



Physical Address: 892 Umgeni Road, Durban, 4001

Postal Address: PO Box 47174, Greyville, 4023

Tel: 031 372 9700

Fax: 031 303 1122

**JT Ross Properties (Pty) Ltd:  
Proposed Rohill Business Estate on Rem.  
of Erf 3481 Durban North**

**Draft Environmental Impact Assessment  
(EIA) Report**

**Version - 1**

**25 November 2014**

**DEDTEA Reference Number: DM/0061/2012**

**GCS Project Number: 14-071**

Submitted on behalf of JT Ross Properties (Pty) Ltd  
by GCS Water & Environment (Pty) Ltd  
GCS Project Number: 14-071



4a Old Main Road, Judges Walk, Kloof, KwaZulu-Natal, 3610 PO Box 819, Gillitts, 3603 South Africa

Tel: +27 (0) 31 764 7130 Fax: +27 (0) 31 764 7140 Web: [www.gcs-sa.biz](http://www.gcs-sa.biz)

## Draft Environmental Impact Assessment (EIA) Report

Version - 1

25 November 2014

Prepared for:

JT Ross Properties (Pty) Ltd



## DOCUMENT ISSUE STATUS

Report Issue	Draft for Public Comment		
GCS Reference Number	14-071		
DEDTEA Reference Number	DM/0061/2012		
Client Reference	Rohill Business Estate EIA		
Title	Proposed Rohill Business Estate on Rem. of Erf 3481 Durban North: Draft Environmental Impact Assessment (EIA) Report		
	Name	Signature	Date
Author	Karin Fivaz Kelly Taylor		24 October 2014
Document Reviewer	Renee Janse van Rensburg		6 November 2014
Director	Pieter Labuschagne		14 Nov 2014
Client (J.T. Ross)	Grant Smith		24/11/2014

## LEGAL NOTICE

This report or any proportion thereof and any associated documentation remain the property of GCS until the mandator effects payment of all fees and disbursements due to GCS in terms of the GCS Conditions of Contract and Project Acceptance Form. Notwithstanding the aforesaid, any reproduction, duplication, copying, adaptation, editing, change, disclosure, publication, distribution, incorporation, modification, lending, transfer, sending, delivering, serving or broadcasting must be authorised in writing by GCS.

**DISCLAIMER**

Information contained in this report relating to the project description is based on information supplied by the client and other client appointed sources. It is assumed that the information provided to GCS is correct.

Environmental and Social data, as well as environmental impact assessment provided in this report is based on information supplied by specialists in their respective fields, as well as existing information pertaining to the area in question (including previous site investigation data). It has been assumed that the information provided to GCS to perform the outcomes of this report is correct.

No responsibility is accepted by GCS for incomplete or inaccurate data supplied by others (the client and external sources). Where gaps have been identified these are listed for consideration by the responsible decision-makers.

GCS's opinions, conclusions and recommendations are based upon information that existed at the time of the start of the production of this Document.

## PURPOSE OF THIS REPORT

JT Ross Properties (Pty) Ltd proposes to develop the Rohill Business Estate on the Remainder of Erf 3481 Durban North, on the corner of Chris Hani Road and Old North Coast Road. The proposed development will be zoned General Business 2, and will comprise light industrial (92.1%) and retail uses (7.9%).

In terms of the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998)(as amended), JT Ross requires Environmental Authorisation from the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (DEDTEA) subject to conducting an Environmental Impact Assessment (EIA) process before the proposed development activities can commence. In this regard, GCS Water and Environment (Pty) Ltd, an independent environmental consulting company, has been appointed to conduct the EIA for the proposed Business Estate.

An EIA has two distinct phases: the Scoping Phase and the Impact Assessment Phase. The Scoping Phase of the process has been concluded with the compilation and submission of a Scoping Report to the DEDTEA for acceptance on 20 May 2014. The Scoping Report documents all activities undertaken in the Scoping Phase, the issues and impacts identified by Interested and Affected Parties (I&APs) and professional experience, and the Plan of Study (PoS) for the Impact Assessment. The Final Scoping Report and PoS has been accepted by the DEDTEA (dated 15 July 2014), and the Impact Assessment Phase has commenced according to the PoS.

This report therefore represents the draft version of the Environmental Impact Assessment Report that will be made available for public comment.

**The purpose of the Impact Assessment Phase is to assess the direct, indirect, and cumulative environmental impacts associated with a proposed project/activity. The EIA process culminates in the submission of an EIA Report (including an Environmental Management Programme (EMPr) to the competent authority for decision-making.**

The objectives of the Impact Assessment Phase are to:

- Formally assess the nature, intensity, magnitude, duration, probability and significance of all of the potential impacts identified in the Scoping Phase.
- Identify feasible and realistic mitigation measures required to avoid and/or minimise the negative environmental impacts resulting from the activity and combine and present all these measures in the form of a construction and



operational EMPr in accordance with NEMA.

- Provide the authorities (DEDTEA) with sufficient information in order to make a decision regarding the authorisation of the activity.

The above listed objectives will be achieved by commissioning of all the specialist studies required to evaluate and assess the relevant impacts as per the PoS for EIA as well as addressing any outstanding issues and concerns that do not require a formal specialist assessment.

A prescribed Public Participation Process (PPP) runs concurrently with the Scoping and Impact Assessment Phases. All comments received to date in the Scoping Phase have been document in the Comments and Response Report (CRR) and addressed in the Draft EIA Report (this document).

It is important to note that the Scoping Phase for the project was originally initiated by the previous applicant, Investec Property, and the initial public notification was undertaken as an Investec Project with an Investec conceptual layout plan. This process was halted when JT Ross purchased the land. JT Ross undertook to continue the EIA process from where the Investec application left off, an approach that was accepted by the assessing authority, the DEDTEA, on the condition that all registered I&APs were notified of the change in applicant and project details. All registered I&APs were subsequently notified of these changes.

## YOUR COMMENT ON THE DRAFT EIA REPORT

This Draft EIA Report will be made available to all registered I&APs for public review and comment from **26 November 2014** for a period of **40 calendar days, excluding the holiday shut-down period of 15 December to 2 January (comment period ending 23 January 2015)**. I&APs will be notified of the availability and will be sent an electronic copy on request. Copies will also be available for download from the GCS website: [www.gcs-sa.biz/Documents](http://www.gcs-sa.biz/Documents) (search for 14-071 Proposed Rohill Business Estate, Red Hill). A hard copy will be placed at the Firwood and Glenashley Libraries for those I&APs without access to the internet or email.

Any comments on the Draft EIA Report must be submitted in writing via post, facsimile or email (including any additional supporting material) on or before **23 January 2015** to:

**GCS Water & Environmental (Pty) Ltd**  
**Environmental Assessment Practitioner**

Contact Person: Kelly Taylor

Tel: 031 764 7130

Fax: 031 764 7140

Email: [kellyt@gcs-sa.biz](mailto:kellyt@gcs-sa.biz)

Postal Address: PO Box 819, Gillitts, 3603

## EXECUTIVE SUMMARY

### Introduction

In terms of the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998), the development of the Proposed Rohill Business Estate constitutes a number of listed activities defined in the Environmental Impact Assessment (EIA) Regulations (2010) that may be detrimental to the environment and thus, requires authorisation from the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (DEDTEA, previously DAEA) before it can proceed. JT Ross Properties (Pty) Ltd (hereafter referred to as JT Ross) has appointed GCS Water and Environmental Consultants (Pty) Ltd as the Environmental Assessment Practitioner (EAP) to undertake the EIA for the project.

This report represents the Draft EIA Report for the proposed project and has been prepared in accordance with the EIA Regulations (2010) published in Government Notice No. R. 543 of 2010. These Regulations were published by the National Department of Environmental Affairs (DEA) under Section 24(5) read with Section 24M and 44 of the NEMA to control activities which may have a detrimental effect on the environment.

### Project Description

The applicant, JT Ross proposes to develop the Rohill Business Estate on Remainder of Erf 3481 Durban North, on the corner of Chris Hani Road and Old North Coast Road, in the suburb of Red Hill within the eThekweni Municipality Metropolitan Area, KwaZulu-Natal. The land is currently zoned as 'extractive industrial' and is currently used by Corobrik (Pty) Ltd to mine clay, with the remainder of the site under sugar cane cultivation by Tongaat-Hulett.

The total area of the site is 59.61 hectares (ha). Approximately 32 ha of the land is proposed to be levelled for large cut-to-fill platforms for light industrial, general business and warehousing, while the remainder of the site will be zoned as public/private open space for conservation, and roads. These platforms will comprise Light Industrial (92.1%) and warehouse-based retail uses (Shop) (7.9%), and the site will be rezoned as 'General Business 2'. A perennial stream flows through the central section of the property in an east/west direction, dissipating into the nearby uMhlangane River (previously known as the Seekoispuit). Development of the levelled platforms is proposed on either side of this central watercourse.

The proposed development will include:

- Decommissioning of current mining operations and sugar cane cultivation.
- The removal of vegetation on the site.

- The creation of seven large cut-to-fill platforms proposed to be undertaken in three phases.
- The construction of road infrastructure for servicing the development.
- Rehabilitation of open space areas to be retained on site.
- The construction of associated infrastructure such as potable water reticulation, sewerage pipelines, electricity supply, stormwater infrastructure, security gates and fences. Details of all infrastructure availability and requirements have been included in this Draft EIA Report.

### **Scoping and EIA Process**

The Environmental Scoping and Impact Assessment Phases have been undertaken in accordance with the requirements of Section 24 of the NEMA, as read with GNR 543 (Regulations 26-29), 544, 545 and 546 of the NEMA and the Integrated Environmental Management (IEM) Information Series published by the Department of Environmental Affairs and Tourism (now DEA) in 2002. Activities that have been carried out as part of the Scoping Phase are summarized below:

#### *Pre-Application Authority Consultation*

- A pre-application meeting was held with Ms Yugesni Govender of the DAEA on 5 September 2012.

#### *I&AP Identification and Notification*

- Key stakeholders were identified for inclusion in the PPP, such as municipal authorities, government departments and environmental groups that have jurisdiction over, or potential interest in, the activity.
- An electronic I&AP database was developed, which is maintained and updated throughout the project.
- An invitation for the registration and participation of I&APs was placed in the Mercury, Isolezwe and the Northglen newspapers on 2 and 3 October 2012.
- Notice boards detailing information about the project and the Scoping and EIA Process, as well as invitation to register as I&APs, were strategically fixed at various points around the development site on 4 and 24 October 2012.
- Notification of key stakeholders through letters, email and telephonic discussions between 4 and 24 October 2012.

#### *Background Information Document*

- A Background Information Document (BID) containing information on the proposed project, the proponent, consultants and the proposed Scoping and EIA process and associated PPP to be followed was distributed on 4 and 24 October 2012.

### Open Day Public Meeting

- An Open Day was held at the Firwood Library in Red Hill on 18 October 2012. The purpose of such an open meeting was to offer I&APs an opportunity to discuss ideas, issues, concerns and solutions related to the proposed project directly with the project team.

### EIA Application

- The EIA application to undertake the listed activities was submitted to the DAEA on 26 October 2012. GCS received the acknowledgement of the application form and authorisation to proceed on 29 October 2012. The project was allocated reference number **DM/0061/2012**. A revised application was submitted in June 2014 after the change in project applicant to JT Ross.

### Comments and Response Report

- Copies of all comments and issues raised during the PPP have been consolidated into the Comments and Response Report (CRR), which summarises each comment/issue received and provides a response.

### Draft Scoping Report

- All I&AP and Stakeholder comments and issues were recorded and all written comments received were included in the Draft Scoping Report (DSR).
- Notification of change in project proponent and land ownership (i.e. from Investec to JT Ross) was sent to all registered I&APs via email between 7 and 11 March 2014.
- The Draft Scoping Report was made available for public comment for 40 days and all registered I&APs were informed of the availability of the DSR for public review. The DSR was submitted for public review from 18 March to 28 April 2014 (40 days) at the following public places:
  - Firwood Library.
  - Glenashley Library.
  - GCS Office (Kloof).
  - GCS Website (electronic copies available upon request).

### Final Scoping Report

- All I&AP and Stakeholder comments submitted in response to the review of the DSR were collated, documented and responded to in the CRR and Final Scoping Report (FSR) where appropriate.
- The FSR was made available for public comment for 21 days (19 May 2014 to 9 June 2014) and all registered I&APs were informed of the availability of the FSR for public review at the following public places:

- Firwood Library.
- Glenashley Library.
- GCS Office (Kloof).
- GCS Website (electronic copies available upon request).
- The Scoping Phase of the EIA was concluded with the compilation and submission of a Scoping Report and PoS to the DEDTEA for acceptance on 20 May 2014. All I&AP and Stakeholder comments submitted in response to the review of the FSR were submitted directly to the DEDTEA Assessing Officer.
- The Final Scoping Report and Plan of Study (PoS) were accepted by the DEDTEA on 15 July 2014.

Activities carried out in preparation of this Draft EIA include the following:

Update of Comments and Response Report

- All I&AP and Stakeholder comments submitted in response to the review of the FSR were collated, documented and responded to in the updated CRR where appropriate.

