

DRAFT SCOPING REPORT

PROPOSED HIGHLANDS ESTATE EXTENSION 10 TOWNSHIP

**SITUATED ON PART OF PORTION 129 OF THE FARM KLIPFONTEIN 12 IR,
PART OF THE REMAINDER OF PORTION 123 OF THE FARM KLIPFONTEIN 12-
IR AND PART OF THE REMAINDER OF THE FARM LONGMEDOW 296 IR-
GAUTENG PROVINCE.**

REFERENCE: GAUT 002/25-26/E0267



Prepared for:



**Prepared By: Amukelani Khosa
Reviewed By: Pirate Ncube**

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TABLE OF CONTENTS

1	INTRODUCTION	5
1.1	Overview of the Scoping Phase.....	5
1.2	Project Overview.....	5
1.3	Site Location and Context	5
1.4	Property Description	7
1.5	Details of the applicant	7
1.6	Details of the EAP.....	7
1.7	Overview of the application process	8
1.8	Objectives of the Scoping Process	8
1.9	Environmental Impact Assessment Report Phase	9
2	ACTIVITY DETAILS AND MOTIVATION	10
2.1	Details of the Proposed Activity.....	10
2.2	Proposed Layout Plan	10
2.3	Engineering Services	12
2.3.1	Water services.....	12
2.3.2	Sewer services.....	13
2.4	Roads and Traffic	14
2.4.1	Access Roads	14
2.4.2	Access throat length requirements.....	14
2.5	Electricity Supply.....	15
2.6	Listed Activities Triggered	16
2.7	Motivation for the proposed activity.....	18
2.7.1	Need and Desirability.....	18
2.8	Description of Alternatives	31
2.8.1	Input alternatives.....	31
2.8.2	Activity alternatives	31
2.8.3	Layout alternatives.....	31
2.8.4	Location alternatives.....	32
2.8.5	Demand alternatives.....	32
2.8.6	Status quo/No-go alternatives.....	32
3	LEGISLATIVE AND POLICY CONTEXT	33
3.1	The Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996)	33
3.2	The National Environmental Management Act, 1998 (Act No. 107 of 1998).....	33
3.3	National Environmental Management: Waste Act, 2008 (Act No 59 of 2008).....	34
3.4	The National Environmental Management: Biodiversity Act (Act 10 of 2004)	34
3.5	The National Water Act, 1998 (Act No. 36 of 1998)	34
3.6	The National Heritage Resources Act, 1999 (Act 25 of 1999).....	35
3.7	Climate Change Act, 2024	36
3.8	National Climate Change Adaptation Strategy (NCCAS) – 2019	36
3.9	The Gauteng Provincial Environmental Management Framework, 2015	37
3.10	Gauteng Climate Change Response Strategy.....	37
3.11	City of Johannesburg Spatial Development Framework 2040.....	37
3.12	The Greater Highlands Development Framework	37
4	DESCRIPTION OF THE RECEIVING ENVIRONMENT.....	38
4.1	Physical Environment.....	38
4.1.1	Climate	38

4.1.2	Air quality	39
4.1.3	Noise	39
4.1.4	Topography	39
4.1.5	Geology and Soils	39
4.1.6	Surface water	39
4.2	Biological Environment	40
4.2.1	Terrestrial ecology	40
4.2.2	Biome	41
4.2.3	Vegetation Type	41
4.2.4	Habitat delineation	41
4.2.5	Plant species of conservation concern.....	43
4.2.6	Faunal species of conservation concern	43
4.2.7	Habitat sensitivity	45
4.3	Human Environment	46
4.3.1	Socio-economic context.....	46
4.3.2	Heritage Impact.....	47
4.3.3	Visual aspects.....	48
4.3.4	Historic Contamination, Decontamination and Regulatory Closure.....	48
5	ASSESSMENT METHODOLOGY AND ASSESSMENT OF IMPACTS	50
5.1	Description of nature and scale of impacts	50
5.2	Criteria for rating of impacts.....	51
5.3	Preliminary issues and environmental sensitivities	51
5.4	Preliminary assessment of anticipated Impacts	52
6	PUBLIC PARTICIPATION PROCESS	59
6.1	Objectives of The Public Participation	59
6.2	Identification of I&APs	59
6.3	Notification process	59
6.4	Register of I&APs.....	59
6.5	Public Participation During Scoping Phase	60
6.6	Competent authority's decision on the scoping report.....	60
7	PLAN OF STUDY FOR EIA.....	61
7.1	Objectives of the EIA process.....	61
7.2	Key tasks during the EIR phase	61
7.3	Specialist studies for the EIR	62
7.3.1	Ecological Assessment	62
7.3.2	Wetland delineation and assessment.....	63
7.3.3	Visual Impact Assessment.....	64
7.3.4	Air quality study	65
7.3.5	Noise impact assessment.....	65
7.3.6	Land Contamination and Management	65
7.3.7	Bulk Services	66
7.3.8	Town Planning application.....	66
7.3.9	Geotechnical report	66
7.3.10	Traffic Impact Assessment (TIA).....	66
7.3.11	Cultural and Heritage Resources.....	66
7.3.12	Electricity infrastructure services.....	66
7.4	Impact Assessment Methodology.....	66
7.5	Public participation during the EIR phase	66

7.5.1	Notification of Interested and Affected Parties.....	66
7.5.2	Written Correspondence from IAPs.....	67
7.5.3	Issues and Concerns.....	67
7.6	Gauteng Department of Environment decision on the application	67
8	SUMMARY AND CONCLUSION	68
9	EAP DECLARATION AND UNDERTAKING.....	69
10	REFERENCES	70

LIST OF FIGURES

Figure 1: Locality Map of the Development Area	6
Figure 2: Preferred layout.....	11
Figure 5: Main and sub catchments identified in the Highlands Precinct.....	Error! Bookmark not defined.
Figure 6: Water Supply Zones	12
Figure 8: Sewer Drainage	13
Figure 10: Proposed roads and access points.....	15
Figure 11: Minimum, Maximum, and average temperatures of study area.....	38
Figure 12: Image showing wetlands of the area	40
Figure 13: Precinct and vegetation type (Mucina & Rutherford, 2006)	41
Figure 14: Precinct area in relation to the vegetation type (Mucina and Rutherford, 2006).....	42
Figure 15: Overall habitat sensitivity	45
Figure 16: Provisions of the COJ SDF 2010	46
Figure 17: Highlands Precinct Framework Plan.....	47

LIST OF TABLES

Table 1: SG 21 Digit Code.....	7
Table 2: Details of the applicant	7
Table 3: Details of the EAP.....	7
Table 4:: Summary of Proposed Rights.....	10
Table 5: List of Activities Triggered	16
Table 6: Need and Desirability	19
Table 7: Fauna SCC previously recorded within the 2628AA QDS.....	43
Table 8: Nature, extent, duration, probability and significance of impact.....	50
Table 9: Criteria for rating of impacts.....	51
Table 10: Preliminary quantification of impacts during the construction phase	52
Table 11: Preliminary quantification of impacts during the operation phase.....	56

LIST OF APPENDICES

Appendix 1: Locality Map.....	73
Appendix 2: Layout Plan	74
Appendix 3: Public Participation Information.....	75

1 INTRODUCTION

1.1 Overview of the Scoping Phase

The scoping phase is the preliminary stage of a full Environmental Impact Assessment (EIA) for higher-risk activities listed in Listing Notice 2 under South Africa's EIA Regulations. It sets the groundwork by defining what must be studied, how and by whom, before embarking on the detailed EIA.

The main purpose of this Scoping Report is, among others, to:

- Identify the activity and any feasible and reasonable alternatives.
- Identify environmental aspects that may be affected.
- Identify studies to be undertaken to inform the application
- Record the public participation process and concerns raised by interested and affected parties.
- Provide a Plan of Study for the full EIA.

The Scoping Report has been made available to all Interested and Affected Parties (I&APs), Organs of State and other stakeholders for a 30-day review period as per the provisions of the relevant NEMA EIA Regulations. All comments submitted or received during the review period will be addressed and incorporated in a detailed Comments and Responses Report which will be included as an Appendix of the Final Scoping Report, to be submitted to the Gauteng Department of Environment (GDEnv), the Competent Authority (CA), for consideration.

The sections below provide background information, including details about the applicant, the Environmental Assessment Practitioner (EAP), the proposed activity, and maps out the application process to be followed for full compliance with the provisions of the EIA Regulations, 2014, as amended.

1.2 Project Overview

Taroko Development (Pty) Ltd proposes the establishment of a comprehensive sporting and hospitality precinct. The envisioned development will encompass horseracing facilities, a Sport and Recreation Club, a wellness centre, retail shops, a hotel, casino, restaurant, offices, access roads and streets, as well as associated infrastructure. The precinct is intended to create an integrated environment catering to a variety of sporting, recreational, wellness, commercial, and hospitality needs. This development will be consolidated with Highlands Extension 9, resulting in the formation of Highlands Extension 11.

The Taroko City/Modderfontein site is recognised as a centrally located area offering substantial greenfield and brownfield land suitable for establishing this facility. Its position facilitates potential integration with adjacent developments in the future.

1.3 Site Location and Context

At a regional scale, the subject property is within the northeastern section of the City of Johannesburg. It enjoys connectivity between the four major metropolitan areas of the region, i.e., Midrand, Pretoria, Johannesburg and Ekurhuleni. In addition, the site lies in proximity to major regional assets such as O.R. Tambo International Airport, and the Sandton CBD, a major commercial hub located approximately 9km southwest of the site. Regional road connections serve it with ease of access to the M1, N3 and N1, which connect it with neighbouring centres and major nodes such as Kyalami, Centurion, Alexandra, Johannesburg Central and Boksburg/Benoni nodes. It also benefits from or is poised to benefit from current and future expansions in public transport provision, both through the City of Johannesburg's Integrated Transport Network plans, as well as through the Provincially led Gautrain Rail Service.

The site is situated south of the established suburbs of Jukskei View, within the functional administrative and planning Region E. The surrounding environment features a range of development types and land uses, including both residential and light industrial or commercial activities concentrated in the Longlake area. Linbro Park, located to the southwest, is undergoing rapid transformation, with many small holdings being converted into light industrial sites or multi-unit housing developments. On the southern side, extensive greenfield areas remain, representing potentially unique opportunities for future development. This context continues to evolve, particularly given the development planned within the Modderfontein Precinct—which is expected to have a substantial impact on the future trajectory of the area.

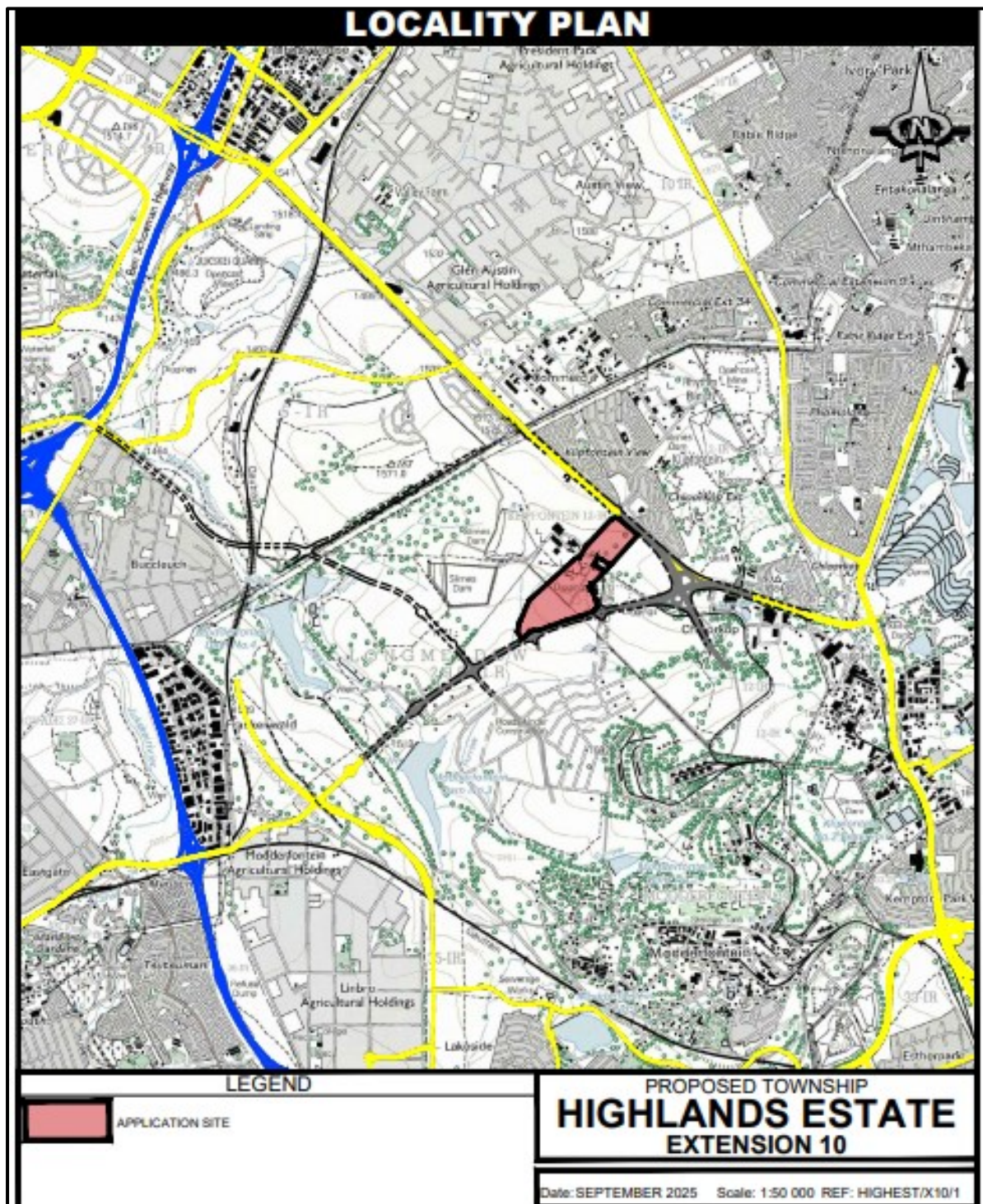


Figure 1: Locality Map of the Development Area

The sporting and hospitality precinct will be connected to surrounding neighbourhoods through significant local connectors like Marlboro Drive and the potential extension of Maxwell Drive. Surrounding developments include diverse residential areas. The Linbro Park Agricultural Holdings host middle to higher income rural residential community, Buccleuch host middle to higher income residential communities, Marlboro Gardens and Kelvin host middle to lower income communities, Klipfontein View and Chloorkop to the east host lower-income communities and Far Bank East and Alexandra to the southwest host lower-income communities.

Part of the site's northern portion has environmental authorisations allowing for mixed use development that includes residential; office; commercial; industrial; educational, retail, advertisement boards, and associated service infrastructure as well as open space.

1.4 Property Description

The development site is situated on Part of Portion 129 of the Farm Klipfontein 12 IR, part of the Remainder of portion 123 of the farm Klipfontein 12-IR and part of the remainder of the Farm Longmedow 296 IR, which fall within the jurisdiction of the City of Johannesburg Metropolitan Municipality. The table below shows the SG 21 Digit Codes of the affected properties.

Table 1: SG 21 Digit Code

T	0	I	R	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	9
T	0	I	R	0	0	0	0	0	0	0	0	0	1	2	0	0	1	2	3
T	0	I	R	0	0	0	0	0	0	0	0	2	9	6	0	0	0	0	0

1.5 Details of the applicant

Taroko Development (Pty) Ltd is an established South African company located in Centurion, Gauteng, recognized for its solid business presence and real estate developments. Further details are provided in the table below

Table 2: Details of the applicant

Aspect	Details
Applicant	Taroko Development (Pty) Ltd
Representative	Mr Johann Jordaan
Designation	Project Manager
Physical address	11 Bylsbridge Boulevard Building 14, Block C, 2nd Floor, Highveld, Centurion
Postal address	PO Box 39727, Faerie Glen, 0043
Telephone	012 676 8510
Email address	Johann.jordaan@m-t.co.za

1.6 Details of the EAP

To comply with the requirements of the NEMA EIA Regulations, 2014 as amended, the applicant appointed Nali Sustainability Solutions (Pty) Ltd, independent Environmental Assessment Practitioners (EAP), to carry out and manage the application for the Environmental Authorisation for the proposed development.

Table 3: Details of the EAP

Aspect	Details
Name	Nali Sustainability Solutions (Pty) Ltd
Lead EAP	Mr Pirate Ncube: Reg: EAPASA 2020/1681
Physical Address	65 Country Club Drive, Irene Farm Villages, Centurion, 0157
Postal Address	P Bag X1, Stand 1829, Irene Farm Villages, Centurion, 0157
Contact details	Tel: 0824517120; Email:pirate@nalisustainability.co.za

Expertise/experience	Registered Environmental Assessment Practitioner with more than 34 years' experience in land use, spatial planning, and environmental management. In-depth knowledge in Strategic Environmental Assessments, Environmental Impact Assessments, Environmental Due Diligence, Compliance Monitoring and Reporting. Has served in various decision-making bodies including the DFA Tribunal, Environmental Advisory Committee and the Gauteng MEC Appeals Advisory Panel. Qualified Town Planner with master's in Real Estate and an MBA.
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1.7 Overview of the application process

The environmental assessment process is being undertaken in two phases, namely:

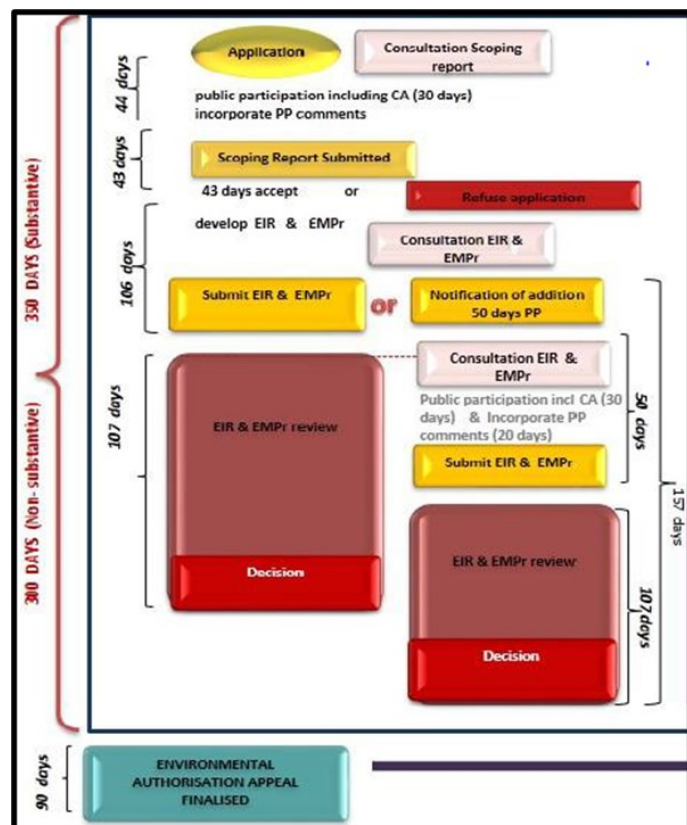
- Environmental Scoping Process includes mapping the process, notification of the I&AP and commissioning of specialists' studies. This particular report details the outcome of this process, and

- The Environmental Impact Assessment phase resulting in the EIAR as well as an Environmental Management Programme (EMPr). The EMPr will provide mitigation and management measures for the planning and construction phase of the proposed project.

