



Emvelo Quality and Environmental consultant (PTY) Ltd
Promenade Building, 1st Floor, Unit D2, 24 Lira Link CBD,
Richards Bay, 3900. P.O. Box 101672, Meerensee, 3901
Tel: 035 789 0632, Cell: (078) 2849 332 Fax: 086 577 5220,
email: info@emveloconsultants.co.za

DRAFT SCOPING REPORT

DC25/003/2020: KZN/EIA/0001310/2020

**THE PROPOSED DEVELOPMENT OF
ROYPOINT HOUSING UNITS WITHIN
THE NEWCASTLE LOCAL
MUNICIPALITY, AMAJUBA DISTRICT,
KWA-ZULU NATAL.**

February 2020

Prepared by:

**Emvelo Quality and Environmental
Consultant (PTY) Ltd**

On Behalf of



Newcastle Local Municipality

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LIST OF ACRONYMS

DWS	Department of Water and Sanitation
DEDTEA	Department of Economic Development, Tourism and Environmental Affairs
EMPr	Environmental Management Programme
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
MSDS	Material Safety Data Sheet
NEMA	National Environmental Management Act
I&AP	Interested and Affected Parties
EAP	Environmental Assessment Practitioner
GA	General Authorisation

PROJECT DETAILS

Developer (DEV)

Name of the Developer	Newcastle Local Municipality
Contact Person	Themba Nkomuzwayo
Address	37 Murchison Street, Newcastle
Cell phone Number	(034) 328 7851
Email Address	<u>Themba.Nkomuzwayo@newcastle.gov.za</u>

Environmental Assessment Practitioner (EAP) Details

Name of Consultancy	Emvelo Quality and Environmental Consultant (PTY)Ltd
Professional affiliation body	IAIAsa
Name of EAP's	Phumzile Lembede (BSc Honours: Environmental Management) Selby Mabuza (BSocScie: Geography and Environmental Management)
Postal Address	P.O. Box 101672, Meerensee, 3901
Physical Address	Promenade Building, Unit D2 1st Floor, 24 Lira Link CBD, Richards Bay, 3900
Telephone Number	035 789 0632
Cell Phone	078 284 9332
Fax Number	086 577 5220
Email Address	<u>info@emveloconsultants.co.za</u>
Signature	

GLOSSARY OF ITEMS

DEVELOPMENT: the building, erection or establishment of a facility, structure or infrastructure that is necessary for the undertaking of a listed or specified activity but excludes any modification, alteration or expansion of such a facility, structure or infrastructure and excluding the reconstruction of the same facility in the same location, with the same capacity and footprint.

BIODIVERSITY: The variety of life in an area, including the number of different species, the genetic wealth within each species, and the natural areas where they are found.

BASIC ASSESSMENT: The process of collecting, organizing, analyzing, interpreting and communicating information that is relevant to the consideration of the application.

DEVELOPMENT FOOTPRINT: any evidence of physical alteration as a result of the undertaking of any activity.

CONTRACTOR: companies and or individual persons appointed on behalf of the client to undertake activities, as well as their subcontractors and suppliers.

ENVIRONMENTAL CONTROL OFFICER: an individual nominated through the client to be present on-site to act on behalf of the client in matters concerning the implementation and day to day monitoring of the EMPr and conditions stipulated by the authorities as prescribed in NEMA.

ENVIRONMENT: in terms of the National Environmental Management Act (NEMA) (No 107 of 1998) (as amended), Environment means the surroundings within which humans exist and that are made up of:

- ✚ the land, water, and atmosphere of the earth;
- ✚ micro-organisms, plants and animal life;
- ✚ any part or combination of (i) of (ii) and the interrelationships among and between them;
- ✚ the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence;
- ✚ Human health and wellbeing.

ENVIRONMENTAL IMPACT: the change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services.

MITIGATION: the measures designed to avoid reduce or remedy adverse impacts.

ENVIRONMENTAL MANAGEMENT PROGRAMME: a detailed plan of action prepared to ensure that recommendations for enhancing or ensuring positive environmental impacts and limiting or preventing negative environmental impacts are implemented during the life-cycle of the project. This EMP focuses on the construction phase, operation (maintenance) phase and decommissioning phase of the proposed project.