Technical and Specialist Studies

- The following engineering/technical studies have been undertaken as part of the engineering component which have relevance to the EIA:
  - Engineering Services Report.
  - Stormwater Management Plan.
- The Draft EIA commenced with the appointment of the following specialists to undertake specialist investigations, as per the terms of reference included in the PoS for EIA:
  - Traffic Impact Assessment.
  - Social Impact Assessment.
  - Preliminary Geotechnical Assessment.
  - Natural Resources and Agricultural Land Potential Assessment.
  - Preliminary Hydrogeological Assessment.
  - Vegetation Assessment.
  - Faunal Assessment.
  - Phase 1 KwaZulu Chameleon *Bradypodion melanocephalum* Habitat Assessment.
  - Phase 2 KwaZulu Chameleon *Bradypodion melanocephalum* Assessment.
  - Phase 1 Amphibian Habitat Survey.
  - Phase 2 Amphibian Survey for Red List Frog Species.
  - Freshwater Ecosystems Assessment.

- Economic Impact Assessment.
  - Visual Impact Assessment.
  - Noise Impact Assessment.
  - Phase 1 Cultural Heritage Impact Assessment.
  - Rehabilitation and Conservation Management Plan.
  - Conceptual Wetland Rehabilitation Plan and Residual Impact Assessment.
- In addition to the above specialist studies, a number of studies which were undertaken as part of the previous application for Investec have been included in this Draft EIA process, as the findings are relevant. These are as follows:
    - Wetland Delineation.
    - Floodline Delineation.

### Alternatives

Both land use and layout alternatives have been assessed as part of the EIA process.

#### Land Use Alternatives:

The potential land use alternatives assessed are as follows:

- Alternative 1 - Developer's Preferred Option: The applicant desires to develop a light industrial/shop (General Business 2) land use.
- Alternative 2 - Low Cost/ Middle Income Housing Development: The eThekweni Municipality has earmarked the site as one of many possible sites they are investigating for a low cost housing development as an alternative land use to extractive industry.
- Alternative 3 - Mixed Land Use Development (Residential and Business): The mixed land use option would include residential and business units built on the property.
- Alternative 4 - Mixed Light Industrial/Office Park: This option proposes that Office Park be built on eastern side of the site adjacent to the residential suburb of Glenhills; with Light Industrial warehouses on the western side of the site.
- Alternative 5 - No-Go Option: Maintaining the status quo would leave the area undeveloped and the land would continue to be mined and/or used for sugarcane farming.

The only financially viable land use alternative to the developer's preferred option is low cost housing development. However, such a project is likely to be met with fierce social opposition from the adjacent residential suburbs and is not the best proposal in terms of the current zoning and strategic planning for the site. The Developer's Preferred Option and the no-go option were considered further in the EIA process.

### Layout Alternatives:

The assessment of layout alternatives has considered four potential layout options. Each of the alternatives assessed in this section has taken into consideration the following requirements:

- Preservation of a 100 m buffer zone to the Glenhills suburb.
- Preservation of a 40 m buffer to the D'MOSS area.
- Exclusion of unstable geological areas.
- Access points off North Coast Road only.

The following alternatives have been investigated:

- Option 1: Worst Case Environmental Option: This option results in maximum financial returns as it maximizes use of the available site area. This option includes infilling of all watercourses on site.
- Option 2: Developer's preferred trade-off option: This option includes preservation of the upper two thirds of the central watercourse (8.9 m average buffer) while maximizing the developable area.
- Option 3: Environmental/Developer trade-off option: This option includes preservation of the upper two thirds of the central watercourse (12.1 m average buffer) with a 30 m buffer from the identified marsh area in the upper reaches of the watercourse (north-eastern corner of the site adjacent to the D'MOSS area).
- Option 4: Best Case Environmental Option: This option includes preservation of the upper two thirds of the central watercourse with a 10 m minimum buffer, and a 30 m buffer from the identified marsh area in the upper reaches of the watercourse (north-eastern corner of the site adjacent to the D'MOSS area).

Options 2 and 3 were found to be feasible for the project, taking into consideration environmental, social, and economic impacts and constraints.

### **Impact Assessment**

Impact significance was determined through considering the probability of the impact occurring, its duration, intensity, frequency, status (positive/negative) and spatial extent (national, regional, local or limited to the site) of the potential impacts. These potential impacts were then rated as either of low, medium and high environmental significance depending on the overall significance points scored. The scoring system was applied to both potential impacts with and without mitigation. Impact ratings are assigned colour codes depending on their significance and status (i.e. positive or negative), as indicated in Table A.



**Table A: Impact Rating and Significance Indicators**

<i>Significance</i>		
<i>NEGATIVE</i>		
High	Negative long term/permanent change to the natural and social environment	13 - 18
Medium	Medium or long term effects to natural and social environment These effects are real and mitigation is possible, difficult and often costly	7 - 12.9
Low	Short term effects on the natural environment	0 - 6.9
	Effects are not substantial and are often viewed as unimportant	
	Mitigation is cheap, easy, quick or seldom required	
<i>POSITIVE</i>		
Low	No real benefit to the holistic environment	0 - 6.9
Medium	A benefit to the holistic environment	7 - 12.9
	Monitoring is needed	
	Some mitigation is needed	
High	To the greater benefit of the social and/or natural environment	13 - 18

Table B below summarises all the identified impacts and their significance ratings without and with mitigation/enhancement for the preferred alternative.

**Table B: Summary of Impact Assessment Matrix**

ASPECT	PHASE	SUMMARY OF POTENTIAL IMPACT	Significance Before Mitigation		Significance After Mitigation	
			Total	Rating	Total	Rating
<b>BIOPHYSICAL IMPACTS</b>						
<b>Earthworks and Soil Management</b>	Construction	<b>Soil Erosion and Sedimentation</b>	-7.5	Medium	-5.5	Low
	Construction	<b>Subsoil saturation</b>	-9.8	Medium	-6.8	Low
	Construction	<b>Impacts on Geological Stability</b>	-9.8	Medium	-6.8	Low
	Operational	<b>Soil Erosion and Sedimentation</b>	-9.2	Medium	-6.2	Low
	Operational	<b>Change in land use: Cessation of mining activities</b>	13	High		
<b>Soil, Surface and Groundwater Quality</b>	Construction	<b>Contamination of soils, surface or groundwater</b>	-9.8	Medium	-6.8	Low
	Construction	<b>Contamination of watercourses / wetlands via sedimentation</b>	-9.8	Medium	-6.8	Low
	Operational	<b>Contamination of soils or water by hazardous substances.</b>	-11.2	Medium	-6.2	Low
	Operational	<b>Contamination of watercourses / wetlands via sedimentation</b>	-9.2	Medium	-6.2	Low
<b>Groundwater Quantity</b>	Construction	<b>Reduction in groundwater baseflow</b>	-7.2	Medium	-4.2	Low
	Operational	<b>Reduction in groundwater baseflow</b>	-9.2	Medium	-6.2	Low
<b>Stormwater Management</b>	Construction	<b>Alteration of stormwater flow regime</b>	-7.2	Medium	-4.2	Low
	Operational	<b>Alteration of stormwater flow regime</b>	-9.2	Medium	-6.2	Low

ASPECT	PHASE	SUMMARY OF POTENTIAL IMPACT	Significance Before Mitigation		Significance After Mitigation	
			Total	Rating	Total	Rating
Noise	Construction	Noise disturbance from increased traffic	-9.0	Medium	-6.8	Low
	Construction	Noise disturbance from construction activities	-9.0	Medium	-6.8	Low
	Operational	Noise disturbance from increased traffic	-8.0	Medium	-6.5	Low
	Operational	Noise disturbance from operational activities	-8.0	Medium	-6.5	Low
Air Quality	Construction	Dust pollution from earth-moving activities	-9.8	Medium	-5.8	Low
	Construction	Air pollution from vehicular emissions	-8.8	Medium	-5.8	Low
	Operational	Air pollution from industrial processes	-9.8	Medium	-6.8	Low
	Operational	Air pollution from vehicular emissions	-9.8	Medium	-6.8	Low
Waste Management	Construction	Pollution arising from poor waste management	-10.0	Medium	-6.0	Low
	Construction	Pollution arising from poor management of excess soil	-9.5	Medium	-4.2	Low
	Operational	Pollution arising from poor waste management	-12.0	Medium	-8.0	Medium
<b>ECOLOGICAL IMPACTS</b>						
Flora	Construction	Loss of ecological habitat and open space	-12.0	Medium	12.0	Medium
	Construction	Disturbance or loss of wetland / riparian vegetation	-12.5	Medium	7.5	Medium
	Construction	Loss of indigenous and red data species	-12.5	Medium	-6.5	Low
	Construction	Damage to Northern Coastal Forest	-7.2	Medium	-4.2	Low
	Construction	Spread of alien invasive vegetation	-8.5	Medium	-5.2	Low
	Construction	Contamination of soil reducing vegetative health	-8.5	Medium	-4.2	Low
	Operational	Maintenance of rehabilitated open space and wetland areas	12.0	Medium		
	Operational	Spread of alien invasive vegetation	-9.2	Medium	-5.2	Low
	Operational	Contamination of soil reducing vegetative health	-8.2	Medium	-4.2	Low
Fauna	Construction	Destruction of / disturbance to faunal habitat	-9.5	Medium	-6.5	Low
	Construction	Habitat / individual disturbance of protected species	-13.5	High	-11.5	Medium
	Construction	Proliferation of alien vegetation	-10.2	Medium	-6.0	Low
	Construction	Pollution of faunal habitats	-10.8	Medium	-6.5	Low
	Operational	Destruction of / disturbance to faunal habitat	-9.5	Medium	-6.5	Low
	Operational	Habitat / individual disturbance of protected species	-13.5	High	-11.5	Medium
	Operational	Introduction and spread of alien and domesticated animals	-10.2	Medium	-6.0	Low
	Operational	Pollution of faunal habitats	-10.8	Medium	-6.5	Low
	Operational	Creation of ecological corridor	12.2	Medium		

ASPECT	PHASE	SUMMARY OF POTENTIAL IMPACT	Significance Before Mitigation		Significance After Mitigation	
			Total	Rating	Total	Rating
	Operational	Rehabilitation of wetland habitat	12.2	Medium		
Wetlands and Watercourses	Construction	Direct loss of functional wetland systems	-13.5	High	-11.5	Medium
	Construction	Alteration of freshwater instream habitat	-9.5	Medium	-6.5	Low
	Construction	Alteration of freshwater riparian habitat	-9.5	Medium	-6.5	Low
	Operational	Alteration of freshwater instream habitat	-11.5	Medium	-6.5	Low
	Operational	Alteration of freshwater riparian habitat	-11.5	Medium	-6.5	Low
<b>ECONOMIC IMPACTS</b>						
Employment and Business Opportunities	Construction	Short-term employment opportunities	12.2	Medium		
	Operational	Long-term employment opportunities	15.2	High		
	Operational	Local business opportunities	8.2	Medium		
Public Revenue	Construction	Generation of public revenue	11.2	Medium		
	Operational	Generation of public revenue	11.2	Medium		
Property Value	Construction	Possible decline in residential property values	-8.2	Medium	-6.2	Low
	Operational	Possible decline in residential property values	-10.2	Medium	-6.2	Low
Agricultural Land Potential	Construction	Loss of Agricultural Potential	-6.2	Low	-6.2	Low
<b>SOCIAL IMPACTS</b>						
Procedural Justice	Planning	Perceived Lack of Procedural Justice during planning phase	-7.2	Medium	-5.2	Low
	Construction	Perceived Lack of Procedural Justice during construction phase	-7.5	Medium	6.5	Low
	Operational	Perceived Lack of Procedural Justice during operational phase	-9.5	Medium	7.5	Medium
Traffic	Construction	Traffic congestion	-11.8	Medium	-6.8	Low
	Construction	Increased heavy vehicle traffic	-10.8	Medium	-6.8	Low
	Operational	Traffic congestion	-13.8	High	-9.8	Medium
	Operational	Increased heavy vehicle traffic	-12.8	Medium	-9.8	Medium
Visual and Aesthetic	Construction	Change in visual / aesthetic character	-10.0	Medium	6.0	Low
	Operational	Change in visual / aesthetic character	-14.0	High	12.0	Medium
Cultural and Heritage Resources	Construction	Potential loss of cultural / heritage resources	-10.2	Medium	-6.2	Low
Safety	Construction	Safety risks to pedestrians and motorists	-9.2	Medium	-6.2	Low
	Construction	Potential increase in crime from construction workers	-9.5	Medium	6.2	Low
	Construction	Safety risks to construction workers.	-8.2	Medium	-6.2	Low

ASPECT	PHASE	SUMMARY OF POTENTIAL IMPACT	Significance Before Mitigation		Significance After Mitigation	
			Total	Rating	Total	Rating
	Operational	Safety risks to pedestrians and motorists	-12.5	Medium	-8.2	Medium
	Operational	Increase in Crime from creation of open spaces	-11.8	Medium	10.5	Medium
Quality of Life	Construction	Erosion of sense of place	-12.0	Medium	-7.2	Medium
	Construction	Enhancement of social and community life	10.0	Medium		
	Construction	Establishment of 100m open space buffer	4.2	Low		
	Operational	Erosion of sense of place	-14.0	High	-10.0	Medium
	Operational	Enhancement of social and community life	12.0	Medium		
	Operational	Establishment of 100m open space buffer	13.0	High		
<b>CUMULATIVE IMPACTS</b>						
Cumulative Impacts	Construction	Cumulative Noise Impact	-11.0	Medium	-8.8	Medium
	Construction	Cumulative Air Quality Impact	-10.0	Medium	-7.8	Medium
	Operational	Cumulative Noise Impact	-11.0	Medium	-8.8	Medium
	Operational	Cumulative Air Quality Impact	-12.0	Medium	-8.8	Medium

### Key Specialist Findings

The following key findings and conclusions are drawn from the EIA:

- JT Ross proposes the development of the Rohill Business Estate in line with sustainable development principles, and incorporating the environmental, social and technical constraints of the project site.
- Infrastructural requirements for roads, electricity, sewerage, water supply, stormwater, security and telecommunications have been investigated and will be designed in accordance with the relevant standards and specifications.
- The project is in line with the eThekweni Municipality's SDF and IDP in terms of the future land use of the site, and will contribute to meeting the objectives of the NDP in terms of providing employment opportunities within the manufacturing, warehousing and logistics sectors.
- A number of land use alternatives have been assessed; with the outcome that the developer's preferred land use (i.e. General Business 2 for industrial, commercial and retail use) is the most viable option for the site.
- A number of layout alternatives were assessed, and the two most viable options (Options 2 and 3) both include a 100 m open space buffer to the Glenhills residential suburb, and preservation of the upper two thirds of the central

watercourse.

