ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR) FOR THE PROPOSED DEVELOPMENT OF RIVERSIDE VIEW EXTENSION 84

Comment Period: 11 September 2020 to 13 October 2020

Proponent:

Steyn City Properties (Pty) Ltd.

Project Reference:

21637 – Riverside View Ext 84

Report Date:

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Amendments on Document

Date	Report Reference Number		Description of Amendment
08/09/2020	21637-EMPr-0	21637-EMPr-1	Minor amendments; Finalise report

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 INTRODUCTION

1.1 Overview

Steyn City Properties (Pty) Ltd. plans to develop Riverside View Ext 84 on portions 124 and 185 of the farm Diepsloot 388 JR. The proposed zoning of the development will be *Special for: Place of Instructions, Residential buildings and Offices, including ancillary uses such as restaurants and shops* and aims to provide a school, offices and residential buildings. Private Open space will also be incorporated into the development which form parts of the Steyn City Parkland Residence which has been designed to be a modern, mixed land use and mixed income development.

Necessary access and services required for the development will also be put in place.

1.2 Project Location

The site is collectively situated on Portion 124 and 185 of the farm Diepsloot 388 JR which is situated in Region A of the City of Johannesburg and is located to the north of Fourways and South of Diepsloot. The site is situated to the east of William Nicol Drive (R511) and the to the north of Zeven Street. The corner point coordinates of the site are indicated in Table 1-1.

Table 1-1.: Corner Point Coordinates

Corner	Coordinates
1	25°57'47.54"S; 28° 0'50.29"E
2	25°57'50.35"S; 28° 1'8.71"E
3	25°58'5.27"S; 28° 0'46.66"E
4	25°58'10.09"S; 28° 1'2.94"E

The Surveyor General 21-digit diagram numbers for the affected properties are provided in Table 1-2 below.

Table 1-2.: Surveyor General Diagram Numbers.

Portion	Surveyor General Diagram number
124	T0JR00000000038800124
185	T0JR00000000038800185

Refer to Figure 1-1 below for a visual indication of the site location.

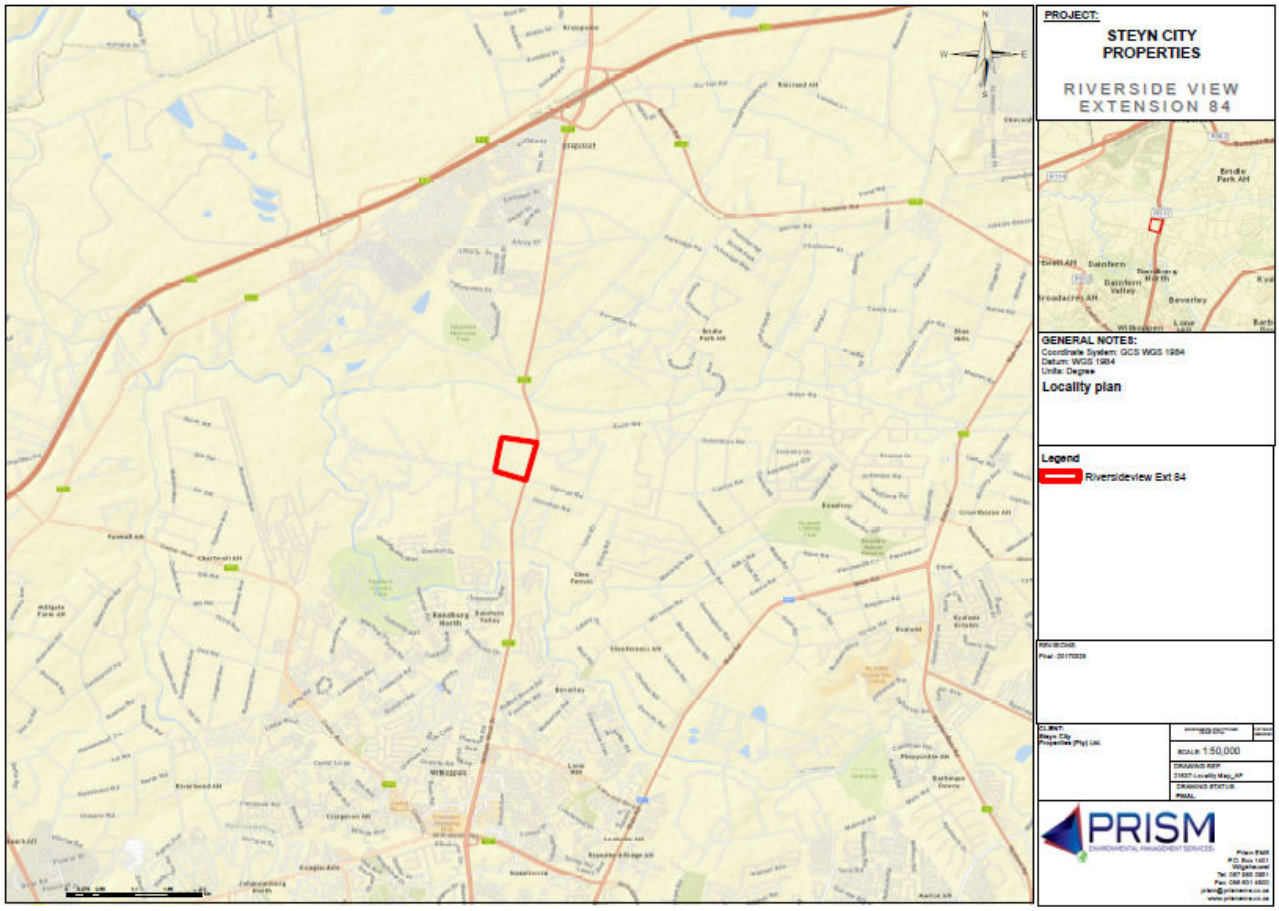

Figure 1-1: Locality map of the site.

1.3 Alternatives

As required by the Environmental Impact Assessment (EIA) Regulations, 2014 (as amended), alternatives have been as been assessed as part of the Basic Assessment (BA) process. These alternatives relate to the development layout as well as the stormwater layout. More information on each of these alternatives is provided below.

1.3.1 Layout Alternatives

Two layouts have been identified as feasible in regard to the development of Riverside View Extension 84. These are:

- The proposal; and
- Alternative.

1.3.1.1 Proposal

The proposal involves the development of three separate erven as follows:

- Erf 1 and 2:

- Special: Special for Place of Instructions, Residential buildings and Offices, including ancillary uses such as restaurants and shops.

- Erf 3:
  - Special for Private Open Space

As part of the proposal, access to the site will be obtained from three points (two off View Road and one from the Steyn City development to the south). Connections to existing services will also be to a single point on the Erf 1.

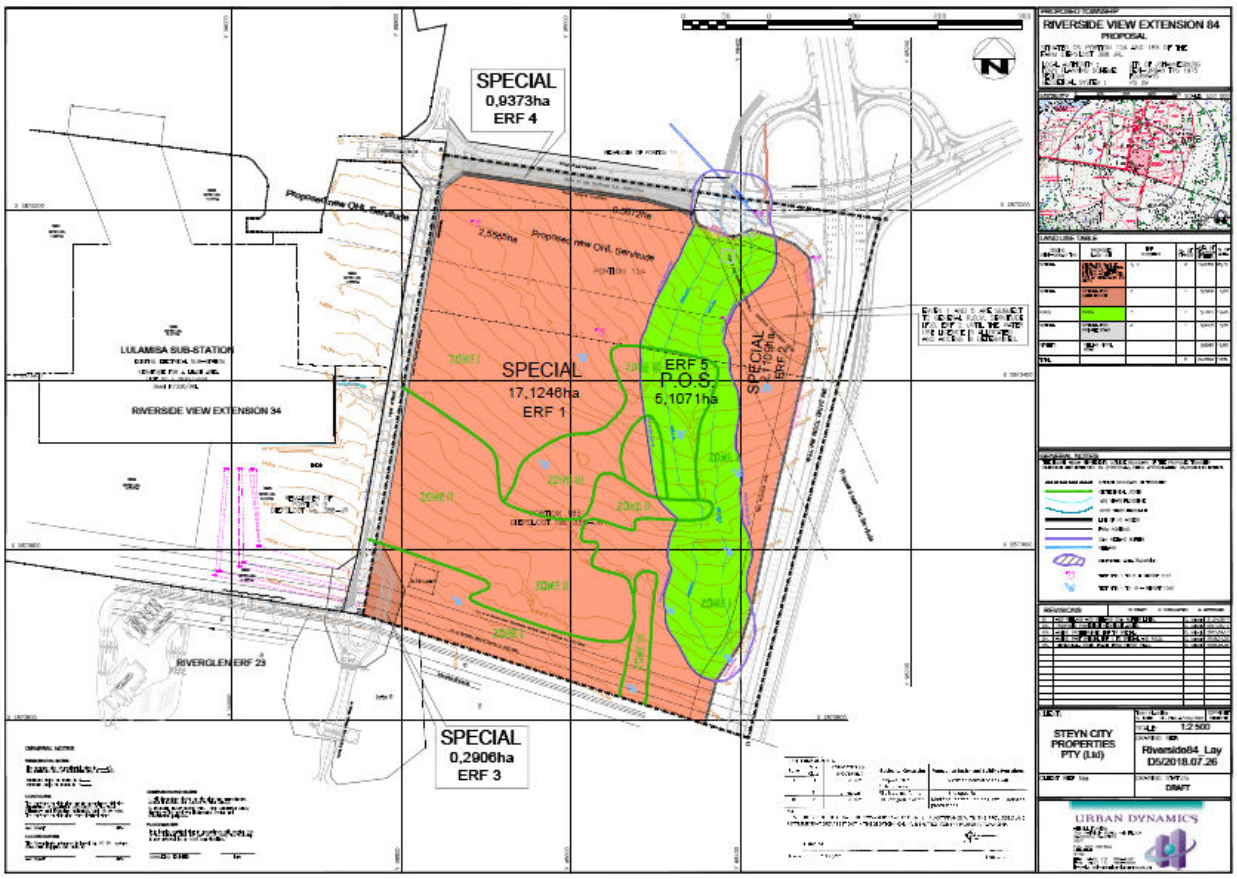

Figure 1-2: Proposal

1.3.1.2 Alternative

The alternative involves the development of seven separate erven as follows:

- Erf 1 – 4:
  - Special: Special for Place of Instructions, Residential buildings and Offices, including ancillary uses such as restaurants and shops
- Erf 5:
  - Special for Access Control
- Erf 6:
  - Special for Private Roads

- Erf 7:
  - Special for Private Open Space

The extent of Erf 1, 2, 3 and 4 will be smaller (between 2.1 and 6.7 hectares). Additional access points off View Road will be required. Further, multiple connections to the existing bulk services will be required.

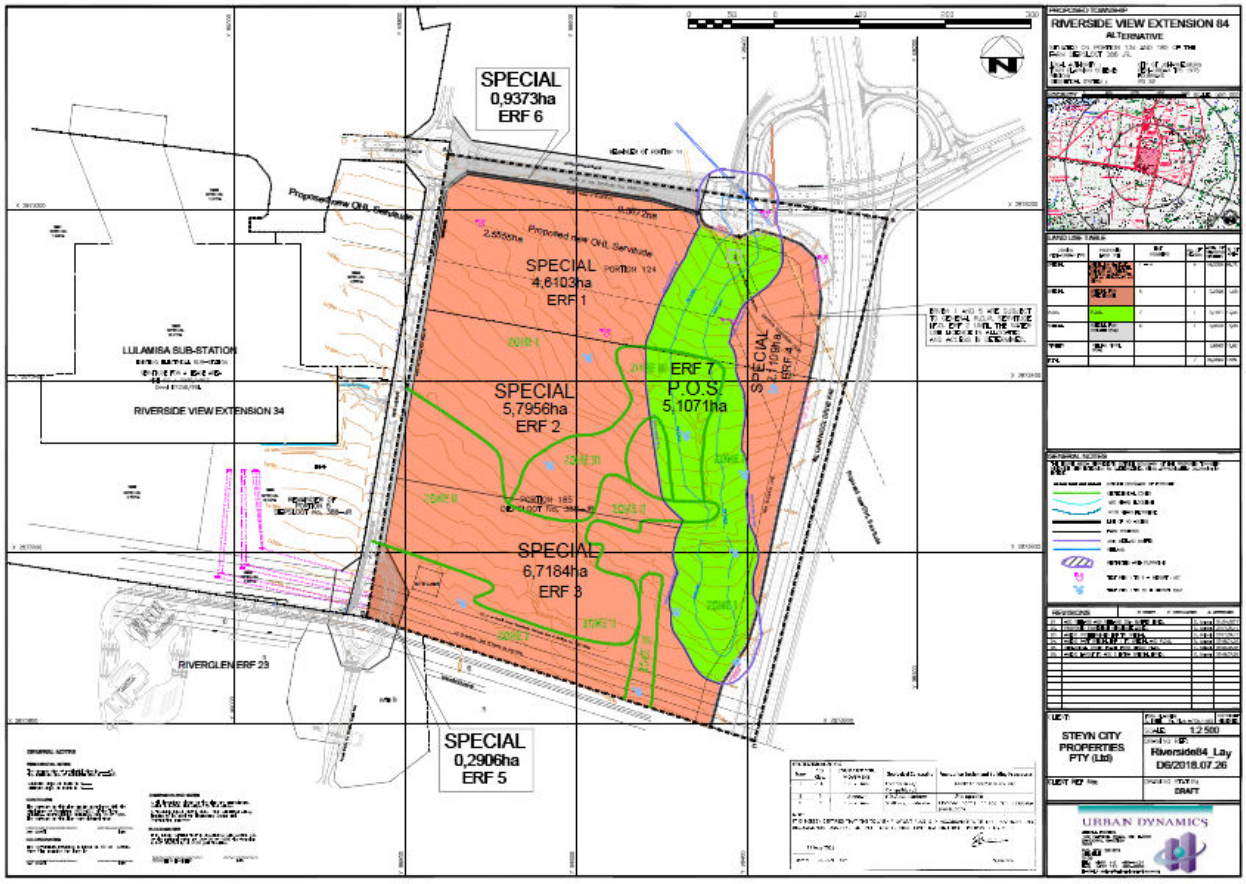

Figure 1-3: Alternative Layout

1.3.2 Attenuation Alternatives

In line with the requirements of the Johannesburg Roads Agency (JRA), stormwater attenuation will be provided to reduce the increased stormwater run-off resulting from the development to pre-development volumes through the incorporation of Stormwater attenuation ponds in the stormwater system.

Two options exist for the location of this attenuation pond:

- Proposal – Attenuation Pond along Wetland; and
- Alternative – Attenuation Pond to the north of the site.

1.3.2.1 Proposal – Attenuation Pond along Wetland

Preliminary discussions with the wetland specialist indicated that a long, thin attenuation pond which runs alongside the existing wetland and has multiple release points would be most environmentally sound and would mimic the wetland conditions existing on site.

In line with this, the engineers have designed a proposed attenuation pond alongside the wetland (**Figure 1-4**).

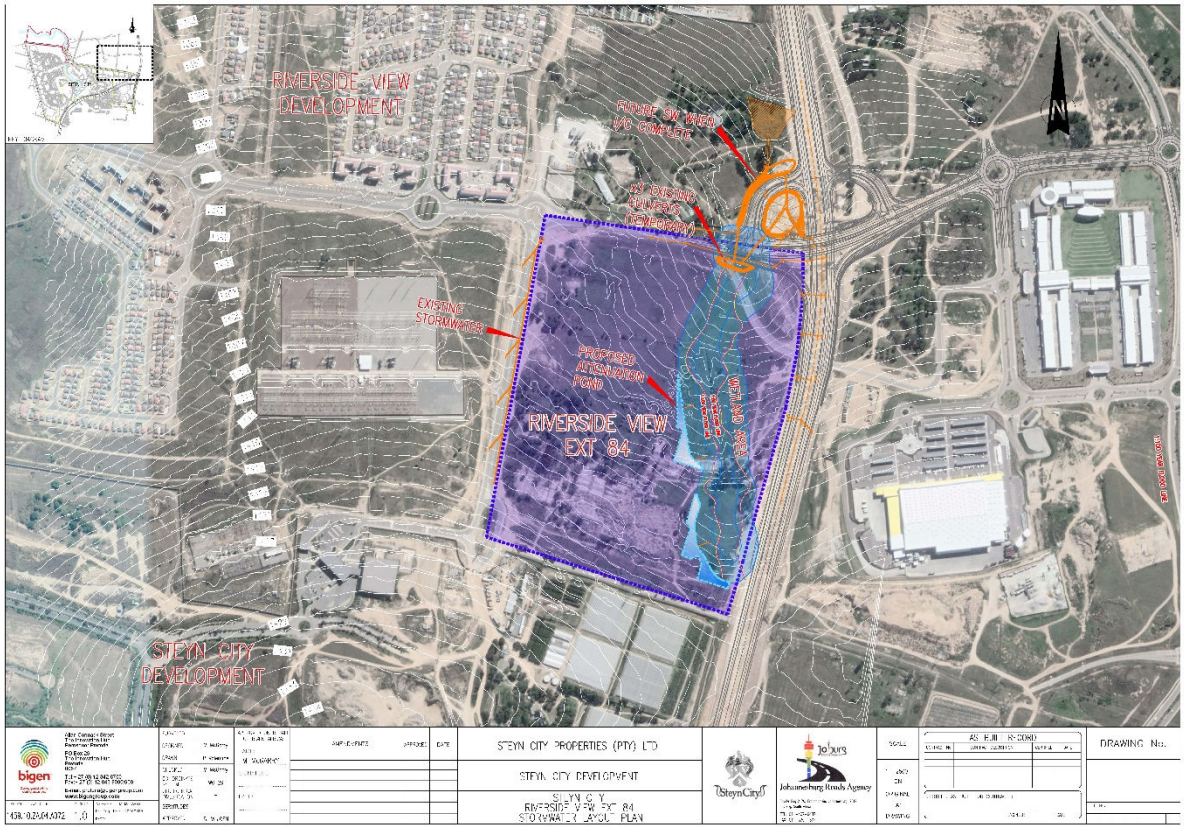

Figure 1-4: Proposal – Attenuation Pond along Wetland

As part of the development of the SWMP, the Proposal (Attenuation along the Wetland) has been further designed to ensure that it is practicable and will meet the requirements of the City of Johannesburg. To the end, additional attenuation is provided as part of the sports field, and on the eastern side of the wetland. The updated proposal is therefore indicated in **Figure 1-5**.

In general, stormwater attenuation will make use of the following:

- Grass lined attenuation ponds;
- Use of the soccer field to attenuate stormwater and allow for ground water recharge;
- Bio swales with stone filled sumps to allow for run-off retardation, encourage sheet flow and absorption into the underlying soil;
- Throttled outlet structures; and
- Energy dissipation slabs to limit erosion and encourage sheet flow at outlets.