1.8 Objectives of the Scoping Process

The Scoping Phase determines the parameters (both spatial and temporal boundaries) for the subject EIA. The process aims to:

- Identify the relevant policies and legislation relevant to the activity;
- Motivate the need and desirability of the proposed activity;
- Identify and confirm the preferred activity and technology alternative through an impact and risk assessment and ranking process;
- Identify and confirm the preferred site through a site selection process, which includes an impact and risk assessment process, inclusive of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;
- Identify the key issues to be addressed in the assessment phase.
- Agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required, as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the site, and
- Identify suitable measures to avoid, manage or mitigate impacts and to determine the extent of the residual risks that need to be managed and monitored.



This is achieved through parallel initiatives of consulting with:

- a) The lead authorities involved in the decision-making relative to the EIA application;
- b) The public to ensure that local issues are well understood; and
- c) The EIA specialist team to ensure that technical issues are identified.

1.9 Environmental Impact Assessment Report Phase

The EIAR will discuss the proposed activity's effects on the environment, forecast the significant impacts likely to result from the implementation of the activity; evaluate alternatives; and identify and evaluate the effectiveness of mitigation measures. An Environmental Management Programme will also be developed.

The draft EIAR will be made available to registered I&APs, including the competent authority, to review and comment for a period of 30 days. Once the comments have been collated, responded to, and integrated into the final EIAR, the report will be submitted to GDEnv for consideration and decision making.

2 ACTIVITY DETAILS AND MOTIVATION

This section provides details of the proposed activity and associated infrastructure, as well as motivation for the proposed development.

2.1 Details of the Proposed Activity

The purpose of this application is to obtain environmental authorisation for the proposed Horseracing Facility, Sport and Recreation Club, Wellness Centre, Shops, Hotel, Casino, Restaurant, Offices and Private Access / Street. This development will be consolidated with Highlands Extension 9 to form Highlands Extension 11.

Table 4:: Summary of Proposed Rights

USE ZONE	Special
Storeys/Height In Metres	Height Zone A (3 Storeys)
Proposed uses	Specific components of the development will include the following: • Horseracing Facility, • Sport and Recreation Club, • Wellness Centre, Shops, • Hotel, • Casino, • Restaurant, • Offices and Private Access / Street.

ERVEN	ZONING AND LAND USES	SIZES(Ha)
1	Special (Horseracing Facility, Sport and Recreation Club, Wellness Centre, Shops, Hotel, Casino, Restaurant, Offices and Private Access / Street)	45, 6456
2	Private Open Space	5,2342
Total		50,8798

2.2 Proposed Layout Plan

The draft layout has been guided by the development constraints and opportunities presented by the site. Included among these were the shape of the land, the nature of adjacent land uses, the need for efficiency in land allocation in relation to intended use, infrastructure services, specialist and engineering recommendations, the wetland areas, as well as future roads.

The development of the layout plan has gone through various iterations to arrive at the options that have been evaluated. While several layout alternatives were considered, the following options were deemed most feasible.

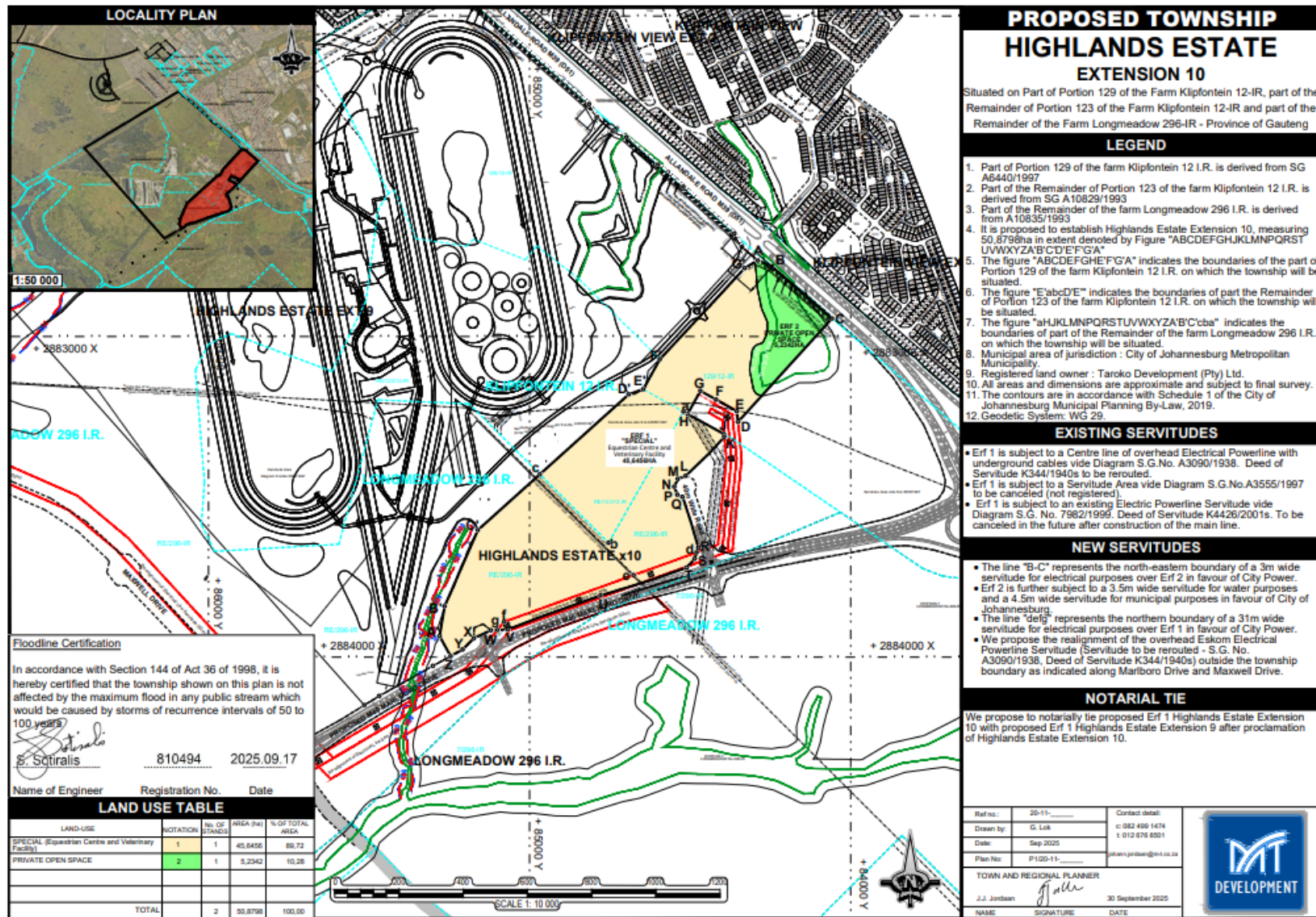


Figure 2: Preferred layout.

2.3 Engineering Services

Sotiralis Consulting Engineers (Pty) Ltd were appointed to prepare an Outline Scheme Report to address water and sanitation provision to the township. This section provides an overview of existing infrastructure services and addresses how inadequacies will be dealt with to support the development.

2.3.1 Water services

As the proposed activity is located on predominately greenfield/undeveloped land, link and bulk infrastructure need to be brought to the development boundary. The water infrastructure required for the project is proposed in accordance with Johannesburg Water's master planning principles. The planning of the infrastructure roll-out is based on the optimisation of existing capacities in bulk infrastructure to create project momentum and facilitate the unlocking of subsequent portions of the development.

There is an existing 315mm Ø municipal bulk water pipeline located along the north-western boundary of Highlands Extension 9 on the Mastiff Road, road reserve. There is also a 200mm Ø municipal water pipeline along the southern side of Allandale Road up to the northeastern boundary of the proposed township.

It has been indicated in the discussions with the municipality that a new bulk water supply line was constructed, and completed, along the north-eastern boundary of the proposed township. The bulk pipeline ranging from a 650mm Ø mPVC Class 16, 550mm Ø mPVC Class 16 down to a 315mm Ø HDPE pipe. Two connection points were provided for the previous Highlands Estate Ext. 7 & 8 and 6 townships to the north-east and north-west along the Allandale Road reserve.

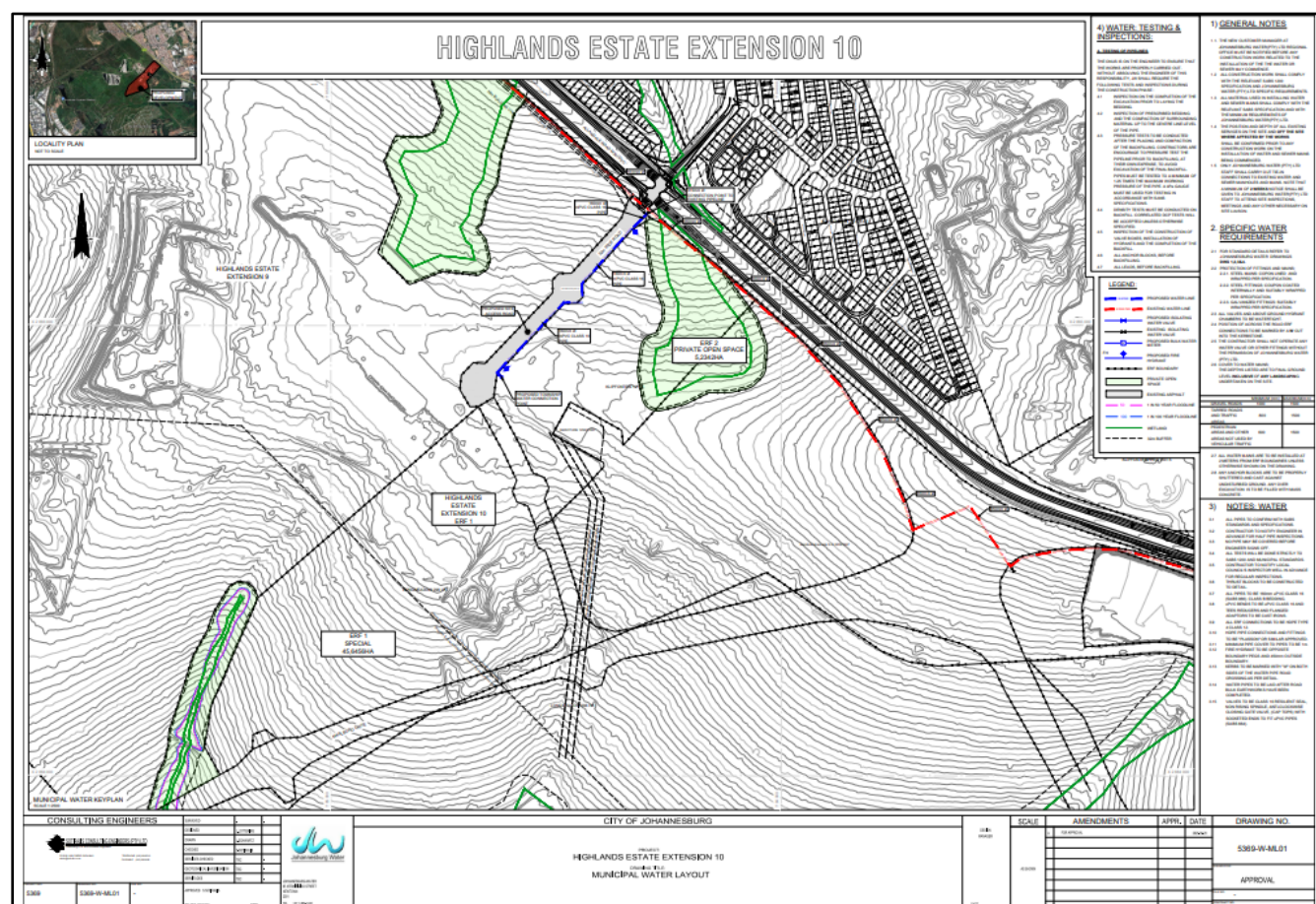


Figure 3: Water Supply Zones

As required by the Municipal master plan (precinct plan), a new 900mmØ municipal bulk water pipeline was installed from an existing Rand Water pipeline to the north-east of the existing Chloorkop Reservoir, and to

the north-east of the proposed development along the northern side of Marsala Road. This new bulk water connection and pipeline will in future provide water to the proposed new Heartland North High-Level Reservoir ($\pm 24\text{ML}$) and Heartland Tower (2.45ML).

Taking note that the GLS report, dated May 2015 for Highlands Estate X5 and X6 was compiled with the considering the provisions of the precinct plan, the proposed land-uses for Highlands Extension 10 will be considerably less than previously planned for. The sizing of the Heartland North High-Level Reservoir and Heartland Tower and Heartland North Low-Level Reservoirs should be revisited and updated to reflect the currently planned land-uses. Further to the Heartland North High-Level Reservoir and Heartland Tower a Heartland North Low-Level Reservoir is proposed which will be fed from the Heartland North High-Level Reservoir.

2.3.2 Sewer services

The proposed township will be serviced by two sewer drainage zones- the Northern Outfall Sewer and the Eastern Outfall Sewer.

Northern Outfall Sewer: The north-eastern portion of the proposed township will be drained via the Northern Outfall Sewer. The proposed route of the new outfall sewerage pipeline was determined and designed as part of the previous townships of Highlands Estate Ext.5, 6, 7 and 8. For the proposed township the exact same route will be applied. A proposed new 160mm $\varnothing$ external municipal sewer pipeline will be installed on behalf of the municipality and will drain towards the existing 450mm $\varnothing$ municipal outfall sewer pipeline is located to the north and north-east of the proposed township. A portion of the proposed pipeline will be installed as part the proposed new Highlands Estate Ext.9.

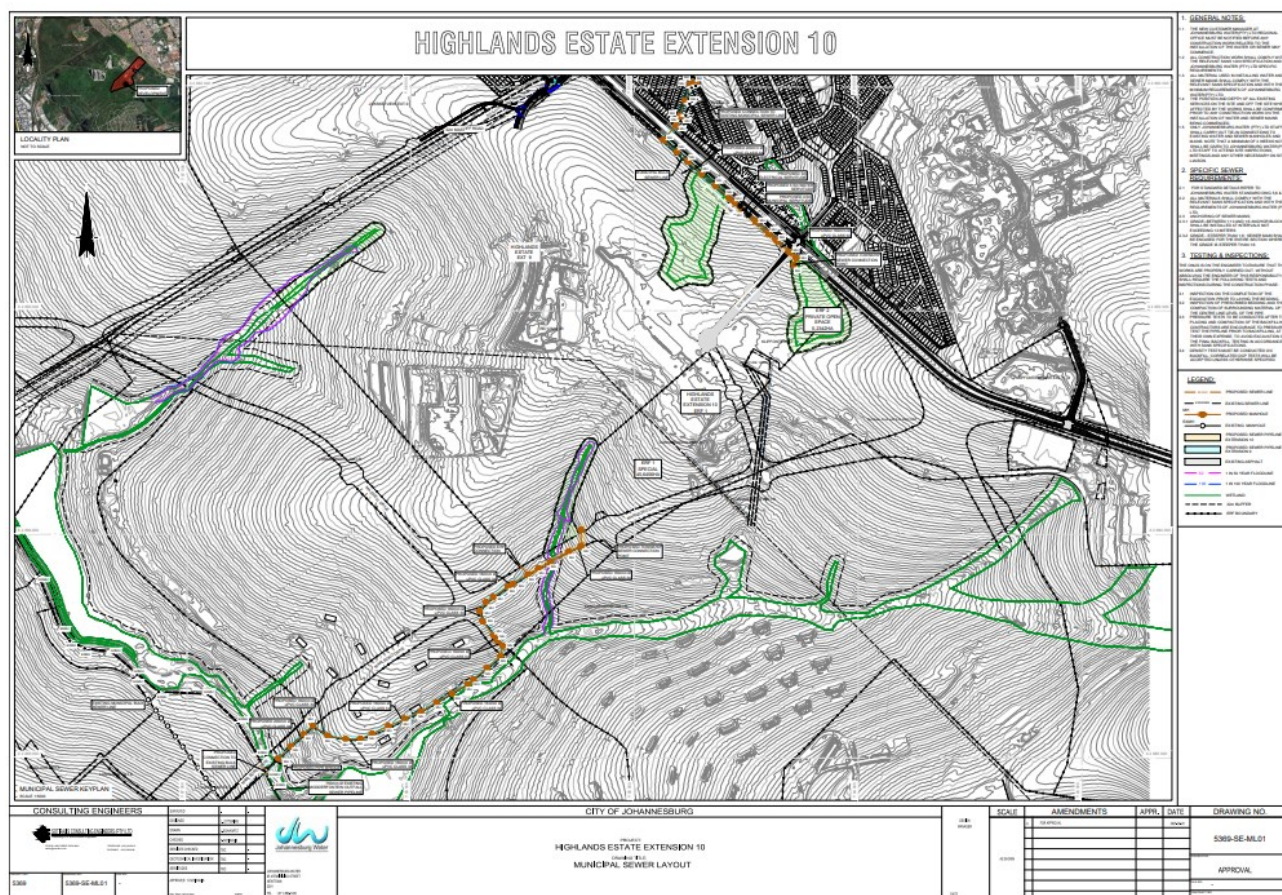


Figure 4: Sewer Drainage

Eastern Outfall Sewer: The eastern and south-eastern portion of the proposed township will drain south-east via a proposed new outfall sewerage pipeline. The proposed pipeline of 160mm to 250mm diameter in size with of approximate length of 1820m will connect into the existing 750mm diameter Modderfontein outfall gravity sewer line. The pipeline will extend from the south-western corner of the proposed township along and existing wetland area and tributary to the Modderfontein Spruit. This pipeline will cross over the dam wall of the existing lake within the Modderfontein Nature Reserve. Sections of the pipeline might require a pipe bridge to be constructed to cross the Modderfontein Spruit.

2.4 Roads and Traffic

Via P Consulting (Pty) Ltd were requested by M&T Development (Pty) Ltd to undertake a Traffic Impact Assessment (TIA) in support of the proposed equestrian centre to be situated on Part of the Portion 129 of the Farm Klipfontein 12-IR, Part of Remainder of Portion 123 of the Farm Klipfontein 12-IR and Part of the Remainder of the Farm Longmeadow 296-IR. The township name is known as Highlands Estate Extension 10. The proposed equestrian centre and veterinary centre is not a standalone facility, but an ancillary land use meant to solely service a horse racecourse planned on an adjacent property; namely, Highlands Estate Extension 9.

2.4.1 Access Roads

As for the access to the property, the proposed development is planned to take access off the existing Class 4 Road bounding the site to the west, namely, Kynoch Road. Access off Kynoch Road, a Class 4a Road, will comply with the minimum access spacing requirement of 150m measured from the centre line of Allandale Road.

2.4.2 Access throat length requirements

According to TMH 16 Volume 2 South African Traffic Impact and Site Impact Assessment Standards and Requirements Manual Access, the following throat length requirements will apply at the proposed controlled site access point, given the functional and classification of Kynoch Road;

- Ingress throat length → 25m (measured from the road reserve boundary to the nearest edge of a crossroad or boom gate)
- Egress throat length → 15m.

It is recommended that these access throat length requirements be complied with to ensure adequate stacking space, in support of this application.