- The specialist studies commissioned for the project identified the following key aspects of the site:
  - Potential platform stability issues may arise due to the presence of shale bedrock on site.
  - A number of ephemeral watercourses and one perennial central watercourse are present on site. Surface water drainage and hydrological conditions on site may be significantly altered by the proposed development in terms of watercourse infilling and the directing of stormwater runoff to the central watercourse (as a result of increased flow and potential sedimentation from soil erosion).
  - A number of hillslope seepage wetlands, as well as one unchannelled valley bottom wetland, were identified on site. Pockets of the central watercourse have been classified as having ‘wetland characteristics’, and all wetland areas will need careful management and rehabilitation to ensure that valuable hydrological and freshwater ecosystems are not lost.
  - The Vegetation Impact Assessment identified a number of valuable pockets of indigenous vegetation on site, including the Red Data species, *Crinum macowanii*, although the majority of the site is heavily invaded by alien vegetation. It is noted that *Crinum macowanii* has likely already been removed as a result of Corobrik mining activities on site.
  - Potential habitat for valuable faunal species exists on site, including the Pickersgill’s Reed Frog (*Hyperolius pickersgilli*) and the KwaZulu Dwarf Chameleon (*Bradypodion melanocephalum*).
  - The Spotted Shovel-nosed Frog (*Hemisis guttatus*) was identified on site, which is a Red Data species and protected by national legislation. These were identified at two locations in close proximity to the upper reaches of the central watercourse. The protection of this species must be ensured during the construction phase of the project.
  - The topography of the site and surrounding residential suburbs presents potential visual/aesthetic and noise impacts resulting from the development, which will need to be mitigated by incorporation of suitable visual and noise screening measures.
  - A number of upgrades to surrounding road networks and intersections are required as part of the project, in order to ensure that road infrastructure can handle the anticipated increased volumes of heavy traffic in the construction and operational phases of the development.
- The majority of impacts could most probably be effectively mitigated through appropriate mitigation measures introduced during the construction and operation

of the Business Estate.

- The potential impacts that were rated as **High** without mitigation are as follows:
  - Habitat/individual disturbance of protected faunal species (Construction and Operational phases).
  - Direct loss of functional wetland systems (Construction phase).
  - Potential increased traffic congestion (Operational phase).
  - Change in visual/aesthetic character (Operational phase).
  - Erosion of sense of place (Operational phase).

The above impacts can be mitigated to a **Medium** significance, and possibly to a **Low** significance depending on the success of rehabilitation.

- A number of positive impacts are associated with the development, namely:
  - Change in land use: Cessation of mining activities (Operational phase).
  - Maintenance of rehabilitated open space and wetland areas (Operational phase).
  - Creation of an ecological corridor (Operational phase).
  - Creation of short-term and long-term employment opportunities (Construction and Operational phases).
  - Creation of local business opportunities (Operational phase).
  - Generation of public revenue (Construction and Operational phases).
  - Improved security on site (Construction and Operational phases).
  - Enhancement of social and community life (Construction and Operational phases).
  - Establishment of 100 m open space buffer (Construction and Operational phases).
- In the case of the No-Go alternative, the development would not take place and the site would remain in use by Corobrik for clay mining until the resource has been exhausted, and for sugar cane farming. Both positive and negative impacts have been identified for this alternative. While the site would remain as per *status quo* and the extensive earthworks and establishment of the Business Estate would not take place, the associated benefits of the project would not materialise (namely, employment opportunities, upgrade of the site, security and rehabilitation).

### Key Recommendations

There are a number of ongoing environmental management commitments that JT Ross and tenants of the operational phase will need to adhere to, to ensure that the construction and operation of the Rohill Business Estate meets acceptable environmental standards. Mitigation measures related to both the construction and operational phase of the project are summarized as follows and further detailed in the EMPr.

Biophysical:

- Prevent soil erosion on site at all times, i.e. pre-, during- and post- construction activities.
- Stormwater management measures must incorporate reduction of stormwater flow velocity using appropriate attenuation measures. Prior to any physical work proceeding on site, a Stormwater Control Plan detailing the proposed stormwater control measures is to be formulated.
- Install pipe network for subsoil drainage underneath constructed platforms.
- Construct a suitable foundation along the toe of the proposed embankments in order to ensure long-term stability.
- Prepare a detailed Spill Prevention and Management Plan for the construction and operational phases of the project.
- As no surface or groundwater data currently exists for the site, it is recommended that the central watercourse running through the site be sampled on a quarterly basis upstream of the site and down-stream where it leaves the site. In addition, it is recommended that baseline groundwater quality data is obtained prior to commencement of the construction phase.
- Suitable mitigation measures for noise pollution are to be implemented.
- Implement dust suppression measures in the construction phase, particularly during prolonged periods of dry weather or on windy days.
- Construction vehicles to be well maintained to reduce emissions, and speed limits to be strictly adhered to. No construction vehicles or trucks will be permitted to travel within residential roads.
- Once the types of industries to be constructed on site have been confirmed, JT Ross must determine whether any further air quality studies or management plans are required, based on whether or not any air pollutants will be emitted.
- The management of waste during the construction and operational phase is critical in ensuring that all waste is stored, handled and disposed of in such a manner as to prevent any contamination of the site/surrounding environment, especially considering the sensitive ecological habitats on site.

Ecological:

- The Red Data List species identified, *Crinum macowanii*, is protected by the provincial conservation ordinance. These plants may not be damaged or destroyed without permit authorization from Ezemvelo KZN Wildlife. While it is noted that this species is likely no longer on site due to current mining activities, should individuals be identified on site, they must be relocated to other suitable habitat on the site in consultation with a Vegetation Specialist prior to the commencement of earth-moving activities.

- Rehabilitation of the remaining open space requires the control of alien vegetation, which must be implemented in line with recommendations of the Rehabilitation and Conservation Management Plan compiled by Themtek cc (2014).
- Rehabilitation and re-vegetation of areas to be maintained as open space in line with recommendations of the Rehabilitation and Conservation Management Plan compiled by Themtek cc (2014).
- Recommendations for management of the Spotted Shovel-nosed Frog must be implemented, in terms of undertaking a 'Rescue and Rehabilitation Plan' for the frogs prior to commencement of the construction phase. This must be undertaken by a faunal relocation expert with relevant permit approval, as required by the provincial MEC and Ezemvelo KZN Wildlife.
- Any other faunal species located on the site, which cannot relocate themselves (e.g. burrowing animals), should be moved in an ecologically acceptable manner to a more suitable location. This must be undertaken by a faunal relocation expert with relevant permit approval.
- The proposed 100 m buffer on the east side must be imposed and extend to the end of the property to include the D'MOSS area so as to protect the habitat from future disturbance.
- It is recommended that the developer endeavour to apply the greatest feasible variable buffer to the upper two thirds of the central watercourse, ensuring conservation of as much of the freshwater ecosystem as possible within the constraints of the platforming and embankment requirements. An IWULA for affected watercourses and drainage lines, as well as for the attenuation pond, must be submitted to the DWS in line with requirements of the NWA.
- It is further recommended that a 30 m buffer be applied to the unchannelled valley bottom wetland at the north-east corner of the site, and that the hillslope wetland at the south-eastern corner within the 100 m residential buffer be retained and rehabilitated for increased wetland functionality.
- Implementation of recommendations of the Conceptual Wetland Rehabilitation Plan (Eco-Pulse, 2014) as follows:
  - Construction of intervention mechanisms proposed by Eco-Pulse (structures 1 - 8 as specified in the Rehabilitation Plan, and structures 9 - 10 where possible).
  - Onsite attenuation (within platform footprints) must be maximized as far as possible to minimise the burden of stormwater attenuation placed on the freshwater habitats within the central valley, and ultimately reduce and minimize the size of the currently planned retention pond.
  - All concrete wall enhancement interventions must be designed to incorporate attenuation facility to reduce the size of the downstream



retention pond. For these multi-purpose interventions, the 10-50 year flood events must be drained away from the wetland within 24hrs and the 100 year flood within 36hrs to ensure that the enhanced freshwater habitat is not impaired.

- All stormwater attenuation ponds onsite should be designed as detention ponds rather than retention ponds in order to maximize onsite wetland and riparian habitat.
- The interventions must be designed in such a way that the structures must not be back flooded.
- The potential requirements off-site wetland offsets of must be discussed with the DWS and Ezemvelo KZN Wildlife as part of the public participation process during the Draft EIA review period. It is noted that DWS have confirmed that they are in support of the principle of wetland offsets for the project. Should it be determined that off-site offsets are required, appropriate sites must be identified in consultation with a suitably qualified wetland specialist.

Economic:

- The developer should endeavour to employ local labour in the construction phase as far as possible, in consultation with Community Liaison Officers (CLO) from the local settlements.

Social:

- Be open to communication with the local ratepayers association, civic associations and local businesses.
- Where practical, make a dedicated attempt to use local labour through the CLO process to build good relationships with local communities.
- Traffic warning signage, where required, traffic calming measures must be employed during the construction phase to reduce the potential for traffic accidents.
- Transport of materials/machinery to or from the site must be done at off-peak hours, and no heavy vehicles may move on residential roads in either the construction or operational phases.
- In the construction phase, the site must be well managed to prevent crime and theft around the site. Installation of a secure boundary fence at the start of the project is recommended, including the D'MOSS area. Gated entries, electric fencing and CCTV cameras are recommended for the operational phase.
- Ensure implementation of the Traffic Impact Assessment in consultation with the eThekweni Transport Authority, including appropriate upgrades required for the existing road network, in order to ensure that the road links and intersections in

the vicinity of the development have adequate capacity to accommodate the estimated additional trips generated by the proposed development and from all other known proposed developments in the studied road network.

- Heavy vehicle logistics management by managing body of the Rohill Business Estate.
- Natural vegetation, wherever possible, should be retained on and around the proposed development site. Establish 100 m buffer (measured from the eastern boundary of the Rohill site) with indigenous vegetation, including individuals or 'clumps' of trees suited to screening.
- Reduce size and height of proposed buildings so that they are less imposing on the landscape.
- The colour of all proposed infrastructure should be aimed at blending in with existing infrastructure, and be consistent with natural colours, in the surrounding area.
- The glare of reflective surface can be reduced through making the external surfaces of the warehouses matte and using shade cloth carports to minimise vehicle glare.
- An aesthetically attractive fence (not concrete palisade) should be used along the boundary of the site.
- Communities are to be informed of the procedure for lodging complaints / concerns arising from the proposed development.

#### **Environmental Management Programme (EMPr)**

GCS has prepared a Draft EMPr which is required as part of the EIA submission. The purpose of the EMPr is to control the impacts of construction and operational activities. The effective implementation of an EMPr will ensure that the required works are conducted in an environmentally sound manner and that the potential negative impacts of construction and operational activities are minimised and/or prevented.

The Draft EMPr document details the responsibilities and authority of the various parties involved in the project and contains environmental specifications to which the Contractor and tenants are required to adhere throughout the duration of the construction and operational phases. The Draft EMPr covers impacts that have been identified in the EIA Process and which could potentially arise during the construction and/or operation of the Rohill Business Estate.

### **Overall Recommendation**

The proposed Rohill Business Estate is expected to result in the improvement of the site conditions in terms of providing employment opportunities, securing the site, and rehabilitating open space areas to provide valuable ecological habitats. While a number of potential negative impacts are associated with the development, the careful management of these according to recommendations given in this Draft EIA Report and the EMPr is expected to reduce the significance of these impacts within acceptable limits. Land Use Alternative 1 and Layout Option 3 are recommended as the most suitable options for development.

Based on the conclusion that no environmental fatal flaw was found and that all negative impacts can be effectively mitigated, GCS recommends that Environmental Authorisation be granted for the Rohill Business Estate provided the mitigation measures are implemented and the recommendations are considered.