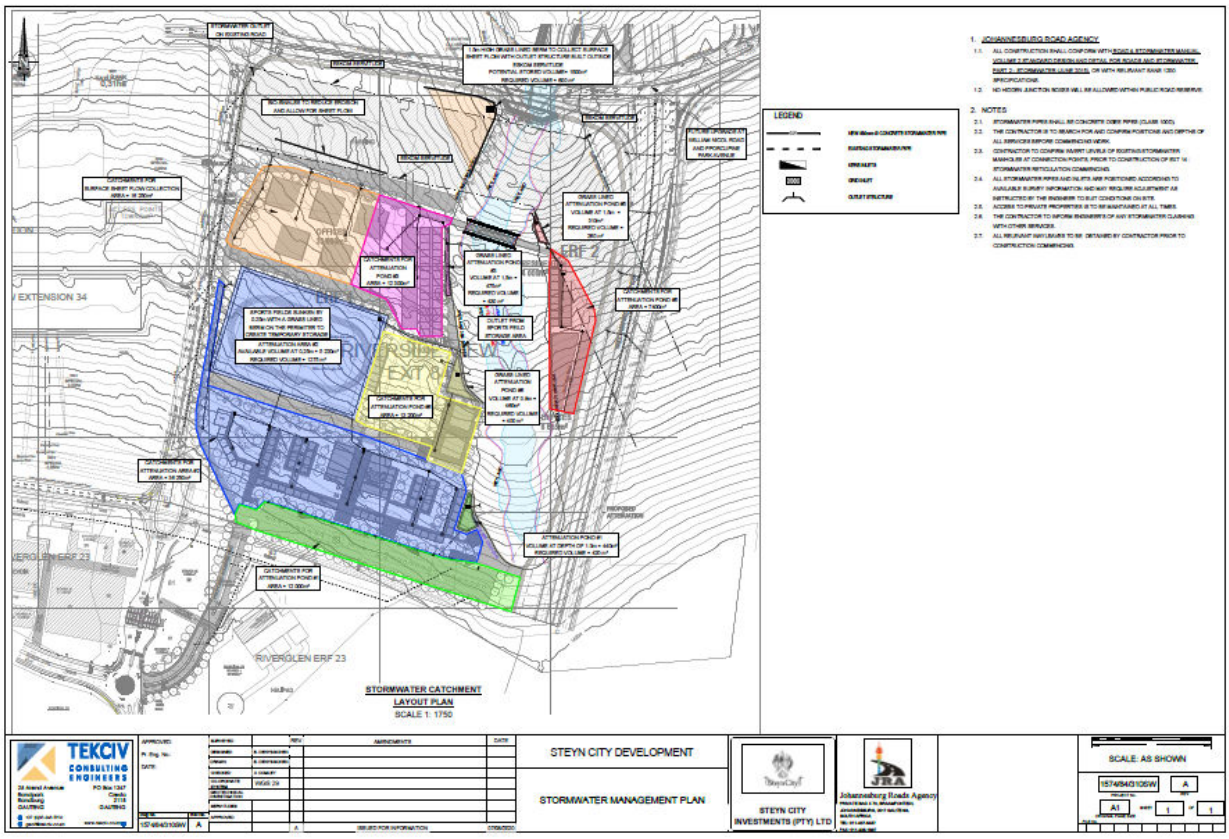

Figure 1-5: Updated Proposal – Attenuation along the Wetland

1.3.3 Alternative – Attenuation Pond to the north of the site

As part of the alternative, Stormwater would be attenuated to the north of the site. Only one release point would be provided (**Figure 1-6**.).

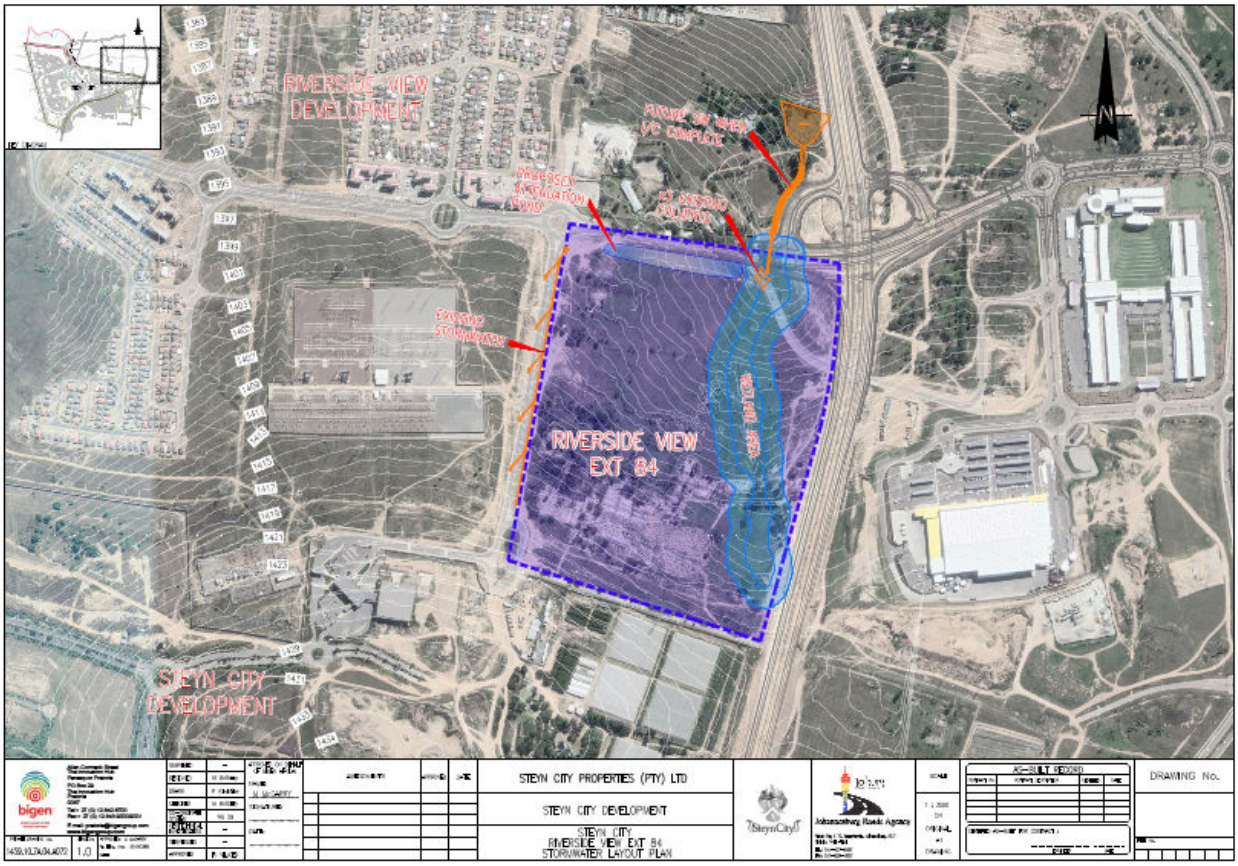

Figure 1-6: Alternative - Attenuation Pond to the north of the site

In terms of the impact assessment undertaken as part of the EIA Report, a qualitative and quantitative approach was followed. From a qualitative perspective, impacts related to listed activities and raised by I&APs were assessed. This was then followed by a more detailed quantitative assessment which incorporated the findings of the specialists where possible. Overall, all impacts could be mitigated satisfactorily. Alternatives were then compared and assessed based on their impact to environmental attributes as well as how well they incorporated the requirements of the various specialists. Based on this assessment, the recommended alternatives are as follows:

- The Proposed Layout (Proposal); and
- Proposal – Attenuation Pond along Wetland.

However, it should be noted that the mitigation measures suggested in this document apply to both the proposals and alternatives regardless of which is authorised.

2 EMPR REQUIREMENTS AND REPORT OUTLINE

The contents of this EMPr has been compiled according to the prescribed minimum legal requirements contained in Appendix 4 of the EIA Regulations, 2014 (as amended). Refer to **Table 2-1** below. Additional sections have been added to the report for purposes of best environmental practice.

Table 2-1: Contents of EMPr

Chapter Number	Chapter Name	Requirements included in Appendix 4 of 2014 EIA Regulations
1.	Introduction	-
2.	EMPr Requirements and Report Outline	-
3.	Details of EAP	(a) details of (i) the EAP who prepared the EMPr; and (ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae;
4.	Project Description and Activities, Aspects, and Impacts	(b) a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description.
5.	Environmental Sensitivity	(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 any areas that should be avoided, including buffers;
6.	Goals and Objectives	(d) a description of the impact management objectives, 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;
		(e) a description and identification of impact management outcomes required for the aspects contemplated in paragraph (d)
7.	General Roles and Responsibilities	(i) an indication of the persons who will be responsible for the implementation of the impact management actions

Chapter Number	Chapter Name	Requirements included in Appendix 4 of 2014 EIA Regulations
8.	Environmental Awareness Plan	(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; and
9.	Waste Management Plan	-
10.	Emergency Preparedness Plan	-
11.	Monitoring Programme	(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 paragraph (f);
		(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 requirements as prescribed by the Regulations;
12.	EMPr	(f) a description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (d) and (e) 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; and (iv) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;

3 DETAILS OF THE EAP

Prism EMS have been appointed to undertake the required Environmental Authorisation process in terms of the 2014 Environmental Impact Assessment (EIA) Regulations. Details and expertise of the Environmental Assessment Practitioner (EAP) who prepared the EMPr is provided in **Table 3-1** and Curriculum Vitae is appended in Appendix 14.1 of the Environmental Impact Assessment Report.

Table 3-1.: Details of the EAP.

EAP:	Vanessa Stippel
Company:	Prism Environmental Management Services
Qualifications:	MSc. Ecology, Environment and Conservation
Experience:	9 years
Affiliation/ Registration	Professional Member of Southern African Institute of Ecologists and Environmental Scientists SACNASP Pr.Sci.Nat. (116221) Registered EAP (2019/175)
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Tel:	087 985 0951
Fax:	086 601 4800
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Designation	**Name**	**Qualification**	**Professional Registration**	**Specialist Assessment**
Prism EMS Team				
Contact Details	**Post:** PO Box 1401, Wilgeheuwel, Johannesburg, 1736		**Tel:** 087 985 0951 **Fax:** 086 601 4800 **Email:** prism@prismems.co.za Website: www.prismems.co.za	
Principal EAP	De Wet Botha (17 years' Experience)	MA. Env. Man. (PHED)	South African Council for Natural Scientific Professions (SACNASP) registered Scientist | Pr.Sci.Nat. (119979) Registered Member of Environmental Assessment Practitioners Association of South Africa (EAPASA)(2019/1209) Member of the International Association for Impact Assessors (IAIAsa) (1653) Member of the Gauteng Wetland Forum Member of the South African Wetland Society	Project Director and Wetland Specialist

4 PROJECT DESCRIPTION AND ACTIVITIES, ASPECTS, AND IMPACTS

4.1 Project Description

The proposed project involves the development of Riverside View Extension 84 on portion 124 and 185 of the Farm Diepsloot 388 JR in the City of Johannesburg, Gauteng. The development will form part of the Steyn City Lifestyle Estate which provides residential units at various densities and at various residential typologies, sport and recreational facilities including a golf course, equestrian uses, educational facilities, community facilities, supportive retail and office development as well as large tracts of active and passive recreation open space.

It should be noted that due to the extensive size of the Steyn City Development, a number of schools are required to cater for the residents (in general one works on a ratio of 1 school per 1000 residential erven /households). Steyn City currently one operational school. The school, which is located on Erf 1676 Riverside View Ext 46 (11.59ha) is situated close to the southern boundary of Steyn City Estate. This school which opened in 2018, is accessible from inside Steyn City Estate as well as from outside the main access gate to this estate (Cedar Road). This means that the school is accessible to residents of Steyn City as well as people who live outside the estate.

However, an additional school is also required. Therefore, it should be noted that the principle intent of the proposed development is to allow for the development of an additional school. The development will also provide Residential, Storage and Offices with ancillary Shops and Restaurants uses. In regard to the latter, the aim is to provide these uses in in the event that the market does not allow for the use of the (entire) site for purposes of an all-phase school (e.g. only one phase is developed), provision is also made for the development of the site (or a section therefore) for purposes of residential use, storage and offices, which include shops and restaurants.

The layout of the proposed development is provided in Figure 4-1.

Figure 4-1: Layout

The site is 29.27 hectares in size and will be developed into three separate erven. The proposed use zones of these erven are described below (Table 4-1).

Table 4-1: Proposed Zoning

Erf 1 and 2	
Zoning	**Special**: Place of Instruction, Residential dwelling units, Residential buildings, Storage, Offices, including ancillary uses such as restaurants and shop
FAR	0.6
Height	As per Scheme. 5 Storeys excluding basements and architectural features
Coverage	As per Scheme. The coverage shall be determined in terms of an approved Site Development Plan
Density	20 dwelling units / hectare
Parking	As per Scheme and may be relaxed by the local authority
Building Line	16m building line along its boundary with William Nicol Drive (K46). 5m along all other street boundaries, provided that all building lines may be relaxed upon evaluation of the Site Development Plan. 0 metres along the shared erf boundary between Erven 1 and 3, as well as Erven 2 and 3 Riverside View Ext 84.

General	1. A general Right of Way Servitude to be registered over Erven 1 and 3 in favour of Erf 2 until the water use licence is obtained and access is determined to Erf 2. 2. Access shall be to the satisfaction of the local authority 3. A Site Development Plan compiled to a scale of 1:200, or such other scale as approved by the local authority shall be submitted to the local authority for approval prior to the submission of any building plans. No building may be erected prior to the approval of such development plan by the local authority and the entire development shall be in accordance with this plan: provided that the plan may from time to time be amended with the written approval of the local authority. Such Site Development Plan shall show all the environmental sensitivity areas and the location and extant of the wetlands as determined in terms of the wetland assessment and delineation to be done
Erf 3	
Zoning	Private Open Space
FAR	As per scheme (0.01)
Height	As per Scheme. 1 Storey, excluding architectural features
Coverage	As per scheme
Density	Not Applicable
Parking	As per Scheme and may be relaxed by the local authority
Building Line	As per Scheme 16m along William Nicol Drive (K46) 2m on all boundaries
General	1. A general Right of Way Servitude to be registered over Erven 1 and 3 in favour of Erf 2 until the water use licence is obtained and access is determined to Erf 2. 2. Access shall be to the satisfaction of the local authority 3. A Site Development Plan compiled to a scale of 1:200, or such other scale as approved by the local authority shall be submitted to the local authority for approval prior to the submission of any building plans. No building may be erected prior to the approval of such development plan by the local authority and the entire development shall be in accordance with this plan: provided that the plan may from time to time be amended with the written approval of the local authority. Such Site Development Plan shall show all the environmental sensitivity areas and the location and extant of the wetlands as determined in terms of the wetland assessment and delineation to be done 4. The ROD (Environmental Authorisation) received from GDARD shall be complied with as well as compliance with the Ecological Management Plan.

A preliminary site development plan (SDP) has been developed and is indicated in Figure 4-2. It should however be noted that this SDP can only be finalized during the City of Johannesburg township approval process. A copy of the final SDP will be submitted to GDARD after township approval.

The main uses indicated in the Preliminary SDP are as follows:

- School buildings and associated fields and parking areas;
- Residential areas; and
- Offices.

Necessary roads and services are also included.

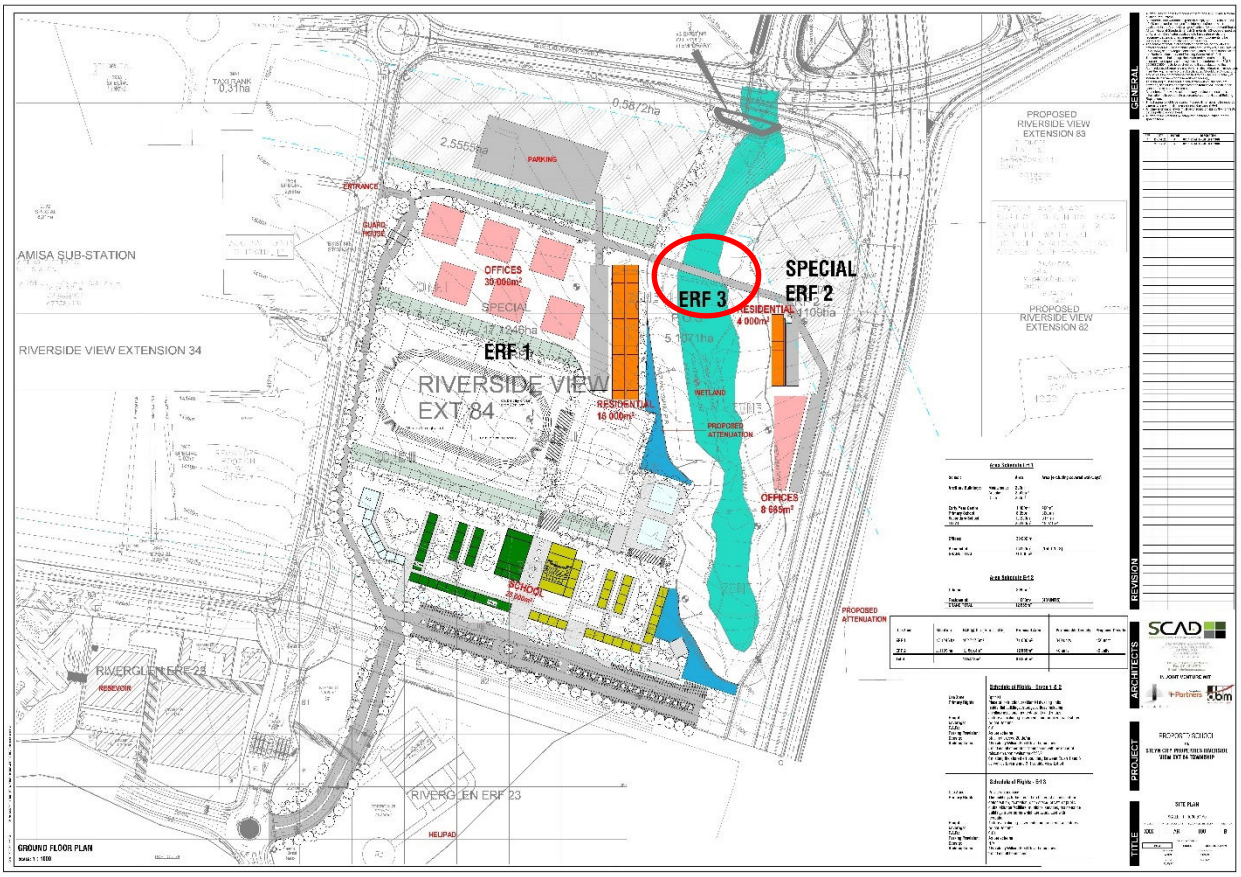

Figure 4-2: Preliminary Site Development Plan

Planned services will be put in place and are described in the sections that follow:

4.1.1 Water

In order to supply water to Riverside Extension 84 a connection to the Diepsloot Reservoir Supply zone will be required. This connection should be located downstream of the Dainfern PRV. This link water line, the proposed connection point to the Diepsloot Supply Zone and the proposed supply point for the development are indicated Figure 4-3 below.

The design and positioning of valves, fire hydrants, PRV valves, chambers and other fittings will be dealt with in the detail design phase. From the connection point a formal water reticulation system will then be constructed within the development, where water connections to individual stands forming the township will be made.

Water pipes construed with the Council Road Reserve will be constructed to Johannesburg Water Design Guidelines and Standards and will be handed over to the Council upon completion. The water reticulation within each stand of the development will remain private and maintained by the registered Body Corporate.