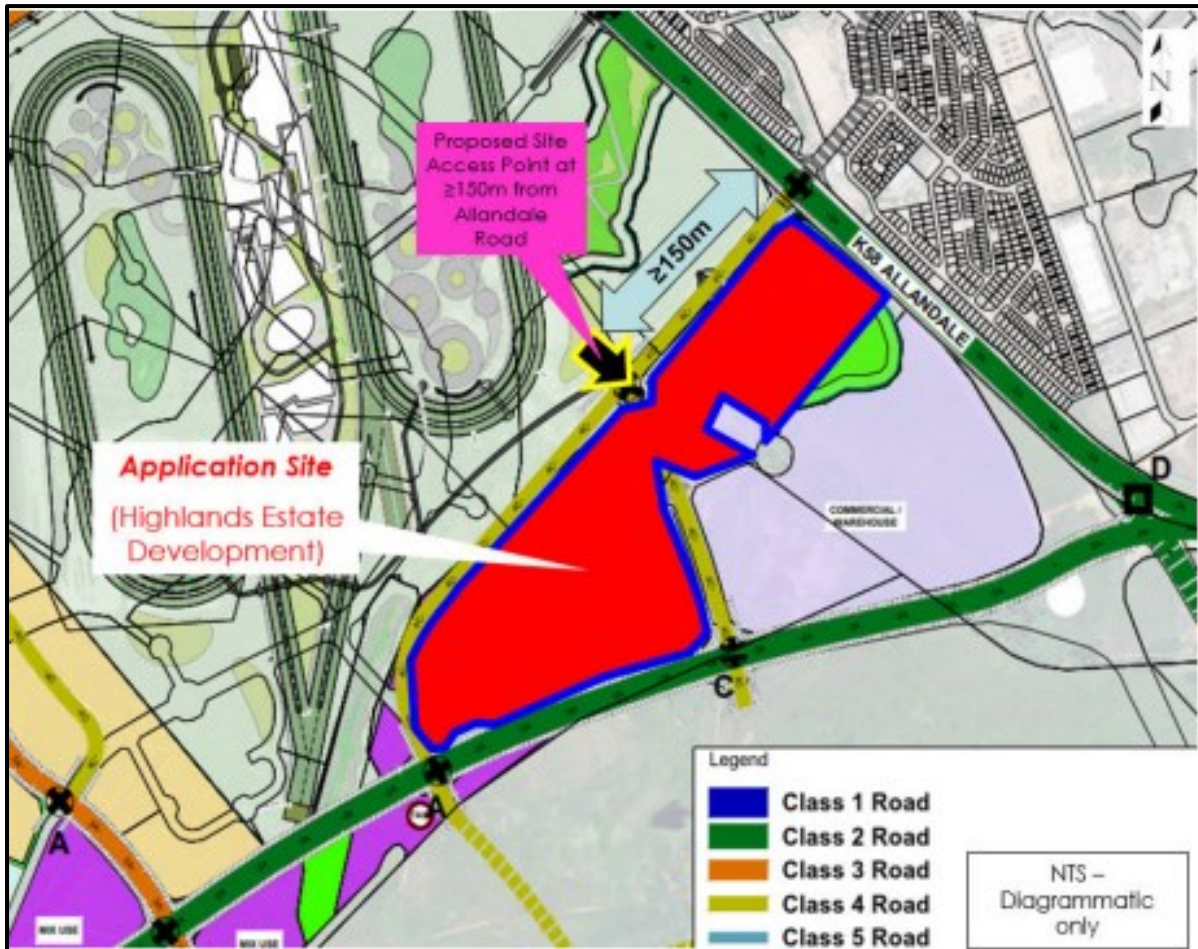


Figure 5: Proposed roads and access points

2.5 Electricity Supply

Pienaar Erwee Electrical Engineers were appointed to analyse and produce an electrical engineering report for the proposed township. According to the report, the Total Authorised Capacity for the development will be 2191 kVA according to City Power specifications, this value would be used for the kVA to be subtracted in terms of the MOA. In terms of the rights applied for, this development will experience a large diversification due to the different uses and the total demand at substation level would be in the region of 1,300 kVA when fully developed.

According to the approved master plan, this development falls within the supply area of the Klipfontein View substation, which is currently equipped with two 132kV switch bays operated at 44kV. Eskom currently supplies the substation via the existing 44kV line from Northrand DS, fitted with one 10MVA transformer. The present load on Klipfontein View, confirmed by City Power, is approximately 8 000kVA. Due to problems experienced with the supply, no additional capacity would be available at the present Klipfontein View substation.

The Klipfontein View substation is intended to be constructed as a 90MVA firm substation in terms of the master plan. To commence construction of Phase 1 of the substation would result in a high initial capital cost, making it unfeasible. Currently, the closest other primary substation with available capacity is the Longlake Primary substation situated approximately 3km to the southwest of Klipfontein View substation.

The previous master plan allowed for high consumption developments more than 50MVA and therefore the upgrading of the present Klipfontein View substation was allowed for. With this low estimated capacity

required for this horse racing facility to be established over such a large area and within 1km from Longlake substation it is a better option to supply this development from the present Longlake substation.

It is therefore recommended that this development be supplied by means of a three-legged 11kV ring consisting of 300mm², 3-core, Al XLPE cables with firm (N-1) capacity of 12.6 MVA. However, at Longlake substation, the next bay of 11kV switchgear, with its associated building, would need to be constructed to allow for the additional 11kV cables to be connected. Capacity is available at Longlake substation, as this 45 MVA firm substation has registered a maximum demand of approximately 5.7 MVA in 2022.

A service agreement will be concluded between the Developer and City Power whereby the details of the Bulk supply service to be installed and the handling of the bulk contributions will be defined. This will all be treated in terms of the existing MOA between the Developer and City Power.

2.6 Listed Activities Triggered

In terms of the NEMA EIA Regulations of 2014, as amended, the listed activities triggered by the proposed development are presented in the table below.

Table 5: List of Activities Triggered

Activity Number	Listed Activity Description	Description of the portion of the proposed project to which the applicable listed activity relates
GN R327 (Listing Notice 1)		
9	The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or storm water — (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more; excluding where — (a) such infrastructure is for bulk transportation of water or storm water or storm water drainage inside a road reserve or railway line reserve; or (b) where such development will occur within an urban area.	Bulk infrastructure for the transportation of water and stormwater, exceeding 1km outside an urban area, is proposed for the townships. The infrastructure will have an internal diameter of more than 0,36m.
12	The development of- (ii) infrastructure or structures with a physical footprint of 100 square metres or more —where such development (a)within a watercourse; (b)in front of a development setback; or (c)if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse	The proposed development will include the development of a reservoir with a physical footprint of 100 square meter and more.
13	The development of facilities or infrastructure for the off-stream of water, including dams and reservoirs, with a combined capacity of 50 000 cubic meters or more, unless such storage falls within the ambit of activity 16 in Listing Notice 2 of 2014.	The proposed development will include the development of a reservoir
19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse but excluding where such infilling, depositing, dredging, excavation, removal or moving- a)....;	The proposed development will include infrastructure services and structures that will entail the excavation, removal and relocation of more than 10m ³ of soil, sand, pebbles, or rock from the watercourses on site.

Activity Number	Listed Activity Description	Description of the portion of the proposed project to which the applicable listed activity relates
	or e)....	The proposed project may also involve infilling more than 10 m ³ of material into the watercourses.
26	Residential, retail, recreational, tourism, commercial or institutional developments of 1 000 square metres or more, on land previously used for mining or heavy industrial purposes; — excluding — (i) where such land has been remediated in terms of part 8 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; or (ii) where an environmental authorisation has been obtained for the decommissioning of such a mine or industry in terms of this Notice or any previous NEMA notice; or (iii) where a closure certificate has been issued in terms of section 43 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) for such land.	The recreational and tourism facility will be developed on land that was previously used for industrial purposes.
GN R325 (Listing Notice 2)		
Activity 15	The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for — (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	The proposed Highlands Estate Extension 10 will lead to the clearance of an area of land exceeding 20ha in extent. As a result, it is possible that more than 20 ha of indigenous vegetation would be cleared for the establishment of this township.
GN R324 (Listing notice 3)		
6	The development of resorts, lodges, hotels, tourism or hospitality facilities that sleep 15 people or more.	As part of the complex, a hotel and other tourism facilities will be developed.
12	The clearance of an area of 300 square metres or more of Indigenous vegetation, except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. Gauteng i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; ii. Within Critical Biodiversity Areas or Ecological Support Areas identified in the Gauteng Conservation Plan or bioregional plans; or ...	Portions of the application site are demarcated as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs).

Activity Number	Listed Activity Description	Description of the portion of the proposed project to which the applicable listed activity relates
14	The development of— (i)...; or (ii)...infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs— (a)within a watercourse; (b)...; or (c)if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse. excluding ...	Stormwater infrastructure, sewer lines, water infrastructure, as well as roads, are proposed to cross or affect wetlands and streams

2.7 Motivation for the proposed activity

The rationale for the proposed development is addressed in terms of the need and desirability criteria outlined in Section 5 of the City of Johannesburg Metropolitan Municipality Spatial Planning and Land Use Management SPLUMA By-Law of 2016, as well as the guidelines published by the DFFE. The layout plan for the proposed development was developed through an inclusive and interdisciplinary approach, involving needs assessment, environmental evaluation, engineering expertise, and geotechnical analysis. Taking these factors into account, the motivation for the proposed development is presented, carefully aligning with the requirements and principles specified in the SPLUMA, 2013.

The most logical location for an international horse racetrack will therefore be to provide such a facility in Gauteng, close to the OR Tambo International Airport. Horse racing has the potential to play a vital role in the South African economy. Not only does the sport provide thousands of jobs for people both directly and indirectly involved in racing, but it also contributes to South Africa's GDP (Gross Domestic Product).

The proposed horse racetrack will be of international standards at a centralised location, close to national and higher-order routes. The property is situated along Allandale Road (K58), approximately 4,5km from the N1 Freeway and Allandale Road interchange, and therefore close to the Buccleuch Interchange (N1, N3 and M1 interchange). The N1 and N3 are national routes and probably the busiest linkages routes in South Africa, making the property highly accessible.

The Gauteng Department of Environment (GDEnv) has issued an Environmental Authorisation on 8 January 2013 (Ref No: Gaut 002/08-09/N0416) for the townships on a portion of the subject property.

The property contains traces of prior disturbance, as a portion of it was previously developed as the Kynoch factory. Operations on the sulphuric acid plant ceased in 1976, and the plant was demolished between 1979 and 1981. NNR cleared the affected site for the development of industrial and recreational use.

2.7.1 Need and Desirability

It is of paramount importance in the EIA Process to assess the need and desirability of the proposed project in line with the provisions of the Need and Desirability Guidelines published by the National Department of Environmental Affairs (DEA) (now operating as the Department of Forestry, Fisheries and Environment (DFFE)) in 2017. The guidelines list specific questions necessary to determine the need and desirability of proposed developments. The questions are in a checklist format, which is a valuable tool in addressing questions relating to the need and desirability of a project and assists in explaining that need and desirability in the provincial and local context. The need and desirability address the question of whether the activity is being proposed at the right time and in the right place.

Table 6: Need and Desirability

NEED	
Question	Response
1. How will this development (and its separate elements/aspects) impact on the ecological integrity of the area?	
How were the following ecological integrity considerations considered? - Threatened Ecosystems, - Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure, - Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs"), - Conservation targets, - Ecological drivers of the ecosystem, - Environmental Management Framework, - Spatial Development Framework, and - Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.).	A specialist assessment of the terrestrial and aquatic systems has been conducted. According to the specialist report: - Protected Areas: The study area is not located in a national protected area. - National Protected Areas Expansion Strategy (NPAES): The development will not interfere with the protected areas expansion strategy, as outlined in the NPAES spatial data of 2010. - Critical Biodiversity Areas (CBAs): Although certain pockets of land are identified as CBA, studies have confirmed that most of the site is degraded. According to the current layout, the sensitive areas are set aside as undevelopable and would be managed as open spaces. - Ecological Support Areas (ESAs): Based on the Gauteng Conservation Plan a major part of the site is classified as ESA significantly transformed. These areas have undergone significant transformation, and no species of conservation concern were found. - Freshwater Ecosystem Priority Area (FEPA): The watercourses found on and along the proposed development site are crucial, although significantly impacted by past activities, services, alien invasion, and erosion. These areas are largely incorporated into the CBAs and set aside. The specialists concluded that from an ecological point of view, the larger portion of the site has been significantly transformed and modified. As a result, the development will not detrimentally disrupt the broad-scale ecological processes such as dispersal, migration or the ability of fauna to respond to fluctuations in climate or other conditions. However, areas affected by watercourses and associated buffers and flood lines, including wetlands and streams retain some sensitivity and have been included in the open space system.

How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	Comprehensive assessments of both terrestrial and aquatic biodiversity were conducted, and the corresponding reports will be attached to the EIR. Based on the Ecological Assessment, the CBAs and highly sensitive features on site are set aside as undevelopable. The layout plan has set aside a minimum of 30m buffer from the wetlands, and 32m from the streams as sensitive areas. Measures to avoid, remedy, mitigate, and manage impacts will be included in the Environmental Management Programme (EMPr) that will be compiled during the EIA Phase and included in the EIA Report.
How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	With input from the specialist, the EIA team has identified ecologically sensitive areas as not suitable for development. Most of the proposed development site has experienced considerable disturbance due to human activities over time. In addition to designating sensitive areas as undevelopable, strategies to avoid, address, reduce, or manage biophysical impacts will be outlined in the EMPr, which will be prepared during the EIA Phase and included in the EIA Report submitted to the relevant authority.
What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether; what measures were explored to minimise, reuse and/or recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste?	Waste will primarily be produced during the construction, and possibly decommissioning, phases of the project. Daily waste will also be generated during operation and is expected to be collected by Pikitup. The EMPr, developed in the EIA Phase, will include measures for waste management. All site waste will be disposed of at a licensed landfill by an accredited provider.
How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	Since the site has been transformed or subjected to AECI activities, it is unlikely that any heritage resources are available on the site. Therefore, a desktop Heritage and Fossil Chance Find Protocol will be added to the EMPr.
How will this development use and/or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the	Ecological Assessments indicate that the proposed development is not expected to negatively affect natural resources. Strategies for avoiding, remedying, mitigating, or managing impacts on non-renewable natural resources will be

depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	incorporated into the EMPr, which will be prepared during the EIA Phase and included in the EIA Report.
How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system considering carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts? • Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e., de-materialised growth)? • Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational equity, and are there more important priorities for which the resources should be used (i.e., what are the opportunity costs of using these resources of the proposed development alternative?) • Do the proposed location, type and scale of development promote a reduced dependency on resources?	South Africa has been heavily dependent on coal as a source of electricity for decades. Due to the non-renewable nature of coal, which causes significant environmental degradation, there is a need to identify alternative resources that can promote sustainable energy sources and cleaner energy production mechanisms. The proposed project aims to incorporate the use of renewable energy sources and technologies, as well as designs that conserve energy and promote the utilisation of other renewable resources. The project will mainly rely on the supply of bulk services for its operations. With the high demand for investment and the creation of job opportunities in general, it is crucial to develop this area formally to meet these needs. The proposed project is a sustainable option as the site, which is predominantly transformed, is not environmentally sensitive and needs rehabilitation.
How were risk-averse and cautious approach applied in terms of ecological impacts?: • What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)? • What is the level of risk associated with the limits of current knowledge?	The precautionary approach has been adopted for this assessment, i.e., assuming the worst-case scenario will occur and then identifying best practices to mitigate or manage these impacts.

Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	
How will the ecological impacts result from this development impact people's environmental right in terms of the following: - Negative impacts: e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to avoid negative impacts firstly, but if avoidance is not possible, to minimise, manage and remedy negative impacts? - Positive impacts: e.g., improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts?	The Environmental Right as enshrined in the Constitution will not be impacted. The Public Participation Process, as required by law, will be conducted as stipulated. The project will not prevent access to resources or result in significant detrimental impacts. However, the project will support the development of the OR Tambo-Sandton corridor, which will lead to infrastructure development and improved amenities.
Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts (e.g., on livelihoods, loss of heritage site, opportunity costs, etc.)?	The site is part of the remaining open spaces in Gauteng. It provides for natural stormwater management areas (infiltration) and green lungs within the urban environment. However, the development will predominantly be an open area used for horse racing, suggesting that these services will not be lost as a result of the development.
Based on all of the above, how will this development positively or negatively impact on ecological integrity objectives / targets / considerations of the area?	With the information already available, the impact on ecological integrity is very low, considering the proposed development is located in an area that has been used for many years, and ecologically sensitive areas are being set aside with a minimum 30m buffer zone. All assessments undertaken for this project will be included in the EIA Report.
Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the "best practicable environmental option" in terms of ecological considerations?	Areas linked to the river systems and wetlands have been protected. The layout alternatives have been considered, and provisions have been made for environmentally sensitive areas.

Describe the positive and negative cumulative ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing and other planned developments in the area?	The development will result in additional job opportunities, increased recreational space, positive investment in the area, utilisation of areas already authorised for development, as well as the cleanup of an area affected by previous operations. However, the development will also result in the conversion of large tracts of open area into a formal township, additional loss of green area and possible foraging grounds for fauna.
2.1. What is the socio-economic context of the area, based on, amongst other considerations, the following impacts?	
The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area.	The development site falls within the Jurisdiction of the City of Johannesburg, located in an area where the city has adopted an Urban Development Framework.
Spatial priorities and desired spatial patterns (e.g., need for integration of segregated communities, need to upgrade informal settlements, need for densification, etc.).	The site is located within a development corridor, and therefore, its transformation is aligned with the municipality's spatial plans. The proposed project site is strategically located and planned in a manner that would address direct and practical social issues.
Spatial characteristics (e.g., existing land uses, planned land uses, cultural landscapes, etc.)	Although the site is currently vacant, it has a historical use for storing gypsum and has been impacted by the activities of the AEI facilities. Part of it is already authorised for development.
Municipal Economic Development Strategy ("LED Strategy").	The site is part of a UDF adopted by the municipality to facilitate the development of this area.
Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area? Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?	The development will provide a unique recreational node in Gauteng as well as facilitate economic development of the area.
How will this development address the specific physical, psychological,	The development will provide a unique recreational node in Gauteng as well as

developmental, cultural and social needs and interests of the relevant communities?	facilitate the development of the area.
Will the development result in equitable (intra- and inter-generational) impact distribution, in the short- and long term? Will the impact be socially and economically sustainable in the short- and long-term?	The development will provide a unique recreational node in Gauteng as well as facilitate the development of the area. The proposed development will remain relevant for many years to come.
2.5. In terms of location, describe how the placement of the proposed development will:	
Result in the creation of residential and employment opportunities near or integrated with each other.	The proposed development is aimed at providing residential and social, and employment opportunities. This development will accommodate a substantial number of people, and numerous job opportunities will be created during the construction and operational phases.
Reduce the need for transport of people and goods.	This development aligns with the principles of the corridors of freedom, where people are encouraged to live, work, and play in the same area. the provision of residential units, job opportunities, services and open spaces will reduce the need for transport.
Result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms of public transport).	This development is in line with the principles of the corridors of freedom, wherein people are encouraged to live, work, and play in the same area. the provision of residential units, job opportunities, services and open spaces will reduce the need for transport. With all the proposed road networks, public transport will be accessible. However, the need for frequent long-distance travel will be reduced as people will be able to walk around.
Compliment other uses in the area.	This development will be compatible with other land uses in the area, such as residential, cemeteries, roads, resorts, etc. The development will improve the infrastructure of the area and benefit from the existing ones.
Be in line with the planning for the area,	This area has been included in the urban development boundary.
For urban related development, make use of the underutilised land available with the urban edge,	This land is vacant and incorporated inside the urban edge. The land is even susceptible to land grabs and invasion,
Optimise the use of existing resources and infrastructure,	The Service report has indicated that this project will make use of the existing

	infrastructure where possible and upgrade or install where necessary.
Opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g., not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement),	The proposed development will make a significant contribution to the upgrading and expansion of bulk services infrastructure networks.
Discourage "urban sprawl" and contribute to compaction/densification,	The proposed development is aimed at addressing the shortage of residential units and job opportunities in Johannesburg and Gauteng in general.
Contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure more than current needs,	This development addressed the historically distorted spatial patterns of settlements and the optimum use of infrastructure directly. The people will be afforded an opportunity to reside and find jobs in their own areas.
Encourage environmentally sustainable land development practices and processes.	The development constitutes a sustainable land development practice, provided it is constructed and operated in an environmentally friendly manner.
Take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.).	This project is strategically located. It is easily accessible via different modes of transport, including road and rail. The airport is within a reasonable distance. This development will leverage the existing infrastructure.
The investment in the settlement or area in question will generate the highest socio-economic returns (i.e., an area with high economic potential).	The site's prominent location ensures high visibility and easy access, making it ideal for development. The project is expected to drive regional growth by creating thousands of jobs and generating notable economic benefits, emphasizing the strategic value of the site and its positive impact on the economy.
Impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area, and	The impact of the proposed project on cultural areas and heritage resources, as well as on the sense of place, has been assessed in the HIA and Visual Impact Assessment.
In terms of the nature, scale and location of the development, does it promote or act as a catalyst to create a more integrated settlement?	The proposed development forms part of the bigger Taroko development.
2.6. How was a risk-averse and cautious approach applied in terms of socio-economic impacts?	