### **Way Forward**

This Draft EIA Report will be made available in hard copy for public review at the following public places from **26 November 2014 until 23 January 2015 (40 days, excluding the holiday shut-down period of 15 December to 2 January)**:

- Firwood Library
- Glenashley Library

Electronic versions of the report will also be available on CD on request or can be downloaded from the GCS website ([www.gcs-sa.biz/Documents](http://www.gcs-sa.biz/Documents)). All registered I&APs will be informed of the availability of the Draft EIA Report for review.

All comments received on the Background Information Document (BID), at the Open Day Meeting and on the Draft and Final Scoping Reports (DSR and FSR) have been recorded in the Comments and Response Report (CRR). All comments received on this Draft EIA Report must be submitted to the EAP (GCS) and will be included in the Final EIA Report with responses to each of the comments submitted. The Final EIA Report will be submitted to the DEDTEA once complete, and will be made available for a final comment period of 21 days before a decision on the application is made.

## CONTENTS PAGE

<b>DISCLAIMER .....</b>	<b>3</b>
<b>1 INTRODUCTION .....</b>	<b>1</b>
1.1 PROJECT OVERVIEW AND BACKGROUND .....	1
1.2 RESPONSIBLE PARTIES .....	6
1.3 GCS PROJECT TEAM .....	6
1.4 LEGISLATIVE CONTEXT AND REQUIREMENTS .....	7
1.4.1 <i>The National Environmental Management Act and EIA Regulations, 2010</i> .....	7
1.4.2 <i>National Water Act</i> .....	11
1.4.3 <i>National Heritage Resources Act</i> .....	11
1.4.4 <i>The KwaZulu-Natal Heritage Act</i> .....	12
1.5 APPROACH TO THE EIA .....	12
1.5.1 <i>Purpose of the EIA</i> .....	12
1.5.2 <i>Public Participation</i> .....	14
1.6 SCOPING PHASE ACTIVITIES .....	15
1.6.1 <i>Competent Authority Consultation</i> .....	16
1.6.2 <i>I&amp;AP Identification and Notification</i> .....	16
1.6.3 <i>Background Information Document</i> .....	16
1.6.4 <i>Open Day Public Meeting</i> .....	17
1.6.5 <i>EIA Application</i> .....	17
1.6.6 <i>Comments and Response Report</i> .....	17
1.6.7 <i>Draft Scoping Report</i> .....	17
1.6.8 <i>Final Scoping Report</i> .....	18
1.7 IMPACT ASSESSMENT PHASE ACTIVITIES .....	18
1.7.1 <i>Update of Comments and Response Report</i> .....	18
1.7.2 <i>Technical and Specialist Studies</i> .....	18
1.7.3 <i>Compilation and Distribution of Draft EIA</i> .....	20
1.8 STRUCTURE OF THIS REPORT .....	20
<b>2 DESCRIPTION OF THE PROPOSED DEVELOPMENT .....</b>	<b>21</b>
2.1 PROJECT LOCALITY, CURRENT LAND USE AND DEVELOPMENT CONTEXT .....	21
2.1.1 <i>Project Locality</i> .....	21
2.1.2 <i>Regional Context</i> .....	23
2.2 MOTIVATION FOR THE PROJECT .....	23
2.3 PLATFORMING AND ASSOCIATED EARTHWORKS .....	24
2.4 INFRASTRUCTURE AVAILABILITY AND REQUIREMENTS .....	25
2.4.1 <i>Water Supply</i> .....	25
2.4.2 <i>Sewerage</i> .....	26
2.4.3 <i>Electricity Supply</i> .....	26
2.4.4 <i>Stormwater Management</i> .....	27
2.4.5 <i>Roads</i> .....	28
2.4.6 <i>Telecommunications</i> .....	30
2.5 CONSIDERATION OF ALTERNATIVES .....	31
2.5.1 <i>Description of Alternatives</i> .....	31
2.5.2 <i>Potential Land Use Alternatives Assessment</i> .....	31
2.5.3 <i>Layout Alternatives</i> .....	37
2.5.4 <i>Design Alternatives</i> .....	47
<b>3 DESCRIPTION OF THE PROJECT ENVIRONMENT .....</b>	<b>48</b>
3.1 BIOPHYSICAL ENVIRONMENT .....	48
3.1.1 <i>Climate</i> .....	48
3.1.2 <i>Geology</i> .....	48
3.1.1 <i>Topography and Surface Hydrology</i> .....	49
3.1.2 <i>Hydrogeology</i> .....	52
3.1.3 <i>Land Use</i> .....	52
3.1.4 <i>Soils</i> .....	53
3.1.5 <i>Waste Management</i> .....	54

3.2	ECOLOGICAL ENVIRONMENT .....	54
3.2.1	<i>Flora</i> .....	54
3.2.2	<i>Fauna</i> .....	58
3.2.3	<i>Freshwater Ecosystems</i> .....	62
3.3	SOCIO-ECONOMIC ENVIRONMENT .....	65
3.3.1	<i>Socio-Economic Context</i> .....	66
3.3.2	<i>Agriculture and Mining Use</i> .....	66
3.3.3	<i>Population and Demographics</i> .....	66
3.3.4	<i>Crime</i> .....	67
3.3.5	<i>Traffic</i> .....	67
3.3.6	<i>Visual</i> .....	69
3.3.1	<i>Noise</i> .....	69
3.3.2	<i>Cultural and Heritage Resources</i> .....	70
<b>4</b>	<b>ASSESSMENT OF ENVIRONMENTAL IMPACTS</b> .....	<b>71</b>
4.1	INTRODUCTION .....	71
4.2	IMPACT ASSESSMENT METHODOLOGY .....	71
4.2.1	<i>Significance Rating Criteria</i> .....	71
4.2.2	<i>Mitigation Measures</i> .....	73
4.3	PROJECT ACTIVITIES POTENTIALLY RESULTING IN ENVIRONMENTAL IMPACTS.....	74
4.3.1	<i>Construction Phase Impacts</i> .....	74
4.3.2	<i>Operational Phase Impacts</i> .....	75
4.4	IMPACTS IDENTIFIED IN THE SCOPING PHASE .....	75
4.5	BIOPHYSICAL IMPACTS .....	78
4.5.1	<i>Earthworks and Soil Management</i> .....	78
4.5.2	<i>Soil, Surface and Groundwater Contamination</i> .....	83
4.5.3	<i>Reduction in Groundwater Baseflow</i> .....	86
4.5.4	<i>Stormwater Management</i> .....	87
4.5.5	<i>Noise</i> .....	89
4.5.6	<i>Air Quality</i> .....	91
4.5.7	<i>Waste Management</i> .....	93
4.6	ECOLOGICAL IMPACTS.....	96
4.6.1	<i>Flora</i> .....	96
4.6.2	<i>Fauna</i> .....	100
4.6.3	<i>Wetlands and Watercourses</i> .....	106
4.7	ECONOMIC IMPACTS .....	111
4.7.1	<i>Employment and Business Opportunities</i> .....	111
4.7.2	<i>Public Revenue</i> .....	112
4.7.3	<i>Property Value</i> .....	113
4.7.4	<i>Agricultural Land Potential</i> .....	114
4.8	SOCIAL IMPACTS.....	115
4.8.1	<i>Procedural Justice</i> .....	115
4.8.2	<i>Quality of Life</i> .....	116
4.8.3	<i>Safety</i> .....	119
4.8.4	<i>Traffic</i> .....	122
4.8.5	<i>Visual and Aesthetics</i> .....	124
4.8.6	<i>Cultural and Heritage Resources Impacts</i> .....	126
4.9	CUMULATIVE IMPACTS.....	127
4.9.1	<i>Noise</i> .....	127
4.9.2	<i>Air Quality</i> .....	127
4.10	DECOMMISSIONING PHASE.....	128
4.11	NO-GO ALTERNATIVE .....	128
<b>5</b>	<b>ENVIRONMENTAL IMPACT STATEMENT</b> .....	<b>130</b>
5.1	CONCLUSION .....	130
5.2	SUMMARY OF KEY FINDINGS AND RECOMMENDATIONS .....	137
5.2.1	<i>Key Findings</i> .....	137
5.2.2	<i>Key Recommendations</i> .....	139

5.3	ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR) .....	143
5.4	OVERALL RECOMMENDATION .....	144
<b>6</b>	<b>WAY FORWARD</b> .....	<b>145</b>
<b>7</b>	<b>REFERENCES</b> .....	<b>146</b>

## LIST OF TABLES

Table 1-1:	Responsible Parties in EIA.....	6
Table 1-2:	GCS EIA Team Members and Role/Duties .....	7
Table 1-3:	Identified Listed Activities in terms of the EIA Regulations to date .....	8
Table 2-1:	Comparative Assessment of Potential Land Use Alternatives.....	33
Table 2-2:	Comparative Assessment of Layout Alternatives .....	43
Table 3-1:	Sensitive Receptor Locations and Baseline Noise Levels (Source: KWC, 2014).....	70
Table 4-1:	Impact Assessment Scoring .....	72
Table 4-2:	Potential Impacts Identified in the Scoping Phase .....	75
Table 4-3:	Soil Erosion and Sedimentation Impacts .....	82
Table 4-4:	Change in Land Use Impacts.....	83
Table 4-5:	Soil, Surface and Groundwater Contamination Impacts .....	84
Table 4-5:	Groundwater Reduction Impacts .....	86
Table 4-6:	Stormwater Management Impacts.....	88
Table 4-7:	Noise Impacts .....	90
Table 4-8:	Air Quality Impacts .....	92
Table 4-9:	Waste Management Impacts .....	95
Table 4-10:	Floral Impacts .....	98
Table 4-11:	Faunal Impacts.....	103
Table 4-12:	Wetland and Watercourse Impacts.....	108
Table 4-13:	Employment and Business Opportunities Impacts.....	112
Table 4-14:	Public Revenue Impacts.....	113
Table 4-15:	Property Value Impacts .....	114
Table 4-16:	Agricultural Land Potential Impacts .....	115
Table 4-17:	Social – Procedural Justice Impacts.....	116
Table 4-18:	Social - Quality of Life Impacts.....	118
Table 4-18:	Social - Safety Impacts.....	121
Table 4-19:	Social - Traffic Impacts.....	123
Table 4-20:	Social – Visual and Aesthetic Impacts.....	125
Table 4-21:	Social – Cultural and Heritage Resources Impacts .....	126
Table 4-22:	Cumulative Impacts .....	128
Table 5-1:	Summary of Impact Assessment Matrix.....	131

## LIST OF FIGURES

Figure 1-1:	1:50 000 Locality Map (Source: GCS, 2014).....	3
Figure 1-2:	Project Locality Map (Source: GCS, 2014) .....	4
Figure 1-3:	Land Use Zoning Map (Source: GCS, 2014) .....	5
Figure 2-1:	Rohill Business Estate Locality Map indicating D'MOSS area.....	22
Figure 2-2:	Layout Option 1 - Worst Case Environmental Option .....	39
Figure 2-3:	Layout Option 2 - Developer's preferred trade-off option.....	40
Figure 2-4:	Layout Option 3 - Environmental / Developer trade-off option .....	41
Figure 2-5:	Layout Option 4 – Best Case Environmental Option .....	42
Figure 3-1:	Rohill Business Estate - Geological Map.....	50
Figure 3-2:	Rohill Business Estate - Topography and Drainage Map .....	51

---

## APPENDICES

- Appendix A: Site Photographs
- Appendix B: Legislative Context
- Appendix C: Competent Authority Communications and Application
- Appendix D: Record of Public Participation Process
  - D1: Interested and Affected Parties Database
  - D2: Media Notices and Site Notices
  - D3: Background Information Document
  - D4: Comments and Response Report
  - D5: I&AP Comments Received
  - D6: I&AP Notifications
- Appendix E: Specialist Studies
  - E1: Engineering Services Report
  - E2: Stormwater Management Plan
  - E3: Traffic Impact Assessment
  - E4: Social Impact Assessment
  - E5: Preliminary Geotechnical Assessment
  - E6: Natural Resources and Agricultural Land Potential Assessment
  - E7: Preliminary Hydrogeological Assessment
  - E8: Vegetation Assessment
  - E9: Faunal Assessment
  - E10: Phase 1 Chameleon Habitat Assessment, Phase 2 Chameleon Assessment
  - E11: Phase 1 Amphibian Habitat Survey, Phase 2 Amphibian Survey
  - E12: Wetland Delineation
  - E13: Freshwater Ecosystems Assessment
  - E14: Economic Impact Assessment
  - E15: Visual Impact Assessment
  - E16: Noise Impact Assessment
  - E17: Phase 1 Cultural Heritage Impact Assessment
  - E18: Floodline Assessment
  - E19: Rehabilitation and Conservation Management Plan
  - E20: Conceptual Wetland Rehabilitation Plan and Residual Impact Assessment
- Appendix F: Environmental Management Programme

## ACRONYMS AND ABBREVIATIONS

AMAFA:	AMAFA aKwaZulu-Natali
BID:	Background Information Document
CRR:	Comments and Response Report
DAFF:	Department of Agriculture, Fisheries and Forestry
DEA:	National Department of Environmental Affairs
DEDTEA:	Department of Economic Development, Tourism and Environmental Affairs
DEIR:	Draft Environmental Impact Report
D'MOSS:	Durban Metro Open Space System
DMR:	Department of Mineral Resources
DOT:	Department of Transport
DSR:	Draft Scoping Report
DWS:	Department of Water and Sanitation
EA:	Environmental Authorisation
ECO:	Environmental Control Officer
EIA:	Environmental Impact Assessment
EKZNW:	Ezemvelo KZN Wildlife
EMPr:	Environmental Management Programme
FEIR:	Final Environmental Impact Report
FSR:	Final Scoping Report
GNR:	Government Notice Regulation
HIA:	Heritage Impact Assessment
I&AP:	Interested and Affected Party
IDP:	Integrated Development Plan
KZN:	KwaZulu-Natal
NEMA:	National Environmental Management Act
NEM:BA:	National Environmental Management: Biodiversity Act
NEM:WA	National Environmental Management: Waste Act
NHRA:	National Heritage Resources Act
NWA:	National Water Act
PoS:	Plan of Study
PPP:	Public Participation Programme
SANRAL:	South African National Roads Agency Limited
SAHRA:	South African Heritage Resource Agency
TIA:	Traffic Impact Assessment
TOR:	Terms of Reference
VIA:	Visual Impact Assessment



The contents of an Environmental Impact Assessment are required to contain information as outlined in Table C. These requirements are specified under Regulation 31 of GNR 543.