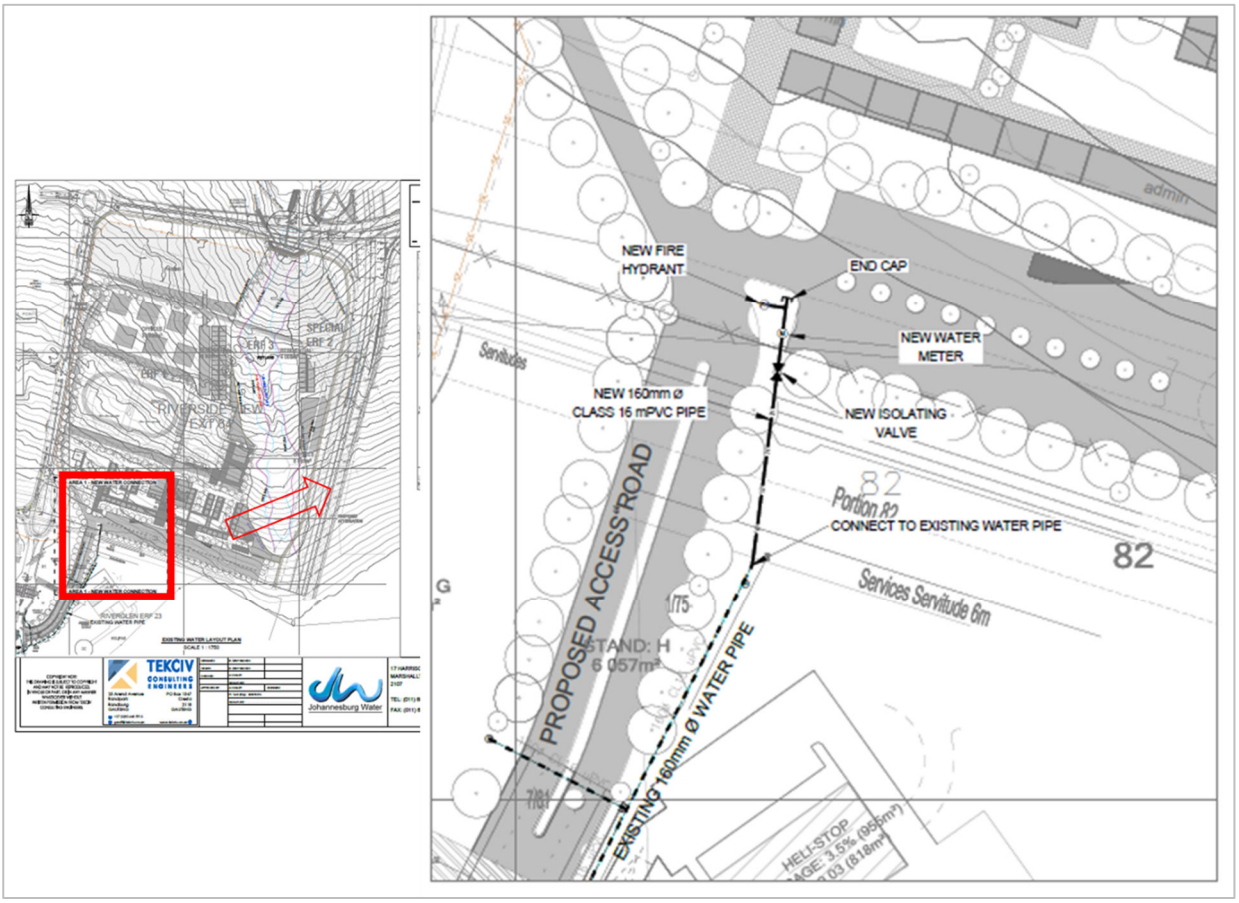

Figure 4-3: Water Layout Plan

The design of the water reticulation required for the development will accommodate the ultimate demands anticipated. The total average annual daily demand for Riverside View Ext 84 amounts to 0.48 Mℓ/day, with a peak hour demand total 24.99ℓ/s. Relevant water design standards for the development are summarized in Table 4-2.

Table 4-2: Water Design Standards

	Parameter	Element	Guideline
1	Level of service (High)	Water connection per unit	–
2	Pressure	Maximum (Static) Minimum (at peak flow)	9.0 bar 2.0 bar
3	Maximum flow velocities	Diameter ≤150 mm Diameter ≥ 200 mm	1,0 m/s – 3,5 m/s 1,5 m/s – 2,5 m/s
4	Pipe Materials	Erf Connections Distribution main ≤ 200mm	HDPE Class 12 uPVC Class 12 with spigot and socketed couplings
5	Pipe size	Network Pipes Adjacent house connections	110 mm minimum 25mm minimum 32mm minimum

	Parameter	Element	Guideline
		House connections across street	25mm minimum 2-4 stands 32mm minimum

4.1.2 Sanitation

The proposed Riverside View Extension 84 falls within the Diepsloot North Drainage Zone as described in the JW Masterplan for the Diepsloot Corridor Developments. The site drains towards the existing Bruma Outfall which is located to the north of the site. The Bruma Outfall Sewer drains towards the Northern Outfall Sewer eventually terminating at the Northern Waste Water Treatment Works.

As part of the development of Riverglen Erf 23 a 200mm diameter sewer line was constructed within the road reserve of View Road. Provision has been made for a future connection from Riverside View Ext 84 onto this sewer pipeline (Figure 4-4). This connection point is just outside the 32m buffer area of the wetland.

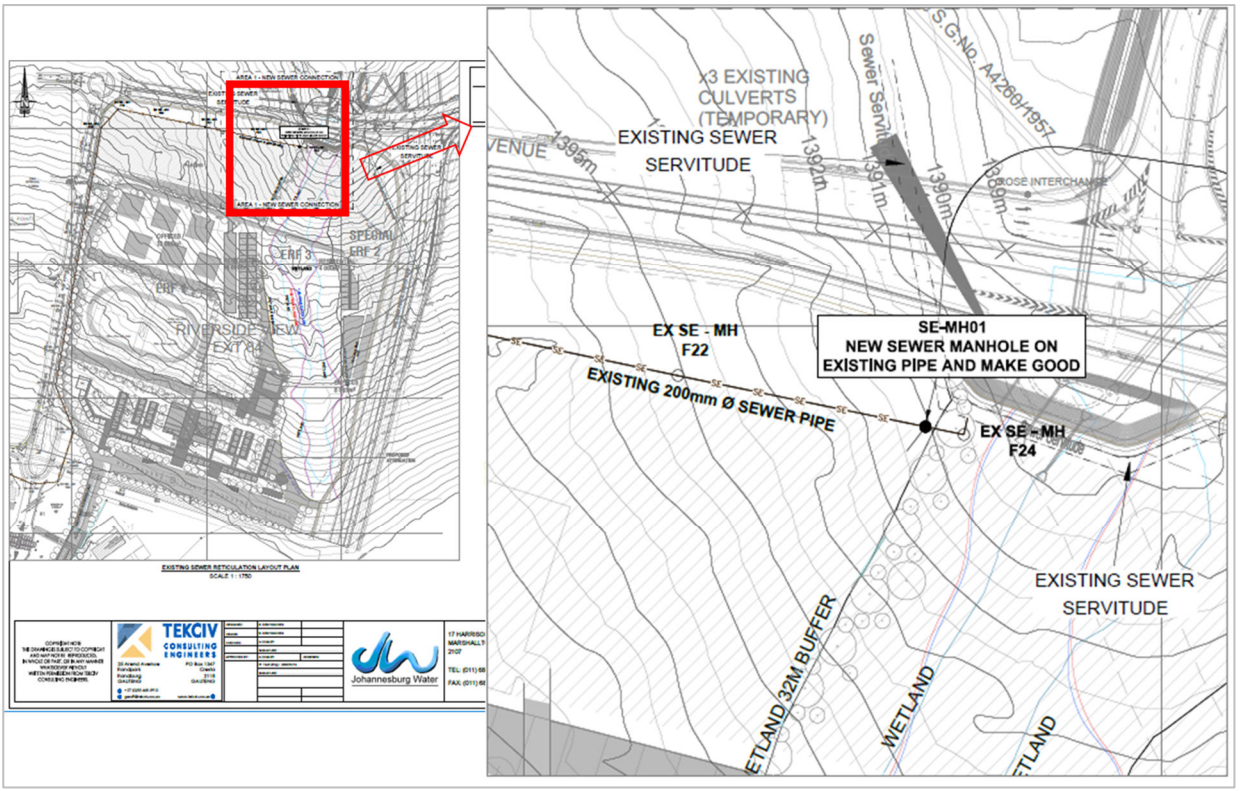

Figure 4-4: Sewer Services

The relevant sewage design standards which have been taken into account in the design of the services are indicated in **Table 4-3**.

Table 4-3: Sewer Design Standards

	Parameter	Element	Guideline
1	Minimum pipe diameter	Gravity sewers Connections	160mm 110mm
2	Minimum Velocity at full flow	Gravity sewers Rising mains	0,7 m/s 0,7 m/s
3	Pipe capacity	Flow level in pipe as percentage of diameter	67% at design flow
4	Minimum Gradients for Pipes	100 mm dia 150 mm dia 200 mm dia 300 mm dia and bigger	1 : 60 1 : 140 1 : 200 1 : 350
5	Pipe Materials	All pipes	uPVC Class 34
6	Connections	For Stands	110 mm uPVC with slip on couplings

Figure 4-5 below shows the typical manhole details.

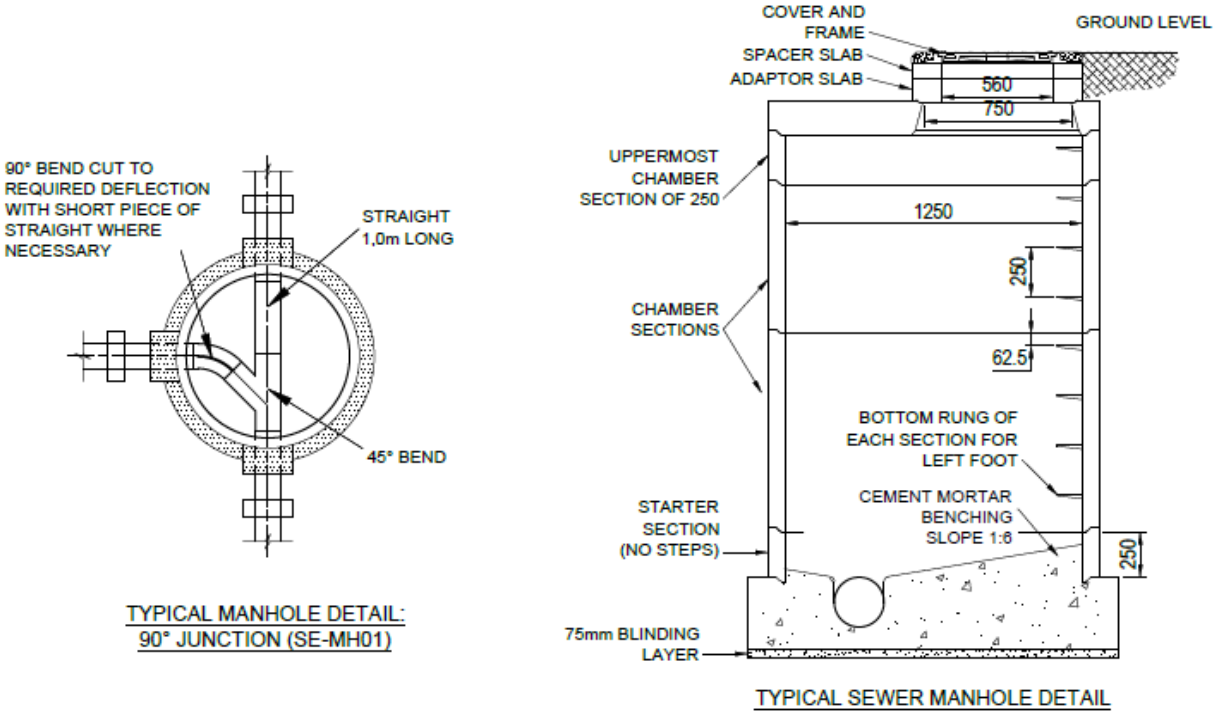

Figure 4-5: Typical Manhole Details

4.1.3 Stormwater

A Stormwater Management Plan has been compiled to properly manage stormwater in line with the requirements of the City of Johannesburg and is included in Appendix **Error! Reference source not found.** of the EIR.

Due to the layout and topography of the site, and the constraints caused by the wetland area, as well as an Eskom Servitude running through the northern portion of the site, this plan proposes that the site be split into separate catchments and create separate attenuation ponds to manage the flow from each section.

All run-off from the site will be routed to the attenuation ponds of each respective catchment. Each catchment area drains into an attenuation pond whereby the run-off from the area is throttled to release into the wetland and buffer zone at the 1:5 year pre-developed flow. Energy dissipating structures will be constructed at each outlet to limit any erosion and encourage sheet flow into the wetland area.

In general, stormwater attenuation will make use of the following:

- Grass lined attenuation ponds;
- Use of the soccer field to attenuate stormwater and allow for ground water recharge;
- Bio swales with stone filled sumps to allow for run-off retardation, encourage sheet flow and absorption into the underlying soil;
- Throttled outlet structures; and
- Energy dissipation slabs to limit erosion and encourage sheet flow at outlets.

Table 4-4: Summary of Attenuation Ponds and Comparison to pre development run off

	Attenuation Ponds						**Sum**	**Total Site – 1:5 Year Pre-development**
	1	**2**	**3**	**4**	**5**	**6**		
Area (m^2)	14 200	71 000	60 150	16 050	21 600	15 450	198 450	199 860
Flow out (m^3/s)	0.082	0.070	0.309	0.079	0.096	0.059	0.695	0.71
Stored Volume (m^3)	457	1210	1185	366	290	200	3708	3574

The proposed catchment and attenuation plan is provided in **Figure 4-6**.

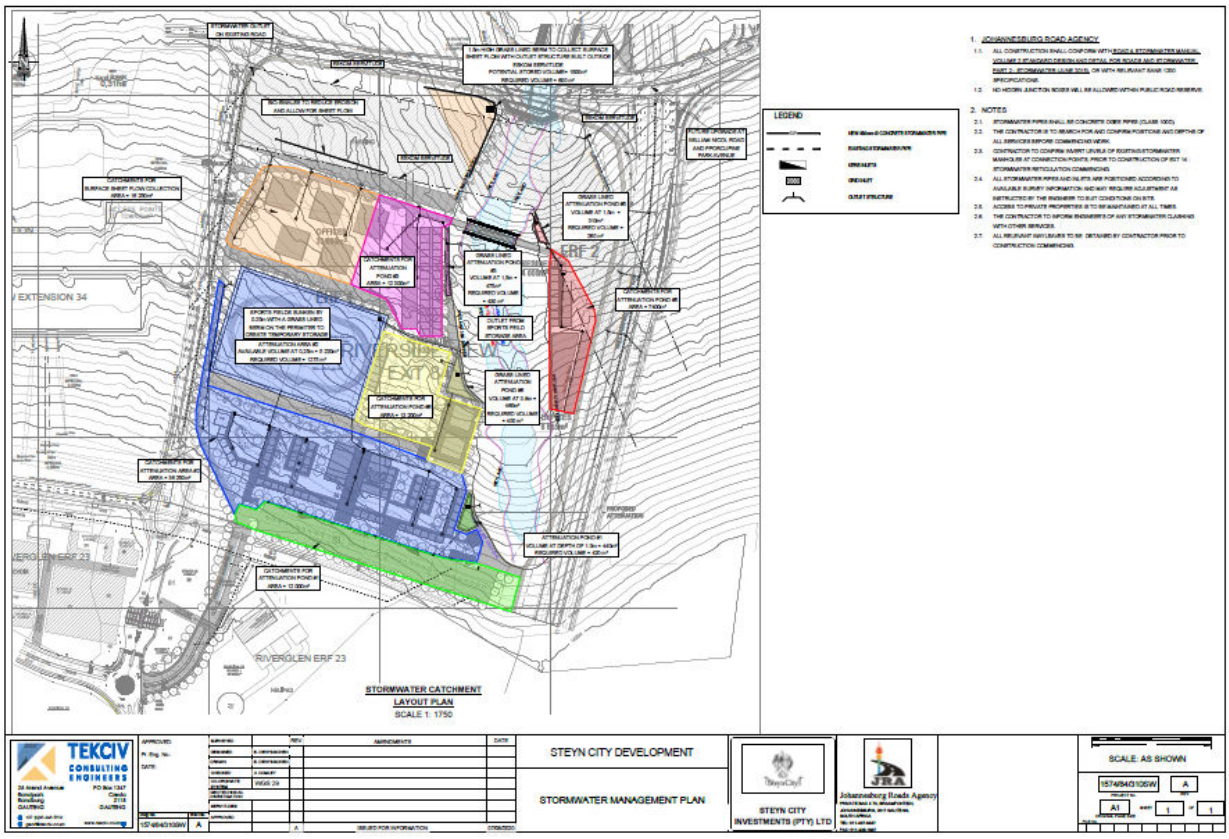

Figure 4-6: Stormwater

4.1.4 Roads and Access

Regional access to the proposed development site will be from the future Rose Road/William Nicol Interchange. The future extension of Rose Road will continue and eventually merge with the east-west road, Porcupine Park Avenue. View Road serves as the north-south link to the development. There will be 3 accesses to the development. These are as follows:

- Access off View Road
  - The access is situated on the western boundary of the property, approximately 150m south of the intersection of Porcupine Park Avenue and View Road directly opposite the Eskom substation site access.
- Second access off View Road
  - The access is situated on the western boundary of the property, approximately 300m south of the intersection of Porcupine Park Avenue and View Road directly opposite the existing Eskom substation site access.
- Southern access
  - This access will be an internal link road from the existing Steyn City. This is considered the main access to the township as a large number of trip generated by the proposed development are expected to originate from within Steyn City and will make use of this access.

The main access to the proposed development will be off View Road as indicated in Figure 4-7 whilst secondary access will be from Steyn City (to the south).

A number of internal roads will be put in place. Internal roads will not be taken over by the Local Authority and will be maintained by the Body Corporate set up as part of the development management.