What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?	This development proposal is the result of assessments and deliberations undertaken by various stakeholders over a period of time. While it is anticipated that the project will be a success, the market and industry specific dynamics cannot be confirmed until project is operational.
What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge?	A fair approach was adopted when planning this development, and various stakeholders were involved.
Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	The proposal considered various aspects of development and ensured that sensitivities and risks were mitigated accordingly.
2.7. How will the socio-economic impacts resulting from this development impact people's environmental rights in terms following:	
Negative impacts: e.g., health (e.g., HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative consequences, but if avoidance is not possible, to minimise, manage and remedy negative impacts?	This development is aimed at addressing social challenges, including the provision of residential units and job opportunities, as well as relevant amenities to improve the lifestyle in the area.
Positive impacts. What measures were taken to enhance positive impacts?	Amenities associated with residential development are being provided
Considering the linkages and dependencies between human wellbeing, livelihoods, and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socioeconomic impacts will result in ecological impacts (e.g., overutilisation of natural resources, etc.)?	This development will provide a well-planned and managed mixed development that is likely to improve the lifestyles of many with the amenities provided.
What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?	The transformed land was chosen, and the ecological sensitivities set aside.

What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)? Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?	The development was designed to be inclusive, ensuring that access to amenities and open spaces is available to all individuals. This approach helps prevent the unfair distribution of environmental impacts, particularly protecting vulnerable and disadvantaged groups. In terms of social equity and justice, the alternatives considered support the selection of the "best practicable environmental option" by promoting equal benefit and accessibility. At present, the identified alternatives appear sufficient, and there is no immediate indication that additional options need to be explored, as the current plan aims to serve all beneficiaries appropriately and equitably.
What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?	The development features a significant capital investment that is specifically directed towards its intended market. While the project identifies a target audience and user base, it is important to note that no barriers or exclusions have been incorporated into the design. This approach ensures that access to the development remains open, without intentionally restricting any group or individual from benefiting from its resources, amenities, or services.
What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?	since there are Industrial activities taking place on site, The applicant has commenced the assessment of such activities with the aim of rehabilitating to the acceptable levels or better to ensure environmental health safety.
2.13. What measures were taken to:	
Ensure the participation of all interested and affected parties,	The Public Participation Process (PPP) will be undertaken as part of the Scoping Phase and will be undertaken in the EIA Phase. all the information about public participation process will be included in the scoping report and the EIR. The process will provide a description of various methods to notify potential I&APs of the proposed project and the opportunity to comment on the Draft Scoping Report, namely, through notices in the local newspaper, sites notices, emails as well as sms text messages. Interested and Affected Parties will also be notified of the opportunity to comment on the Draft EIA Report which will be released for a 30-day commenting period.
Provide all people with an opportunity to develop the understanding,	Public participation is a very crucial and regulated process. therefore, it will be

skills, and capacity necessary for achieving equitable and effective participation,	undertaken as per the prescription
Ensure participation by vulnerable and disadvantaged persons,	Information will be disseminated as per the prescription so that the people would be informed.
Promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means,	The EIA process will take cognisance of all interests, needs, and values espoused by all I&APs. Opportunity for public participation will be provided to all I&APs throughout the S&EIA Process in terms of the 2014 NEMA EIA Regulations (as amended). The EIA team is willing to go extra mile to inform and empower the public about the environmental issues.
Ensure openness and transparency, and access to information in terms of the process,	The PPP that is undertaken as part of the Scoping Phase and EIA Phase will be included in the SP and EIR. Various methods are employed to notify potential I&APs of the proposed project and the opportunity to comment on the Draft Scoping Report, namely, through notices in the local newspaper, sites notices, emails, as well as sms text messages. The I&APs may also send their comments or issues directly to the competent authority.
Ensure that the interests, needs and values of all interested and affected parties were considered and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge.	The EIA process will take cognisance of all interests, needs and values adopted by all I&APs.
Ensure that the vital role of women and youth in environmental management and development is recognised and their full participation therein is promoted.	Public participation of all I&APs will be promoted, and opportunities for engagement will be provided during the process.
Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)?	This will be addressed in the Socio-Economic Assessment, which will be included in the EIA Report. It is worth noting that this development is inclusive, as both low- and high-density residential units will be provided. job opportunities for different levels will be created too.
What measures have been taken to ensure that current and/or future	An EMPr will be developed to address health and safety concerns. An

workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?	Environmental Control Officer (ECO) will be appointed to monitor compliance with the EMPr and EA during the construction and operational phases. Other labour issues will be addressed in accordance with the provisions of the labour laws.
2.16. Describe how the development will impact job creation in terms of, amongst other aspects:	
Whether the labour available in the area will be able to take up the job opportunities (i.e., do the required skills match the skills available in the area),	This will be addressed within the Socio-Economic Assessment and the Method Statements.
The distance from where labourers will have to travel,	This will be addressed within the Socio-Economic Assessment and the Method Statements.
The location of job opportunities versus the location of impacts (i.e., equitable distribution of costs and benefits),	This will be addressed within the Socio-Economic Assessment and the Method Statements.
The opportunity costs in terms of job creation (e.g., a mine might create 100 jobs, but impact 1000 agricultural jobs, etc.).	This will be addressed within the Socio-Economic Assessment and the Method Statements.
2.17. What measures were taken to ensure:	
That there was intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment?	The different government departments have been listed as I&APs and are given the opportunity to comment on the Draft Scoping Report, and the Draft EIA Report during the 30-day public participation period.
That actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?	This will be determined during the EIA Phase (following the Public Participation Phase undertaken as part of the Scoping Phase)
What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage?	The proposed project will adhere to the principles of environmental management. Measures taken to ensure adherence to the principles of NEMA will be determined during the EIA Phase. The EMPr will include such measures
Are the mitigation measures proposed realistic and what long-term	It would be premature to decide whether proposed mitigation measures of the

environmental legacy and managed burden will be left?	project are realistic prior to the completion of the Impact Assessment Phase of this EIA process. Therefore, the practicality of mitigation measures will be determined during the EIA Phase. The proposed mitigation measures to be included in the EMPr that will be included in the EIA Report will be informed by the specialist studies undertaken. This will include a detailed assessment of the environment as well as the impacts associated with the proposed development.
What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment?	The EMPr (to be included in the EIA Report) of this proposed project must form part of the contractual agreement and be adhered to by both the contractors/workers and the Project Applicant.
Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations?	The proposed project would be more robust in terms of economic viability and profitability while also being largely uninfluenced by climate change variables. The proposed project will also contribute to local socio-economic upliftment through job creation and housing provision.
Describe the positive and negative cumulative socio-economic impacts, bearing in mind the size, scale, scope, and nature of the project in relation to its location and other planned developments in the area.	The potential cumulative impacts resulting from the proposed project can only be objectively determined at the end of the EIA process. These will be assessed as part of the EIA Phase. The cumulative impacts of similar types of projects that have received EA or whose EA status is pending will be assessed in the EIA Report.

2.8 Description of Alternatives

The IEM procedure stipulates that the environmental investigation needs to consider feasible alternatives for any proposed development. Therefore, several possible proposals or alternatives for achieving the same objectives should be identified and investigated. The various alternatives are assessed in terms of both environmental acceptability and economic feasibility. The preferred option is to be highlighted and presented to the authorities. The following alternatives are examples of the different kinds of alternatives that may be considered and investigated for a particular development:

- Input alternatives;
- Activity alternatives;
- Location alternatives;
- Status quo/no-go alternatives;
- Demand/Supply alternatives;
- Scheduling alternatives; and
- Process alternatives.

2.8.1 Input alternatives.

Various types of material can be used for the construction of the Proposed Township and its associated structures. These include different brick types (face brick, cement brick, etc.), roof types (pitched or flat), finishes (paint colour, external lighting, landscape features, etc.) and road surfacing (asphalt, brick paving). The proposed development should enhance the status of the area, be aesthetically pleasing and present a high order node in the area.

Energy effective construction and orientation methods need to be considered. The following recommendations regarding building structures and designs are recommended:

- Use of building material that requires excessive amounts of energy to manufacture should be minimised;
- Building material should be legally obtained by the supplier, e.g., wood must have been legally harvested, and sand should be obtained only from legal borrow pits and from commercial sources;
- Building material that can be recycled/reused should be used rather than building material that cannot;
- Use highly durable building material for parts of the building that is unlikely to be changed during the life of the building is highly recommended;
- Make use of recycled concrete (green concrete); and
- Make use of clay blocks for construction of buildings.

2.8.2 Activity alternatives

These are sometimes referred to as project alternatives, although the term activity can be used in a broad sense to embrace policies, plans and programmes as well as projects. Consideration of such alternatives requires a change in the nature of the proposed activity.

For the Highlands Project, the location of the site lends itself well for the development of the horse racetrack uses as a component of the precinct. Further, it is anticipated that the type of development proposed will meet the demand for such facilities in the region.

2.8.3 Layout alternatives

Layout alternatives enable evaluation of various spatial arrangements for activities or their components within a specific site. For instance, the placement of a particular structure may be positioned prominently to draw attention or strategically screened from view to reduce aesthetic impacts.

2.6.4 Site layout

The site abuts wetland systems along its northeastern and southwestern boundaries. Taking into account these elements, the infrastructure provisions and the need to ensure compatibility and to maximise the

beneficial use of environmental resources but reducing possible negative impacts of the proposed development, different layout versions have been developed.

2.6.5 Stormwater Layout Alternatives

The design for stormwater management has been influenced by several factors. Key among these include the impact of historic activities that have taken place within and adjacent to the site, the dolomitic conditions within the site, the amount of stormwater likely to be generated by the development, the location of the site relative to sensitive environments, as well as the requirements of the City of Johannesburg.

2.6.6 Services Alternatives

A range of alternatives have been considered, ranging from pump stations for sewer, alignment of pipelines, and levels of services to be provided for the development.

2.8.4 Location alternatives

No alternative sites have been considered as the proponent owns this site and is contiguous to areas/sites that the applicant has developed. Preliminary investigations concluded that the proposed site is the most suitable due to its ideal location in terms of the requirements horse racetrack development and associated activities. Moreover, this township forms part of the precinct that has already been authorised for development.

2.8.5 Demand alternatives

Demand alternatives relative to the application essentially focusses ways to diversify usage and attract broader community engagement or revenue streams. It is for this reason that the precinct will serve as a multi-use sporting facilities providing for sporting activities, events venues, recreational use and training facilities

2.8.6 Status quo/No-go alternatives

The no-go option was also considered. This entails leaving the site in its present state. The site is currently partly vacant and used for industrial purposes. Leaving it in its present state would most likely result in the site being intensively used, as it has the industrial zoning and part of it is already used as such. Moreover, there is a development that has been approved on site for more intensive use.

Vacant land within the Gauteng urban core in general is a valuable commodity and resource, and even more so when such land falls within or is adjacent to a development corridor. Such a resource mustn't be left vulnerable to the effects of urban decay and its negative economic and social implications.

Given that preliminary assessment does not point to any environmental fatal flaws but that the site is strategically located, and its development is likely to contribute substantially to economic development, employment creation and that the wetland areas will not be adversely affected, it is therefore considered proper that development of the site might be a better option from economic, social, and environmental perspectives. This shall be confirmed through the detailed assessment to be conducted through the EIR process.

3 LEGISLATIVE AND POLICY CONTEXT

This section serves to highlight key legislation and policy frameworks that have implications for the proposed activity. It must be noted that this list is not exhaustive, but it notes, at a high level, the critical laws and policies that have been considered.

3.1 The Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996)

All environmental aspects should be interpreted within the context of the Constitution. The Constitution has enhanced the status of the environment because environmental rights have been established (Section 24) and because other rights created in the Bill of Rights may impact on environmental management. An objective of local government is to provide a safe and healthy environment (Section 152), and public administration must be accountable, transparent and encourage participation (Section 195(1)(e) to (g)).

Implications for the proposed development:

- Obligation to ensure that proposed activity will not result in pollution and/or ecological degradation;
- Obligation to ensure that where possible, conservation is promoted; and
- Obligation to ensure that the proposed activity is ecologically sustainable, while demonstrating economic and social benefits.

3.2 The National Environmental Management Act, 1998 (Act No. 107 of 1998)

The National Environmental Management Act (Act No. 107 of 1998) (NEMA) is South Africa's overarching framework for environmental legislation. The object of NEMA is to provide for operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance, and procedures for co-ordinating environmental functions exercised by organs of state.

It sets out a number of principles that aim to give effect to the environmental policy of South Africa. These principles are designed to, amongst others, serve as a general framework for environmental planning, as guidelines by reference to which organs of state must exercise their functions and guide other laws concerned with the protection or management of the environment.

Chapter 5 of NEMA serves to promote integrated environmental management, which must place people and their needs at the forefront of its concerns, and serve their physical, psychological, developmental, cultural and social interests equitably. Development must be socially, environmentally and economically sustainable. Sustainable development therefore requires the consideration of all relevant factors.

In terms of the NEMA and the EIA Regulations, 2014, an application for environmental authorisation for certain listed activities must be submitted to either the provincial environmental authority, or the national authority, depending on the types of activities being applied for. The current EIA regulations, GN R.982, GN R.983, GN R.984 and GN R.985, promulgated in terms of Sections 24(5), 24M and 44 of the NEMA commenced on 08 December 2014. GN R.983 lists those activities for which a Basic Assessment is required, GN R.984 lists the activities requiring a full EIA (Scoping and Impact Assessment phases) and GN R.985 lists certain activities and competent authorities in specific identified geographical areas. GN R.982 defines the EIA processes that must be undertaken to apply for Environmental Authorisation. The listed activities that are applicable to this project are identified in Section 2 above.

Implications for the proposed development

- The principles espoused in NEMA serve as guidelines for relevant decision makers in ensuring the protection of the environment. Therefore, the proposed development must be consistent with these principles.
- Where this is not possible, deviation from these principles would have to be very strongly motivated;

- The activity may not take place without the required authorisation; and
- Both the Scoping and EIA processes will have to be informed by these principles and include public participation process.

3.3 National Environmental Management: Waste Act, 2008 (Act No 59 of 2008)

One of the main objectives of the NEMWA is to provide for the regulation of waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development. The Act provides:

- National norms and standards for regulating the management of waste by all spheres of government;
- Specific waste management measures including:
 - The licensing and control of waste management activities;
 - The remediation of contaminated land;
 - to provide for the national waste information system; and
 - Compliance and enforcement mechanisms.

In terms of the NEMWA, certain waste management activities must be licensed and in terms of Section 44 of the Act, the licensing procedure must be integrated with an environmental impact assessment process in accordance with the EIA Regulations promulgated in terms of the NEMA. Government Notice 921, which was published in Government Gazette No.37083, on 29 November 2013 and implemented with immediate effect, lists the waste management activities that require licensing. A distinction is made between Category A waste management activities, which require a Basic Assessment, and Category B activities, which require a full EIA (Scoping followed by Impact Assessment).

Implications for the development:

- Any activities listed in GN 718 of the Waste Act require an EIA.
- Waste generated by the activity must be managed in accordance with the provisions of the Act.

3.4 The National Environmental Management: Biodiversity Act (Act 10 of 2004)

The Act provides for the management and conservation of South Africa's biodiversity within the framework of the NEMA. This Act allows for the protection of species and ecosystems that warrant national protection, the sustainable use of indigenous biological resources, the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources and the establishment and functions of the South African National Biodiversity Institute. Key elements of the Act are:

- The identification, protection and management of species of high conservation value;
- The identification, protection and management of ecosystems and areas of high biodiversity value;
- Biodiversity Initiatives such as the STEP (Subtropical Thicket Ecosystem Plan) and CAPE (Cape Action Plan for People and Environment) may become accepted as bioregional plans and are thus implemented as legislation;
- Alien invasive species control for which the management responsibility is directed to the landowner; and
- Section 53 of the Act identifies that any process or activity that is regarded as a threatening process in terms of a threatened ecosystem requires environmental authorisation via a complete Environmental Impact Assessment process.

Implications for the current development:

There were no ecologically endangered species encountered on the site; much of the site was identified as degraded grassland.

3.5 The National Water Act, 1998 (Act No. 36 of 1998)

The National Water Act (The Act) provides for the management of South Africa's water resources. The purpose of the Act is to ensure that the Republic's water resources are protected, used, developed, conserved and

controlled. It is concerned with the allocation of equitable access and the conservation of water resources within South Africa. The National Water Act of 1998 repealed many of the powers and functions of the Water Act of 1956. Key provisions include the following:

- Catchment Areas - Any disturbance to a watercourse, such as the construction of a dam or weir-type facility, requires authorisation from the Department of Water and Sanitation.
- Water Supply - Under the National Water Act, a developer is required to obtain the necessary permits for water usage and the disposal of wastewater from the authority responsible for the administration of the Act.
- Any private well or borehole sunk for the abstraction of groundwater has to be reported and registered with the regulatory authority.
- Wastewater - The National Water Act is the principal piece of South African legislation governing wastewater management.

Implications for the proposed development:

- Any proposed water uses must be specified and registered and/or licensed;
- Any modifications to drainage lines on site must be investigated in terms of water use requirements;
- The developers are responsible for taking reasonable measures to prevent pollution of water resources that they own, control, occupy or use on the land in question;
- The developers are required to remedy a situation where pollution of a water resource occurs following an emergency incident and where they are responsible for the incident or own or is in control of the substance involved;
- The developers must take all reasonable measures to minimise the impacts of the incident, undertake clean-up procedures, remedy the effects of the incident and take measures as directed by the catchment agency; and
- Waste created during construction needs to be controlled adequately to negate the impacts on ground and surface water.

3.6 The National Heritage Resources Act, 1999 (Act 25 of 1999)

The Act aims to promote good management of the national estate of South Africa, which can include:

- Places, buildings, structures and equipment of cultural significance;
- Places to which oral traditions are attached or that are associated with living heritage;
- Historical settlements and townscapes;
- Geological sites of scientific or cultural importance;
- Archaeological and palaeontological sites;
- Graves and burial grounds, including:
 - Ancestral graves
 - Royal graves and graves of traditional leaders
 - Graves of victims of conflict
 - Graves of individuals designated by the Minister by notice in the Gazette
 - Historical graves and cemeteries
- Other human remains covered by the Human Tissue Act, 1983 (Act No 65 of 1983).
- Sites of significance relating to the history of slavery in South Africa.

In terms of Section 38 of the Act, the South African Heritage Resources Agency (SAHRA) must be notified during the early planning phases of a project for any development that includes the following activities:

- the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length, any development or other activity which will change the character of a site exceeding 5 000m² in extent:
- the re-zoning of a site exceeding 10 000m² in extent, or
- any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority.

Implications for the proposed development:

- Any artefacts uncovered during the construction phase must be reported to SAHRA;
- No person may alter or demolish any structure or part of a structure which is older than 60 years or disturb any archaeological or palaeontological site or grave older than 60 years without a permit issued by the relevant provincial heritage resources authority. The age of the stable building on site needs to be determined; and
- SAHRA must be informed of the proposed development and provided an opportunity to comment. This may result in the need for a basic heritage assessment.

