweaver.nu/clipart/environmental.shtml>

Reasons why should we look after the environment

- We have a right to a clean environment
- A clean environment is essential to healthy living
- All our basic needs come from the environment
- A contract has been signed – development vs the environment
- Penalties / fines could be issued

How to look after the environment

-  Report issues
-  Teamwork
-  Follow the set rules and guidelines (EA, EMPr, Method statements etc.)
-  Conserve, reuse and recycle

Tips and Guidelines

-  Workers and equipment should not be allowed outside demarcated areas
-  No swimming or polluting of water bodies allowed
-  No damage / disturbance to vegetation or water bodies without consent / permits
-  No disturbance allowed in no-go areas
-  No hunting of animals
-  Report all fires
-  No burning or burying of waste
-  No smoking near hazardous materials
-  Training on fire fighting equipment
-  Hazardous materials to be stored in designated and bunded areas
-  Spill kits and drip trays a must
-  Report all spills
-  Control dust and Noise
-  Maintain construction vehicles
-  Availability and maintenance of sanitation facilities



Tips and Guidelines

- Only eat in designated areas
- Do not litter
- Vehicles to remain on approved tracks and adhere to speed limit
- Ensure emergency phone numbers are available
- Ensure PPE is worn
- Report fires, leaks and injuries
- Ask if unsure



DECLARATIONS

1) ENVIRONMENTAL CONTROL OFFICER (ECO)

The work described in this Method Statement, if carried out according to the methodology described, is satisfactorily mitigated to prevent avoidable environmental harm:

(Signed)

(Print name)

Dated: _____

2) PERSON UNDERTAKING THE WORKS

I understand the contents of this Method Statement and the scope of the works required of me. I further understand that this Method Statement may be amended on application to other signatories and that the ECO will audit my compliance with the contents of this Method Statement

(Signed)

(Print name)

Dated: _____