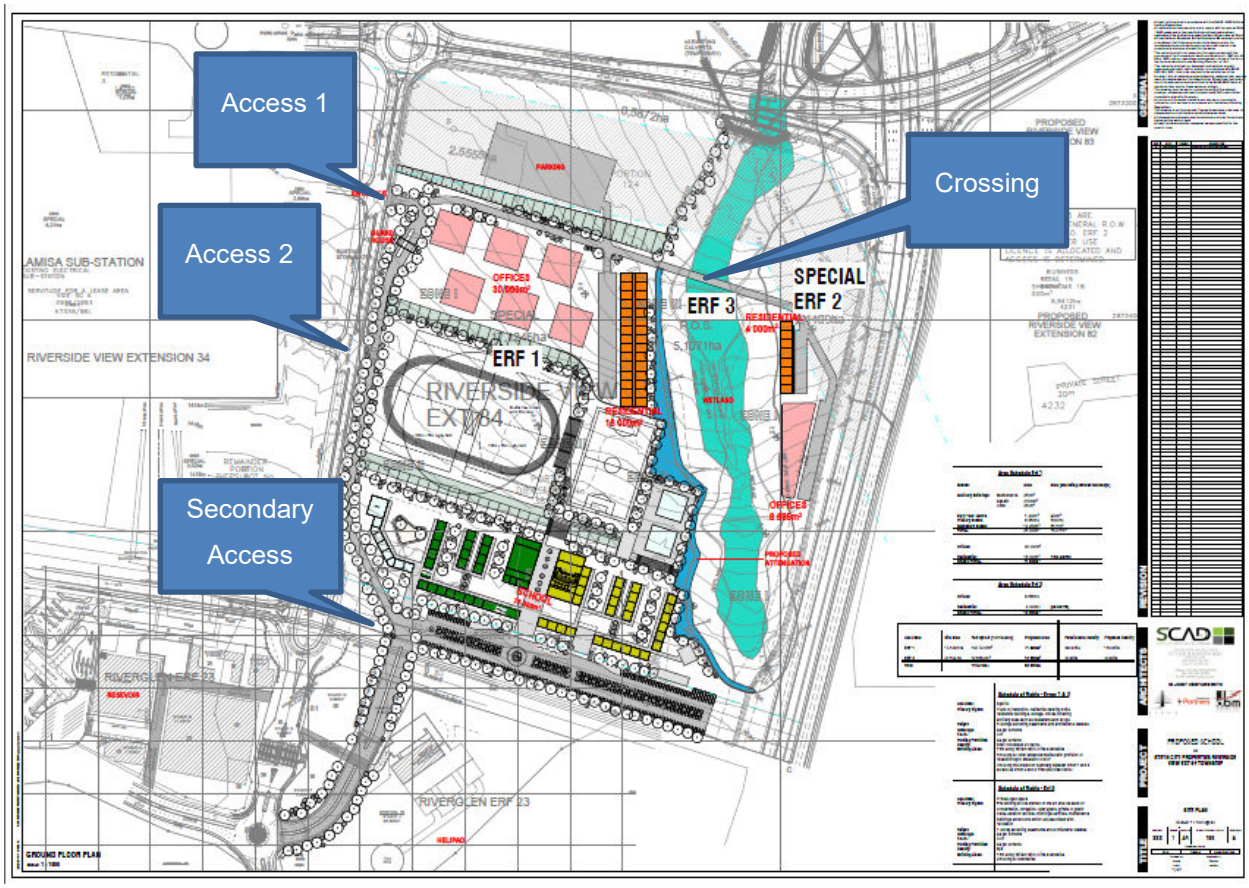

Figure 4-7: Road layout plan

4.1.5 Bridge across wetland

In order to allow access to the small erf to the east of the site, a crossing over the wetland is required. The proposed location of the crossing is also shown in Figure 4-7 above.

The proposed design of the crossing is provided in **Figure 4-8** below and is also included in Appendix **Error! Reference source not found.**. This crossing will involve the development of a road-bridge which will allow for the 1:100-year flow of 8.7 m^3/s to pass under the road. The bridge is to be constructed of pre-cast portal culverts and will extend the full width of the flood line. To cater for animal crossings, smaller culverts will be placed above the flood line to all for migration.

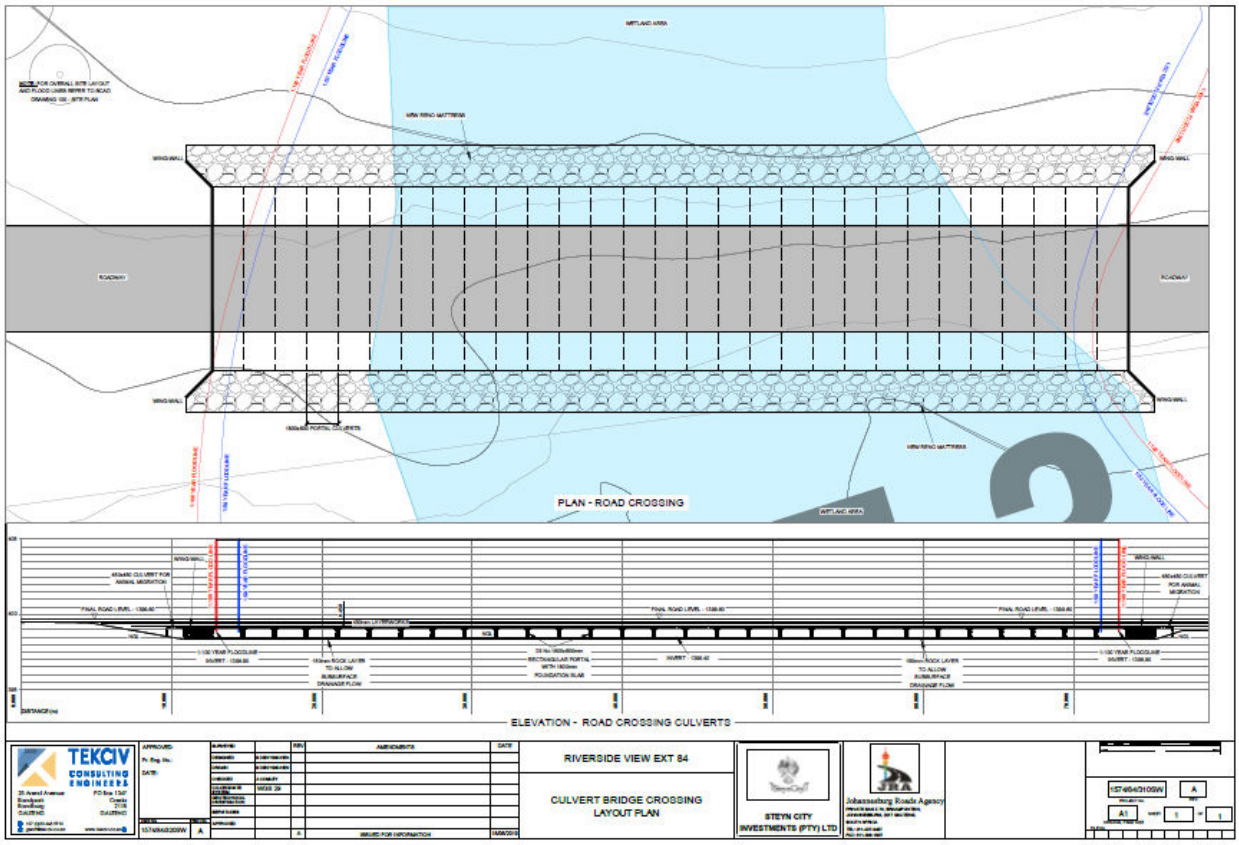

Figure 4-8: Culvert Bridge

4.1.6 Electrical Capacity

The proposed development will require approximately 6 MVA capacity. Eskom has confirmed that capacity is available. Eskom Transmission has also confirmed that the site is affected by the proposed Kyalami-Lulamisa 400 kV powerline servitude which is 110m wide. The servitude has been taken into account in the development layout. Eskom's requirements have been taken into account in this EMPr.

4.1.7 Timeframes

The proposed development will be constructed in line with the following timeframes, see **Table 4-5**.

Table 4-5: Operational hours for construction phases.

Period	Open	Close
Weekdays	07:00	18:00
Saturdays	07:00	15:00
Sunday	Only when required	
Public holidays	Only when required	

4.1.8 Ancillary Infrastructure Required for Construction

No major infrastructure is required on site for the construction of the development. The required ancillary infrastructure for the purposes of supporting services is discussed below.

4.1.8.1 Security

A construction camp will be erected on site for the duration of the construction. This camp will be fenced for security purposes. A security guard will also be posted on site during non-operational times. A wall will be erected around the property boundary as part of the development project.

4.1.8.2 Sanitation

During the construction phase of the project, chemical toilets will be placed on site for the duration of the construction phase.

4.1.8.3 Construction Camp and Laydown Areas

Designated areas will be established during the construction phase for construction equipment and vehicles. These will all be located outside the 32m buffer of the wetland.

5 ENVIRONMENTAL SENSITIVITY

Figure 5-1 provides an overview of sensitive features that should be taken into account during construction and operation of the Development. These features include:

- **Wetlands and 32m wetland buffer**– this area must be demarcated and only construction related to authorized infrastructure can occur within this area. Due to the fact that the wetland and associated buffer will also provide foraging habitat for the Grass Owl (see below). The sensitivity is given as **Medium** for the 32m buffer and **Medium-high** for the wetland area. Rehabilitation of this wetland must be undertaken as per the Aquatic Resources Rehabilitation Plan.
- **Grass Owl Habitat** – some degraded habitat (with a **low medium** sensitivity) may provide foraging habitat for Grass Owls (*Tyto capensis*). This section falls within the development footprint and will be developed however a number of mitigation measures have been recommended by the specialist and incorporated into the EMPr. These are also highlighted here:
  - Before construction is to take place the area needs be walked through to flush out any faunal species that might be found in the area. If the African Grass Owl is observed in the project area, enough time should be given to the specie to move out of the area; should the species not move away on its own the appropriate authority should be contacted to assist with the relocation. In this case the EWT associated with the Kyalami African Grass Owl project is suggested;
  - During the operational phase it is suggested that the open land area be monitored for the presence of the African Grass Owl to assist with its conservation in the area (or access be given to the area to a monitoring program such as the one administered by the EWT);
  - It should also be noted that the wetland and associated wetland buffer will be rehabilitated and will also provide foraging habitat for this species.

The rest of the site was identified as having a **low** sensitivity.

These features are further show together with the draft Site Plan which provides an indication of infrastructure and buildings planned as part of the development. Water, sewer and stormwater is also shown (Figure 5-2). As noted previously in this report, the Site Plan is at a draft stage and will be finalized during the township approval process. A copy of the final SDP will be provided to the Department when available.

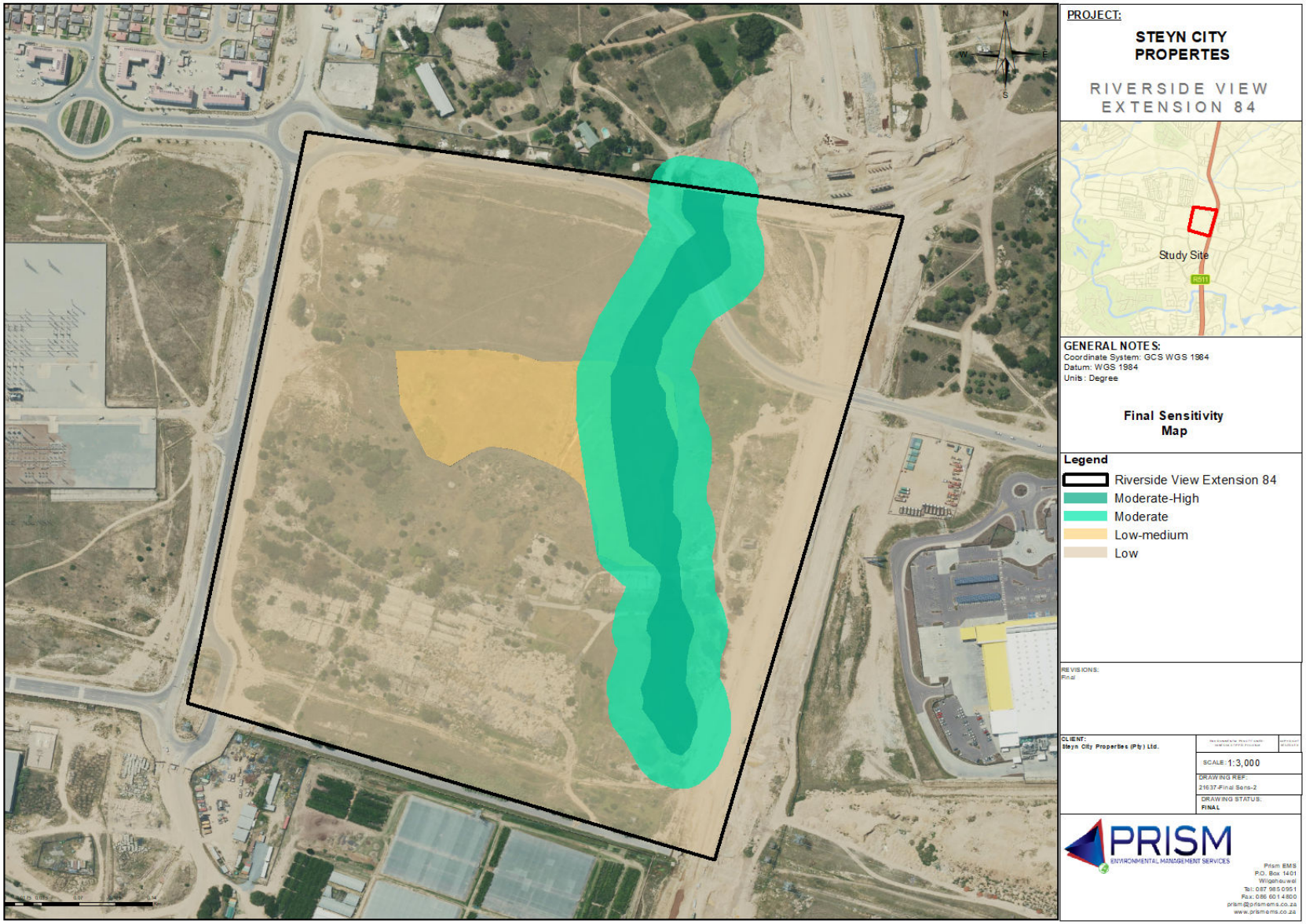

Figure 5-1: Overall Sensitivity Map

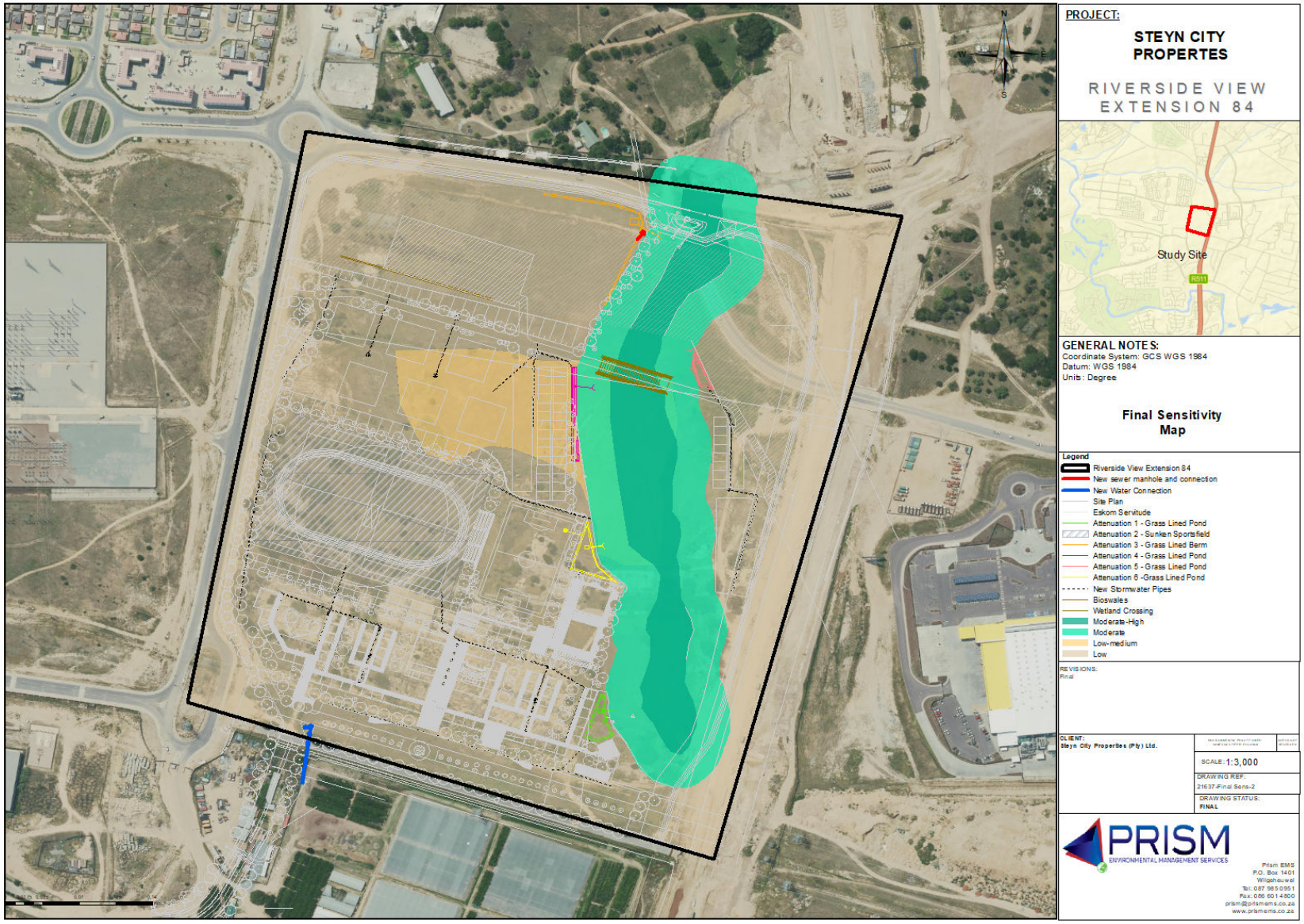

Figure 5-2: Overall Sensitivity Map together with Preliminary Site Plan

6 GOALS AND OBJECTIVES

The **EMPr** provides performance criteria required to address potential environmental impacts during the construction and operational phases of the proposed development.

This document incorporates the relevant recommendations of the Basic Assessment Report and other environmental studies and at a high level aims to provide the following:

- Establish **management objectives** for the Development in order to enhance benefits and minimise adverse environmental impacts;
- Describe **actions** required to achieve management objectives; and
- Outline institutional structures and roles required to implement the EMPr.

6.1 Key Objectives of the EMPr

The key objectives of the EMPr for the construction and operation phases of the proposed Development are as follows:

- To ensure effective communication with stakeholders and regulatory authorities;
- To ensure good housekeeping practices and general neatness on site;
- To mitigate any possible negative impacts identified in the EMPr for the construction and operational phase of the development;
- To prevent pollution to the receiving environment that may emanate directly or indirectly from the source (development activities) both during the construction and operational phases;
- To preserve flora and fauna;
- To preserve topsoil for optimal rehabilitation and landscaping following construction;
- To control the establishment of alien invasive plants during the construction phase of the project, as well as following rehabilitation of designated construction camp areas within the site thereafter.
- To ensure water saving and recycling mechanisms are implemented and adhered to;
- To ensure that all legislative requirements are met by the proposed development.

Following each site visit an audit report must be compiled to relay any non-compliance issues that need to be addressed, as well as compliance matters.

6.2 Impact Management Outcomes

Through effective implementation of the environmental management measures, the following outcomes must be achieved:

- All relevant authorisations, ~~licences~~licenses and approvals are in place prior to the commencement of construction.
- A formal document control system is in place to ensure all relevant documents are in place prior to commencement.

- Site specific method statements are compiled and approved.
- Proper management of sensitive features through identification and barricading.
- Planning and layout of construction site is undertaken responsibly to ensure protection of sensitive environmental features.
- Environmental awareness creation and training is undertaken prior to construction commencement to minimise environmental impacts and ensure compliance to relevant legislation and authorisations.
- Ensure that all possible causes of dust are mitigated as far as possible to minimise impacts to the surrounding environment
- All vehicles/plant on site must be properly maintained to reduce emission sources.
- Ensure that noise disturbance to surrounding areas are minimised and that construction activities comply with the Noise Control Regulations and the provisions of South African National Standards; Environmental, Health and Safety (EHS) Guidelines, World Health Organisation (WHO, 2002).
- Construction activities are managed correctly to ensure no negative impacts to water quality. This includes proper management of ablution facilities, workshop and equipment and concrete batching and mixing.
- Ensure minimal impacts to the flow regime of the wetland through poor stormwater management
- Ensure minimal impact to wetland habitat
- Ensure minimal impact to wetland biota
- Ensure that minimal disturbance of geomorphology during construction
- Domestic waste must be managed properly to ensure minimal impacts.
- Construction waste must be managed properly to ensure minimal impacts.
- Hazardous waste must be managed properly to ensure minimal impacts.
- Effective management of topsoil, in order to minimise the impact of construction activities.
- Changes to topography to be planned properly to prevent negative impacts.
- Ensure that all possible causes of erosion are mitigated as far as possible to minimise impacts to the site and surrounding environment
- Ensure that all possible causes of soil pollution are mitigated as far as possible to minimise impacts to the site and surrounding environment
- Electricity reduction mechanisms to be implemented.
- Water conservation mechanisms to be implemented.
- Fuel conservation mechanisms to be implemented.
- Raw materials conservation mechanisms to be implemented.
- No loss of habitat outside the approved footprint.
- Minimal disturbance to fauna occurs during construction.
- Ensure that minimal disturbance of ecological systems and natural corridors takes place during construction.
- Ensure that minimal disturbance of ecological life cycles due to noise and lighting.
- Ensure proper management of alien invasive species
- Minimise potential pollution incidents due to construction.
- A safe working environment for contractors/construction workers and the public is provided.