3.7 Climate Change Act, 2024

The Act establishes a national legal and institutional framework to enable a coordinated, whole-of-economy response and a long-term just transition to a low-carbon, climate-resilient South Africa; it mandates mitigation (including carbon budgets and sectoral targets), adaptation planning, and protections for vulnerable people and ecosystems.

Implications for the proposed development:

- The project developer must ensure that the requirements of the Climate Change Act, 2024 are met in conjunction with the National Environmental Management Act (NEMA), aligning all project policies, plans and decisions with national climate objectives.
- Where applicable, the developer is required to engage with formal statutory coordination mechanisms as part of project planning and implementation.
- The development must contribute to and comply with national, sectoral, and provincial adaptation strategies, including the submission of project-level adaptation measures and reporting as required by the Act.
- Should the development fall within sectors or activities listed under the Act, the developer will be responsible for adhering to any national greenhouse-gas emission trajectories, sectoral targets, carbon budgets, and approved mitigation plans. This may include operational changes or regular emissions reporting obligations.
- All decisions and project activities must be guided by risk-averse, science-based approaches, incorporating the best available scientific knowledge, a precautionary principle, and a commitment to equity and just transition in line with the Act's objectives.

3.8 National Climate Change Adaptation Strategy (NCCAS) – 2019

The NCCAS (2019) provides South Africa's framework for building climate resilience. Its objectives include reducing vulnerability, mainstreaming adaptation into planning, strengthening disaster risk reduction, promoting ecosystem-based approaches, and ensuring governance and monitoring.

Implications for the proposed development:

- Site & Design: Infrastructure must be climate-resilient, considering flood risk, heat stress, and stormwater management.
- Resource Use: Water- and energy-efficient systems are essential, with emphasis on reuse and drought-tolerant landscaping.
- Biodiversity: Development should avoid sensitive ecosystems and integrate green infrastructure.
- Socio-Economic Resilience: The project must deliver inclusive benefits while not increasing local climate vulnerability.
- Compliance: Alignment with NEMA, EIA Regulations, and NCCAS monitoring requirements is mandatory.

3.9 The Gauteng Provincial Environmental Management Framework, 2015

The objective of the GPEMF is to guide sustainable land use management within the Gauteng Province. The GPEMF, inter alia, serve the following purposes:

- To provide a strategic and overall framework for environmental management in Gauteng;
- Align sustainable development initiatives with the environmental resources, developmental pressures, and the growth imperatives of Gauteng;
- Determine geographical areas where certain activities can be excluded from an EIA process; and
- Identify appropriate, inappropriate and conditionally compatible activities in various Environmental Management Zones in a manner that promotes proactive decision-making.

Implications for the proposed development:

The site is located within the Urban Development Zone (Zone 1) of the EMF. The intention of Zone 1, the Urban Development Zone, is to streamline urban development activities and promote development infill, densification and concentration of urban development to establish a more effective and efficient city region that will minimise urban sprawl. The proposed mixed-use development providing a sporting and recreational hub is aligned with government policy in general and the provisions of the spatial tools, including the EMF.

3.10 Gauteng Climate Change Response Strategy

The Gauteng Climate Change Response Strategy (2020) seeks to mainstream climate resilience into development by reducing vulnerability to climate risks, promoting sustainable water and energy use, safeguarding biodiversity, and strengthening disaster preparedness.

Implications for the proposed horse racing complex:

- **Site & Infrastructure:** Must integrate climate risk assessments and adopt sustainable urban drainage systems.
- **Resource Efficiency:** Demonstrate water reuse, drought-tolerant landscaping, and energy-efficient/renewable systems.
- **Biodiversity:** Avoid sensitive habitats and incorporate ecological buffers and indigenous planting.
- **Disaster Preparedness:** Include fire management, flood resilience, and heatwave protocols.
- **Socio-Economic Benefits:** Ensure inclusive local benefits without increasing climate vulnerability.

3.11 City of Johannesburg Spatial Development Framework 2040

The SDF 2040 sets the guiding vision and then builds a concrete strategy for its realisation. The site falls within the Randburg-OR Tambo Corridor earmarked for the...“ development of strategic land parcels using current development dynamics to drive growth and reduce expansion pressure on the periphery”. The proposed development is aligned with the principles and objectives of the SDF.

3.12 The Greater Highlands Development Framework

The Greater Highlands Development Framework was approved in terms of Item 34 of the 18th extraordinary meeting of the City of Johannesburg Council held on Wednesday and Thursday, 29 and 30 July 2020. The Framework allows a land use mix of approximately 55% residential and 45% non-residential development, with approximately 14% of the overall development area classified as open space.

The proposed development will maximise site use and create economic opportunities in an integrated way. It also supports all future uses outlined in the Greater Highlands Development Framework.

This unique opportunity to develop an international horse racetrack with more green space as identified within the Framework, will not only benefit the Highlands area but also the greater Gauteng Province and the best possible use to be supported, compatible with all uses as identified within the Framework and in line with the uses specified within the Greater Highlands Precinct Plan, in fact much more open space has been suggested within this application than required.

4 DESCRIPTION OF THE RECEIVING ENVIRONMENT

This section establishes the baseline conditions by describing the biophysical and socio-economic environment that may influence or be affected by the development. This includes information obtained from literature sources and is described at a level deemed appropriate for the study. While a summary of the environmental aspects is provided, more detailed studies will be provided during the impact assessment phase. The three components of the environment are recognised as:

- Physical Environment;
- Biological Environment;
- Socio-Economic Environment.

4.1 Physical Environment

4.1.1 Climate

The study area is located within the summer rainfall region of South Africa. The climate is largely defined by warm and sunny conditions during the summer months, which extend from October to March. Winters, typically from June to August, are cooler and often marked by frost in certain areas. On average, summer temperatures reach 26 °C, while winter temperatures average around 16 °C.

The warmest period occurs between October and February, whereas the coldest months fall between June and August. Seasonal transitions are fluid, with summer often overlapping into spring and autumn. Annual rainfall averages approximately 604 mm, with the heaviest precipitation occurring in December, January, and February. Rainstorms in the area are severe, characterised by thunder, lightning, and occasional hail, but are generally brief and succeeded by sunny weather.

The region displays typical Highveld climatic conditions, featuring warm to hot summers, substantial rainfall, and moderate to cool winters with minimal precipitation. Extended drought periods, lasting several years, are part of the natural climate cycle. Thunderstorms are common during the summer, particularly in the late afternoons. The area is situated at an elevation of about 1,500 meters above sea level. The strongest winds are prevalent from August through December, predominantly blowing in a north-western direction.

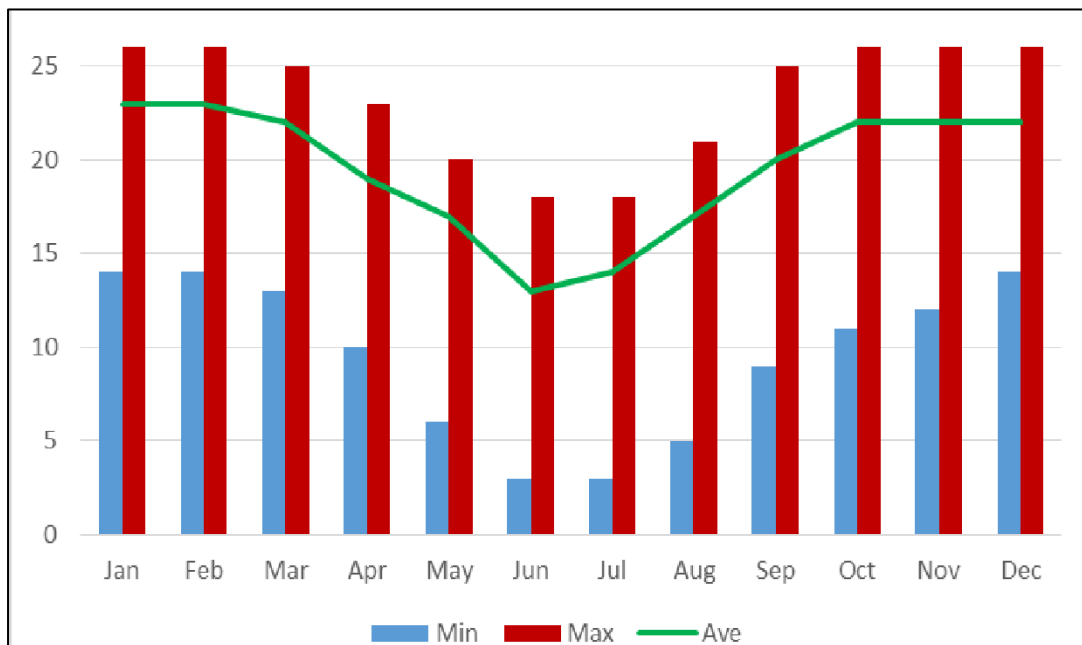


Figure 6: Minimum, Maximum, and average temperatures of study area.

4.1.2 Air quality

The site is located within easy reach of the Chlorokop and Modderfontein Industrial areas. As a result, an air quality study has been commissioned to determine the ambient air quality of the area.

4.1.3 Noise

The site is predominantly vacant with no major activities in the vicinity. Although there are no adjacent activities that have potential to experience compromised ambient noise levels in the area. However, given the nature of the proposed activity, a noise impact study has been commissioned.

4.1.4 Topography

The western part of the site generally falls moderately from the Northeast to the Southwest, and part falls in the opposite direction, with an estimated slope of 7%. According to the Geotechnical Engineer, it will be advisable that building platforms, access roads and parking areas are slightly elevated in relation to the immediate surroundings in order to assist channelling of surface water run-off and to contribute towards the internal stability of structures and road pavements.

4.1.5 Geology and Soils

According to the 1:250 000 East Rand 2628 geological map, the site is underlain by Granodiorite of the Halfway House Granite Suite. Reworked residual granodiorite and/or residual granodiorite were encountered in all the test holes, whilst granodiorite bedrock was encountered in most of the test holes dug. From a macro point of view, the site is generally underlain by potentially collapsible hillwash transported, followed by pebbles marker transported, pedogenic (partly developed ferricrete and fully developed hardpan ferricrete) horizons in places, reworked residual granodiorite, residual granodiorite and very soft rock and harder, granodiorite bedrock and interspersed with numerous granodiorite rock outcrops.

4.1.6 Surface water

The Modderfontein area is situated in the A21 C quaternary catchment in the Crocodile West — Marico Water Management Area. The main river flowing through the larger Modderfontein property is the Modderfontein Spruit, which originates near Croydon in Kempton Park and flows in a northerly direction to the Jukskei River. Four drainage channels/areas are identifiable in the vicinity of the proposed development area. These include:

- Allandale stream: A drainage channel, usually dry, originating north of Allandale Road to the north-east of the development area. The sub-catchment includes the northernmost wetland area.
- Noordehoek stream: A drainage channel (intermittent flow) to the west of the gypsum dams, which drains to the Modderfontein Spruit.
- W25 stream (Kynoch I): A drainage channel (intermittent flow) originating south of the historical Kynoch Chloorkop factory area and draining to the W20 stream (a minor tributary of the Modderfontein Spruit).
- Kynoch 3 stream: A drainage channel (intermittent flow), located to the south and west of the southernmost wetland area, which also drains to the W20 stream.

These are likely to be impacted upon by the post development stormwater flows. Therefore, appropriate measures and designs will need to be put in place to ensure that the pre-development stormwater flows into these systems are maintained.

Watercourses adjacent to the site are, in general, sensitive and provide important ecological services, act as climate change corridors and provide important habitat to flora and fauna species. These areas, along with their edges, are mostly surrounded by various alien and invasive plants, primarily due to the transport of seeds via the watercourse, as well as historical and current land-use disturbances within the site. Natural vegetation such as *Eragrostis curvula*, *Digitaria eriantha*, *Imperata cylindrica*, *Phragmites australis*, *Typha capensis* and the orchid *Habenaria falcicornis* do occur in fragments. Other alien/invasive plants associated with this habitat recorded include *Arundo donax*, *Paspalum dilatatum*, *Pennisetum clandestinum*, *Persicaria lapathifolia*, *Tagetes minuta* and *Verbena bonariensis*. From a habitat perspective, these areas are considered to be of

moderate to high sensitivity due to their functional roles in the distribution and filtering of water as well as serving as habitats for various fauna (including avifauna).

However, no red-listed species were recorded on site, and the likelihood of occurrence is regarded as medium.



Figure 7: Image showing wetlands of the area

4.2 Biological Environment

4.2.1 Terrestrial ecology

A full ecological assessment was undertaken by Enviro Insight in March 2018. Overall, most of the habitats on site are considered disturbed and impacted by the current and historical land use, as well as the surrounding edge effects of urban infrastructure. The following section provides a description of each of the habitat types occurring within the study area.

4.2.2 Biome

The development site lies within the Grassland Biome which is found chiefly in the high central plateau of South Africa. Grasslands are dominated by a single layer of grasses. The amount of cover usually depends on rainfall and the degree of grazing. Trees are absent except in a few localised habitats. Geophytes are often abundant. Frost, fire and grazing maintain the grass dominance and prevent the establishment of trees.

4.2.3 Vegetation Type

The study area is located within the Egoli Granite Grassland vegetation type. This vegetation type has been classified as Endangered due to the high levels of fragmentation, urban expansion, as well as low protection levels (Mucina & Rutherford 2006). It is not resilient to high levels of disturbance and continues to come under severe pressure from the expansion of high-density development. Less than 3% of the targeted 24% is conserved in several nature reserves. The landscape and vegetation features are characterised by low hills and moderately undulating plains, which support tall grass species, such as *Hyparrhenia hirta*, that dominate the area. Scattered rocky outcrops and rock sheets form suitable habitats for woody species (Mucina and Rutherford, 2006). The Egoli Granite Grassland has also been listed as a threatened ecosystem (SANBI, 2011).



Figure 8: Precinct and vegetation type (Mucina & Rutherford, 2006)

4.2.4 Habitat delineation

Overall, most of the habitats on site are considered disturbed and impacted by the current and historical land use, as well as the surrounding edge effects of urban infrastructure. The following section provides a description of each of the habitat types occurring within the study area.

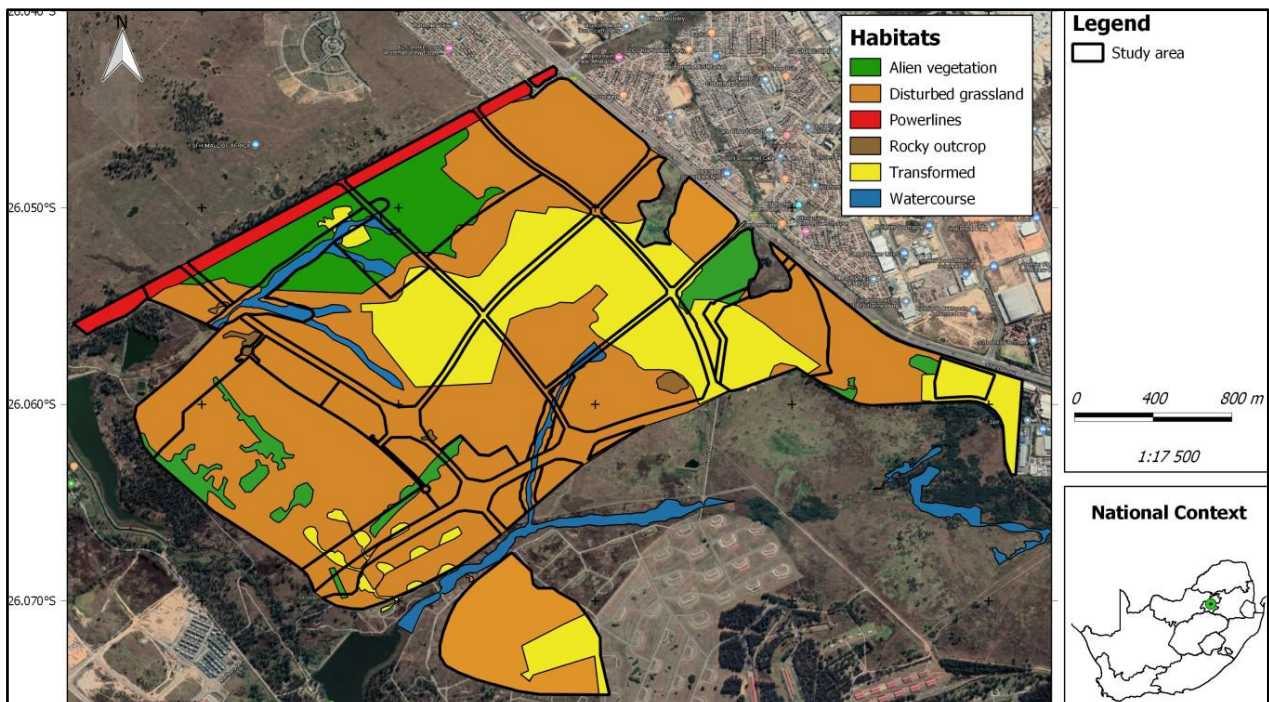


Figure 9: Precinct area in relation to the vegetation type (Mucina and Rutherford, 2006)

Habitat Unit 1 – Degraded Grassland

The majority of the habitat within the study area can be classified as *Degraded grassland*. The area has high infestations of alien and exotic weed species, including *Bidens pilosa*, *Campuloclinium macrocephalum*, *Cortaderia selloana*, *Cosmos bipinnatus*, *Melinis repens*, *Pennisetum setaceum*, *Solanum mauritianum*, *Tagetes minuta*, and *Verbena bonariensis*, occurring in high densities. Grass species include *Aristida congesta*, *Eragrostis curvula*, *Digitaria eriantha*, *Chloris virgata*, *Heteropogon contortus*, *Hyparrhenia hirta*, *Schizachyrium sanguineum* and *Urochloa mosambicensis* within the natural fragments and *Cynodon dactylon*, as well as *Pennisetum clandestinum*, occurring in the more disturbed areas. Forb species recorded in this habitat include *Felicia muricata*, *Gomphocarpus fruticosus*, *Helichrysum nudifolium*, *Hermannia cf. lancifolia*, *Hilliardiella oligocephala*, *Hypoxis iridifolia*, *Hypoxis rigidula*, *Pelargonium luridum*, *Polygala hottentotta*, *Senecio inornatus* and *Wahlenbergia undulata*. This habitat is considered to be of low sensitivity.

No SCC were recorded during the survey conducted in early March 2018 or mid-April 2017, and due to the high density of alien weeds, the likelihood of occurrence is regarded as medium.

Habitat Unit 2- Transformed

The *Transformed* habitat unit represented areas manipulated in their entirety and which no longer show any meaningful ecological functionality. These areas represent mining areas, bunkers for the safe storage of explosives, workshops and offices and roads. Some flora species (grasses, forbs, trees, all mostly weeds) exist mostly immediately surrounding these areas. This habitat type is classified as non-sensitive, and no SCC are expected to occur within this habitat type.

Habitat Unit 3 – Watercourse

This habitat unit represents the visible surface water and wet grassland areas throughout the study area (please take note that these areas are identified based on vegetation and historical images from Google Earth and should not be seen as a formal wetland delineation). These areas along with their edges are mostly surrounded by various alien and invasive plants, mainly due to transport of seeds via the watercourse as well as historical and current land use disturbances within the site. Natural vegetation such as *Eragrostis curvula*, *Digitaria eriantha*, *Imperata cylindrica*, *Phragmites australis*, *Typha capensis* and the orchid *Habenaria falcicornis* does occur in fragments. Other alien/invasive plants associated with this habitat recorded include

Arundo donax, *Paspalum dilatatum*, *Pennisetum clandestinum*, *Persicaria lapathifolia*, *Tagetes minuta* and *Verbena bonariensis*. From a habitat perspective, the habitat has a moderate to high sensitivity due to functional role it plays in the distribution and filtering of water as well as habitat for various fauna (including avifauna). Watercourses in general are sensitive and provide important ecological services, act as buffer areas against climate change and provide important habitat to flora and fauna species.