**Table C: Contents of Environmental Impact Assessment Report**

REGULATION REQUIREMENT	SECTION IN THIS REPORT
Details of the EAP who prepared this report, and the expertise of the EAP to carry out environmental impact assessment	Section 1.3
A description of the proposed activity	Section 2
A description of the property on which the activity is to be undertaken and the location of the activity on the property	Section 2
A description of the environment that may be affected by the activity and the manner in which the activity may be affected by the environment	Section 3
Details of the public participation process conducted in terms of subregulation (1), including— steps undertaken in accordance with the plan of study	Section 1.6
A list of persons, organisations and organs of state that were registered as interested and affected parties	Appendix D1
A summary of comments received from, and a summary of issues raised by registered interested and affected parties, the date of receipt of these comments and the response of the EAP to those comments	Section 4.4 and Appendix D4
Copies of any representations and comments received from registered interested and affected parties	Appendix D5
A description of the need and desirability of the proposed activity	Section 2.2
A description of identified potential alternatives to the proposed activity, including advantages and disadvantages that the proposed activity or alternatives may have on the environment and the community that may be affected by the activity	Section 2.5
An indication of the methodology used in determining the significance of potential environmental impacts	Section 4.2
A description and comparative assessment of all alternatives identified during the environmental impact assessment process	Section 2.5
A summary of the findings and recommendations of any specialist report or report on a specialised process	Section 3
A description of all environmental issues that were identified during the environmental impact assessment process, an assessment of the significance of each issue and an indication of the extent to which the issue could be addressed by the adoption of mitigation measures	Section 4
An assessment of each identified potentially significant impact, including cumulative impacts, the nature of the impact, the extent and duration of the impact, the probability of the impact occurring, the degree to which the impact can be reversed, the degree to which the impact may cause irreplaceable loss of resources and the degree to which the impact can be mitigated loss of resources	Section 4
A description of any assumptions, uncertainties and gaps in knowledge	Section 5
A reasoned opinion as to whether the activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation	Section 5
An environmental impact statement which contains- a summary of the key findings of the environmental impact assessment, a comparative assessment of the positive and negative implications of the proposed activity and identified alternatives, a draft environmental management programme and copies of any specialist reports	Section 5

# 1 INTRODUCTION

## 1.1 Project Overview and Background

The applicant, JT Ross Properties (Pty) Ltd (hereafter referred to as JT Ross) proposes to develop the Rohill Business Estate on Remainder of Erf 3481 Durban North, on the corner of Chris Hani Road (R102) and Old North Coast Road (P585), in the suburb of Red Hill within the eThekweni Municipality Metropolitan Area, KwaZulu-Natal (KZN) (See Figure 1-1 and Figure 1-2). The land is currently zoned as 'extractive industrial' and is currently used by Corobrik (Pty) Ltd (hereafter referred to as Corobrik) to mine clay, with the remainder of the site under sugar cane cultivation by Tongaat-Hulett (Figure 1-3).

The total area of the site is 59.61 hectares (ha). Approximately 32 ha of the land is proposed to be levelled for large cut-to-fill platforms for light industrial, general business and warehousing, while the remainder of the site will be zoned as public/private open space for conservation, and roads. These platforms will comprise Light Industrial (92.1%) and warehouse-based retail uses (Shop) (7.9%), and the site will be rezoned as 'General Business 2'. A perennial stream flows through the central section of the property in an east/west direction, dissipating into the nearby uMhlangane River (previously known as the Seekoispuit). Development of the levelled platforms is proposed on either side of this central watercourse. Please refer to **Appendix A** for site photographs.

The proposed development will include:

- Decommissioning of current mining operations and sugar cane cultivation.
- The removal of vegetation on the site.
- The creation of seven large cut-to-fill platforms proposed to be undertaken in three phases.
- The construction of road infrastructure for servicing the development.
- Rehabilitation of open space areas to be retained on site.
- The construction of associated infrastructure such as potable water reticulation, sewerage pipelines, electricity supply, stormwater infrastructure, security gates and fences.

The developer's preferred layout plan and alternative layout plans are included in Section 2.5 of this report (Consideration of Alternatives).

The Environmental Impact Assessment (EIA) process for the proposed development was originally initiated by Investec under the project name 'Proposed Rinaldo East Industrial and Business Estate'. However, the land has subsequently been sold to JT Ross who is now

the new applicant for the EIA. JT Ross proposes the same type of light industrial development estate concept as was originally proposed with minor changes under the name 'Rohill Business Estate'.

JT Ross, as the project proponent, has appointed GCS Water and Environment (Pty) Ltd (hereafter referred to as GCS) as the Independent Environmental Assessment Practitioner (EAP) to undertake the EIA for the proposed Rohill Business Estate in Durban North.

This report represents the Draft EIA Report for the proposed Rohill Business Estate and has been prepared in accordance with the EIA Regulations (2010) published in Government Notice No. R. 543 of 2010. These Regulations were published by the National Department of Environmental Affairs (DEA) under Section 24(5) read with Section 24M and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) to control activities which may have a detrimental effect on the environment.

The EIA aims to assess the direct, indirect, and cumulative environmental impacts associated with a proposed development, and includes an Environmental Management Programme (EMPr) detailing mitigation measures for identified impacts.

The following sections provide detail of the EIA applicant and the project team, a background to the proposed project and associated legal requirements, and an outline of the purpose and structure of the EIA Report.

FIGURE 1: 1:50 000 MAP - ROHILL BUSINESS ESTATE PROJECT SITE



Figure 1-1: 1:50 000 Locality Map (Source: GCS, 2014)



**FIGURE 2: LOCALITY MAP (LANDMARKS/FEATURES) - ROHILL BUSINESS ESTATE PROJECT SITE**



Figure 1-2: Project Locality Map (Source: GCS, 2014)



**FIGURE 3: LAND USE ZONING - ROHILL BUSINESS ESTATE PROJECT SITE**



Figure 1-3: Land Use Zoning Map (Source: GCS, 2014)

**1.2 Responsible Parties**

**Table 1-1: Responsible Parties in EIA**

DEDTEA ASSESSING OFFICER	PROPONENT/APPLICANT
Department of Economic Development, Tourism and Environmental Affairs (DEDTEA) Directorate: Environmental Services: eThekweni District  Ms Natasha Brijlal Control Environmental Officer: Impact Assessment  Tel: 031 302 2800 Fax: 031 302 2824 Email: Natasha.brijlal@kzndae.gov.za Address: Eagle Building, 357 West Street, 3000	JT Ross Properties (Pty) Ltd  Mr. Andre Proctor Commercial Manager  Tel: 031 372 9700 Fax: 031 303 1122 Email : andrep@jtross.co.za Address: PO Box 47174, Greyville, 4023
PROJECT CIVIL ENGINEER	ENVIRONMENTAL ASSESSMENT PRACTITIONER
SMEC South Africa  Mr Dave Duke Functional Head, Urban Development  Tel: 031 277 6650 Fax: 27 031 277 6700 Email: dave.duke@smec.com Address : 2 The Crescent, Westway Office Park, Westville, 3629	GCS (Pty) Ltd  Mrs Kelly Taylor Environmental Scientist  Tel: 031 764 7130 Fax: 031 764 7140 Email: kellyt@gcs-sa.biz Address: P.O. Box 819, Gillits, 3603

**1.3 GCS Project Team**

GCS is an independent consultancy providing expertise in earth sciences, environmental sciences/management, Geographic Information Systems (GIS) and water resources management. The environmental unit at GCS (national) has been involved in environmental authorisation processes and related work for the past 8 years. The unit members of the Durban team, specifically Mr Labuschagne and Mr Stow, have a wide range of environmental management skills and have been involved in the applications for authorisation for a number of large scale developments and multi-discipline projects for the past 12 years. All team members hold post-graduate degrees in the natural sciences. Mr Labuschagne and Mr Stow are registered as Professional Natural Scientists under the South African Natural Science Professions Council (SACNASP). Thus, the team has the required expertise to carry out the Scoping and EIA procedures.

The EIA project team comprises the following members from GCS (Table 1-2):

**Table 1-2: GCS EIA Team Members and Role/Duties**

NAME	ROLE	DUTIES
Pieter Labuschagne	Project Director	Signing-off
Russell Stow	Environmental Unit Manager	Advice and report review Team management Report review
Kelly Taylor	Project Leader and Environmental Scientist	Public participation, report writing
Mcebiseni Bhengu	Project Environmental Scientist	Public participation, report writing
Karin Fivaz	Project Environmental Scientist	Public participation, report writing

## 1.4 Legislative Context and Requirements

This section details the legal provisions which are applicable to, or have implications for, the proposed Rohill Business Estate on Rem of Erf 3481 Durban North. Please refer to **Appendix B** for a detailed description of legislation applicable to the development.

### *1.4.1 The National Environmental Management Act and EIA Regulations, 2010*

The National Environmental Management Act (Act No. 107 of 1998) (NEMA) is South Africa's overarching framework for environmental legislation. Regulations promulgated under NEMA include the EIA Regulations (2010) published under Government Notice Regulation (GNR) 543, and the associated Listing Notices GNR 544, 545 and 546. Section 24(5) of NEMA stipulates that certain "listed activities" require environmental authorisation by way of either a Basic Assessment (BA) or a full Scoping and Environmental Impact Assessment (SEIA) as defined in the Listing Notices. Activities listed under GNR 544 require a BA process to be undertaken while those listed under GNR 545 require a full Scoping and EIA process. The activities detailed in Table 1-3, as listed in GNR 544 and 545 have relevance to the proposed project.



**Table 1-3: Identified Listed Activities in terms of the EIA Regulations to date**

Relevant Notice	Activity No	Listed Activity	Description of the activity
GNR 544	9	<p><i>The construction of facilities or infrastructure exceeding 1000 meters in length for the bulk transportation of water, sewage or storm water -</i></p> <ul style="list-style-type: none"> <li>(i) <i>With an internal diameter of 0,36 metres or more; or</i></li> <li>(ii) <i>With a peak throughput of 120 litres per second or more,</i></li> </ul> <p><i>Excluding where:</i></p> <ul style="list-style-type: none"> <li>a. <i>Such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or</i></li> <li>b. <i>Where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.</i></li> </ul>	<p>Investigations into infrastructure availability and the anticipated requirements for water, sewage or stormwater facilities indicate that the required infrastructure will be below the stipulated thresholds for peak flow and internal diameter.</p> <p>Therefore, it is unlikely that this activity is applicable to the project.</p>
GNR 544	11	<p><i>The construction of</i></p> <ul style="list-style-type: none"> <li>(i) <i>Canals;</i></li> <li>(ii) <i>Channels;</i></li> <li>(iii) <i>Bridges</i></li> <li>(iv) <i>Dams;</i></li> <li>(v) <i>Weirs;</i></li> <li>(vi) <i>Bulk storm water outlet structures;</i></li> <li>(vii) <i>Marinas;</i></li> <li>(viii) <i>Jetties exceeding 50 square metres in size;</i></li> <li>(ix) <i>Slipways exceeding 50 square metres in size;</i></li> <li>(x) <i>Buildings exceeding 50 square metres in size; or</i></li> <li>(xi) <i>Infrastructure or structures covering 50 square metres in size.</i></li> </ul> <p><i>Where such construction occurs within a watercourse or within 32 metres of a water course, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</i></p>	<p>The preliminary development plan includes the construction of access roads and platforms within 32 meters of certain watercourses. In addition, civil infrastructure for sewage, storm water and water which is greater than 50 square metres in size will be constructed within 32 meters of some of the watercourses.</p> <p>This activity is therefore applicable to the project.</p>
GNR 544	13	<p><i>The construction of facilities or infrastructure for the storage, or for the storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres.</i></p>	<p>Exact details are unknown at this stage but hazardous substances may be stored on site e.g. Diesel storage.</p>
GNR 544	18	<p><i>The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from:</i></p> <ul style="list-style-type: none"> <li>(i) <i>A water course</i></li> <li>(ii) <i>The sea</i></li> <li>(iii) <i>The seashore</i></li> <li>(iv) <i>The littoral active zone, an estuary or a distance of 100 metres inland of the high water mark of the sea or an estuary, whichever distance is the greater-</i></li> </ul>	<p>During the construction phase, more than 5 cubic meters of material will be deposited and/or excavated from the watercourses. In addition, certain systems are likely to be in filled to allow for platforming due to their low ecological value. Other wetland systems will be fully rehabilitated as a form of offsetting.</p>