- Effective and safe storage of hydrocarbons on site, in order to minimise the
- impact of hydrocarbons on the environment
- Minimise potential fire incidents during construction.
- Proper management of construction activities to minimise disturbance to visual environment.
- Proper management of labour force is undertaken to ensure that there are no security-related issues or disturbance to tenants or landowners outside the construction footprint.
- Minimal disturbances to traffic due to construction.
- No adverse impact on the historical and cultural inheritance of the area.
- Proper management of construction activities to minimise disturbance to sense of place.
- Preferential use of local contractors and suppliers.
- Proper management of labour force is undertaken to ensure that there is optimal use of local labourers and local contractors.
- Adequate reinstatement and rehabilitation of construction areas
- Development must comply with acceptable noise levels.
- Proper maintenance of connection to sewer line and proper management of stormwater
- Ensure Stormwater is properly managed
- Limited impact to habitat during operation
- Limited impact to biota during operation
- Limited impact to geomorphology during operation
- Proper management of waste.
- Ensure that all possible causes of erosion are mitigated as far as possible to minimise impacts to the site and surrounding environment
- Minimal loss of vegetation to fire
- Minimal disturbance of fauna during operation
- Minimal disturbance of ecological life cycles during operaion
- Proper management of pollution sources to prevent pollution incidents on site.
- Minimise potential impacts/incidents
- Minimal safety and security issues.
- Minimal traffic disturbances related to the operation of the dealership.
- Preferential use of local contractors and suppliers.
- Proper management of labour force is undertaken to ensure that there is optimal use of local labourers and local contractors.

7 GENERAL ROLES AND RESPONSIBILITIES

There are various role players that are involved in responsible environmental management. An overview of the applicable role players and institutional arrangements are provided in **Figure 7-1.** Information on each role player is then provided in the subsections below.

7.1 Competent Authorities

Due to the fact that the proposed development takes place in Gauteng and activities are triggered in terms of the EIA Regulations, 2014 (National Environmental Management Act, 1998 (NEMA), the Gauteng Department of Agriculture and Rural Development (GDARD) is the relevant competent authority. A Water Use Licence Application (WULA) is also in process. The Department of Human Settlements, Water and Sanitation (DHWS) is responsible for issuing the relevant Water Use Licence.

7.1.1 Gauteng Department of Agriculture and Rural Development (GDARD)

GDARD is the mandated authority in terms of NEMA that determined whether an Environmental Authorisation (EA) will be issued for the project, following a decision-making process conducted as part of the EIA. Conditions will be included in the EA, which need to be complied with by the project applicant. The EMPr will need to be updated to take into account these conditions.

GDARD also fulfils a compliance and enforcement role with regards to the EA. The Department may perform random inspections to check compliance. GDARD will also review the monitoring and auditing reports compiled by the ECO.

Amendments may be required to the EMPr, based on adaptive management to the site conditions and the technical requirements of the project. These amendments will need to be approved by GDARD.

7.1.2 Department of Human Settlements, Water and Sanitation (DHWS)

The Department of Human Settlements, Water and Sanitation (DHWS) is the mandated authority in terms of the National Water Act, 1998 and will be responsible for issuing the Water Use Licence (WUL). The WUL, should it be issued, will include a number of conditions which will need to be complied with. As an integrated process is required, this EMPr also includes the management of the water resource and as above, the EMPr should be updated to include the conditions of the WUL.

DHSWS will also be responsible for the compliance and enforcement of the conditions of the WUL and they also perform inspections or audits to check compliance. Copies of the necessary monitoring reports will also need to be submitted to Regional office.

Any amendments to the WUL would also need to be approved by DHSWS.

7.2 Authorisation Holder

Steyn City Properties (Pty) Ltd. is the applicant in terms of NEMA and NWA and is ultimately responsible for the development and implementation of the EMPr and ensuring that the conditions in the EA and WUL are satisfied. The liability for non-compliance also rests with the Authorisation Holder. Details of the Authorisation holder are contained in **Table 7-1.**

Table 7-1.: Details of the Applicant.

Applicant:	Steyn City Properties (Pty) Ltd.
Contact Person:	Christo De Wet

7.3 Consultants

7.3.1 Project Manager

In order to ensure that the proposed development is constructed as per the relevant designs and requirements, a project manager will be responsible for managing the planning, design and construction phases of the project. The Project Manager will furthermore also be required to tend to any environmental matters at the request of the Environmental Control Officer (ECO). The Project Manager shall assist the ECO where necessary and shall have the following responsibilities in terms of the implementation of the EMPr:

- Regular site inspections;
- Reviewing and approving the Contractor's Method Statements;
- Assisting the Contractor in finding environmentally responsible solutions to problems with input from the ECO where necessary; and
- Communicating all environmental issues to the ECO.

7.4 Contractors

Contractors will be responsible for constructing the proposed Development and associated infrastructure. All contractor/s employed by the developer in respect of any aspect of the construction of the subject site, will be bound by all and any agreement between the developer and the contractor, to ensure compliance with the Environmental Authorisation, mitigating measures included in the Specialist Studies, as well as this EMPr. The responsibilities include:

- Taking full responsibility for each of his/her employees.
- Be familiar with the contents of the EMPr and the specifications contained herein.
- Comply with the Environmental Specifications contained in the EMPr and subsequent revisions.
- Confirm legislative requirements for the construction works and ensure that appropriate permissions and permits have been obtained before commencing activities.
- Prepare Method Statements, programme of activities and drawings/plans for submission to the ECO when requested.
- Undertake daily site inspections to monitor environmental performance and compliance with the Environmental Specifications.

- Notify the ECO immediately in the event of any accident or infringements of the Environmental Specifications and ensure appropriate remedial action is taken.
- Notify the ECO at least 10 working days in advance of any activity he has reason to believe may have significant adverse environmental impacts, with specific reference to blasting, so that mitigatory measures may be implemented timeously.

7.5 Independent ECO

A competent and independent ECO must be appointed and will undertake weekly inspections with monthly reporting on site as well as biyearly auditing against the EMPr and EA. The aforementioned report must be submitted to Steyn City Properties Pty) Ltd. and GDARD for their records.

The ECO will also check the following:

- The record of environmental incidents (spills, impacts, legal transgressions, etc.) as well as corrective and preventive actions taken;
- The public complaints register in which all complaints are recorded, as well as actions taken; and
- Results from the environmental monitoring programme (water quality etc.).

In terms of Audits, the ECO will be required to ensure the following:

- All documentation (e.g. audit/monitoring/compliance reports and notifications) required to be submitted to the Department in terms of the EA.
- The holder of the EA must submit an environmental audit report to the Department within 30 days of the completion of the construction phase (i.e. within 30 days of site handover) and within 30 days of completion of rehabilitation activities.
- The Environmental Audit Report must indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the EA conditions as well as the requirements of an approved EMPr.
- Records relating to monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.

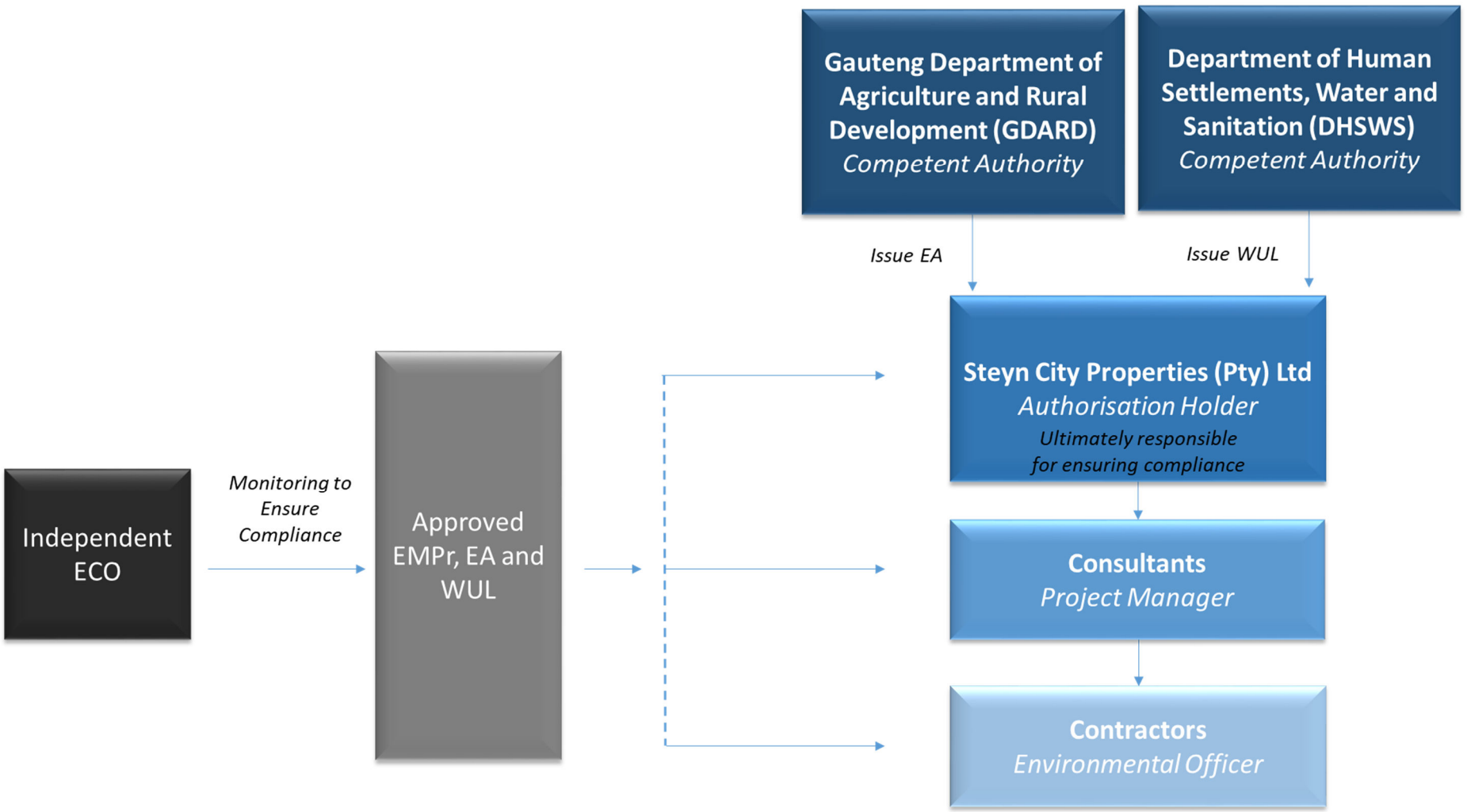

Figure 7-1: Roles and responsibilities.

8 ENVIRONMENTAL AWARENESS PLAN

Training aims to create an understanding of environmental management obligations and prescriptive measures governing the execution of the project. It is generally geared towards project team members that require a higher-level of appreciation of the environmental management context and implementation framework for the project. In contrast, **Environmental Awareness Creation** strives to foster a general attentiveness amongst the construction workforce to sensitive environmental features and an understanding of implementing environmental best practices. The Environmental Awareness Plan for the Development incorporates both training and environmental awareness to ensure that the proposed development is implemented in line with the requirements of the EMPr and that environmental sensitivities on site are managed correctly.

As part of this, Steyn City Properties (Pty) Ltd. is committed to remaining responsible and accountable for environmental practices on site. Being accountable for environmental practices undertaken during working tasks and activities remain the responsibility of both employer and employee awareness of the potential environmental impacts that could result from these activities.

All potential incidents to the environment may be effectively minimised through effective training and awareness of the employees using any of the following methods:

- Supervisory meetings (weekly);
- Induction training (annually);
- EMP Training (annually); and
- External environmental and/or health and safety courses (when applicable).

These methods are discussed below in more detail.

8.1 Meetings

Weekly supervisory meetings are ideal to facilitate awareness of specific environmental dangers pertaining to each week. Various topics may be discussed during these meetings and must be recorded or logged. All attendees at each meeting must sign an attendance register, these records must be kept on file at the administration office. Topics for discussion may include:

- Topics applicable to the entire operation;
- Area specific topics (e.g. heritage); and
- General environmental awareness:
    - Grass Owls (*Tyto capensis*)
    - Fauna
    - Waste management
    - Spillages
    - Saving water
    - Electricity consumption

- Dust control
- Noise generation
- Housekeeping
- Indigenous Vegetation
- Alien vegetation
- Fire-making

Should issues be identified by the ECO, these can also be addressed during these weekly meetings.

8.2 EMPr Training

Aspects of the EMPr must be selected and discussed at training workshops at least annually. Such training topics may be focused around the incidents that are frequently reported during the previous year and may be focused around the following:

- Vegetation sensitivity training (grassland, CBA, ESA, Wetland etc.)
- Hydrocarbon spillages;
- Grass Owls (*Tyto capensis*);
- Alien Invasive Species Management;
- Stormwater Control;
- Waste Management;
- Monitoring Protocols; and
- Safety topics.

Workers should be informed that they may refuse work that is harmful to human health and/or the environment.

8.3 Induction Training

All new employees are required to undergo induction training prior to commencement of work. Returning and existing employees must undergo repeat induction training at least annually. Environmental awareness training must form part of the induction and must include the basic topics relating to the environment:

- Main environmental legislation (e.g. NEM:WA[1] or NWA[2]);
- Constitutional right pertaining to the environment;
- Waste Management hierarchy;
- Environmental, social and economic concerns;
- Sensitive environmental features; and
- Prevention of poaching.

[1] National Environmental Management Waste Act (NEM:WA), 2008 (Act No. 59 of 2008)

[2] National Water Act (NWA), 1998, (Act No. 36 of 1998)

9 WASTE MANAGEMENT PLAN

In order to ensure waste is properly dealt with, waste management is included in the EMPr. In addition, a **Waste Management Plan** is discussed below.

9.1 Legal Requirements

Section 16 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), as amended states that –

"A holder of waste must, within the holder's power, take all reasonable measures to –

- *Avoid the generation of waste and where such generation cannot be avoided, to minimise the toxicity and amounts of waste that are generated;*
- ***Reduce, reuse, recycle and recover waste;***
- *Where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally sound manner;*
- *Manage the waste in such a manner that it does not endanger health or the environment or cause a nuisance through noise, odour or visual impacts;*
- *Prevent any employee or any person under his or her supervision from contravening this Act;*
- *Prevent the waste from being used for any unauthorised purpose.*

Only temporary storage of waste is allowed (once of storage of waste for a period less than 90 days). The volume of material should be limited to less than 100m^3 of general waste and less than 80m^3 of hazardous waste. Should this be exceeded the Norms and Standards for the Storage of Waste will need to be complied with.

9.2 Waste Hierarchy

Management objectives provided in this EMPr are aligned to the waste management hierarchy indicated in Figure 9-1.

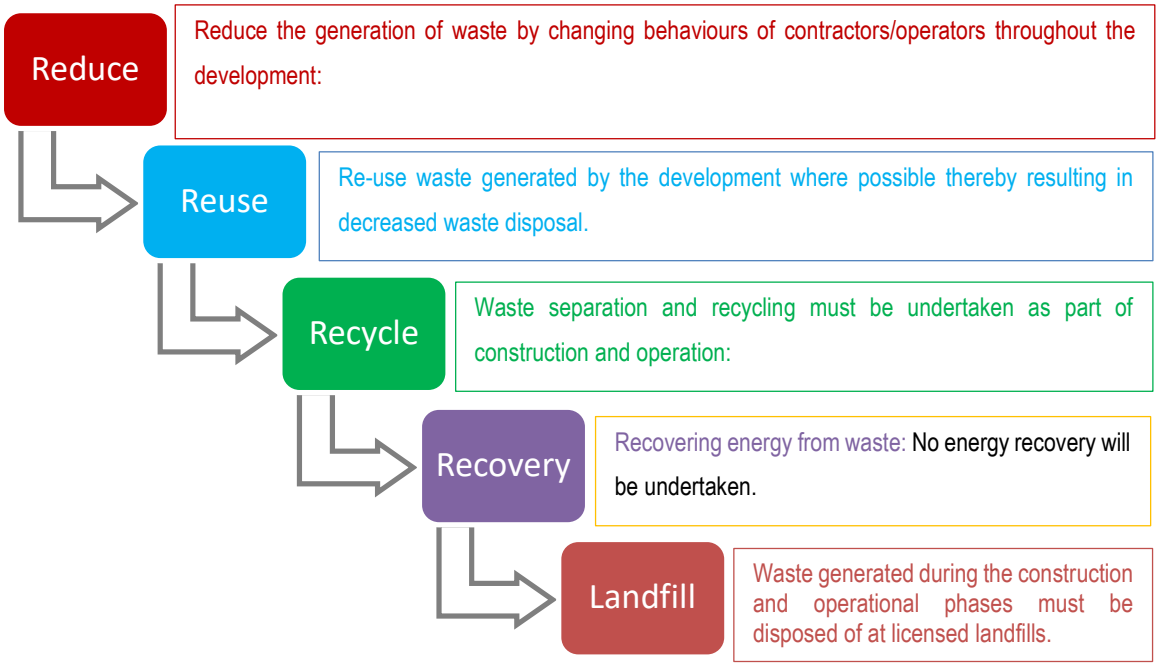

Figure 9-1: Waste Hierarchy.

9.3 Waste Management Actions

The following waste management actions must be implemented in order to ensure the objectives included in the waste hierarchy above are met.

9.3.1 Waste Avoidance and Reduction

Avoidance and reduction should be practiced wherever possible. Recommended actions include: but are not limited to:

- Bulk buying of materials to reduce the volume of packaging required.
- Avoidance of materials/items/brands that are heavily packaged, have a short lifespan or are low quality.
- Buying items that last longer and can be repaired.
- Buying items in refillable containers.
- Environmental awareness training should focus on management of waste and all construction workers should be aware of the importance of waste minimisation and avoidance.

9.3.2 Recycling

Recycling should be practiced whenever waste prevention or reuse is not possible, provided that any such recycling is cost effective, taking into consideration environmental benefits, financial costs and community interests.

Potential priority recyclable waste streams include:

- Used Oil;
- Paper;
- Glass;
- Tyres;
- Plastics;
- Building rubble; and
- Electronic waste.

The following actions must be implemented:

- To reduce or avoid the need for sorting after collection, the categories of distinctively marked waste receptacles must be provided in order to receive waste as it is generated.
- These receptacles shall be fitted with a tight cover.
- All types of waste collection receptacles shall be clearly marked with the type of waste they are receiving.
- Obtain and label recycling containers for office waste, aluminium, steel, glass, ferrous metals, nonferrous metals, waste timber.
- Locate these containers within office buildings and trailers.
- Establish a recycled material collection schedule.
- Arrange full bins to be hauled away.