No floral SCC were recorded during the survey and the likelihood of occurrence is regarded as medium.

Habitat unit 4 - Rocky outcrop

This habitat unit represents areas where large rock features are protruding from the ground surface. Most of the habitat is disturbed by human activity in the form of trails demarcated through the habitat and previous disturbance. Some rocky areas were observed dispersed between alien vegetation stands. This is important to note as the habitat provides suitable habitat and refugia for faunal species, especially for reptiles and small mammals.

The plant species diversity and density were lower than expected for this habitat type and included *Aloe spp.*, *Aristida junciformis*, *Bryum argenteum*, *Cyperus rupestris*, *Cheilanthes viridis*, *Dichapetalum cymosum*, *Melinis repens*, *Opuntia ficus-indica*, *Pellaea calomelanos*, *Tritonia cf. nelsonii*, *Xerophyta retinervis*. No red data species were recorded during the survey and the likelihood of occurrence is regarded as low along the proposed road extension, and moderate for rocky outcrops within the surrounding study area.

Habitat unit 5 – Alien vegetation

This habitat unit consist of *Eucalyptus* sp. trees planted historically as hedgerows as well as areas invaded mostly by *Acacia mearnsii*, *Campuloclinium macrocephalum* and *Cortaderia selloana*. The area is disturbed and is indicated as having a very low sensitivity. As mentioned above, the rocky habitat occurs dispersed within the alien vegetation habitat which is not necessarily indicated on the habitat map.

4.2.5 Plant species of conservation concern

No SCC were recorded during both surveys. The disturbed nature of the habitat is considered unsuitable for plant SCC within the study area. Overall and based on the vegetation analysis and the observations made during the survey it is evident that the area currently shows some functional ecological value (especially wetland systems), but not to the degree of providing habitat for plant SCC. It should be noted that both *Hypoxis hemerocallidea* and *Boopphone disticha* has been recorded within 250 m west of the study area. Both these species are Orange Listed species according to GDARD C-Plan v3.3 (GDARD, 2014), and if located on the study area where development will impact them, it is required to be removed and relocated as determined by GDARD.

4.2.6 Faunal species of conservation concern

Through the assessment of faunal characteristics of the site (habitat potential, connectivity to surrounding intact habitats, evidence of the presence of faunal species etc.) as well as applying the basic assessment study performed in conjunction with the aforementioned faunal references, no faunal “trigger” species were identified. A list of fauna Species of Conservation Concern (SCC) that could potentially occur within the study area is indicated in **Error! Reference source not found.** followed by a discussion below.

Table 7: Fauna SCC previously recorded within the 2628AA QDS

Family	Genus	Species	Common name	Red list category	ADU
Pyxicephalidae	<i>Pyxicephalus</i>	<i>adspersus</i>	Giant Bull Frog	Near Threatened	Frog MAP
Felidae	<i>Acinonyx</i>	<i>jubatus</i>	Cheetah	Vulnerable	Mammal MAP
Felidae	<i>Panthera</i>	<i>leo</i>	Lion	Vulnerable	Mammal MAP
Hyaenidae	<i>Crocuta</i>	<i>crocuta</i>	Spotted Hyena	Near Threatened	Mammal MAP
Hyaenidae	<i>Parahyaena</i>	<i>brunnea</i>	Brown Hyena	Near Threatened	Mammal MAP
Vespertilionidae	<i>Pipistrellus</i>	<i>rusticus</i>	Rusty Pipistrellus	Near Threatened	Mammal MAP

South African Hedgehog (Atelerix frontalis) Near Threatened

Hedgehogs are listed as Near Threatened, and although the species is common in urban environments and is affected by development, it is also found on grasslands of varying degrees of quality, especially in the absence of dogs and other feral predators. With a loss of grassland habitat, it is likely that local hedgehog populations will be displaced or eradicated. The best course of action will be to allow for worker induction, which will report hedgehog presence and allow individuals to be safely relocated to more undisturbed areas.

Serval (Leptailurus serval) Near Threatened

It is anticipated that a non-significant resident population persists within the study area, given the predicted high density of rodents and the suitable habitat. The species is a relatively common wetland associate in grassland areas, and although the Near Threatened status warrants due consideration, the species is not considered to be a fatal flaw given adequate mitigation (especially of wetland environments).

Brown Hyaena (Parahyaena brunnea) Near Threatened

Brown Hyaena is an essential component of the ecosystem and acts as a vital scavenger in the region, clearing carcasses that can potentially spread diseases to wild mammal populations. Brown Hyaena is listed as Near Threatened, and although they are present in high densities within some areas of Gauteng, pure grassland (even with some rocky outcrops) does not represent the cornerstone of their distribution. Furthermore, the high density of infrastructure and consequently human presence in the surrounding area will decrease their Likelihood of Occurrence.

African Clawless Otter (Aonyx capensis) Near Threatened and Spotted-Necked Otter (Hydriclis maculicollis) Vulnerable

The spotted-necked otter was upgraded to Vulnerable in 2016. It was apparent that some potentially suitable migratory/dispersal habitat persists within the study area, especially within the watercourse habitat. However, most of the study area is sub-optimal for spotted-necked otters, which prefer deep, clear pools which support large populations of fish. The conclusion for the spotted-neck otter (which the likelihood of occurrence is considered to be almost definite but transitory in all relevant study areas exhibiting flowing water) requires mitigation measures, including the buffering of all flowing watercourses from development infrastructure and the reduction of heavy cattle grazing in watercourses. For now, the proposed 32 m buffer area should be implemented at the southern and western watercourses of the study area.

Regarding the African clawless otter, the species is much more terrestrial, and the watercourse habitat is considered to be optimal. The species was confirmed through scats downstream of the study area. The Near Threatened status of this species does not warrant ecological support buffering, or fatal flaw allocation.

Giant Bullfrog Pyxicephalus adspersus Regionally Near Threatened

The Giant Bullfrog is listed by Minter *et al.* (2004) as Near Threatened. This species has been recorded in the quarter degree (FrogMap 2018) on which the study area resides, and due to their ecological attributes (large amphibians which breed in seasonally inundated wetlands) are pertinent to the study. Although GDEnv has removed Giant Bullfrog from the list of trigger species, the Red List status as well as the association with wetland habitats warrants analysis. The analysis of the water bodies' habitat suggests that historically, this species would have had a very high likelihood of occurring within the study area. The proposed development is unlikely to affect the breeding habitat of this species, should the watercourses be protected.

African Grass Owl Tyto capensis Vulnerable

This species is dependent on the presence of the grass species *Imperata cylindrica*, located in wet areas. Even though the entire study area was not surveyed on foot, some stands of *I. cylindrica* were recorded on site. The density and presence of this grass species in wetland areas surrounding the study area were considered medium and not sufficient to support breeding individuals of *T. capensis*. Based on the limited information, the presence of this species cannot be ruled out. It is therefore suggested that prior to construction, suitable areas are surveyed and the extent of *I. cylindrica* be mapped.

4.2.7 Habitat sensitivity

Based on the fauna and flora observations during the fieldwork as well as the current impacts described above, each habitat type was evaluated in terms of its ecological sensitivity. This sensitivity is rated as either low, medium or high, where low sensitivity is considered ideal for development and high sensitivity areas are to be avoided by potential development. The habitat sensitivity is illustrated as Figure 10: . It should be noted that after the wetland report and its addendum report (Terrasoil 2018) was made available, the sensitivity map was adjusted in order to take into account the findings of the wetland delineation and land contamination mapping. By no means have the overall ecological services or integrity been compromised; rather a collective approach was taken in order to highlight suitable areas for development where impacts are considered either low and/or easy to mitigate, and to highlight areas that are considered “no-go” areas from a development perspective.

The overall sensitivity can be summarised as follows:

- The overall sensitivity is defined as being mostly low, due to a highly disturbed and transformed system which is not characteristic of the vegetation type.
- The presence of watercourses on the study area present suitable habitat for both aquatic and terrestrial species, and act as a corridor in an already transformed and fragmented landscape. The sensitivity is indicated as moderate but mostly high. Areas considered to be contaminated by previous activities were excluded as high as they no longer serve a functional role and act as pollution zones which should rather be developed on in order to contain it.

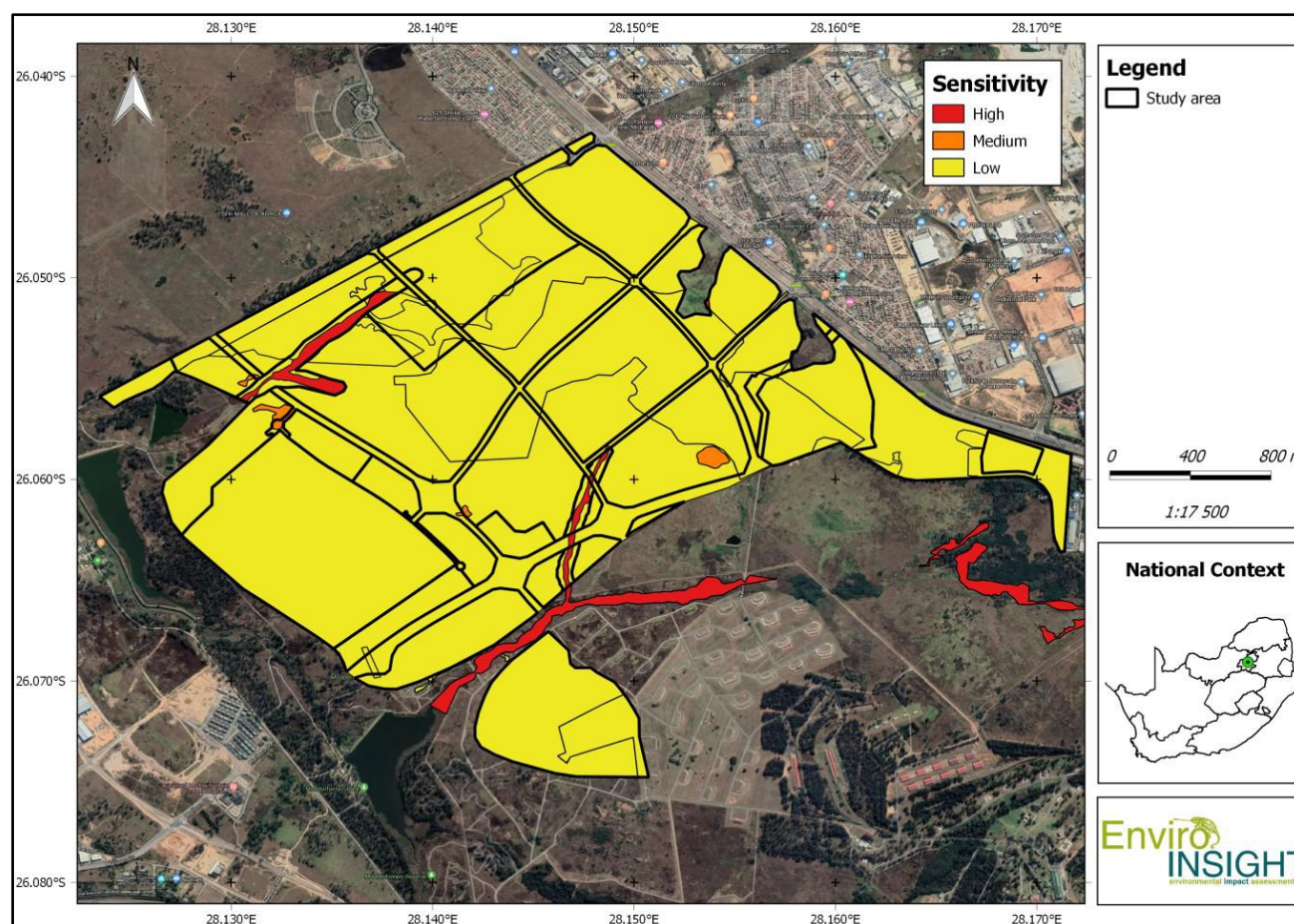


Figure 10: Overall habitat sensitivity

4.3 Human Environment

4.3.1 Socio-economic context

Historically, the site and its environs fell within the area that supported the functioning of the AECL Modderfontein operations. The land was recently released for development. The proposed township falls within the Highlands Precinct area located within the Randburg-OR Tambo corridor according to the City of Johannesburg Spatial Development Framework. The intention of the corridor is to create a strong east-west development corridor in the north of the city with a broader city region focus, while capitalizing on the opportunities for infill development in the vacant tracts of land along this corridor. This corridor would also intersect with the north-south Corridor of Freedom along the Louis Botha Corridor, which links from Soweto past the Inner City into Sandton; thus, strengthening connectivity to the metropolitan core and other principal metropolitan sub-centers.

Further, the SDF shows that the site forms part of the Transformation Zone (The “Blue” Zone). This zone represents the spatial extent of the urban transformation focus of urban growth and investment promotion, as well as being the focus of future incentive packages, and the bulk of public capital investment (primarily facilitated through the Johannesburg Strategic Infrastructure Platform – JSIP). In the Blue Zone, the city will promote densification, diversification and intensification through capital infrastructure investment, increased density allowances and other incentives.

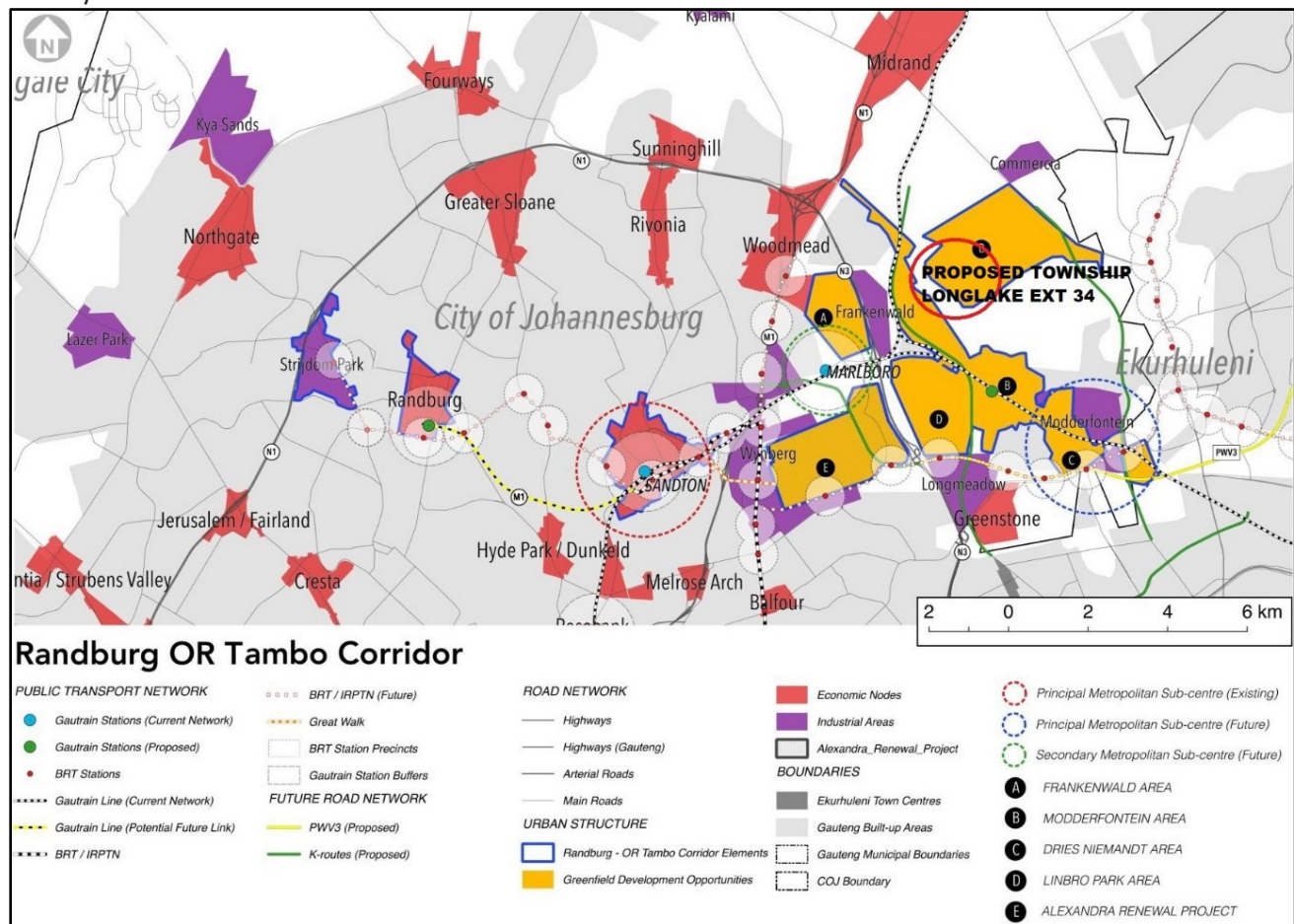


Figure 11: Provisions of the COJ SDF 2010

Spatial opportunities include well placed parcels of open land linking the areas, including Modderfontein, Linbro Park and Frankenwald in Johannesburg, and Dries Niemandt in Ekurhuleni, all of which are potential centers of developmental energy and investment. The development of these areas creates opportunities for new road based and public transport connections to be made to 110 bridge areas that currently contribute to

spatial discontinuity. Economic development potential of these infill areas is significant, and their mixed-use characters would contribute to greater job intensity and land productivity.

At a local context, the site falls within the Highlands Precinct Framework area which was approved in 2020. According to the plan, the property falls within an area earmarked to develop as mixed-use area providing for residential, commercial and industrial uses.



Figure 12: Highlands Precinct Framework Plan

4.3.2 Heritage Impact

Site investigations were carried out by the National Cultural History Museum in December 2006 for the entire Modderfontein site.

The site was divided into different categories, based on a heritage approach:

- Industrial area: This is the 'factory' area, where production of all products takes place. Some very interesting remains are found here, most of which is still in use.
- Private areas: These are the various houses. All of these are used for habitation, or as offices. As a result, they are mostly well maintained.
- Infrastructure/open space: The streets, parks, etc. are all well maintained.
- Hidden features: These are those sites identified by Hall (1997), which is currently either inaccessible due to them being in restricted areas or because they are covered by grass. As their locations are known, either from Hall's report or from this one, they can be managed.

Based on the assessment:

- The whole Modderfontein precinct is unique in the sense that it retains much of its original character,

within the framework of its original purposes, i.e., the production of dynamite and other chemicals.

- As such, it reflects not only technological development over more than a century, but also the people as related social fabric of the country as a whole.
- The integrity of most identified features and structures are intact and speaks volumes for the management of the area and its conservation.
- However, the application site does not have any of the features and structures.

4.3.3 Visual aspects

Most of the site is currently undeveloped and is characterized by overgrown veld grass but contains traces of prior disturbance and industrial activities. It is not likely that the neighbouring developments may suffer any inconvenience associated with overlooking or impact on privacy and amenity. Appropriate setbacks have been proposed and the orientation of the racecourse is such that the risk of impacting on the amenity and privacy of adjacent landowners will be kept to a minimum. However, a specialist study has been commissioned to ensure that appropriate measures are put in place for any residual impacts.

4.3.4 Historic Contamination, Decontamination and Regulatory Closure

The project site forms part of the former Kynoch Chloorkop Factory within the AECl Modderfontein complex. Historic operations included sulphuric acid and fertiliser production, which involved the handling of naturally occurring radioactive materials (NORM), including pyrite, calcine and phosphogypsum. As a result, the site was issued with Nuclear Licence NL-101 in September 1996 under the National Nuclear Regulator Act, 1999.