Relevant Notice	Activity No	Listed Activity	Description of the activity
		<i>But excluding where such infilling, depositing, dredging, excavation, removal or moving; (a) Is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority or (b) Occurs behind the development setback line</i>	This activity is therefore applicable to the project.
GNR 544	27	<i>The decommissioning of existing facilities or infrastructure, for activities where the facility or the land on which it is located is contaminated.</i>	The existing clay mining operations will need to be decommissioned and rehabilitated prior to the Business Estate being developed. However, it has not been determined if the land is contaminated from historical activities - this will need to be confirmed.
GNR 544	37	<i>The expansion of facilities or infrastructure for the bulk transportation of water, sewage or storm water where:  (a) the facility or infrastructure is expanded by more than 1000 metres in length; or (b) where the throughput capacity of the facility or infrastructure will be increased by 10% or more-  excluding where such expansion:  (i) relates to transportation of water, sewage or storm water within a road reserve; (ii) Where such expansion will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.</i>	Municipal infrastructure is likely to be expanded for the bulk transportation of water, sewage and storm water. However, should infrastructure exceeding the specified length and capacity thresholds be required, it is highly likely that this will be constructed within the road reserve.  Therefore, it is unlikely that this activity is applicable to the project.
GNR 544	56	<i>Phased activities for all activities listed in this Schedule, which commenced on or after the effective date of this Schedule, where anyone phase of the activity may be below a threshold but where a combination of the phases, including expansions or extensions, will exceed a specified threshold.</i>	The development is likely to be divided into phases and thus all phases will be taken into account when determining whether the activity is greater than the trigger threshold.
GNR 545	15	<i>Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more;  Except where such physical alteration takes place for:  (i) Linear development activities; or</i>	The property on which the industrial development has been proposed is currently being used by Corobrik for clay mining and sugar cane farming and the land is zoned as extractive industrial. The property size is approximately 59.61 hectares, thus the size of the property to be developed is greater

Relevant Notice	Activity No	Listed Activity	Description of the activity
		(ii) <i>Agricultural or afforestation where activity 16 in this Schedule will apply.</i>	than 20 hectares.
GNR 545	18	<p><i>The route determination of roads and design of associated physical infrastructure including roads that have not yet been built for which routes have been determined before 03 July 2006 and which have not been authorised by a competent authority in terms of the Environmental Impact Assessment Regulations, 2006 or 2009, made under section 24(5) of the Act and published in Government Notice No. R. 385 of 2006,-</i></p> <p>(i) <i>It is a national road as defined in section 40 of the South African National Roads Agency Limited and National Roads Act, 1998 (Act No. 7 of 1998);</i></p> <p>(ii) <i>It is a road administered by a provincial authority;</i></p> <p>(iii) <i>The road reserve is wider than 30 metres; or</i></p> <p>(iv) <i>The road will cater for more than one lane of traffic in both directions.</i></p>	The development will require the construction of new roads and will require that certain existing intersections that belong to either SANRAL or the Department of Transport (DOT) are upgraded to cater for the increase in traffic flow.

**Legal Requirement**

The proposed project constitutes activities under both GNR 544 requiring a BA and GNR 545 requiring a full Scoping and EIA Process. However, the 2010 EIA Regulations (GNR 543) stipulate that where any activity associated with a proposed development is listed within GNR 545, a full Scoping and EIA Process must be followed, regardless of whether additional activities are identified in GNR 544 for BA's. Hence, a full Scoping and EIA Process is being undertaken for the proposed Rohill Business Estate. This report represents the Draft EIA Report which has been prepared in accordance with the 2010 EIA Regulations published in GNR 543.

### 1.4.2 National Water Act

The National Water Act (Act No. 36 of 1998) (NWA) is the fundamental law for managing South Africa's water resources. The NWA provides the legal basis upon which to develop tools such as the authorisation of water uses as defined in Chapter 4 of the NWA. Section 21 of the NWA lists water uses which can only be legitimately undertaken through the water use authorisation issued by the Department of Water and Sanitation (DWS). The following Section 21 water uses are applicable to the project:

- c) Impeding or diverting the flow of water in a watercourse.
- g) Disposing of waste in a manner which may detrimentally impact on a water resource.
- i) Altering the bed, banks, course or characteristics of a watercourse.

The development of large areas of undeveloped land as well as the direct alteration of watercourses by stormwater detention dams, road crossings and pipelines will definitely result in the direct and indirect alteration of the current physical characteristics of the various watercourses within and downstream of the proposed development. Therefore, authorisations for Section 21(c) and (i) water uses will be required for the proposed Business Estate.

Furthermore, the stormwater generated by industrial land uses can be considered a pollutant source and thus the discharge of stormwater into the environment is likely to be considered a water use under Section 21(g) of the NWA.

#### Legal Requirement

An Integrated Water Use License Application (IWULA) (more than one water use) will need to be compiled and submitted to the previously the DWS for Section 21 (c), (i) and (g) water uses. The required authorisation for applicable water uses must be in place prior to commencement of the water uses.

### 1.4.3 National Heritage Resources Act

The National Heritage Resources Act (Act 25 of 1999) (NHRA) aims to promote the protection and good management of the national estate of South Africa. If a project is listed under the NHRA Regulations, then a permit application must be made to the South African Heritage Resource Agency (SAHRA) before the project can commence. For projects in KZN, permit applications must be made to AMAFA aKwaZulu-Natali (AMAFA) in terms of KwaZulu-Natal Heritage Act (Act No. 10 of 1997). The following listed activities under the NHRA Regulations are relevant to the project:

- The construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length.
- Any development or other activity which will change the character of a site exceeding 5 000 m<sup>2</sup> in extent.

#### **Legal Requirement**

Notification to be issued to AMAFA in terms of the proposed development which includes linear developments greater than 300 m in length and proposed developments changing the character of the site and exceeding 5 000 m<sup>2</sup> in extent. This includes the requirement for a Phase 1 Heritage Impact Assessment.

#### ***1.4.4 The KwaZulu-Natal Heritage Act***

The aim of the KwaZulu-Natal Heritage Act (Act No. 10 of 1997) is to provide for the establishment of a statutory body to administer heritage conservation on behalf of the provincial government of KZN, namely AMAFA. The following Section 27 listed activities are relevant to the project:

- Linear Developments (roads, walls, powerlines, pipelines) greater than 300 m in length.
- Proposed developments exceeding 10 000 m<sup>2</sup>.

#### **Legal Requirement**

Notification to be issued to AMAFA in terms of the proposed development which includes linear developments greater than 300m in length and proposed developments exceeding 10 000 m<sup>2</sup> in extent. This includes the requirement for a Phase 1 Heritage Impact Assessment.

## **1.5 Approach to the EIA**

### ***1.5.1 Purpose of the EIA***

An EIA process refers to that process (dictated by the EIA Regulations, 2010) which involves the identification and assessment of direct, indirect, and cumulative environmental impacts associated with a proposed project/activity. The EIA process comprises two phases: i.e. Scoping Phase and Impact Assessment Phase. Following submission of a Scoping Report and associated Plan of Study (PoS) for the Impact Assessment Phase, to and approval by the competent authority, the 'Impact Assessment Phase' is initiated. The Impact Assessment Phase' culminates in the submission of an EIA Report (including an environmental management programme (EMPr) to the competent authority for decision-making.

#### *1.5.1.1 Scoping Phase*

The aim of the Scoping Phase is to inform Interested and Affected Parties (I&APs) of the proposed project, identify issues and concerns, scope potential impacts, and plan investigative specialist studies to research and accurately assess potentially significant impacts. The objectives of the Scoping Phase are to:

- Identify all potential environmental (biophysical and social) issues and impacts, negative and positive, resulting from and/or associated with all phases of the proposed development (i.e. design, construction, operation and decommissioning) through consultation with key stakeholders, the public and existing baseline data.
- Clarify the reasonable and feasible project-specific alternatives to be considered through the EIA process, including the “no go” option.
- Identify and flag potentially sensitive environmental features on the site to inform the preliminary design process of the facility.
- Conduct an open, participatory, and transparent public involvement process and facilitate the inclusion of stakeholders’ concerns regarding the proposed project into the decision-making process.
- Compile a ‘roadmap’ (PoS for EIA) to address each of the issues and impacts as identified in the Scoping Phase.
- Define the scope of the specialist studies to be undertaken to assess the significance of the impacts during the EIA phase.
- Provide the authorities with sufficient information in order to make a decision regarding the scope of issues to be addressed in the EIA process, as well as the scope and extent of specialist studies that will be undertaken as part of the EIA Phase of the process.

#### *1.5.1.2 Impact Assessment Phase*

The Impact Assessment Phase comprises the actual assessment of potential impacts and the compilation of a comprehensive EIA Report. The objectives of the EIA Phase are to:

- Assess alternatives to the proposed activity in a comparative manner.
- Undertake specialist studies required.
- Formally assess the nature, intensity, magnitude, duration, probability and significance of all of the potential impacts identified in the Scoping Phase.
- Identify feasible and realistic mitigation measures required to avoid and/or minimise the negative environmental impacts resulting from the activity and combine and present all these measures in the form of a construction and operational EMP in accordance with NEMA.
- Provide the competent authority with sufficient information in order to make a decision

regarding the authorisation of the activity.

#### *1.5.1.3 Environmental Management Programme (EMPr - NEMA)*

The EMPr associated with the NEMA EIA process outlines the mitigation measures and plans that need to be implemented and adhered to by the applicant in order to ensure that the impacts resulting from the proposed development are minimised. The EMPr includes all the mitigation requirements recommended and required for each of the potential impacts identified and assessed in the EIA. The EMPr will be a legally binding document and the applicant will be required to meet the requirements specified in the document. The EMPr will be submitted to the competent authority for approval.

#### *1.5.2 Public Participation*

The NEMA EIA Regulations (GNR 543) specify that a Public Participation Process (PPP) must be conducted as an integral part of the EIA and in accordance with Sections 54 of the Regulations and associated guidelines.

##### *1.5.2.1 Objectives of Public Participation*

The procedures followed during the undertaking of the PPP for the proposed project must adhere to the NEMA principle whereby the participation of all I&APs in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured [NEMA, Section 2(1)(f)].

The main objectives of the PPP are to:

- Identify key stakeholders (i.e. NGOs, municipalities, government departments, traditional authorities) and I&APs (i.e. surrounding businesses, residents, landowners, interested members of the public).
- Inform I&APs about the proposed project and the Scoping and EIA Process.
- Establish lines of communication between I&APs and the project team to deal with potentially contentious issues.
- Provide ample opportunity to all parties to exchange information and express their views and raise issues and concerns.
- Obtain contributions of I&APs and ensure that all issues, concerns and queries raised are fully documented and assessed as part of the Scoping and EIA process.

### 1.5.2.2 NEMA Requirements for Public Participation

Regulation 54 of the NEMA EIA Regulations outlines the requirements for the notification and involvement of all potential I&APs. These requirements are summarized as follows:

- Fix a notice board at a conspicuous place on all alternative sites.
- Give written notice to:
  - The landowners and occupiers of the sites and those within 100 m of the alternative sites or those directly influenced by the activity under consideration.
  - The municipality which has jurisdiction in the area.
  - Ward councilors, traditional authorities and ratepayers associations.
  - Any organs of state having jurisdiction in respect of any aspect of the activity.
- Place an advertisement in a local newspaper or official Gazette.
- Place an advertisement in a regional and provincial and or national newspaper if the impact extends beyond 'local' boundaries.
- Make information containing all relevant facts in respect of the application available to potential I&APs.
- Facilitate participation by potential I&APs in such a manner that all potential I&APs are provided with a reasonable opportunity to comment on the application.

## 1.6 Scoping Phase Activities

The Environmental Scoping and Impact Assessment Phases have been undertaken in accordance with the requirements of Section 24 of the NEMA, as read with GNR 543 (Regulations 26-29), 544, 545 and 546 of the NEMA and the Integrated Environmental Management (IEM) Information Series published by the Department of Environmental Affairs and Tourism (now DEA) in 2002. The approach is aimed at promoting accountable and informed decision-making.

The competent authority for this application is the KZN Department of Economic Development, Tourism and Environmental Affairs (DEDTEA), previously known as the Department of Agriculture and Environmental Affairs (DAEA).

Activities that have been carried out as part of the Scoping Phase are summarized in the sub-sections that follow.



### 1.6.1 *Competent Authority Consultation*

- A pre-application meeting was held with Ms Yugesni Govender of the DAEA on 5 September 2012. A record of correspondence with the competent authority is included in **Appendix C** of this document.