9.3.3 Waste Disposal

The contractor is responsible for removal of all waste from the site, generated through the contractor's activities. The contractor shall ensure that all waste is removed to an appropriately licensed waste management facilities (the following source may be utilised – www.sawic.org.za). During operation, waste that is not collected for recycling must be collected by the municipality or by a municipality approved 3rd party collector.

In addition, it should be noted that the classification of waste determines the handling methods and the ultimate disposal of the material. All **hazardous waste** that may be generated by construction and operation must be managed as follows:

- Characterise the waste to determine if it is general or hazardous (Use the Appendix 1 of the Norms and Standards for the Classification of Waste for landfill to determine whether additional classification is required).
- Obtain and provide an acceptable container with a label.
- Place hazardous waste material in the container.
- Inspect the container on a regular basis.

- Haul the full container to the licenced and correct disposal site.
- Provide documentary evidence of proper disposal of the waste.

In addition, the following actions must also be undertaken:

- Provide waste skips on site. These skips should be sufficient in number, the skip storage area should be kept clean, skips should be emptied and replaced before overflowing or spillage occurs.
- Skips should be covered to prevent waste blowing away.
- Vermin / weatherproof bins will be provided in sufficient numbers and capacity to store domestic waste. These bins must be kept closed to reduce odour build-up and emptied regularly to avoid overfilling and other associated nuisances.
- Ensure that solid waste is transported so as to avoid waste spills en-route.
- No waste shall be buried or burned anywhere on the site.
- Permits to transport/dispose of waste must be in place.

10 EMERGENCY PREPAREDNESS PLAN

10.1 Potential Emergencies

The following potential emergencies that may occur on site include:

- Environmental Incidents:
  - Fuel and hydrocarbon spillages; and
  - Fire Hazards.
- Safety Incidents:
  - Injuries related to operation of heavy machinery such as Front-End Loaders, Excavators, Mobile Crushers etc. during construction;
  - Driving related accidents and incidents from Trucks on site during construction;
  - Accidents during earth moving, levelling and rehabilitation activities; and
  - Criminal incidents such as theft or potential violent crime during construction and operation.

10.2 Emergency Plan

10.2.1 Emergency Assemblage Area

A central area on site must be demarcated with appropriate signage for the gathering of all employees and visitors on site in the event of an emergency.

10.2.2 Emergency Procedures

The following procedures must be compiled in order for the identified potential emergencies to be managed effectively:

- Drill and evacuation procedure for any emergency related incidents containing information on the following:
  - Reporting structure for all incidents
  - Emergency contact information (e.g. telephone numbers)
  - Procedure to be followed for the specific emergency
  - First Aid information
- Spillages of fuel and hydrocarbons:
  - Immediate action plan (e.g. use of spill kits) to prevent spill for spreading
  - Reporting of incident to manager and supervisor to advise on next steps
- Procedure for Theft and Crime:
  - Details on security system on site
  - Emergency response units
  - Panic alarms
  - Details of community response units

10.2.3 Emergency Contact Information

A list of potential emergency contact centers specific to the area must be drawn up and displayed on common notice boards for all employees to access. The following emergency centers must be sourced:

- Nationwide emergency response;
- Cellphone Emergency;
- Ambulance;
- Hospitals;
- Fire Response; and
- Police.

This list must be checked and updated at least quarterly to ensure that the information remains up to date.

11 MONITORING PROGRAMME

Monitoring is required to ensure that the receiving environment at the proposed Development is suitably safeguarded against the identified potential impacts, and to ensure that the environmental management requirements are adequately implemented and adhered to during the execution of the project.

The method of monitoring the implementation of the management and mitigation measures stipulated within the EMPr are indicated in **Table 11-1**. This table includes the monitoring required in the Monitoring Plan which is included in Appendix 14.6.4 of the EIR.

Table 11-1: Method of monitoring implementation of EMPr

Method	Frequency	Responsibility	Main Topics	Outcome
Internal Inspections	Daily – Weekly	Project Manager	• Observe housekeeping practices • Check for spillages, leaks or any other sources of pollution • Observe waste management • Observe stormwater control	• Based on observations identify need for protocols / procedures and compile where needed in order to comply with EMPr • Verbally inform employees on any identified issues
External Inspections	Weekly inspections Monthly reporting	ECO	• Check compliance with management measures in EMPr • Specific attention to sensitive areas (Sensitive areas (wetland and buffer areas, African Grass-owl foraging areas, Storage and laydown areas (waste, building materials, etc.)	• Based on observations identify need for protocols / procedures and compile where needed in order to comply with EMPr • Verbally inform employees on any identified issues. • Information from inspections will be used to compile monthly report. • Photos from inspections to be utilised in monthly reporting.
External audits	Annual	ECO	• Check compliance with management measures in EA and EMPr	• Compile audit report with recommendations / actions where non-compliance was identified • Comply with the requirements of

Method	Frequency	Responsibility	Main Topics	Outcome
				the EA Audits included in the EIA Regulations, 2014 (as amended)
Management Meetings	Quarterly – Bi-annually	Management	• Discuss (problem solve) recurring issues or actions that require management intervention	• Record minutes of main points of discussion • Implement outcome actions of meeting
Wetland Assessment	One (1) Post-construction/ rehabilitation assessment	Wetland Specialist	• Present Ecological State, Ecological Importance and Sensitivity, Recommended Ecological Category. Photographic record on wetland area	• Report
Water Use License Compliance Audit	Recommended frequency – Annual Audit (dependent on WUL)	ECO/ Specialist	• Dependent on Water Use License conditions.	• Audit Report
Water Use License Closure Audit	Within 6 months of the completion of construction	ECO/ Specialist	• Dependent on Water Use License conditions.	• Closure Report
Rehabilitation Audit	Preconstruction Phase – Once Construction Phase – Once Post construction - Once	ECO/ Specialist	• Site condition of sensitive and rehabilitated areas. Effect of the Rehabilitation effort before, during and after rehabilitation comparisons.	• Rehabilitation Audit Report

11.1 Compliance Monitoring and Auditing

11.1.1 Environmental Audits

The mechanism for monitoring compliance with the management and mitigation measures stipulated within the EMPr must include an audit undertaken by an independent Environmental Control Officer (ECO) as discussed in Section 7.5.

The objective of the environmental audit is to:

- Report on the level of compliance with the conditions of the environmental authorisation and the management and mitigation measures stipulated within the EMPr;
- The extent to which the avoidance, management and mitigation measures provided in Section 12 achieve the objectives and outcomes in Section 6;
- Identify and assess new impacts and risks as a result of undertaking the activities;
- Evaluate the effectiveness of the management and mitigation measures generated in the EMPr;
- Identify shortcomings in the EMPr;
- Identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr.

11.1.2 Procedure

The following methodology or procedure is to be used for assessment of the management and mitigation measures of the EMPr:

- **Pre-site preparation:** prior to the site inspection a review of the management measures contained in the EMPr, and a checklist must be drawn up.
- **Site inspection:** the Development must be traversed on foot and must include an assessment of each major component of the facility.
- **Documentation review:** after the site inspection a documentation review must be undertaken by requesting specific key documentation relating to the proposed development.

11.1.3 Evaluation Criteria

During evaluation of the EMPr, the following criteria must be used:

- Management measures stipulated in the plan;
- Environmental monitoring required;
- Legal requirements; and
- Best practice observations.

The scores and description used in the evaluation of the EMPr are indicated in **Table 11-2**. Where any indication of non-compliance is determined, recommended actions will be provided.

Table 11-2: Description of scoring during evaluation of the findings.

Score	Evaluation	Description
N/A	Not Applicable	Not applicable and will not be implemented or discussed/assessed.
0	Major Non-Compliance	Relates to the absence of a requirement needed to be implemented or the total breakdown of a process. A number of minor non-compliances listed against the same requirement may represent a total breakdown of a process and thus could collectively be a major non-compliance.
1	Minor Non-Compliance	The requirement is partially implemented or non-compliant.
2	Observation	Relates to a matter about which the Assessor is concerned but which cannot be clearly stated as non-compliance. Observations also indicate trends which may result in a future non-compliance.
3	Compliant	The project management plans and procedures are executed in a managed fashion (planned, tracked, verified and adjusted) based upon defined activities, inputs and outputs. Objective evidence is available for each process.

11.1.4 Reporting

All inspections undertaken as part of internal / external auditing must be provided in the form of a report. External audits will be submitted to the competent authority as required by the EIA Regulations, 2014.

11.2 Penalties

In order to ensure that there is adequate motivation for the contractor to comply with the conditions set out in the EMPr, the following applies with regards to penalties:

- The Contractor will comply with the environmental requirements on an ongoing basis, and any failure on their part to do so will entitle the Project Manager, in consultation with the Environmental Manager and ECO, to certify the imposition of a fine subject to the details set out in the EMPr.
- The Project Manager, Environmental Manager and any other specific personnel as designated by the Project Manager may alter the Schedule of Fines for this specific project.
- Fines may be issued per incident at the discretion of the Project Manager. Such fines will be issued in addition to any remedial costs incurred as a result of noncompliance with the requirements of the EMPr and documents supporting thereof. Fines may be omitted from construction guarantees as supplied by the contractor.
- The Project Manager and ECO will be the judge as to what constitutes a transgression in terms of the above clause. Further, note that in the event that transgressions continue to an unacceptable level the client may cancel the contract.
- Where the Contractor inflicts non-repairable damage upon the environment or fails to comply with any of the environmental requirements, he will be liable to pay a penalty fine over and above any other

contractual consequence. This may also lead into a Rectification Application in terms of Section 24G of the NEMA, which could lead to certain fines and / or prosecution.

- The Contractor is deemed NOT to have complied with this specification if:-
  - Within the boundaries of the site, site extensions and access roads there is evidence of contravention of the requirements of the EMPr.
  - Environmental damage ensues due to negligence.
  - The Contractor fails to respond adequately to complaints from the public.
  - Legal action is instituted against the developer in terms of Environmental laws due to any action / activities undertaken by the Contractor.
- Payment of any fines in terms of the contract will not absolve the offender from being liable from prosecution in terms of any law.
- A record of penalties will be maintained within the procurement department, and may influence later commissions awarded to the contractor.

12 EMPR

12.1 Pre-Construction

General requirements during the pre-construction phase include the following:

- Design to consider and incorporate environmental requirements
- Define and communicate roles and responsibilities for the implementation of the EMPr;
- Ensure that all structures within the construction area are identified and recorded;
- Determine and document the road conditions; and
- Develop and implement an environmental awareness programme.

Specific management measures related to the identified environmental aspects follow:

Table 12-1: Management measures to be implemented during pre-construction.

Potential Impact	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
LEGISLATIVE REQUIREMENTS AND DOCUMENT CONTROL				
General Requirements	All relevant authorisations, licences and approvals are in place prior to the commencement of construction.	• Approvals to be in place prior to construction. • A copy of the final SDP to be submitted to the Department prior to construction.	Once off prior to construction	Project Manager
	A formal document control system is in place to ensure all relevant documents are in place prior to commencement.	• An environmental file/document control system must be designed and put in place. • Prior to construction, the following documents must be included in the file: o WUL o EMPr ▪ Relevant Specialist Reports and maps with their recommendations o EA	Once off prior to construction	Project Manager
	Site specific method statements are compiled and approved.	• Based on the EMPr, the contractor must compile specific method statements which must be approved by the Project manager prior to construction. At a minimum this should include: o Method Statement for site clearing; o Method Statement for establishing the construction camp; o Method Statement with regard to waste and wastewater management; o Method Statement to show procedures for dealing with possible emergencies that can occur, such as fire and accidental leaks and spillage of carbon fuels and oils; o Method Statement for dust control; o Method Statement for the storage and handling of hazardous substances; o Method Statement for controlling alien invasive species and noxious weeds; and o Method Statement for rehabilitation of construction footprint.	Prior to construction To be submitted to ECO.	EO to compile Project manager to approve

Potential Impact	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
BARRICADING OF SENSITIVE FEATURES				
Loss/disturbance of sensitive features	Proper management of sensitive features through identification and barricading.	• Note: No heritage resources were identified on site during the specialist studies. • Prior to construction, the ECO (in consultation with the Wetland Specialist) should peg/demarcate the 32m wetland buffer so that all construction related activity (other than authorised activities) remains outside this sensitive area. **All barricades must be in place prior to construction.** • Before construction takes place, the site must be walked through to flush any faunal species that might be found in the area. If the African Grass Owl is observed in the project area, enough time should be given to the species to move out of the area; should the species not move away on its own the appropriate authority should be contacted to assist with the relocation. In this case the EWT associated with the Kyalami African Grass Owl project is suggested.	Once off prior to construction	ECO
SITE PLANNING AND LAYOUT				
Loss/disturbance of sensitive features	Planning and layout of construction site is undertaken responsibly to ensure protection of sensitive environmental features.	• Contractor to submit a site plan to the ECO and Project Manager for comment. The site plan must be approved by the Project Manager prior to the establishment of the site. The plan must show the following): o Sensitive environmental features; o Buildings and structures; o Contractors' camp and lay down areas; o Site offices; o Roads and access routes; o Temporary waste storage areas o Site toilets and ablutions; o Topsoil stockpiles areas; o Construction materials stores areas; o Workshops; and o Hazardous substance stores. • Authorised construction footprint to be pegged • Ablution facilities must be located at outside 32m buffer area.	Once off prior to construction To be submitted to ECO.	Contractor to compile plan, ECO to comment, Project Manager to approve.

Potential Impact	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
ENVIRONMENTAL AWARENESS CREATION – INDUCTION				
General Requirements	Environmental awareness creation and training is undertaken prior to construction commencement to minimise environmental impacts and ensure compliance to relevant legislation and authorisations.	• ECO to induct relevant contractor managers at the start of the project. This induction should provide an overview of the authorisation and the EMPr. The environmental awareness training course for management shall include all management and foremen. • The Contractor must arrange that all of his employees and those of his sub-contractor go through the project specific environmental awareness induction before the commencement of construction and as and when new staff or sub-contractors are brought on site. • A system must be in place to ensure all new employees have received training. • All attendees shall remain for the duration of the course and sign an attendance register that clearly indicates participant's names on completion. A copy of the attendance register is to be retained by the ECO/Project Manager.	Once off prior to construction	ECO to induct construction managers/ Environmental officer (EO) Contractor to induct all workers

12.2 Construction

Mitigation measures for all activities related to construction are provided below. The mitigation measures included in the Biodiversity Baseline and Impact Assessment, Wetland Assessment and Heritage Impact Assessment undertaken as part of the EIR have also been incorporated below. Management actions are linked to a specific impact and overall management objective. Information on the institutional responsibilities and the frequency of the actions is also provided.

Table 12-2: Management measures to be implemented during construction.

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
ATMOSPHERIC EMISSIONS					
Dust emissions	Site Clearing General construction activities	Ensure that all possible causes of dust are mitigated as far as possible to minimise impacts to the surrounding environment	• A speed limit of 20km/h must be maintained on all dirt roads. • Dust suppression by means of either water or biodegradable chemical agent is required.	Daily	Contractor to implement actions ECO to monitor
Emissions from vehicles and equipment (CO2, NOx, SOx, VOC's etc.)	Use of vehicles and plant during construction	All vehicles/plant on site must be properly maintained to reduce emission sources.	• All vehicles used during the project should be properly maintained and in good working order. • A maintenance schedule should be drawn up to ensure all vehicles are serviced at the proper interval. • All vehicles and other machinery should comply with road worthy requirements and comply with legislation in terms of allowable emissions.	As required by maintenance schedule	Contractor to implement actions ECO to monitor
NOISE					
Noise increase due to construction activities	General construction activities	Ensure that noise disturbance to surrounding areas are minimised and that construction activities comply with the Noise Control Regulations and the provisions of South African National Standards; Environmental, Health and Safety (EHS) Guidelines, World Health Organisation (WHO, 2002).	• The provisions of SANS 10103:2008 will apply to all areas within audible distance of residents or adjacent landowners. • Equipment and/or machinery which will be used must comply with the manufacturer's specifications on acceptable noise levels. • Construction activities should be limited to daytime only.	Daily	Contractor to implement actions ECO to monitor
IMPACT TO WETLANDS					
Water Quality	Site Camp Workshop	Construction activities are managed correctly to ensure no negative	• The following mitigation measures suggested by the wetland specialist apply:	Daily	Contractor to implement actions

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
	Concrete mixing Construction activities	impacts to water quality. This includes proper management of ablution facilities, workshop and equipment and concrete batching and mixing.	○ Stock piling outside the wetland area, stormwater management, dry season construction, filtration. • In addition, the following general measures should be implemented: • Toilets ○ Chemical toilets must be supplied and maintained during the construction phase ○ Ablution facilities (chemical toilets) are to be provided by the Contractor, at a ratio of 1:10. ○ Ablution facilities (chemical toilets) must be erected within 100m from all workplaces but within the development footprint. ○ Toilets are to be secured to the ground, and must have a closing mechanism. ○ Toilet paper must be provided at these facilities and must be serviced once per week. ○ Certified contractors to maintain and remove chemical toilets regularly. ○ The contractor must ensure that spillage does not occur when toilets are cleaned/serviced and contents must be properly stored and disposed of. ○ Discharge of waste into the environment and/or burial of waste are strictly prohibited. ○ Sanitary arrangements must be to the satisfaction of the PM, ECO, the local authorities and the applicable legal requirements. • Proper storage of hazardous material ○ Hazardous materials to be suitably stored to prevent environmental contamination and visual impacts. Storage requirements to be determined based on chemical qualities of material and Material Safety Data Sheets (MSDS). At a minimum, hazardous chemical substances (HCS) must be stored at a designated area that meets the following requirements: ▪ Earthed ▪ Fire extinguisher must be present		ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			▪ Relevant signage to be displayed including No Smoking/ No open flames; Hazardous Chemical Substance Store; Type of HCS (e.g. Diesel); Maximum contents volume and Fire extinguisher o Storage areas should be located outside of the 32 buffer. o Hazardous substances must be stored and handled in accordance with the appropriate legislation and standards, which include the Hazardous Substances Act (Act No. 15 of 1973), the Occupational Health and Safety Act (No. 85 of 1993), relevant associated Regulations, and applicable SANS and international standards. o Any hazardous materials (apart from fuel) must be stored within a lockable store with a sealed floor. Suitable ventilation to be provided. o All storage tanks containing hazardous materials must be placed in bunded containment areas with impermeable surfaces. The bunded area must be able to contain 110% of the total volume of the stored hazardous material. • Spillages o In the event of spillages of hazardous substances, the appropriate clean up and disposal measures are to be implemented. o The contractor must ensure that necessary materials and equipment are available on site to deal with spills of any hazardous materials present o The ECO and Project Manager must be notified of all significant spillages. • Training o Staff that will be handling hazardous materials must be trained to do so. • General o Drip trays must be placed under all vehicles when immobile for longer than 24 hours. Vehicles		