Operations at the sulphuric acid plant ceased in 1976, and the plant infrastructure was demolished between 1979 and 1981. Ownership of the site subsequently transferred to AECl Limited. The historic factory closed in 1999.

Nature and Extent of Historic Contamination

Historic contamination associated with the Kynoch Chloorkop Factory was investigated through multiple regulatory-driven studies. Radiological contamination was limited and localised, primarily affecting surface soils adjacent to railway lines used for the transport of pyrite and calcine. No contamination of buildings, systems, equipment or subsurface soils was identified.

Surface water and groundwater monitoring undertaken during the period of nuclear regulation demonstrated radiological dose levels consistently below 0.25 mSv per annum. No on-site burial of radioactive materials occurred, and no reportable radiological incidents were recorded during decommissioning.

Subsequent investigations undertaken for Water Use Licence compliance assessed the potential presence of radiological contaminants, including organics, mercury and arsenic, in groundwater associated with the historical factory area and gypsum dams.

Decontamination and Verification Process

A structured decontamination and verification programme was implemented in accordance with an NNR-approved Decommissioning Plan. This process included:

- Radiological surveys of the authorised area using calibrated gamma spectrometry;
- Targeted soil sampling at locations exhibiting elevated activity;
- Removal and off-site disposal of contaminated materials at authorised facilities; and
- Confirmatory surveys to verify compliance with applicable clearance criteria.

Post-remediation surveys demonstrated that residual activity levels across the site were below the regulatory exclusion threshold of 0.5 Bq/g for uranium and thorium decay chains. The maximum activity measured was

0.441 Bq/g, with an average activity of 0.306 Bq/g. Dose assessments for multiple land-use scenarios confirmed that projected public exposure remained below regulatory limits.

Removal from National Nuclear Regulator Control

The outcomes of the decontamination and verification programme were formally documented in the “*Closure Report: Application for Cancellation of Nuclear Licence NL-101 (AECI Limited, February 2008)*”. This report confirmed that:

- All radioactive materials associated with historic operations had been removed from the site;
- Residual radiological activity was below legislated exclusion levels; and
- The site no longer required regulation under the National Nuclear Regulator Act.

Based on the findings presented in the Closure Report, the National Nuclear Regulator accepted that the site met the criteria for release from regulatory control and that Nuclear Licence NL-101 could be cancelled.

Groundwater Quality and Non-Radiological Contaminants

In response to Water Use Licence requirements, SRK Consulting undertook an investigation into the potential presence of organics, mercury and arsenic in groundwater at the Kynoch Chloorkop Factory area in 2012.

The investigation concluded that:

- Organics and mercury are not of concern in the Kynoch Chloorkop Factory area;
- Low levels of arsenic are present in the shallow aquifer but are localised and associated with historical calcine and ash storage areas;
- The identified arsenic concentrations do not result in a material impact on downstream water quality.

The study further concluded that the existing mitigation and management measures were adequate and that the identified groundwater conditions do not represent a material environmental risk.

Current Status and Relevance to the Scoping Phase

Historic radiological contamination at the site has been formally addressed and closed out through an NNR-approved decommissioning and verification process, culminating in the cancellation of Nuclear Licence NL-101. Subsequent groundwater investigations confirmed that non-radiological contaminants do not pose a material environmental risk.

As a result, historic contamination represents a legacy issue that has been investigated, remediated and regulated to closure. No residual radiological or groundwater-related constraints have been identified that would preclude the proposed development or trigger additional authorisations from the National Nuclear Regulator.

5 ASSESSMENT METHODOLOGY AND ASSESSMENT OF IMPACTS

This section provides the methodology for assessing the significance of impacts associated with the activity. The criterion for determining impact significance has been defined in accordance with the criteria drawn from Appendix 3 of the Environmental Impact Assessment Regulations, 2014. The levels of detail described in the EIA regulations were fine-tuned by assigning specific values to each impact identified.

To establish a coherent framework with which all impacts could be objectively assessed, it is necessary to establish a rating system, to be applied consistently to all the criteria. For such purposes, each aspect is assigned a value ranging from one (1) to four (4) depending on its definition. The tables below provide a summary of the criteria and the rating scales, which will be used in the assessment the impacts.

5.1 Description of nature and scale of impacts

The table below provides a brief description of the terms used to assess the impact of the proposed activity on the environment.

Table 8: Nature, extent, duration, probability and significance of impact

Nature: classification of whether the impact is positive or negative, direct or indirect.
Extent: spatial scale of impact and classified as: • Site: the impacted area is the whole or significant portion of the site. • Local: Within a radius of 2 km of the construction site. • Regional: the impacted area extends to the immediate, surrounding and neighbouring properties. • National: the impact can be considered to be of national significance.
Duration: Indicates what the lifetime of the impact will be and is classified as: • Short term: The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase. • Medium term: The impact will last for the period of the construction phase, where after it will be entirely negated. • Long term: The impact will continue or last for the entire operational life of the development but will be mitigated by direct human action or by natural processes thereafter. The only class of impact which will be non-transitory. • Permanent: Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.
Intensity: Describes whether an impact is destructive or benign. • Low: Impact affects the environment in such a way that natural, cultural and social functions and processes are not affected. • Moderate: Affected environment is altered, but natural, cultural and social functions and processes continue, albeit in a modified way. • High: Natural, cultural, and social functions and processes are altered to an extent that they temporarily cease. • Very High: Natural, cultural, and social functions and processes are altered to an extent that they permanently cease.
Probability: Describes the likelihood of an impact actually occurring: • Improbable: Likelihood of the impact materialising is very low • Possible: The impact may occur • Highly Probable: Most likely that the impact will occur • Definite: Impact will certainly occur.

Significance: Based on the above criteria, the significance of issues was determined. The total number of points scored for each impact indicates the level of significance of the impact, and is rated as:

- **Low:** the impacts are less important.
- **Medium:** the impacts are important and require attention; mitigation is required to reduce the negative impacts.
- **High:** the impacts are of great importance. Mitigation is therefore crucial.

Cumulative: In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Mitigation: Where negative impacts are identified, mitigation measures have been identified. An indication of the degree of success of the potential mitigation measures is given per impact.

5.2 Criteria for rating of impacts

This describes the criteria to be used and the significance rating of the impacts.

Table 9: Criteria for rating of impacts

Criteria for the rating of impacts				
Criteria	Description			
Extent	National	Regional	Local	Site
Duration	Permanent	Long-term	Medium-term	Short-term
Intensity	Very high	High	Moderate	Low
Probability	Definite	Highly probable	Possible	Improbable
Points allocation	4	3	2	1
Significance Rating of identified impacts				
Impact	Points	Description		
Low	3-15	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction or operating procedure.		
Medium	16-27	Mitigation is possible with additional design and construction inputs.		
High	28-38	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.		
Very high	39-48	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.		
Status	Perceived effect of the impact			
Positive (+)	Beneficial impact			
Negative (-)	Adverse impact			
Negative impacts are shown with a (-) while positive ones are indicated as (+)				

5.3 Preliminary issues and environmental sensitivities

The preliminary environmental issues on the physical, biological, economic, social and institutional/legal framework have been identified in the body of the report. Impacts identified and will be investigated further:

- Ecological impacts (aquatic and terrestrial)
- Ground and surface water pollution;
- Impact on geology and soils;
- Topography and visual impacts;
- Socio-economic issues, such as employment creation, and emerging businesses
- Waste generation and management;
- Air quality impacts;
- Loss of heritage resources;
- Demand on infrastructure;
- Safety and security.

5.4 Preliminary assessment of anticipated Impacts

The impacts/aspects (beneficial and adverse) of the proposed activity are identified in the body of the report. The specific preliminary impacts associated with the development in the study area (are identified under each environment of this report), and general construction and operational phase-related impacts related to development are listed in the Table below.

Table 10: Preliminary quantification of impacts during the construction phase

Environmental Component	Potential Impact	Environmental Significance Score						Mitigation Measures
		E	D	I	P	Total	Rating	
Physical Impacts								
Ground and surface water pollution	- Contamination of surface and groundwater due to spillages, leakage, incorrect storage and handling of chemicals, oils, lubricants, cement, fuels and other hazardous materials. - Deposition of contaminated water into the wetland. - Leachate of contaminants into the soils - Sedimentation of fresh water features due inadequate stormwater management measures - Siltation of adjacent streams.	3	3	5	4	44		- Adequate stormwater drainage should be constructed. Stormwater culverts and drains are to be located and covered with metal grids to prevent blockages. - All hazardous substances must be stored on an impervious surface in a designated bunded area able to contain 110% of the total volume of materials stored. - All earth-moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability. No repairs may be undertaken beyond the contractor's lay-down areas or without precautionary measures implemented. - An Emergency Preparedness and Response Plan will be developed and implemented should an incident occur. - Establishment of stormwater diversion berms around the contractor laydown area and other potential contaminated areas (e.g. diesel storage tanks or refueling station). - Care must be taken to ensure that no contaminated water enters the natural watercourse. Preventative measures include sumps from where contaminated water can be either treated in situ or removed to an appropriate waste site. - Excess or spilt concrete should be confined within the works area and then removed to a waste site. - Stream banks stabilisation and prevention of further erosion to be implemented. - Protect sloping areas and wetland banks that are susceptible to erosion and ensure that there is no undue soil erosion resulting from activities within and adjacent to the construction camp and Work Areas.

Environmental Component	Potential Impact	Environmental Significance Score						Mitigation Measures
		E	D	I	P	Total	Rating	
Geology and soils	- Destabilisation of surface geology as a result of excavations - Erosion, degradation and loss of topsoil due to construction activities as well as stormwater runoff	1	1	4	4	24		- Building platforms, access roads and parking areas slightly elevated in relation to the immediate surroundings to assist channelling of surface water run-off and to contribute towards the internal stability of structures and road pavements. - Proper surface runoff and subsurface drainage, including damp proofing, form part of the permanent works. - Insofar as excavation within "Hard" material is concerned, excavation using power tools, such as a seismic pneumatic rock breaker attached to a 25t traxcavator, for instance, should be considered as a minimum. - The founding of surface beds, access roads and parking areas are summarised as follows: - Rip and re-compact the upper layer of 300mm (minimum) of in-situ soils to a minimum of 93% Mod AASHTO in-situ density. - Import minimum one layer of G7 quality natural soils/gravels and compact to 95% of Mod AASHTO at optimum moisture content for all surface bed preparation and selected road layer works construction purposes. - A minimum of 1No x stabilized C4 base/subbase layer should be considered for road pavement construction purposes, as a minimum. - Interlocking block paving should preferably be considered for roads and parking.
Topography	- Alteration of topography due to excavations stockpiling of soil, building material, debris and waste material on site. - Stability of slopes	1	1	1	2	6		- Limit excavations to areas required for construction purposes. - Avoid placing of stockpiles and other services on areas likely to pose visual impact - Precautionary measures and design from the engineer must be implemented. - Re-vegetation of re-profiled slopes; - Temporary stabilisation of slopes using geotextiles; and Installation of gabions and reno mattresses.
Air quality	Dust pollution affecting adjacent developments as a result of construction activities and vehicles on site.	2	1	3	4	24		- Enforce adherence to speed limits on onsite roads to prevent the liberation of dust. - Dust suppression measures including regular application of water must be implemented. Water used for this purpose must be used in quantities that will not result in the generation of run-off. - All site workers to wear PPE to avoid any exposure to contaminated dust particles.

Environmental Component	Potential Impact	Environmental Significance Score						Mitigation Measures	
		E	D	I	P	Total	Rating		
Biophysical Impacts									
Flora	Site clearing for construction activities leading to loss of species diversity and habitat characteristics	1	4	2	4	28		- The removal of plant species should only occur on the footprint area of the development and not over the larger area. - Conduct flora species search and rescue efforts before ground clearing begins in order to reduce negative impacts on species of concern. - Remove and relocate any plants of botanical or ecological significance as indicated by the ecologist or Environmental Control Officer (ECO); - Clearly demarcate the entire development footprint prior to initial site clearance and prevent construction personnel from leaving the demarcated area; - Monitoring should be implemented during the construction phase of the development to ensure that minimal impact is caused to the flora of the area. - The ECO should advise the construction team to ensure minimum destruction and damage to the environment. The ECO should enforce any measures that he/she deems necessary. Regular environmental training should be provided. Limit pesticide use to non-persistent, immobile pesticides and apply in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications.	
Fauna	Site clearing for construction activities results in a loss of species diversity and alteration of habitat characteristics.	2	3	2	4	28		- For safety, trenches should be adequately cordoned off to prevent animals from falling in and getting trapped and/or injured. This could be prevented by the constant excavating and backfilling of trenches during pipeline construction. - Poisons for the control of problem animals should rather be avoided since the wrong use thereof can have disastrous consequences for the raptors (refer to Appendix C) occurring in the area. The use of poisons for the control of rats, mice or other vermin should only be used after approval from an ecologist; - Limit vehicular movement and impact on the wetland area	
Socio-economic Impacts									
Noise pollution	Increase in noise pollution due to, excavations, site clearing, construction vehicles and personnel, operation of cement mixer machine, blasting and or drilling.	2	2	2	3	18		- Locate noisy machines and equipment maintenance areas away from sensitive receptors. - All equipment and activities are to comply with noise regulations. - Adherence to acceptable working hours. - Adherence to the Occupational Health and Safety Act. - Ear protection for workers who may be affected by noise.	

Environmental Component	Potential Impact	Environmental Significance Score						Mitigation Measures
		E	D	I	P	Total	Rating	
Visual integrity	Visibility of dust, waste pollution and construction activities from surrounding roads and properties	2	2	3	4	28		• Apply dust control measures diligently. • Screening of the construction site to be introduced as required. • Indigenous plants or trees must be retained where appropriate to provide screens to make the construction site less visually intrusive. • Lighting on site is to be sufficient for safety and security purposes but should not be intrusive to neighbouring residents or disturb wildlife. • No litter or unsightly waste stored on site.
Sites of cultural significance	Destruction of areas or features of cultural significance	1	4	2	2	14		Should any other potentially culturally significant artefacts or graves, etc. be found during construction activities, all activities should be stopped until an assessment by a Cultural Heritage practitioner has been completed.
Safety and security	• Compromised safety of the public due to construction works, • Increase in crime resulting from influx of construction personnel. • Exposure to contaminated soils	1	2	1	2	8		• Proper safety measures implemented. • Only security guards are to be allowed to sleep on site. • All staff will carry identification, access control will be enforced, and the site will be swept and a search will be done each night • The development will have 24-hour access control and security. • A Community Liaison Officer to be appointed. The CLO is to be consulted regarding the employment of members of the surrounding communities.
Traffic	• Impeded flow of traffic due to the presence of construction vehicles. • Increase in traffic on roads due to the presence of construction vehicles	2	2	2	3	18		• The access of large trucks will be investigated to provide a suitable access route that does not become a nuisance to the surrounding development. • Construction vehicles and activities must aim to avoid peak hour traffic times (weekdays 7-8am and 5-6pm) • Establish an all-weather site access and wheel wash or shake down to prevent soil and materials from being trekked onto the road. • Effective barriers and signage implemented.
Employment opportunities	• Employment opportunities created. • Decrease in unemployment levels and related crimes	2	2	3	4	28		• Local labour to be used as far as possible for the installation of services and the construction activities; • Contract requirements to involve BEE companies. • Local products, goods and services to be utilised as far as possible during the construction phase.

Table 11: Preliminary quantification of impacts during the operation phase

Environmental Component	Activity Potential Impact	Environmental Significance Score						Mitigation Measures
		E	D	I	P	Total	Rating	
Physical Impacts								
Geology and soils	Possible soil erosion	1	1	1	2	6		The stormwater management and landscaping system, designed to dissipate, attenuate, and encourage infiltration of stormwater, will significantly reduce the erosion rate and promote soil stability.
Ground and surface water	Risk from polluted water	2	3	2	4	28		- Seal off surface water areas from polluted soils. - Manage stormwater areas on the surface and channel away from polluted soils and areas. - Rehabilitation measures to include groundwater protection measures. - Stormwater management to ensure that streams and channels are not polluted
Air quality	Emissions from vehicles and operations affecting ambient air quality	2	2	1	2	10		- Trucks and vehicles to be properly maintained; - Minimise the amount of land disturbance and develop and implement stringent erosion and dust control practices. - Operations to meet air quality standards - Roads will be paved, thus eliminate dust
Biophysical Impacts								
Flora	General human interference and impact leading to loss of species diversity and habitat characteristics	1	1	1	1	3		- Walkways throughout the open spaces and buffer zones will be strategically placed. - Landscaping guidelines, which include an allowable indigenous vegetation list that attracts fauna, are to be formulated and implemented. - Minimal to no exotic vegetation will be allowed.
Fauna	General human interference and impact leading to loss of species diversity and habitat characteristics	1	1	1	1	3		- Walkways will be strategically placed throughout the open spaces and buffer zones. - Landscaping guidelines, which include an allowable indigenous vegetation list that attracts fauna, are to be formulated and implemented. - Minimal to no exotic vegetation will be allowed
Environmentally sensitive areas or wetland	Loss of valuable landscape and habitat associated wetlands and streams	2	2	1	2	10		Buffer zone to be fenced off, and only walkways that are strategically placed and infrastructure services properly designed and implemented will be allowed
Socio-economic Impacts								

Environmental Component	Activity Potential Impact	Environmental Significance Score						Mitigation Measures
		E	D	I	P	Total	Rating	
Noise pollution	Noise from the racecourse and traffic	1	2	1	2	8		Noise abatement measures to be implemented
Visual integrity	- Higher density development and change in land use - Change in sense of place, however appropriate and good design will result in an improved land use character and will positively enhance the site and surrounding areas	1	3	2	3	18		Architectural guidelines (including aspects of roof and wall finishes, colours, heights of buildings, and lighting), as well as Landscape Architectural guidelines (screening, buffering, functioning, aesthetics etc) for the development will be developed to promote the enhancement of this urban area and therefore creating new and valuable places with a modified and positive urban mixed-use sense of place that is vibrant and diverse
Safety and security	Active operational phase leading to a decrease in crime due to the creation of a more secure environment	1	2	1	1	4		- Security provided via passive surveillance. - Appropriate environmental design to address safety and security issues (CSIR publication) - Good accessibility for emergency and police services.
Traffic increase	- Increase in traffic as a result of the sporting complex - Additional vehicles on road servicing industrial and commercial uses	2	2	2	2	12		- All requirements of the municipality to be adhered to. - All improvements to road infrastructure as recommended by traffic engineer to be adhered to.
Local services	Availability of services in the area.	1	2	3	3	18		- The engineers to ensure that adequate measures are in place for adequate service delivery that does not impact negatively on surrounding areas. - All requirements of the municipality to be adhered to regarding service reticulation and delivery

Environmental Component	Activity Potential Impact	Environmental Significance Score						Mitigation Measures
		E	D	I	P	Total	Rating	
Employment and improved tax base for the municipality	• Employment of local workers during the operational phase. • Decrease in unemployment and crimes resulting from unemployment. • Employment and opportunities for BEE and local companies	2	3	2	4	28		• Local labour and employees to be made use of as far as possible for all aspects of the operational phase • BEE companies to be trained and involved in during the operational phase of the development – e.g. Management of retail facilities, maintenance, landscaping, etc.
	• Increase in demand for local goods and services • Decrease in unemployment and empowerment of local trade and industry	2	2	2	4	24		Local products, goods and services to be utilised as far as possible during the operational phase.
	• Increase in taxes raised on property	2	2	2	4	24		None required

6 PUBLIC PARTICIPATION PROCESS

This section provides an overview of the public participation process for the scoping phase, as well as that to be undertaken during the EIR phase.