### 1.6.2 *I&AP Identification and Notification*

- Key stakeholders were identified for inclusion in the PPP, such as municipal authorities, government departments and environmental groups that have jurisdiction over, or potential interest in, the activity. The key organisations and stakeholders identified include:
  - eThekweni Municipality.
  - Local Ward 34, 35 and 36 Councilors.
  - AMAFA.
  - DWS.
  - Ezemvelo KZN Wildlife (EKZNW).
  - Coastwatch.
  - Department of Agriculture, Forestry and Fisheries (DAFF) - Land Use.
  - Department of Agriculture, Forestry and Fisheries (DAFF) - Forestry.
  - KZN Department of Transport.
  - Glenhills Ratepayers Association.
- An electronic I&AP database was developed, which is maintained and updated throughout the project. **Appendix D1** contains a copy of the latest I&AP database.
- An invitation for the registration and participation of I&APs was placed in the Mercury, Isolezwe and the Northglen newspapers on 2 and 3 October 2012. Refer to **Appendix D2** for copies of media notices.
- Ten (10) notice boards detailing information about the project and the Scoping and EIA Process, as well as invitation to register as I&APs, were strategically fixed at various points around the development site on 4 and 24 October 2012. All notice boards were designed to the specification of Section 54 (3) of the NEMA EIA Regulations. Refer to **Appendix D2** for copies of site notices.
- Notification of key stakeholders through letters, email and telephonic discussions between 4 and 24 October 2012. Refer to **Appendix D6** for copies of I&AP notification letters.

### 1.6.3 *Background Information Document*

- A Background Information Document (BID) was compiled in English, containing information on the proposed project, the proponent, consultants and the proposed Scoping and EIA process and associated PPP to be followed. The BID also included an invitation to I&APs to register and submit any comments to GCS in writing. BIDs

were distributed to all key stakeholders, ratepayers associations and the relevant ward councilors via email. Six hundred (600) copies of the BID were delivered to all landowners and tenants within 100 m of the project site on 4 October 2012. Thereafter, BIDs were sent to all I&APs on request.

- Concern was raised over the extent to which local residents had been notified. GCS therefore conducted a second BID drop on 24th October 2012 distributing another 600 BIDs to residents in the Glenhills area. Refer to **Appendix D3** for a copy of the BID.

#### **1.6.4 Open Day Public Meeting**

- An Open Day was held at the Firwood Library in Red Hill on 18 October 2012. The purpose of such an open meeting was to offer I&APs an opportunity to discuss ideas, issues, concerns and solutions related to the proposed project directly with the project team. At the open day I&APs were requested to ensure they registered with the project and submitted their comments to GCS.

#### **1.6.5 EIA Application**

- The EIA application to undertake the listed activities was submitted to the DAEA on 26 October 2012. GCS received the acknowledgement of the application form and authorisation to proceed on 29 October 2012. The project was allocated reference number **DM/0061/2012**. A revised application was submitted in June 2014 after the change in project applicant to JT Ross. A copy of the application forms is included in **Appendix C**.

#### **1.6.6 Comments and Response Report**

- Copies of all comments and issues raised during the PPP have been consolidated into the Comments and Response Report (CRR) (**Appendix D4**), which summarises each comment/issue received and provides a response. Copies of the submissions received from I&APs and key stakeholders are included in **Appendix D5**.

#### **1.6.7 Draft Scoping Report**

- All I&AP and Stakeholder comments and issues were recorded and all written comments received were included in the Draft Scoping Report (DSR).
- Notification of change in project proponent and land ownership (i.e. from Investec to JT Ross) was sent to all registered I&APs via email between 7 and 11 March 2014.
- The Draft Scoping Report was made available for public comment for 40 day and all registered I&APs were informed of the availability of the DSR for public review. The DSR was submitted for public review from 18 March to 28 April 2014 (40 days) at the following public places:

- Firwood Library.
- Glenashley Library.
- GCS Office (Kloof).
- GCS Website (electronic copies available upon request).

#### **1.6.8 Final Scoping Report**

- All I&AP and Stakeholder comments submitted in response to the review of the DSR were collated, documented and responded to in the CRR and Final Scoping Report (FSR) where appropriate.
- The FSR was made available for public comment for 21 days (19 May 2014 to 9 June 2014) and all registered I&APs were informed of the availability of the FSR for public review at the following public places:
  - Firwood Library.
  - Glenashley Library.
  - GCS Office (Kloof).
  - GCS Website (electronic copies available upon request).
- The Scoping Phase of the EIA was concluded with the compilation and submission of a Scoping Report and PoS to the DEDTEA for acceptance on 20 May 2014. All I&AP and Stakeholder comments submitted in response to the review of the FSR were submitted directly to the DEDTEA Assessing Officer.
- The Final Scoping Report and PoS were accepted by the DEDTEA on 15 July 2014. A record of correspondence with the competent authority is included in **Appendix C**.

### **1.7 Impact Assessment Phase Activities**

Activities carried out in preparation of this Draft EIA include the following:

#### **1.7.1 Update of Comments and Response Report**

- All I&AP and Stakeholder comments submitted in response to the review of the FSR were collated, documented and responded to in the updated CRR where appropriate (**Appendices D4 and D5**).

#### **1.7.2 Technical and Specialist Studies**

- The following engineering/technical studies have been undertaken as part of the engineering component which have relevance to the EIA:
  - Engineering Services Report (SMEC South Africa (Pty) Ltd, September 2014, **Appendix E1**).
  - Stormwater Management Plan (SMEC South Africa (Pty) Ltd, September 2014, **Appendix E2**).

- The Draft EIA commenced with the appointment of the following specialists to undertake specialist investigations, as per the terms of reference included in the PoS for EIA:
  - Traffic Impact Assessment (Aurecon, October 2014, **Appendix E3**).
  - Social Impact Assessment (Dianne Scott, Vicky Sim and Catherine Sutherland, September 2014, **Appendix E4**).
  - Preliminary Geotechnical Assessment (Drennan Maud (Pty) Ltd, June 2014, **Appendix E5**).
  - Natural Resources and Agricultural Land Potential Assessment (Keith Snyman and Associates, April 2014, **Appendix E6**).
  - Preliminary Hydrogeological Assessment (GCS Water and Environment (Pty) Ltd, October 2014, **Appendix E7**).
  - Vegetation Assessment (David Styles, May 2014, **Appendix E8**).
  - Faunal Assessment (Strategic Environmental Focus (S.E.F.), April 2014, **Appendix E9**).
  - Phase 1 KwaZulu Chameleon *Bradypodion melanocephalum* Habitat Assessment (Harvey Ecological, July 2014, **Appendix E10**).
  - Phase 2 KwaZulu Chameleon *Bradypodion melanocephalum* Assessment (Harvey Ecological, October 2014, **Appendix E10**).
  - Phase 1 Amphibian Habitat Survey (Jeanne Tarrant Specialist Consulting, July 2014, **Appendix E11**).
  - Phase 2 Amphibian Survey for Red List Frog Species (Jeanne Tarrant Specialist Consulting, October 2014, **Appendix E11**).
  - Freshwater Ecosystems Assessment (GroundTruth, October 2014, **Appendix E13**). It is noted that the PoS referred to this study as the “Wetland and Riparian Zone Impact Assessment”).
  - Economic Impact Assessment (Dr Jeff McCarthy, May 2014, **Appendix E14**).
  - Visual Impact Assessment (SRK Consulting, June 2014, **Appendix E15**).
  - Noise Impact Assessment (WardKarlson Consulting Group (WKC), October 2014, **Appendix E16**).
  - Phase 1 Cultural Heritage Impact Assessment (Active Heritage cc., June 2014, **Appendix E17**).
  - Rehabilitation and Conservation Management Plan (Undertaken by Themtek cc., October 2014, **Appendix E19**).
  - Conceptual Wetland Rehabilitation Plan and Residual Impact Assessment (Undertaken by Eco-Pulse, October 2014, **Appendix E20**).
- In addition to the above specialist studies, a number of studies which were undertaken as part of the previous application for Investec have been included in

this Draft EIA process, as the findings are relevant. These are as follows:

- Wetland Delineation (SiVEST, September 2012, **Appendix E12**).
- Floodline Delineation (SiVEST, September 2012, **Appendix E18**).

### **1.7.3 Compilation and Distribution of Draft EIA**

- Compilation of the Draft EIA Report and EMPr, including findings of the above-mentioned studies, a detailed impact assessment and mitigation measures/recommendations.
- Distribution of the Draft EIA Report and EMPr to key stakeholders and government departments, and availability of the Report for I&AP review at public venues for a 40 day comment period.

## **1.8 Structure of this Report**

### **Chapter 1: Introduction**

Provides an introduction to the proposed development, summarises the details of the applicant and the EAP, describes the applicable environmental legislation, details the approach to the EIA and summarises activities undertaken to date.

### **Chapter 2: Description of the Proposed Development**

Describes the proposed project in detail, including the project location, the motivation for the project, infrastructural requirements and an assessment of alternatives.

### **Chapter 3: Description of the Project Environment**

Summarises the *status quo* of the project site and surrounding biophysical and socio-economic receiving environments to be considered as a baseline in the environmental impact assessment.

### **Chapter 4: Assessment of Environmental Impacts**

Identification and assessment of environmental impacts associated with the proposed development, including issues raised during the PPP, findings of specialist studies and recommended mitigation measures.

### **Chapter 5: Environmental Impact Statement**

Concludes the Draft EIA Report and gives a summary of key findings and recommendations.

### **Chapter 6: Way Forward**

Details the way forward in the EIA process in terms of availability for public comment and any additional information requirements.

### **Chapter 7: References**

Lists the references used in compilation of the Draft EIA Report.

## 2 DESCRIPTION OF THE PROPOSED DEVELOPMENT

### 2.1 Project Locality, Current Land Use and Development Context

#### *2.1.1 Project Locality*

The site for the proposed development is located in the Red Hill/Avoca suburb in the 'North Central' part of Durban (eThekweni Municipality), The site is situated east of the N2 highway, north-east of the KwaMashu Interchange, on Erf 3481. The property is bordered by Old North Coast Road (P585) to the west, Chris Hani Road (R102) and Rinaldo Road to the south, Bauhinia Drive and Cypress Drive to the north, and Harrison Drive and Poinsettia Road to the east. It is surrounded by the Glen Anil industrial area to the north, the Red Hill industrial area to the west and south, the residential suburb of Avoca south of Chris Hani Road, and the residential suburb of Glenhills to the east. Please refer to Figure 1-2 and Figure 2-1 for maps of the project locality.

A perennial stream flows through the central section of the property in an east/west direction, dissipating into the nearby uMhlangane River. A number of ephemeral channels which feed the central perennial channel are also present on site. The central watercourse has been heavily degraded after years of farming and mining, and the lower reaches have been in-filled for the establishment of Old North Coast Road (P585) and the adjacent industrial platforms. A number of wetland units have been identified on site in association with the central watercourse, the largest of which is located in the upper reaches of the watercourse, adjacent to a Durban Metropolitan Open Space System (D'MOSS) area. Please refer to Figure 2-1 for a map indicating the location of the D'MOSS area.

These biophysical aspects of the site, as well as the presence of the adjacent residential suburbs, have been a key part of determining layout options for the proposed development, and will be discussed in detail further in this report.



Figure 2-1: Rohill Business Estate Locality Map indicating D'MOSS area

### *2.1.2 Regional Context*

The eThekweni Municipality is located on the coast of KZN and is the province's only metropolitan municipality. The municipality consists of 100 wards of which only two are part of the development site; namely, Ward 34 (Effingham-Avooca) and Ward 36 (Red Hill, Umhlanga Rocks, Glen Anil, Sunningdale, La Lucia). Glenhills, which borders the development, is situated in Ward 35. The geographical area of the municipality is 2 292 km<sup>2</sup> with a population of about 3 442 398 (Census, 2011) for the municipality.

Effingham-Avooca is an industrial node catering to light industry as well as meeting residential demand. The D'MOSS areas around Avooca include the uMhlangane Vlei, uMhlangane River and floodplains, and Sugarcane Bush which previously belonged to Tongaat Hulett and is now the intended location of the Proposed Business Estate. Currently the area is being mined for clay deposits by Corobrik. The remaining vacant land is used by farmers to grow sugarcane. The suburbs that bound the development site include Glenhills, Avooca, Glen Anil, Red Hill. Residential areas in the near vicinity also include Park Hill, Virginia, Greenwood Park, Sunningdale, Moriah, Avooca Hills and Glenashley. The River Horse Valley Business Estate, a similar development type to the proposed Rohill Business Estate, is situated to the south of the proposed development site, and includes a mix of light manufacturing, warehousing, retail and commercial uses.

The major routes along Effingham-Avooca includes North Coast Road, which extends roughly from the Umgeni River to the N2 highway, providing road and rail access into the Inner City from Phoenix, KwaMashu, Ntuzuma and Inanda. The Effingham-Avooca area is also in close proximity to the Gateway Mall located in Umhlanga Rocks and the King Shaka Airport located in La Mercy with the N2 highway being the major route to both of these facilities.

## **2.2 Motivation for the Project**

The eThekweni Municipality's Spatial Development Framework (SDF), as revised in May 2014, earmarks the potential uses for the Avooca east area as light industry, with public investment targeting industrial infill and the provision of transport infrastructure. The proposed site is situated at the juncture of identified densification corridors and existing mixed use and industrial areas in terms of both the SDF and the latest eThekweni Integrated Development Plan (IDP), as revised in 2014. The proposed site is therefore ideally located to cater for light industry, retail, commercial or warehousing uses, as proposed for the Rohill Business Estate, and is close to major routes such as Chris Hani Road (North Coast Road) which extends roughly from the Umgeni River to the N2, providing road and rail access into the Inner City from Phoenix, KwaMashu, Ntuzuma and Inanda. In this regard it is similar to the nearby Brairdene and River Horse areas with proximity to N2 interchanges,



and both of these areas have proven very successful in the market. This reflects very strong demand in eThekweni in recent years for especially well-located industrial and warehousing land.