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			suspected of leaking must be monitored and conduct a pre-start-up inspection checklist. ○ Drip trays must be checked and replaced for vehicles standing (parked) for prolonged periods. ○ Drip trays must be of a sufficient size and volume to collect any hydrocarbon leakages from a stationary vehicle. ○ Spill kits (absorbent material) must be available on site and in all vehicles that transport hydrocarbons for dispensing to other vehicles on the construction site. ○ Spilled substances must be contained in impermeable containers for removal to a licensed hazardous waste site.		
Flow regime	Construction activities Stormwater management	Ensure minimal impacts to the flow regime of the wetland through poor stormwater management	• The following mitigation measures suggested by the wetland specialist apply: ○ Stock piling outside the wetland area, stormwater management, dry season construction, filtration. • In addition, the following general measures should be implemented: ○ Instability and erosion of steep slopes must be stabilised immediately. Re-vegetation in consultation with landscape architect and ECO should be done if and where required. ○ To reduce the loss of material by erosion, disturbance must be kept to a minimum. ○ Where possible, natural vegetation should be retained to reduce the risk of erosion. ○ Silt fences must be used to stabilise the site, reduce erosion and silt entering the natural environment. No unchecked silt may enter the natural environment. ○ Proper stormwater management as per the approved stormwater management plan. ○ Increased run-off during construction should be managed using berms, temporary cut-off	Daily	Contractor to implement actions ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			drains, attenuation ponds or other suitable structures, in consultation with the ECO and resident Engineer. o Stormwater management system is to be installed as soon as possible following site establishment, to attenuate stormwater during the construction phase, as well as during the operational phase. o Surface-water run-off and stormwater must be directed away from trenches and areas of excavation.		
Habitat	General construction activities	Ensure minimal impact to wetland habitat	• The following mitigation measures suggested by the wetland specialist apply: o Stock piling outside the wetland area, minimal ingress and egress. • In addition, the following general measures should be implemented: o The wetland area should be declared 'no-go' area's during the construction and must be demarcated prior to construction; o All laydown, storage areas etc. should be restricted to within the development footprint; o Compilation and implementation of a Wetland Rehabilitation Plan.	Once off (design and approval) Implementation – ongoing	Contractor to implement actions ECO to monitor
Biota	General construction activities	Ensure minimal impact to wetland biota	• The following mitigation measures suggested by the wetland specialist apply: o Stock piling outside the wetland area, minimal ingress and egress. • In addition, the following general measures should be implemented: o The wetland area should be declared 'no-go' area's during the construction and must be demarcated prior to construction; o Waste management must be a priority and all waste must be collected and stored adequately. It is recommended that all waste	Daily	Contractor to implement actions ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			be removed from site on a weekly basis to prevent rodents and pests entering the site; o No trapping, killing or poisoning of any wildlife should be allowed on site; o Staff should be educated about the sensitivity of faunal species and measures should be put in place to deal with any species that are encountered during the construction process. The intentional killing of any animals including snakes, insects, lizards, birds or other animals should be strictly prohibited.		
Geomorphology	General construction activities Stormwater management	Ensure that minimal disturbance of geomorphology during construction	• The following mitigation measures suggested by the wetland specialist apply: o Stormwater management design and erosion control measures. • In addition, the following general measures should be implemented: o Instability and erosion of steep slopes must be stabilised immediately. Re-vegetation in consultation with landscape architect and ECO should be done if and where required. o To reduce the loss of material by erosion, disturbance must be kept to a minimum. o Where possible, natural vegetation should be retained to reduce the risk of erosion. o Proper stormwater management as per the approved stormwater management plan. o Increased run-off during construction should be managed using berms, temporary cut-off drains, attenuation ponds or other suitable structures, in consultation with the ECO and resident Engineer. o Stormwater management system is to be installed as soon as possible following site establishment, to attenuate stormwater during the construction phase, as well as during the operational phase.	Daily	Contractor to implement actions ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			○ Surface-water run-off and stormwater must be directed away from trenches and areas of excavation.		
WASTE GENERATION					
Domestic Waste	Waste generation, storage and disposal	Domestic waste must be managed properly to ensure minimal impacts.	• Waste recycling to be put in place. • Domestic waste must be stored in containers labelled or colour coded for general waste. • Vermin / weatherproof bins will be provided in sufficient numbers and capacity to store domestic waste. • Containers must be emptied frequently before reaching capacity • Solid waste shall only be stored in the designated general waste storage area which must be enclosed and impermeable. • No waste shall be buried or burned anywhere on the construction site. • All solid waste shall be disposed of by a certified contractor, off-site, at an approved landfill site if no municipal services is available. The Contractor shall supply the ECO with a certificate of disposal for auditing purposes. • Avoidance, reduction and reuse should be practiced wherever possible – see waste management plan. • Waste may not cause any nuisance (e.g. odour) • Records of waste manifest documents must be retained at the administration office	Daily	Contractor to implement actions ECO to monitor
Construction Waste	Waste generation, storage and disposal	Construction waste must be managed properly to ensure minimal impacts.	• Construction waste must be collected and put into suitable closed bins on a daily basis. • Provide waste skips on site. These skips should be sufficient in number, the skip storage area should be kept clean, skips should be emptied and replaced before overflowing or spillage occurs. Skips should be covered to prevent waste blowing away. • Construction rubble must be disposed of at a registered landfill site. • Avoidance, reduction, and reuse should be practiced wherever possible – see waste management plan.	Daily	Contractor to implement actions ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			• Records of waste manifest documents must be retained at the administration office.		
Hazardous waste	Waste generation, storage and disposal	Hazardous waste must be managed properly to ensure minimal impacts.	• The classification of waste determines the handling methods and the ultimate disposal of the material. The contractor shall manage hazardous waste that are anticipated to be generated by his operations as follows: o Characterise the waste to determine if it is general or hazardous (Use the Appendix 1 of the Norms and Standards for the Classification of Waste for landfill to determine whether additional classification is required). o Obtain and provide an acceptable container with a label. o Place hazardous waste material in the container. o Inspect the container on a regular basis o Haul the full container to the licenced and correct disposal site. o Provide documentary evidence of proper disposal of the waste. • Only temporary storage of waste is allowed (once of storage of waste for a period less than 90 days). The volume of material should be limited to less than 80m^3 of hazardous waste. Should this be exceeded the Norms and Standards for the Storage of Waste will need to be complied with. • Containers must be emptied frequently before reaching capacity • All hazardous waste must be disposed of at the nearest hazardous landfill • Waste may not cause any nuisance (e.g. contamination) • Records of waste manifest documents must be retained at the administration office • Certificates of registration must be retained for transporters of hazardous waste and retained in record at the administration office.	Daily	Contractor to implement actions ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
SOIL ALTERATION					
Loss of topsoil	Site clearing	Effective management of topsoil, in order to minimise the impact of construction activities.	• During site preparation, topsoil and subsoil must be stripped separately from each other and must be stored separately from spoil material for use in the rehabilitation phase. • Topsoil should be protected from wind and rain, as well as contamination from diesel, concrete or wastewater. Topsoil stockpiles should be checked on a monthly basis to ensure that this is the case. • Topsoil should be used in landscaping and rehabilitation where possible.	At start of construction. Checks to occur on a monthly basis	Contractor to implement actions ECO to monitor
Alteration of topography	Site clearing Landscaping Construction activities	Changes to topography to be planned properly to prevent negative impacts.	• Changes to topography must be properly designed and landscaped. • Stormwater management measures must be implemented to ensure these changes to not impact on stormwater.	Ongoing	Contractor to implement actions ECO to monitor
Soil erosion	Site clearing Landscaping Construction activities	Ensure that all possible causes of erosion are mitigated as far as possible to minimise impacts to the site and surrounding environment	• Instability and erosion of steep slopes must be stabilised immediately. Re-vegetation in consultation with landscape architect and ECO should be done if required. • To reduce the loss of material by erosion, disturbance must be kept to a minimum. • If clearing of slopes occur within the rainy season, earth berms must be created along the up-slope side of the construction area. • Where possible, natural vegetation should be retained to reduce the risk of erosion. • Should erosion occur due to negligence on the part of the Contractor, the Contractor will be responsible for reinstatement of the eroded area to its former state at his own expense. Any surface water pollution occurring as a result of this negligence will be cleaned up by the Contractor or a nominated clean up organisation at the expenses of the Contractor.	Ongoing	Contractor to implement actions ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
Soil pollution	Site camp Storage of materials Ablution facilities Storage of Waste Workshop area	Ensure that all possible causes of soil pollution are mitigated as far as possible to minimise impacts to the site and surrounding environment	• All vehicle/equipment maintenance and washing must be done in the workshop area, equipped with a bund wall and grease trap oil separator. • Workshop area must be monitored for fuel and oil spills. • Spills must be cleaned up immediately and remediated to the satisfaction of the ECO and PM. • Spill kits must be comprehensive and available on site at all times. An adequate supply of absorbent material must be available to accommodate emergency spills. • Also see mitigation measures related to water quality and storage of hazardous material.	Ongoing	Contractor to implement actions ECO to monitor
RESOURCE CONSUMPTION					
Electricity consumption	General site activities	Electricity reduction mechanisms to be implemented.	• Enforce electricity reduction strategies • Environmental awareness training	Ongoing	Contractor to implement actions ECO to monitor
Water consumption	General site activities	Water conservation mechanisms to be implemented.	• Enforce water saving strategies including design of recycling and reuse, rainwater harvesting etc. • Environmental awareness training.	Ongoing	Contractor to implement actions ECO to monitor
Fuel consumption	Fuelling of plant, vehicles and generators	Fuel conservation mechanisms to be implemented.	• Record and monitor fuel consumption regularly • Reduce theft of fuel (increase security)	Ongoing	Contractor to implement actions ECO to monitor
Raw materials consumption	General construction activities requiring raw materials	Raw materials conservation mechanisms to be implemented.	• Promote effective use of raw materials.	Ongoing	Contractor to implement actions ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
EFFECTS ON BIODIVERSITY					
Destruction, further loss and fragmentation of the vegetation community (including an area classified as CBA and ESA as well as an EN vegetation type)	Site clearing Construction activities.	Prevent the further loss and fragmentation of the EN vegetation community, the CBA and ESA;	• The following mitigation measures from the Biodiversity Baseline and Impact Assessment must be implemented: o All laydown, storage areas etc should be restricted to within the project area and all access roads must be kept within this area or from existing access roads; o Areas of indigenous vegetation should be delineated, and rehabilitation measures implemented in areas where the indigenous community is still present but degraded; o Areas that are denuded during construction need to be re-vegetated with indigenous vegetation to prevent erosion during flood events. This will also reduce the likelihood of encroachment by alien invasive plant species; and o Compilation of and implementation of an alien vegetation management plan for the entire site o Limiting the construction area to the defined project areas and only impacting those areas where it is unavoidable to do so otherwise • Proper management of site establishment: o Locate construction camp in area where sensitive environmental features will not be impacted on. The location should be approved by the ECO, Project Manager and EO. o Construction camp should be fenced, and access control should be exercised. o The extent of the site should by all means be limited, to avoid any additional clearance of vegetation o Construction and laydown areas should be established outside of the wetland 32m buffer. • All construction activities must be outside of the wetland 32m buffer • Fires shall only be permitted in specially designated areas and under controlled circumstances. • Proper management of site clearing:	Ongoing	Contractor to implement actions ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			○ Restrict site clearing activities to construction area /domain. ○ Clearing of vegetation to be conducted in a phased manner (where possible). • All laydown, storage areas etc should be restricted to within the Project area and all access roads must be kept within this area or from existing access roads. • A qualified environmental control officer must be on site when construction begins to identify species that will be directly disturbed and to relocate fauna/flora that is found during construction (including all reptiles and amphibians).		
Destruction of a habitat for the African Grass Owl (especially the centre of the project area)	Site clearing Construction activities.	Prevent the loss of the faunal community associated with this vegetation community	• The following mitigation measures from the Biodiversity Baseline and Impact Assessment must be implemented: ○ Before construction is to take place site must be walked through to flush any faunal species that might be found in the area. If the African Grass Owl is observed in the project area, enough time should be given to the specie to move out of the area; should the species not move away on its own the appropriate authority should be contacted to assist with the relocation. In this case the EWT associated with the Kyalami African Grass Owl project is suggested; ○ It is recommended that, if authorisation is granted, construction only be conducted outside of the breeding season for this species. ○ Limiting the construction area to the defined project areas and only impacting those areas where it is unavoidable to do so otherwise ○ Also see mitigation measures above. • In addition, the following general requirements should be adhered to: ○ Clearing of vegetation is not allowed within the 32m buffer of the wetland area other than for approved activities.	Ongoing	Contractor to implement actions ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			○ Before construction starts, construction workers must be educated with regards to littering and poaching. ○ Environmental awareness training should be provided to contractors regarding disturbance to animals. Particular emphasis should be placed on talks regarding snakes as well as he Grass Owl.		
Displacement of faunal community due to habitat loss, direct mortalities and disturbance (noise, dust and vibration).	Site clearing Construction activities.	Prevent the loss of the faunal community associated with this vegetation community	• The Biodiversity Baseline and Impact Assessment noted that the site is disturbed. The following recommendations by the specialist should be implemented: ○ Waste management must be a priority and all waste must be collected and stored adequately. It is recommended that all waste be removed from site on a weekly basis to prevent rodents and pests entering the site; ○ No trapping, killing or poisoning of any wildlife should be allowed on site; ○ Adequate signage should be erected that raises awareness about possible fauna in the area (e.g. amphibians) and speed bumps should be put in place to reduce speeding and faunal road mortalities; ○ Staff should be educated about the sensitivity of faunal species and measures should be put in place to deal with any species that are encountered during the construction process. The intentional killing of any animals including snakes, insects, lizards, birds or other animals should be strictly prohibited.	Ongoing	Contractor to implement actions ECO to monitor
INCIDENTS, ACCIDENTS, AND POTENTIAL EMERGENCY SITUATIONS					
Pollution incidents	Workshop Site Camp Storage of Hazardous material	Minimise potential pollution incidents due to construction.	• Proper emergency response procedure to be in place for dealing with spill or leaks at the construction site. • Ensure that the necessary materials and equipment for dealing with spills and leaks are available on site, where practicable.	Daily	Contractor to implement actions ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
	Use of plant and vehicles		• Remediation of the spill areas will be undertaken to the satisfaction of the Project Manager. • In the event of a hydrocarbon spill, the source of the spillage will be isolated and contained. The area will be cordoned off and secured. • The Contractor will ensure that there is always a supply of an appropriate absorbent material readily available to absorb, breakdown and where possible, encapsulate a minor hydrocarbon spillage. • All staff on site will be made aware of actions to be taken in case of a spillage. • Provide contact details of person to be notified in a case of spillages – signage to be displayed at strategic points within the construction domain (e.g. workshop, fuel storage area, hazardous material containers).		
Impacts to Eskom Transmission Line	Construction activities near or under the transmission lines	Miminise potential disturbance or impacts to Eskom Transmission	• Eskom Tx's rights and services must be acknowledged and respected at all times. • Eskom Tx shall at all times retain unobstructed access to and egress from its servitudes. • Eskom Tx's consent does not relieve the applicant from obtaining the necessary statutory, landowner or municipal approvals. • The applicant will adhere to all relevant environmental legislation. Any cost incurred by Eskom as a result of non-compliance will be charged to the applicant. • All work within Eskom servitude area shall comply with the relevant earthing standards in force at the time. This will also apply to steel fencing and palisading that may be erected in the future. • No construction of excavation work shall be executed within 20 meters from any Eskom powerline structure. • If Eskom TX has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the applicants activities or because of the presence of his equipment or installation within the servitude restriction area, the applicant shall pay such costs to Eskom Tx on demand.	Daily	Contractor to implement actions ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			• The use of explosives of any type within 500m of the Eskom Tx's services shall only occur with Eskom Tx's previous written permission. If such permission is granted, the applicant must give at least 14 working days prior notice of the commencement of blasting. This allows time for the arrangements to be made for supervision and/precautionary instructions to be issued in terms of the blasting process. It is advisable to make application separately in this regard. • Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilized so as to prevent erosion. The measures shall be to Eskom Tx's requirements. • Eskom Tx shall not be liable for the death or of injury to any person or for the loss or damage to any property whether as a result of the encroachment or the use of the servitude area by the applicant, his/her agent, contractors, employees, successors in title and assignee. The applicant indemnifies Eskom Tx against loss, claims or damages including claims pertaining to consequential damages by 3rd parties and whether as a result of damage to or interruption of or interference with Eskom Tx's services or apparatus or otherwise. Eskom Tx will not held responsible for damage to the applicant's equipment. • No mechanical equipment including mechanical excavators or high lifting machinery shall be used in the vicinity of Eskom Tx's apparatus and/or services without prior written permission have been granted by Eskom Tx. If such permission is granted, the applicant must give at least 7 working day's notice prior to the commencement of work. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued by the Lines and Servitudes Manager. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued. • Eskom Tx's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be		

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			obstructed or interfered with. Note: Where an electrical outage is required, at least 14 work days will be required to arrange it. • Under no circumstances shall rubble, earth or other material be dumped within the servitude restriction area. The applicant shall maintain the area concerned to Eskom Tx's satisfaction. The applicant shall be liable to Eskom Tx for the cost of any remedial action which has to be carried out by Eskom Tx. • The clearances between Eskom Tx's live electrical equipment and the proposed construction worm shall be observed as stipulated by Regulation 19 of Electrical Machinery Regulations 2011 (with Reference to SANS10280-1) of the Occupational Health and Safety Act, 1993 (Act 85 of 1993). • Equipment shall be regarded as electrically live and therefore dangerous at all times. • In spite of restrictions stipulated by Regulation 15 of Regulation 19 of Electrical Machinery Regulations 2011 of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as an additional safety precaution, Eskom Tx will not approve the erection of houses or structures occupied or frequented by human beings under the powerlines or within the servitude restriction area. • Eskom Tx may stipulate any additional requirements to eliminate any possible exposure to Customers or Public coming into contact or exposed to any dangers of the Eskom Tx plant. • It is required of the applicant to familiarize himself with all safety hazards related to electrical plant. • The individual title deeds of those erven (areas of open space) must be made subject to the Notarial Deeds registered in favor of Eskom Tx. • An application should be submitted to this office before the commencement of any work on the site for approval within the servitude area.		