POLLUTION: the National Environmental Management Act, No. 107 of 1998 defined pollution to mean any change in the environment caused by the substances; radioactive or other waves; or noise, odors, dust or heat emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience, and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future.

WATER POLLUTION: the National Water Act, 36 of 1998 defined water pollution to be the direct or indirect alteration of the physical, chemical or biological properties of a water resource so as to make it less fit for any beneficial purpose for which it may reasonably be expected to be used; or harmful or potentially harmful (a) to the welfare, health or safety of human beings; (b) to any aquatic or non-aquatic organisms; (c) to the resource quality or (d) to property.

REHABILITATION: rehabilitation is defined as the return of a disturbed area to a state which approximates the state (wherever possible) which it was before the disruption.

WATERCOURSE: can be a) a river or spring; b) a natural channel or depression in which water flows regularly or intermittently; c) a wetland, lake or dam into which, or from which, water flows; and/or d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the National Water Act, 1998 (Act No. 36 of 1998) and a reference to a watercourse includes, where relevant, its bed and banks.

WETLAND: the land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow

water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

INDIGENOUS VEGETATION: refers to vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation and where the topsoil has not been lawfully disturbed during the preceding ten years.

GENERAL WASTE: waste that does not pose an immediate hazard or threat to health or the environment, and includes -

- domestic waste;
- building and demolition waste;
- business waste; and
- inert waste.

HAZARDOUS WASTE: hazardous waste means any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste have a detrimental impact on health and the environment.

GENERAL WASTE LANDFILL SITE: a waste disposal site that is designed, managed, permitted and registered to allow for the disposal of general waste.

ARCHAEOLOGICAL RESOURCES: includes (a) material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years including artifacts, human and hominid remains and artificial features and structures; (b) rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation; wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the republic as defined in the Maritimes Zones Act, and any cargo, debris or artifacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation; features, structures and artifacts associated with military history which are older than 75 years and the site on which they are found.

INTERESTED AND AFFECTED PARTY: for the purposes of Chapter 5 of the NEMA and in relation to the assessment of the environmental impact of a listed activity or related activity, an interested and affected party contemplated in Section 24(4) (a) (v), and which includes (a) any person, group of persons or organization interested in or affected by such operation or activity; and (b) any organ of state that may have jurisdiction over any aspect of the operation or activity.

EXECUTIVE SUMMARY

The Newcastle Local Municipality (NLM) intends to formalize approximately 800 to 900 low-income housing units for the Roypoint informal settlement. The formalization will include the development of single-story residential dwellings (Low-cost housing), road infrastructure and the installation of bulk services such as water, sewage, electricity and storm water systems. The total development footprint will be 38 hectares.

The property in which the proposed development is to be undertaken is owned by the Newcastle Local Municipality. The proposed site is situated, approximately 7 km southeast of the Newcastle town. The current zoning of the property is Residential.

Envelo Quality and Environmental Consultant (PTY) Ltd has been appointed by the Newcastle Local Municipality (the applicant), as the independent Environmental Assessment Practitioner (EAP), to facilitate the Scoping/Environmental Impact Assessment Process required in terms of the National Environmental Management Act, 1998 (Act. No. 107 of 1998) for this application.

The site is located within the V31K quaternary catchment and is bordered by two river systems; the Ingagane river and an unnamed non-perennial stream. The terrain (site) is relatively flat with the vegetation cover classified as KwaZulu-Natal High Thornveld (National Threat Status: Least Threatened).

There are two species of conservation concern which are likely to occur within the 2730CC GRID cell where the development is located. These species are the *Dasymys incommutus* (Common Dasymys) and *Otomys auratus* (Southern African Vlei Rat), which are both classified as near threatened.

The National Environmental Management Act, 1998 (Act. No. 107 of 1998), and the Environmental Impact Assessment Regulations of 2014 as amended in 2017, govern the process of applying for environmental authorization for certain developments. A provision in the EIA Regulations is made for two forms of assessment: Basic Assessment and Scoping and EIA. The EIA regulations specify that: Activities identified in Listing Notice 1 and 3 (GNR 327 and 324 of 2017) requires Basic Assessment while Activities identified in Listing Notice 2 (GNR 325 of 2017) are subject to a Scoping and EIA.

The listed activities associated with the proposed development include Listing Notice 2 Activity 15 (refer to table 4). Therefore, this application will follow a Scoping/EIA process.