The National Development Plan (NDP) released by the National Planning Commission in late 2011 places strong emphasis upon reducing unemployment in the country, and enhanced economic output. It also recognises that manufacturing and the warehousing and logistics components of the South African economy can contribute to about a quarter of jobs and growth towards the national economy. Therefore, the proposed development is expected to contribute towards meeting the objectives of the NDP by creating local employment opportunities in the manufacturing, warehousing and logistics sectors.

The proposed Business Estate will:

- Provide industrial/logistics, clean manufacturing, business park and office opportunities in close proximity to the King Shaka International Airport and with good accessibility to major routes.
- Contribute towards positioning eThekweni as an industrial, logistics and business hub.
- Create an opportunity to improve the road network.
- Will assist in realizing the goals of the NDP, and will be responsible for creating new temporary and permanent job opportunities and economic growth and therefore is aligned with the NDP.
- Generate revenue for the city through municipal rates.

The development of the subject site for industrial/business use in the SDF has been proposed to take advantage of the site's strategic location and adjacent major roads, thereby facilitating the successful development of industrial and business ventures to generate much needed job opportunities and increase the municipal rates base.

### **2.3 Platforming and Associated Earthworks**

It is proposed that development of the seven platforms occurs in phases for purposes of the cut-to-fill operations, as follows:

- Phase 1: Platforms A, F and G.
- Phase 2: Platforms B and E.
- Phase 3: Platforms C and D.

An assessment of alternative layout options is included in Section 2.5 of this report.

The developer's preferred layout aims to maximise the available platform area taking into account the following constraints:

- Preservation of as much of the central/main watercourse and narrow buffer zone as possible.
- Preservation of a 100 m buffer zone to the Glenhills suburb.
- Preservation of a 40 m buffer to the D'MOSS area.
- Exclusion of unstable geological areas.
- Location of road access points away from Harrison Drive and Rinaldo Road.

Based on preliminary cut-to-fill and platform location and alignment exercises with the aim of maximising platform area, the following features of the layout plan are worth noting:

- The smaller tributary watercourses which feed into the central watercourse will be in-filled.
- The lower reaches of the central watercourse will be in-filled and flow diverted into a culvert underneath one of the proposed platforms.
- Stormwater attenuation and erosion control measures will be installed on steep areas and within the central drainage line.
- Platform embankments along the watercourse will generally encroach to within a few metres of the watercourse edge (minimal buffer zone).
- Two internal road watercourse crossings are proposed that will involve the infilling of portions of the central watercourse.
- The open spaces onsite, including the central drainage line and 100m buffer to the Glenhills suburb, will be rehabilitated and managed by the applicant and zoned appropriately.

## 2.4 Infrastructure Availability and Requirements

The following section summarises findings of the Engineering Services Report (**Appendix E1**), the Stormwater Management Plan (**Appendix E2**) and the Traffic Impact Assessment (**Appendix E3**).

### 2.4.1 Water Supply

#### a) Availability

The existing 12.4 mega litres (Mℓ) Effingham Reservoir (TWL 121 m), situated west of the site, currently serves the surrounding developments. There are 200 mm diameter water mains adjacent to the proposed site along Chris Hani Road. eThekweni Department of Water and Sanitation has confirmed that water can be made available from the Effingham

Reservoir and water mains, subject to an extension of the existing water main along the Rohill internal access loop road.

b) Requirements

The estimated water demand for the Rohill Business Estate is 0.66 mega litres per day (Mℓ/day), with a 10.67 litres per second (ℓ/s) peak flow. This would require a 48 hour reservoir storage of 1.32 Mℓ and an additional 4 hour 1.44 Mℓ fire flow storage. All internal water reticulation will be designed by SMEC in accordance with eThekweni Department of Water and Sanitation's standards and SANS 1200 specifications, subject to their approvals. The pipe extension is proposed to be approximately 1 800 m in length, and 200 mm in diameter, and will lie within a road reserve.

#### **2.4.2 Sewerage**

a) Availability

An existing 1 200 mm diameter trunk sewer gravitates west of the proposed development to the existing 70 Mℓ Northern Waste Water Treatment Works (WWTW), which lies to the west of the proposed site.

b) Requirements

The estimated sewer flow from the proposed development is 0.42 Mℓ/day, with a total peak flow of 12.17 ℓ/s. To serve these sites, a 160 mm diameter pipe (2 150 m in length) will be required to connect into the existing 1 200 mm diameter sewer pipe west of the development. eThekweni Water and Sanitation has undertaken a capacity check on the aforementioned trunk sewer and has confirmed that there is capacity available to handle sewage flow from the Rohill Business Estate. All internal sewer reticulation will be designed by SMEC in accordance with eThekweni Department of Water and Sanitation's standards and SANS 1200 specifications, subject to their approvals.

#### **2.4.3 Electricity Supply**

a) Availability

Eskom is the supply authority and preliminary discussions have taken place with Eskom and the eThekweni Municipality to secure electricity supply to the site. It has been confirmed that a capacity of 1 500 kilo-Volt amps (kVA) can be made available for the development, taking into account the current status of the network, as per correspondence from the eThekweni Municipality: Electricity Unit, dated 4 July 2014.

b) Requirements

It will be necessary for a small 11 000 Volt (V) brick substation to be built with an adjacent meter room, taking into account the location of the medium voltage cables when siting the

substation. This will be located along the front boundary, within the property, in Rinaldo Road. The required plans have been submitted to eThekweni Municipality: Electricity Unit for approval.

#### *2.4.4 Stormwater Management*

##### a) Availability

The lower third of the central watercourse existing on the site has already been in-filled and flow is currently diverted into a culvert underneath Old North Coast Road and the surrounding industrial platforms to join the uMhlangane River downstream of the site. This watercourse system will be used as the basis for stormwater management on site, by means of diversion of clean water into the watercourse and the implementation of suitable attenuation measures. Clean stormwater runoff will ultimately be directed into the uMhlangane River.

##### b) Requirements

A Stormwater Management Plan (SWMP) has been produced for the proposed development (**Appendix E2**), taking into consideration the findings of the Floodline Assessment (**Appendix E18**). The general principles guiding the design of the stormwater management system are:

- To design an efficient and functional SWM system with due consideration of the relevant eThekweni Municipality Coastal, Stormwater and Catchment Management guidelines.
- To ensure that post-development flows are equal to pre-development flows exiting the proposed development.
- To minimise the volumes of stormwater runoff generated by the proposed development through stormwater runoff recycling and infiltration wherever possible.
- To minimise the concentration and velocity of stormwater runoff onsite.
- To attenuate locally where possible.
- To implement stormwater polishing locally where possible.
- To enhance the central watercourse as a stormwater attenuation and filtration feature.

The SWMP design includes:

- Stormwater drainage pipe networks specifically designed for each of the platforms.
- Multiple discharge points into the central watercourse to minimise runoff velocity.
- Grassed catchwater berms, diverting water towards silt traps and hydrocarbon filters located at low points on all platforms. These will be used to prevent pollution of the watercourse by siltation and hydrocarbons contained in the “first

flush” runoff.

The use of the proposed road network will act as the primary storm water collector with controlled discharge to an onsite attenuation pond which will be constructed in the lower reaches of the central watercourse, just upstream of the existing culvert underneath Old North Coast Road. It is noted that this attenuation pond will be maintained as a dry pond, serving the function of a flood-prevention measure and not as a permanent wet area. During periods of high rainfall, and where significant amounts of stormwater runoff accumulate in the central watercourse, water will need to drain from site in a controlled manner so as to prevent flood / damage to infrastructure. The creation of an attenuation pond will ensure that sufficient attenuation is achieved on site, and that post-development flow is attenuated back to pre-development flow. High flows of stormwater will attenuate temporarily in this pond, and a 1 800 mm diameter culvert (sized for emergency outflow) will transfer the discharge at a controlled rate from the pond to the existing 1.83 m x 1.45 m culvert which drains to the uMhlangane River located downstream of the proposed development site. Outflow will be equivalent to pre-development flows at 1:10 and 1:50 year return periods.

With consideration to the site’s geotechnical conditions and large excess volumes of material being available to complete a practical industrial development, it is desirable to infill in the lower portion of the watercourse below the attenuation pond and extend the existing culvert back to the proposed attenuation pond. A levelled platform is proposed to be constructed across the extended culvert through which all the stormwater discharge will drain.

Detailed designs for stormwater management infrastructure will be required should be project go ahead, and must comply with the SWMP.

#### **2.4.5 Roads**

##### **a) Availability**

The N2 Highway is located along the western boundary of the site (dual carriageway), with the KwaMashu Diverging Diamond Interchange (DDI) located along Chris Hani Road (R102). Chris Hani Road (R102) is located on the southern boundary of the site and is a dual carriageway with 3 lanes in each direction. Old North Coast Road (P585) is located along the western boundary of the site, parallel to the N2, and is a 2 lane single carriageway road. Columbine Place, Sasswood Road, Sneezewood Road and Cypress Drive are all 2 lane single carriageway roads adjoining Old North Coast Road (P585). Main roads in the surrounding area include North Coast Road, which is situated to the west of Chris Hani Road (R102), and Rinaldo Road, located along the southern boundary of the site. North Coast

Road is a 2 lane single carriageway terminating in a cul-de-sac, serving the residential suburb of Avoca. Rinaldo Road serves the Glen Anil and Glenhills residential suburbs and is a 2 lane single carriageway road.

b) Requirements

External Access Roads:

It is noted that SANRAL has plans to upgrade the KwaMashu Interchange in the long term. However this has not been included in the proposed upgrades for this project as the timeframe for implementation of the upgrade is yet undetermined.

Chris Hani Road (R102), as the main access road in the area, is proposed to be upgraded from a two lane facility to a four lane divided arterial by the eThekweni Transport Authority. At this stage, two access points are proposed off Old North Coast Road (P585). With regards to local access, substantial local intersection and interchange upgrades will be required, as detailed in the Traffic Impact Assessment (**Appendix E3**).

The timeline for all external road upgrades to be covered by JT Ross is based on the predicted additional trips that the proposed development will generate from 2017 - 2020. The Traffic Impact Assessment takes the 'base year' as 2020 which is the year the development will be generating maximum additional traffic onto the surrounding road network. The following road upgrades are required in the base year:

- Chris Hani Road eastbound must be upgraded to 4 through lanes from the KwaMashu DDI to about 100 m beyond the Chris Hani Road, North Coast Road and Rinaldo Road Intersection.
- Chris Hani Road westbound must be upgraded to 4 through lanes for about 100 - 200 m on both sides of the Chris Hani Road, North Coast Road and Rinaldo Road Intersection.
- Old North Coast Road must be upgraded to a 4-lane dual carriageway from Chris Hani Road to about 100 m beyond the Old North Coast Road, Sneezewood Road and Oak Street intersection.
- Intersection upgrade at Chris Hani Road and Old North Coast Road.
- Intersection upgrade at Chris Hani Road, Rinaldo Road and North Coast Road.
- Intersection upgrade at Old North Coast Road and Columbine Place.
- Intersection upgrade at Old North Coast Road and Access Road 1 to the Rohill Business Estate.
- Intersection upgrade at Old North Coast Road and Cypress Drive.
- Intersection upgrade at Old North Coast Road, Oak Street and Sneezewood Road.
- Intersection upgrade at KwaMashu DDI - Eastern Intersection.

- Intersection upgrade at Old North Coast Road and Sasswood Road.

The following additional road upgrades are required in the 10 year horizon:

- Intersection upgrade at Chris Hani Road, Rinaldo Road and North Coast Road.
- Intersection upgrade at Old North Coast Road and Columbine Place.
- Intersection upgrade at Old North Coast Road and Access Road 1.
- Intersection upgrade at Old North Coast Road and Cypress Drive.
- Intersection upgrade at Old North Coast Road and Sasswood Road.
- Intersection upgrade at Old North Coast Road, Oak Street and Sneezewood Road.
- Intersection upgrade at KwaMashu DDI - Eastern Intersection.
- Intersection upgrade at KwaMashu DDI - Western Intersection.

It is noted that required upgrades are to be implemented in consultation and agreement with the eThekweni Transport Authority.

#### Internal Roads:

The internal road structure of the development will be designed to cater for industrial type vehicles while the internal road will be a private road. To service the individual platform sites, the proposed main access road running through the property will need to cross the existing central watercourse at two places: on the proposed Platform D immediately adjacent to the proposed attenuation pond, and; across the river linking Platforms B and E (central platforms), and Platforms F and G (northern platforms). As described in the Stormwater Management description, the central watercourse will be directed through an extended culvert underneath Platform D and the main access road will be constructed on this infilled section of the watercourse. A culverted fill embankment has been proposed for the second river crossing point of the main access road, as the valley system of the central watercourse is too wide to be effectively bridged without infilling the watercourse. This will be undertaken using a 1.8 m x 1.8 m box culvert to ensure that the normal pre-development watercourse flow is uninterrupted and ecological movement along the existing system is maintained.

#### *2.4.6 Telecommunications*

##### a) Availability

Telkom's current policy is that, provided that there is a demand which produces sufficient revenue to cover the capital expenditure, Telkom will provide the necessary infrastructure. Reticulation to industrial/mixed use and high density residential areas would be underground.