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
Health and safety	General construction activities	A safe working environment for contractors/construction workers and the public is provided.	• Appointed Safety Agent. • Contractor to submit a Health and Safety Plan, prepared in accordance with the Health and Safety Specification, for approval prior to the commencement of work. • All construction personal must be clearly identifiable. All employees must also be issued with employee cards for identification purposes. • All workers will be supplied with the required Personal Protective Equipment as per the Occupational Health and Safety Act (Act No. 85 of 1993). • Fencing and barriers will be in place in accordance with the Occupational Health and Safety Act (Act No. 85 of 1993). • Applicable notice boards and hazard warning notices will be put in place and secured. Night hazards will be indicated suitably (e.g. reflectors, lighting, traffic signage). • Maintain access control to prevent access of the public to the construction areas, as far as practicable. • 24-hour security and access control. • Health and Safety awareness training. • A Dedicated Occupational Health and Safety system to be implemented by Contractor's Safety Officer. To be monitored and audited by the Client's Safety Agent, in terms of the Construction Regulations (2003).	Appointment and Plan – once off at start, other actions, ongoing	Contractor to implement actions ECO to monitor

Storage of hydrocarbons	Storage of fuel
	Site Camp
	Workshop areas
		Effective and safe storage of hydrocarbons on site, in order to minimise the impact of hydrocarbons on the environment	• Proper storage of hydrocarbons
			  ○ Storage requirements to be determined based on chemical qualities of material and Material Safety Data Sheets (MSDS). At a minimum, hazardous chemical substances (HCS) must be stored at a designated area that meets the following requirements:
			  ▪ Earthed
			  ▪ Fire extinguisher must be present
			  ▪ Relevant signage to be displayed including No Smoking/ No open flames; Hazardous Chemical Substance Store; Type of HCS (e.g. Diesel); Maximum contents volume and Fire extinguisher
				Ongoing	Contractor to implement actions
					ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			• Storage areas should be located 100m from the edge of wetlands. • Hazardous substances must be stored and handled in accordance with the appropriate legislation and standards, which include the Hazardous Substances Act (Act No. 15 of 1973), the Occupational Health and Safety Act (No. 85 of 1993), relevant associated Regulations, and applicable SANS and international standards. • Any hazardous materials (apart from fuel) must be stored within a lockable store with a sealed floor. Suitable ventilation to be provided. • All storage tanks containing hazardous materials must be placed in bunded containment areas with impermeable surfaces. The bunded area must be able to contain 110% of the total volume of the stored hazardous material. • Spillages o In the event of spillages of hazardous substances, the appropriate clean up and disposal measures are to be implemented. o The contractor must ensure that necessary materials and equipment are available on site to deal with spills of any hazardous materials present o The ECO and Project Manager must be notified of all significant spillages.		
Fire	Storage of fuel Site Camp Workshop areas General Construction Activities	Minimise potential fire incidents during construction.	• Appropriate emergency response to be in place for dealing with fire at the construction site. • All fire control mechanisms (firefighting equipment) will be routinely inspected by a qualified investigator for efficacy thereof and be approved by local fire services. • All staff on site will be made aware of general fire prevention and control methods, and the name of the responsible person to alert to the presence of a fire. • Burning of waste is not permitted. • Suitable precautions will be taken (e.g. suitable fire extinguishers, water bowsers, welding curtains) when working with welding or grinding equipment.	Ongoing	Contractor to implement actions ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			• Designated smoking areas should be provided, with special bins for discarding of cigarette butts		
SOCIAL					
Visual impact	General Construction activities Site camp	Proper management of construction activities to minimise disturbance to visual environment.	• Suitable screening to be put in place during construction to minimise visual impacts. • No littering to be allowed. • Good housekeeping practices to be followed	Ongoing	Contractor to implement actions ECO to monitor
Safety and security	General construction activities	Proper management of labour force is undertaken to ensure that there are no security-related issues or disturbance to tenants or landowners outside the construction footprint.	• 24-hour access control to the site and 24-hour security. • Workers found to be engaging in activities such as excessive consumption of alcohol, drug use or selling of any such items on site must be disciplined.	Ongoing	Contractor to implement actions ECO to monitor
Traffic disruptions	General construction activities	Minimal disturbances to traffic due to road upgrades.	• Traffic warning and calming measures will be put in place when construction activities may impact on traffic flow.	Ongoing	Contractor to implement actions ECO to monitor
Loss of cultural heritage	General Construction activities Site clearing	No adverse impact on the historical and cultural inheritance of the area.	• A Heritage Impact Assessment was undertaken, and no heritage resources were identified however the following Change Find Procedure must be implemented if necessary: o Chance find procedure: ▪ If during the pre-construction phase, construction, operations or closure phases of this project, any person employed by the developer, one of its subsidiaries, contractors and subcontractors, or service provider, finds any artefact of cultural significance or heritage site, this person must cease work at the site of the find and report this find to their immediate	Ongoing	Contractor to implement actions ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			supervisor, and through their supervisor to the senior on-site manager. ▪ It is the responsibility of the senior on-site Manager to make an initial assessment of the extent of the find and confirm the extent of the work stoppage in that area. ▪ The senior on-site Manager will inform the ECO of the chance find and its immediate impact on operations. The ECO will then contact a professional archaeologist for an assessment of the finds who will notify the SAHRA.		
Loss of sense of place	General Construction activities Site camp	Proper management of construction activities to minimise disturbance to sense of place.	• Suitable screening to be put in place during construction to minimise visual impacts. • No littering to be allowed. • Good housekeeping practices to be followed.	Ongoing	Contractor to implement actions ECO to monitor
ECONOMIC					
Decline/increase in economy	Supplier and contractor selection	Preferential use of local contractors and suppliers.	• Local contractors and suppliers to be used during the construction phase as far as possible.	Ongoing	Contractor to implement actions ECO to monitor
Employment	Employment of construction workers	Proper management of labour force is undertaken to ensure that there is optimal use of local labourers and local contractors.	• Wherever possible labour, materials and services must be sourced locally.	Ongoing	Contractor to implement actions ECO to monitor
REHABILITATION AND LANDSCAPING					
General	Rehabilitation and landscaping activities	Adequate reinstatement and rehabilitation of construction areas	• Aquatic Resources Rehabilitation Plan to be implemented. See Appendix 14.6.5 of the EIR. • In line with the requirements the National Environmental Management: Biodiversity Act (Alien and Invasive Species Regulations, 2014), the following must be undertaken:	Ongoing	Contractor to implement actions ECO to monitor

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			○ Eradicate all Listed Invasive Species (Category 1a), if present; ○ Control all Listed Invasive Species (Category 1b), if present; ○ Apply for a permit for all Listed Invasive Species (Category 2), if present; ○ Apply for exemption for all Listed Invasive Species (Category 3), if present. • After the construction phase, the area to be reinstated to the same or better condition than it was prior to construction. • Clear and completely remove from site all construction plant, equipment, storage containers, temporary fencing, temporary services, and fixtures • Ensure that all access roads utilised during construction are returned to a usable state and/or a state no worse than prior to construction. • Inert waste and rubble ○ Clear the site of all inert waste and rubble, including surplus rock, foundations and batching plant aggregates. After the material has been removed, the site shall be re-instated and rehabilitated. ○ Remove from site all domestic waste and dispose of in the approved manner at a registered waste disposal site, or with a registered service provider. • Hazardous waste and pollution control ○ Remove from site all pollution containment structures. ○ Remove from site all temporary sanitary infrastructure and waste water disposal systems. ○ Take care to avoid leaks, overflows and spills and dispose of any waste in the approved manner • Control of Invasive Plant species: ○ An Alien Invasive Species Management Plan must be compiled and implemented.		

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			○ Control invasive plant species and noxious weeds by means of extraction, cutting or other approved methods. ○ Encroachment of alien vegetation should be monitored regularly and controlled; the area must be kept clear of all invader plants as per the Conservation of Agricultural Resources Act, 1983 (Act No 43 of 1983). Rehabilitation measures must be employed until such a time as indigenous species is established. ○ As much vegetation growth as possible should be promoted within the proposed replacement in order to protect soils and to reduce the percentage of the surface area which is left as bare ground. In this regard special mention is made of the need to use indigenous vegetation species as the first choice during landscaping • Landscaping ○ Make safe all excavations outside of the construction area by backfilling and grading, as required. ○ In general, no slopes steeper than 1(V):3(H) are permitted in cut-and-fill areas, unless otherwise specified by the landscaping plan. ○ Programme the backfill of excavations so that subsoil is deposited first, followed by the topsoil. ○ Monitor backfilled areas for subsidence (as the backfill settles) and fill depressions using available material. ○ Shape the area surrounding the development to blend in with the surrounding landscape, where possible. Landscaping shall be done through the use of indigenous plant species, following water conscious design principles. ○ Ensure that no excavated material or stockpiles are left on site and that all material remaining after backfilling is landscaped to blend in with the surrounding landscape.		

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			• Topsoil replacement and soil amelioration o Execute top soiling activity prior to the rainy season or any expected wet weather conditions. o Execute topsoil placement only after all construction work has ceased. o Replace and redistribute stockpiled topsoil together with herbaceous vegetation, overlying grass and other fine organic matter in all disturbed areas of the construction site, including temporary access routes. Replace topsoil to the original depth. o Place topsoil in the same area from where it was stripped. If there is insufficient topsoil available from a particular soil zone to produce the minimum specified depth, topsoil of similar quality may be brought from other areas of similar quality. o The suitability of substitute material will be determined by means of a soil analysis addressing soil fraction, fertility, pH and drainage. o Do not use topsoil suspected to be contaminated with the seed of alien vegetation. Alternatively, the soil is to be appropriately treated. o Ensure that storm water run-off is not channelled alongside the gentle mounding, but that it is taken diagonally across it. o Shape remaining stockpiled topsoil not utilised elsewhere in an acceptable manner so as to blend in with the local surrounding area. o After topsoil placement is complete, spread available stripped vegetation randomly by hand over the top-soiled area • Ripping and scarifying o Rip and/or scarify all areas following the application of topsoil to facilitate mixing of the upper most layers. Whether ripping and/or scarifying is necessary will be determined based on the site conditions immediately before these works begin.		

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			○ Rip and/or scarify all disturbed areas (and other specified)		

12.3 Operation

Mitigation measures for all activities related to operation are provided below. Management actions are linked to a specific impact and overall management objective. Information on the institutional responsibilities and the frequency of the actions is also provided.

Table 12-3: Management measures to be implemented during operation.

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
NOISE					
Noise increase	General operational activities	Residential development must comply with acceptable noise levels.	• The proposed development is in line with activities and uses in the area and will not provide significant noise pollution. • The Management Corporation should develop rules and regulations to manage noise in line with applicable by-laws. • The necessary boundary wall will also reduce potential noise pollution.	Ongoing	Authorisation Holder
IMPACT TO WETLANDS					
Water quality	General operational activities Stormwater	Proper maintenance of connection to sewer line and proper management of stormwater	• An Outline Scheme Report has been undertaken and noted that sewer will connect to an existing sewer line and be treated at an existing Treatment works. Maintenance and management of the sewer line (must be undertaken as per City of Johannesburg's requirements. • In addition, the following mitigation measures from the Wetland specialist must be implemented: o Rehabilitation of construction impacted area, continuous monitoring. Storm water management.	Ongoing	Authorisation Holder
Flow Regime	General operational activities Stormwater	Ensure Stormwater is properly managed	• The following mitigation measures from the Wetland specialist must be implemented: o Rehabilitation of construction impacted area, continuous monitoring. Storm water management. • Further, Alternative Stormwater Layout is not preferred as the single attenuation pond will result in a larger impact to the wetland flow regime. Multiple releases as per the proposed stormwater layout is preferred and should be implemented.	Ongoing	Authorisation Holder
Habitat	General Operational activities	Limited impact to habitat during operation	• The following mitigation measures from the Wetland specialist must be implemented: o Rehabilitation of construction impacted area, continuous monitoring. Storm water management.	Ongoing	Authorisation Holder
Biota	General Operational activities	Limited impact to biota during operation	• The following mitigation measures from the Wetland specialist must be implemented: o Rehabilitation of construction impacted area, continuous monitoring. Storm water management.	Ongoing	Authorisation Holder

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
Geomorphology	General Operational activities	Limited impact to geomorphology during operation	• The following mitigation measures from the Wetland specialist must be implemented: Rehabilitation of construction impacted area.	Ongoing	Authorisation Holder
WASTE GENERATION					
Domestic Waste	Waste management	Proper management of waste.	• Recyclable waste streams must be separated from other waste streams. Waste to be separated into recyclable and non-recyclable waste. Waste separation needs to occur before waste is collected. • Solid waste shall only be stored in the designated general waste storage area which must be enclosed and impermeable. • All solid waste shall be disposed of by a certified contractor, off-site, at an approved landfill site if no municipal services are available. • Avoidance, reduction, re-use and recycling should be practiced wherever possible. • Appropriate number of waste bins to be provided to prevent littering.	Ongoing	Authorisation holder
SOIL ALTERATION					
Soil erosion	General operational activities	Ensure that all possible causes of erosion are mitigated as far as possible to minimise impacts to the site and surrounding environment	• Stormwater management system to be implemented to reduce erosion. • Landscaping to minimise soil erosion.	Ongoing	Authorisation holder
EFFECTS ON BIODIVERSITY					
Continued encroachment and displacement of the vegetation community due to alien invasive plant species, particularly in previously disturbed areas.	General operational activities	Prevent the further loss and fragmentation of the EN vegetation community, the CBA and ESA	• The Biodiversity Baseline and Impact Assessment noted the following mitigation measures should be implemented: o Awareness of the sensitivity of this community (in particular the Endangered vegetation type, CBA and ESA areas). To this end, it is suggested that environmental awareness boards be placed around the School to explain the importance of the area. o A commitment to safely and properly relocate any floral SCC that are encountered during the operational phase. o Storm water from the development must be carefully managed and should include mitigation measures that will catch and	Ongoing	Authorisation holder

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			polish the water from the area before it is allowed to enter the surrounding environment.		

Continued displacement and fragmentation of the faunal community due to ongoing anthropogenic disturbances (noise, traffic and dust).	General operational activities	Prevent the loss of the faunal community associated with this vegetation community	• The Biodiversity Baseline and Impact Assessment noted the following mitigation measures should be implemented:
			  ○ Awareness of the sensitivity of this community (in particular the Endangered vegetation type, CBA and ESA areas). To this end, it is suggested that environmental awareness boards be placed around the School to explain the importance of the area as well as the provided information on Grass Owls.
			  ○ A commitment to safely and properly relocate and faunal or floral SCC that are encountered during the operational phase, especially any African Grass Owls;
			• Storm water from the development must be carefully managed and should include mitigation measures that will catch and polish the water from the area before it is allowed to enter the surrounding environment;
			• Restrict or prevent the use of poison to control rodents;
			• Waste management plan needs to be put in place.
				Ongoing	Authorisation holder

Loss of faunal species (road mortalities and/or poaching).	General operational activities	Prevent the loss of the faunal community associated with this vegetation community	• The Biodiversity Baseline and Impact Assessment noted the following mitigation measures should be implemented:
			  ○ Awareness of the sensitivity of this community (in particular the Endangered vegetation type, CBA and ESA areas). To this end, it is suggested that environmental awareness boards be placed around the School to explain the importance of the area as well as the provided information on Grass Owls.
			  ○ A commitment to safely and properly relocate and faunal or floral SCC that are encountered during the operational phase, especially any African Grass Owls;
			• Storm water from the development must be carefully managed and should include mitigation measures that will catch and polish the water from the area before it is allowed to enter the surrounding environment;
			• Restrict or prevent the use of poison to control rodents;
			• Waste management plan needs to be put in place.
			• No poaching or killing of animals allowed whatsoever. The Management corporation should development rules to this affect.
				Ongoing	Authorisation holder

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			• Speed limits to be enforced. Signage to be in place to warn people not to speed.		
Habitat degradation (litter and alien vegetation encroachment);	General operational activities	Prevent the further loss and fragmentation of the EN vegetation community, the CBA and ESA	• Appropriate number of waste bins to be provided to prevent littering. • Waste management plan to be implemented to encourage recycling. • Indigenous species to be used for landscaping. • Alien Invasive Species Management Plan to be developed and implemented.	Ongoing	Authorisation holder
Introduction of pest species (e.g. rats and flies) due to the new habitats that's created by an increase in waste levels.	General operational activities	Prevent the loss of the faunal community associated with this vegetation community	• Appropriate number of waste bins to be provided to prevent littering. • Waste management plan to be implemented to encourage recycling.	Ongoing	Authorisation holder
INCIDENTS, ACCIDENTS, AND POTENTIAL EMERGENCY SITUATIONS					
Pollution incidents	General operational activities	Proper management of pollution sources to prevent pollution incidents on site.	• Proper maintenance and management of sewer infrastructure to ensure no pollution incidents or spillages.	Ongoing	Authorisation holder
Impacts to Eskom Transmission Line	General operational activities	Minimize potential impacts to impacts to Eskom Transmission Lines	• Eskom Tx's rights and services must be acknowledged and respected at all times. • Eskom Tx shall at all times retain unobstructed access to and egress from its servitudes. • Eskom Tx's consent does not relieve the applicant from obtaining the necessary statutory, landowner or municipal approvals. • The applicant will adhere to all relevant environmental legislation. Any cost incurred by Eskom as a result of non-compliance will be charged to the applicant. • All work within Eskom servitude area shall comply with the relevant earthing standards in force at the time. This will also apply to steel fencing and palisading that may be erected in the future.	Ongoing	Authorisation holder

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			• No construction of excavation work shall be executed within 20 meters from any Eskom powerline structure. • If Eskom TX has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the applicants activities or because of the presence of his equipment or installation within the servitude restriction area, the applicant shall pay such costs to Eskom Tx on demand. • The use of explosives of any type within 500m of the Eskom Tx's services shall only occur with Eskom Tx's previous written permission. If such permission is granted, the applicant must give at least 14 working days prior notice of the commencement of blasting. This allows time for the arrangements to be made for supervision and/precautionary instructions to be issued in terms of the blasting process. It is advisable to make application separately in this regard. • Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilized so as to prevent erosion. The measures shall be to Eskom Tx's requirements. • Eskom Tx shall not be liable for the death or of injury to any person or for the loss or damage to any property whether as a result of the encroachment or the use of the servitude area by the applicant, his/her agent, contractors, employees, successors in title and assignee. The applicant indemnifies Eskom Tx against loss, claims or damages including claims pertaining to consequential damages by 3rd parties and whether as a result of damage to or interruption of or interference with Eskom Tx's services or apparatus or otherwise. Eskom Tx will not held responsible for damage to the applicant's equipment. • No mechanical equipment including mechanical excavators or high lifting machinery shall be used in the vicinity of Eskom Tx's apparatus and/or services without prior written permission have been granted by Eskom Tx. If such permission is granted, the applicant must give at least 7 working day's notice prior to the commencement of work. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued by the Lines and Servitudes Manager. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued. • Eskom Tx's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered		

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
			with. Note: Where an electrical outage is required, at least 14 work days will be required to arrange it. • Under no circumstances shall rubble, earth or other material be dumped within the servitude restriction area. The applicant shall maintain the area concerned to Eskom Tx's satisfaction. The applicant shall be liable to Eskom Tx for the cost of any remedial action which has to be carried out by Eskom Tx. • The clearances between Eskom Tx's live electrical equipment and the proposed construction worm shall be observed as stipulated by Regulation 19 of Electrical Machinery Regulations 2011 (with Reference to SANS10280-1) of the Occupational Health and Safety Act, 1993 (Act 85 of 1993). • Equipment shall be regarded as electrically live and therefore dangerous at all times. • In spite of restrictions stipulated by Regulation 15 of Regulation 19 of Electrical Machinery Regulations 2011 of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as an additional safety precaution, Eskom Tx will not approve the erection of houses or structures occupied or frequented by human beings under the powerlines or within the servitude restriction area. • Eskom Tx may stipulate any additional requirements to eliminate any possible exposure to Customers or Public coming into contact or exposed to any dangers of the Eskom Tx plant. • It is required of the applicant to familiarize himself with all safety hazards related to electrical plant. • The individual title deeds of those erven (areas of open space) must be made subject to the Notarial Deeds registered in favor of Eskom Tx. • An application should be submitted to this office before the commencement of any work on the site for approval within the servitude area.		
Health and safety	General operational activities	Minimise potential impacts/incidents	• 24-hour security and access control.	Ongoing	Authorisation holder

Potential Impact	Project Activities	Management Objective	Proposed Mitigation Measures/Management Actions	Frequency	Institutional Responsibility
SOCIAL					
Safety and security	General operational activities	Minimal safety and security issues.	• 24-hour access control to the site and 24-hour security.	Ongoing	Authorisation holder
Traffic Disruptions	General operational activities	Minimal traffic disturbances related to the operation of the dealership.	• Road access as discussed in the Traffic Impact Assessment to be implemented.	Ongoing	Authorisation holder
Decline/increase in economy	Supplier selection	Preferential use of local contractors and suppliers.	• Local contractors and suppliers to be used during the construction phase as far as possible.	Ongoing	Authorisation holder
Employment	Employment of permanent staff	Proper management of labour force is undertaken to ensure that there is optimal use of local labourers and local contractors.	• Wherever possible labour, materials and services must be sourced locally.	Ongoing	Authorisation holder