6.1 Objectives of The Public Participation

The public consultation process is designed to provide information to and receive feedback from interested and affected parties (I&AP). This provides organisations and individuals with the opportunity to raise concerns, make comments, and suggestions regarding the proposed activity. By being part of the assessment process, stakeholders have the opportunity to influence the Project Layout, design and the Plan of Study for the EIA.

During the Scoping Phase, the public participation process enables Interested and Affected Parties to:

- Understand the context of the EIA;
- Become informed and educated about the proposed project and its potential impacts;
- Raise issues of concern and suggestions for enhanced benefits;
- Verify that their comments, issues of concern and suggestions have been recorded;
- Assist in identifying reasonable alternatives; and
- Contribute relevant local information and traditional knowledge to the environmental impact assessment process.

During the EIR phase, the public participation process assists I&AP to:

- Contribute relevant information and local and traditional knowledge to the environmental impact assessment process;
- Verify that their issues and suggestions have been evaluated and considered in the environmental investigations, and feedback has been provided.
- Comment on the findings of the EIA; and
- Identify further issues of concern from the findings of the EIA.

6.2 Identification of I&APs

I&APs have been identified through liaison with potentially affected parties in the study area through a newspaper advertisement, placement of site notices and distribution of BID sheets along with a registration process involving completion of a registration and comment sheet.

6.3 Notification process

The notification process includes publishing notices on websites and in newspapers, as well as informing government departments, institutions, occupiers, neighboring properties, NGOs, HOAs, and the councillor about the proposed activities and inviting them to take part in the process.

6.4 Register of I&APs

The NEMA Regulations (GNR.982) distinguishes between I&APs and registered I&APs. I&APs, as contemplated in NEMA include: “(a) any person, group of persons or organisation interested in or affected by an activity; and (b) any organ of state that may have jurisdiction over any aspect of the activity”.

In terms of the Regulations, an EAP managing an application must open and maintain a register which contains the names, contact details and addresses of:

- All persons who have requested to be registered or have submitted written comments or attended meetings with the applicant or EAP;
- All persons who have in writing requested the applicant or EAP managing the application, for

- their names to be placed on the register; and
- All organs of state which have jurisdiction in respect of the activity to which the application relates.

6.5 Public Participation During Scoping Phase

During the Scoping Phase, the Draft Scoping Report was announced via an advert in a national Newspaper, site notices and email communication to interested and affected parties, including government departments. Briefly, the process that was undertaken is as follows:

- Delivery of the Draft Scoping Report (DSR) to organs of state;
- Placing of hard copy reports at accessible venues near the site for public review;
- Notifying adjacent occupiers/landowners of the availability of the report;
- Placing of the BID and scoping report on the EAP website for review;
- All comments have been attended to and incorporated into the Appendix of the Scoping Report.
- This report will be made available to the Registered Interested & Affected parties, including organs of state.

6.6 Competent authority's decision on the scoping report

According to the Regulations, GDEnv is expected to decide on the scoping report within 43 days of receipt of the final report. Should the report be accepted, the plan of study for environmental impact assessment will be implemented. If the scoping report is considered inadequate, then an opportunity will be provided for the report to be amended to comply with the Regulations.

7 PLAN OF STUDY FOR EIA

The Impact Assessment (IA) Phase will follow the approval of the Scoping Phase (this phase) and the Plan of Study for EIR. During the IA phase, specialist studies will be conducted. This will complement existing studies and inform the impact assessment. Issues raised by I&APs and the potential physical, biological, and socio-economic impacts of the establishment on the area's fabric will be examined in detail. In this way, stakeholder issues will assist in driving the EIA process.

When completed, the findings of the specialist studies will be integrated into a single report, the Draft EIA report, for comment by I&APs. The Draft EIA Report will be finalised by incorporating any additional comments received from I&APs, and an Environmental Management Programme (EMPr) will be developed from the findings and recommendations of the impact assessment studies. The Final EIA Report and EMP will be presented to the competent authority for decision-making.

7.1 Objectives of the EIA process

The objectives of the EIA process, as per the NEMA EIA Regulations 2014 are to, through a consultative process:

- a) determine the policy and legislative context within which the activity is located and document how the proposed activity complies with and responds to the policy and legislative context;
- b) describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
- c) identify the location of the development footprint within the preferred site based on an impact and risk assessment process, inclusive of cumulative impacts and a ranking process of all the identified development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects of the environment;
- d) determine the
 - nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and
 - the degree to which these impacts can be reversed, may cause irreplaceable loss of resources, and can be avoided, managed or mitigated;
- e) identify the ideal location for the activity within the preferred site based on the lowest level of environmental sensitivity identified during the assessment;
- f) identify, assess, and rank the impacts the activity will impose on the preferred location through the life of the activity;
- g) identify suitable measures to avoid, manage or mitigate identified impacts; and
- h) Identify residual risks that require management and ongoing monitoring.

7.2 Key tasks during the EIR phase

The findings of the environmental and socioeconomic baseline information inform the scope of work to be undertaken during the EIR phase. The plan of study for the EIA will meet the objectives of an EIA report as described above. The key tasks associated with the EIA Phase include:

- Reviewing the Scoping Report and Plan of Study for EIA comment and subsequent approval by GDEnv;
- Conducting specialist investigations as required, on the significant issues identified in the Scoping Process;
- Undertaking a detailed impact assessment process, assessing alternatives, options and potential mitigation measures;
 - Documenting the findings of the Impact Assessment into an Environmental Impact Report (EIR);
 - Compiling a draft environmental management programme (EMPr).

The plan of study therefore includes the following:

- Aspects to be assessed to inform the Environmental Impact Report;
- A description of the proposed method of assessing the environmental aspects, including aspects to be assessed by specialists;
- A description of the proposed method of assessing the duration and significance of impacts;
- An indication of the stages at which the competent authority will be consulted;
- Particulars of the public participation process that will be conducted during the environmental impact assessment process; and
- A description of the tasks that will be undertaken as part of the environmental impact assessment process;
- Identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

The impact assessment component of the EIA will entail several environmental aspects to be studied as detailed below. Specialists to undertake the studies have been appointed and will be required to deliver their assessment as per the terms of reference for the specialist investigations provided in the NEMA EIA Regulations 2014, Appendix 6 Specialist Reports and as set out below. The description is presented in fairly general terms, but all the issues that need to be addressed by the studies are captured.

7.3 Specialist studies for the EIR

7.3.1 Ecological Assessment

An update of the terrestrial ecological assessment that fulfils the requirements of the EIA in terms of the NEMA (1998) and the associated regulations will be compiled. The provisions of all relevant databases such as the NFEPA, SANBI and GDARD C-Plan V3.3 will be consulted. Below is a brief presentation of the approaches and methodology for the various assessments.

7.3.1.1 Floral assessment

A detailed field assessment will be undertaken to identify or confirm:

- The various habitat types and the conservation importance and present ecological state;
- Floral species associated with each habitat component
- Habitat types and associated vulnerability
- Areas of severe alien and invader encroachment;
- Veld conditions which will be compared to the typical vegetation for the vegetation type of the area according to Mucina & Rutherford (2006);
- Sensitive areas and detailed description of the ecological integrity of each sensitivity zone;
- The general impacts as well as cumulative impacts on floral assemblages.
- The presence of RDL and protected plants as listed within the National Forest Act, (Act 84 as amended) and any relevant provincial legislation and guidelines.

7.3.1.2 Faunal assessments

Faunal assemblage will be determined using the following methods:

- The ecological importance and sensitivity (EISC) of the study area according to the relevant conservation databases. The relevant databases for the QDS will be consulted;
- Visual observations of actually occurring species;
- Identification of evidence of occurrence, e.g. call spoor, droppings etc;
- The reports produced include sensitive habitat types and impacts from habitat disturbance, faunal assemblages at risk (especially avifauna) and an assessment of impacts on migratory routes;
- An assessment of cumulative impacts on faunal assemblages in the region was made, with specific emphasis on avifauna;

- Consideration of the RDSIS index to quantify the importance of the study area in terms of RDL faunal conservation;
- Recommendations on management and mitigation measures with regards to the construction and operation of the proposed activities in order to manage and mitigate impacts on the faunal assemblage of the area.

The following field assessment methodologies will be followed as deemed necessary:

- **Avifauna:**
 - The Southern African Bird Atlas Project 2 species list for the quarter degree square will be compared with the database of birds identified on the study area during the field surveys. Field surveys will be undertaken utilising a pair of binoculars and birdcall identification techniques will also be utilised during the assessment in order to accurately identify avifaunal species;
 - Potential biodiversity list;
 - Habitat evaluation for RDL species and areas of avifaunal importance.
 - Extensive consideration will be given to impacts on avifaunal ecology with specific mention of impacts on migratory species and migratory corridors.
- **Mammals:**
 - A potential biodiversity list will be compiled from available literature sources;
 - Short habitat descriptions of all habitat types pertaining to RDL species will be given;
 - The habitat types will be evaluated for potentially supporting RDL species;
 - If deemed necessary, field assessments will employ trapping techniques (aimed at determining the small mammal species community structure);
 - The field assessment will identify the presence of various mammalian species through direct (visual observations) and indirect (spoor, burrow and scat identifications);
 - A species list, detailing their specific conservation status will be compiled from the field observations;
 - If considered necessary, the survey will be extended to a nocturnal survey to potentially enable augmentation of the data. The use of surveillance techniques such as automated camera traps will then be considered;
- **Herpetofauna:**
 - A complete potential biodiversity list will be provided;
 - The conservation status of each species listed will be determined.

The potential species list in accordance to the habitat availability will also be compiled;

- The species recorded during the field survey will be listed;
- Habitat evaluations will be undertaken for suitability for supporting various RDL species recorded from the region;
- Identification through call identification and direct observation;
- Site searches within the various habitat type units will be employed for determining the species community structures within the site, with special mention of searching of target areas, including rocky outcrops and wetland areas;

7.3.2 Wetland delineation and assessment

A site assessment will be undertaken, and the different sections of the features identified within the study will be assessed using the following methodology:

- Delineation of the wetland and riparian features will take place according to “DWAF, 2005: A practical Guideline Procedure for the Identification and Delineation of Wetlands and Riparian Zones”. Aspects such as soil morphological characteristics, vegetation types and wetness will be used to delineate the various zones of the wetland (permanent and temporary) according to the guidelines. A buffer zone will be allocated to the wetland feature. ,

- The wetland classification assessment will be done according to the *Classification System for Wetlands and other Aquatic Ecosystems in South Africa. User Manual: Inland systems* (Ollis et al., 2013);
- The wetland EIS will be defined based on the DWA 1999 method;
- The wetland services provided by the resources on the subject property will be assessed according to the Method of Kotze et al (2009) in which services to the ecology of the site will be defined, and services to the people of the area will be defined;
- The wetland Health/IHI will be assessed according to the resource-directed measures guideline as advocated by Macfarlane et al., (2008) and DWA (2007), respectively;
- The wetland areas will be mapped according to the ecological sensitivity of each wetland hydrogeomorphic unit in relation to the study area. In addition to the wetland boundaries, wetland buffers will be generated as applicable.

The study already undertaken is considered adequate, and no further wetland studies will be done for the site.

7.3.3 Visual Impact Assessment

A study has been commissioned for the development. The following constitute the key elements of the study:

- establishing the study area's current sense of place and documenting the existing visual characteristics of the proposed site and its environment.
- Visual renderings of the proposed site layout to illustrate potential visual changes associated with the proposed project.
- Describe the existing visual characteristics of the proposed site and its environment.
- Viewshed and viewing distance using GIS analysis up to 3-15 km from the proposed structures.
- Visual Exposure Analysis comprising the following aspects:
 - Terrain Slope- Slope angle is determined from the Digital Surface Model (DSM) and the location of the proposed structures, given a ranking depending on the steepness of the slope.
 - Aspect of structure location - The slope where the structures are to be built is calculated from the DTM and given a ranking determined by the Sun angle.
 - Landforms - The landforms of the location of the proposed structures are determined from the DSM and ranked according to the type of landform. Structures built on certain landforms, e.g. ridges, will be more visible than structures built in valleys.
 - Slope Position of structure- Using GIS analysis, the position of the proposed structure is determined and ranked according to the position on the slope where the structure is to be built.
 - Relative elevation of structure- Using the DSM the elevation of the proposed structure relative to the surrounding elevation is determined and ranked according to the difference in height of the surrounding areas.
 - Terrain Ruggedness - Determined from the DSM and given a ranking based on the homogeneity of the terrain.
 - Viewer Sensitivity - The Viewer sensitivity ranking of the surrounding areas is determined using various land cover and land use datasets and ranked according to the sensitivity of the related structures to the environment.

- Overall Visual Impact - Combining all the above datasets, a final visual impact of the proposed structures is calculated.
 - Impact Assessment.
 - Mitigation measures and recommendations.

7.3.4 Air quality study

The quantification and assessment of air quality impacts, including:

- The establishment of an atmospheric emissions inventory. Pollutants quantified will include particulate matter (TSP, PM10 and PM2.5), and potentially VOCs and selected criteria gaseous pollutants i.e. carbon monoxide (CO), oxides of nitrogen (NOx) and sulfur dioxide (SO2) will also be included if considered significant, especially during the construction phase. Published emissions factors from the US EPA and Australian National Pollutant Inventory (NPI) may be used to calculate emissions from the operations.
- Atmospheric dispersion modelling to determine ambient air pollutant concentrations and dustfall rates. The US EPA AERMOD model will be used. AERMOD is a Gaussian plume steady state model.
- The screening of simulated ambient pollutant concentrations against air quality criteria.

7.3.5 Noise impact assessment

Enviro-Acoustic Research (EARES) was appointed to determine the potential noise impact on the surrounding environment of the proposed development of Highlands Racecourse. A noise impact assessment must be completed for the following reasons:

- A change in land use as highlighted in SANS 10328:2008 (section 3.3 of the SANS guideline);
- If a light industry is to be established within 500 m from a potential noise sensitive development (SANS 10328:2008 [5.4 (g)]) or visa versa;
- It is generally required by the local or district authority as part of the environmental authorization or planning approval in terms of Regulation 2(d) or GN R154 of 1992;
- It is a controlled activity in terms of the NEMA EIA Regulations, 2014, as amended and an ENIA may be required because the project may cause a disturbing noise that is prohibited in terms of section 18(1) of the Government Notice 579 of 2010.

7.3.6 Land Contamination and Management

TerraSoil Science conducted a detailed contaminated land investigation. The objectives included:

- Land characteristics and specific pollutants
- Proposed land use based on the long-term exposure / management risk
- Specific human and environmental health concerns pertaining to the soil pollution
- Proposed storm water and constructed wetland approach
- Proposed land rehabilitation approach

The process started with rapid screening to identify the main pollutants of concern, followed by soil and water analysis as well as possible water leach. Among the methods employed, the following are worth noting:

- Sampling of water bodies with subsequent water analysis;
- Sampling of soils with the larger area that have been subjected to irrigation with nitrogen containing wastewater.
- More intensive sampling of the polluted areas to determine:
 - Nitrate, sulphate, phosphorus and heavy metal contents of the soils of water effluent areas;
 - Arsenic levels in soils previously flagged as being As polluted; and
 - Possible U pollution in an area having been identified as having had a historical radioactive signature.

The results of the investigation will be presented in the EIR.

7.3.7 Bulk Services

The Outline Scheme Report was compiled by Sotiralis Consulting Engineers (Pty) Ltd in October 2025. The report will be included in the EIR.

7.3.8 Town Planning application

M&T Development (Pty) Ltd compiled Town Planning Memoranda in September 2025.

7.3.9 Geotechnical report

SRK Consulting undertook geotechnical investigations in April 2000 and October 2008.

7.3.10 Traffic Impact Assessment (TIA)

TIA was undertaken by Via P Consulting (Pty) Ltd in September 2025.

7.3.11 Cultural and Heritage Resources

Site investigations were carried out by the National Cultural History Museum in December 2006 for the entire Modderfontein site. No further studies will be carried out.

7.3.12 Electricity infrastructure services

The Electrical report was compiled by Pienaar & Erwee Engineers (Pty) Ltd in September 2025.

7.4 Impact Assessment Methodology

The impact assessment methodology and aspects to be assessed has been discussed in Section 5 above. Furthermore, Section 5 provides a preliminary list of environmental aspects considered significant in relation to the proposed development. Additionally, a preliminary list of measures to avoid, mitigate, or manage the identified impacts has been suggested in the same section.

7.5 Public participation during the EIR phase

The Public Participation Process is being conducted as an essential component of the Environmental Impact Assessment Process in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014.

7.5.1 Notification of Interested and Affected Parties

- **Newspaper Advert-** A Newspaper Advertisement will published in the Citizen newspaper as required by the Regulations.
- **Written notices-** Written notices have been given to organs of state having jurisdiction in respect of any aspect of the activity as well as the City of Johannesburg Metropolitan Municipality.
- **Basic Information Document-** A Background Information Document (BID) was posted, faxed, emailed or hand delivered to I&APs. Written acknowledgement will be gathered from each of these landowners. The BID document provides information concerning the proposed development. Interested and affected parties will be invited to submit written comments concerning the proposed development and become part of the process.
- **Site Notices -** Detailed site notices were prepared in accordance with the requirements of the Regulations will be placed at strategic and visible places alongside the property on which the proposed development will be located.
- **Public Meeting /focus groups meetings-** If required, meetings will be arranged with stakeholders that would have been identified to ensure that available information can be provided to Interested and Affected Parties.
- **Ward Councillor -** The Ward Councillor was informed and given an opportunity to provide comments and input into the process.

7.5.2 Written Correspondence from IAPs

Comments received from I&APs will be incorporated in the comments and response register which forms part of the Final Scoping Report.

7.5.3 Issues and Concerns

A list of issues and concerns submitted have been drawn up and consolidated into a report. This has been submitted as part of the documentation submitted to the competent authority.

7.6 Gauteng Department of Environment decision on the application

Once the GDEnv has taken a decision on the proposed project, registered I&APs will be notified of this decision and of the opportunity to appeal. This notification will be provided through a letter or email to all registered I&APs, summarising the authority's decision and explaining how to lodge an appeal should they wish to.

8 SUMMARY AND CONCLUSION

The purpose of this report is to provide the relevant authority with sufficient information on the potential impacts of the proposed development, so that an informed decision can be made regarding the processes and subsequent authorisation of the proposed development. Potential impacts were identified through preliminary specialist assessment of the site as well as through the technical expertise and experience of the EAP.

The construction and operation of a sporting precinct anchored by a horse racing course of international standards and associated infrastructure uses can pose various risks to the environment as well as the surrounding areas. The issues related to the development will be identified, discussed, and assessed in terms of various criteria such as extent, duration, intensity, and significance.

It is believed that the methodology and plan of study that will be used to assess the current state of the environment will be sufficient to identify potential impacts. The data will assist in the compilation of the Environmental Impact Assessment as an instrument in the decision-making process. Mitigation measures for the impacts identified in this Scoping Report will be described in detail in the EIR.

9 EAP DECLARATION AND UNDERTAKING

I, Pirate Ncube, hereby confirm that the information provided in this report is correct at the time of compilation and the report was compiled with inputs provided by the applicant and some of the specialists appointed for the project.

I hereby also confirm that:

- all relevant information pertaining to the project has been submitted to potential interested and affected parties;*
- all comments received from I&APs will be attended to and/or included in the final Scoping Report that will be submitted to the GDEnv;*
- a record will be kept of any subsequent comments received and submitted with the final EIA. This will be in the form of a Comments and Responses Report (CRR);*
- the Plan of Study for the EIA will be implemented, and the findings of specialist studies will be presented in the EIA report.*

.....
Signature

.....
Date

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APPENDICES

Appendix 1: Locality Map

Appendix 2: Layout Plan

Appendix 3: Public Participation Information

To be included in the final scoping report