The Public Participation Process for both the Scoping and Environmental Impact Assessment will be undertaken in accordance with chapter 6 of GN No. 326 (7 April 2017). The following section outlines steps to be followed during the Scoping and EIA phase.

Scoping

Scoping Phase
Interested and Affected Parties (I&APs) have been identified throughout the process. Initial identification of I&APs includes immediate landowners, ward councilors, local and district municipalities, and relevant state departments and organs of state.
Notification letters have been posted to all identified I&APs informing them of the proposal, the opportunity to comment and the availability of the Scoping Report.
The A3 notices have been placed at 'gathering points' on the relevant farms in order to notify occupiers of the site, i.e. farmworkers.
A site notice measuring A3 has been set up at the entrance to the site and to other locations around the site.
An advertisement was placed on the Newcastle advertiser (15/11/2019).
A public meeting was held with community members (30/11/2019).
Copies of the report will be delivered or sent via an email to relevant State Departments and Organs of State. Their comment will be requested in terms of 24O of NEMA.
All comments received during this commenting period will be included in the Final Scoping Report before submission to EDTEA.
A Comments and Response Table will also be included – this table summarises the comments received, and each comment is responded to.

EIA

EIR PHASE
Receive approval for the Scoping Report and the Plan of Study for EIA.
Compile Draft Environmental Impact Report (EIR) for public comment based on specialist information.
Submit copies of the Draft EIR to EDTEA and relevant State Departments and Organs of State and notify them of the commenting period (in terms of Section 24O of NEMA).
Notify Registered I&APs of the opportunity to comment on the EIR.
Make the EIR available for a 30-day commenting period.
Receive comments on the EIR.
Preparation of an EIR for submission to EDTEA including proof of the Public Participation Process comments received and our responses to these comments.

The scoping process is currently underway to present the concept of the proposed development to the relevant decision bodies and members of the public. This process will allow members of the public and state departments to air their views or raise concerns with regards to the proposed project. The main aim of the scoping phase is also to identify environmental issues that are likely to be caused by the project. The information contained in this Scoping Report and the documentation attached hereto is sufficient to allow the general public and key stakeholders to apply their minds to the potential negative and/or positive impacts associated with the development, in respect of the activities applied for.

DOCUMENT ROAD MAP

Correlations with GN No. 326, Appendix 2			
Chapter	Title		Overview
1	Purpose of this Document	-	-
4	Project Description	2(1)(b) & (1)(d)	A description of the scope of the proposed activity
5	Project Location	2(1)(b) & 2(1)(c)	A description of the location of the activity
6	Alternatives	2(1)(g)(i)	Details of all the alternatives considered
7	Need and Desirability	2(1)(f)	The motivation for the need and desirability for the proposed project
9	Legislation and Guidelines Considered	2(1)(e)	Description of the policy and legislative context within which the development is proposed
10	Scoping and EIA Process	2(1)(a)	Details of Environmental Assessment Practitioner (EAP) who prepared the report and the expertise of the EAP.
11	Assumptions and Limitation	-	-
12	Profile of the receiving environment	2(1)(g)(iv)	Environmental attributes associated with alternatives
			Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected
			Details of the public participation

13	Public Participation	2(1)(g)(iv)	
			A summary of the issues raised by IAPs
14	Environmental Issues	2(1)(g)(v)	Impacts and risks identified for each alternative
		2(1)(g)(vii)	Positive and negative impacts that the proposed development and alternatives will have on the environment and on the community that might be affected
		2(1)(g)(vii)	The methodology used in determining and ranking the potential environmental impacts and risks associated with the alternatives
16	Plan of study for EIA	2(1)(h)	A plan of study for undertaking the environmental impact assessment process
Appendix A	EAP Affirmation/Declaration	2(1)(i) and 2 (1)(j)	An undertaking under oath or affirmation by the EAP

Note that the following sections of Appendix 2 of GN No. 326 (7 April 2017) will be investigated further and reported on in the Environmental Impact Report (EIR), following the execution of the relevant specialist studies and targeted public participation:

- Section 2(1)(g)(v) - The impacts and risks identified for each alternative, including nature, significance, consequence, extent, duration, and probability of the impacts, including the degree to which these impacts-
 - (a) can be reversed;
 - (b) may cause irreplaceable loss of resources; and
 - (c) can be avoided, managed or mitigated.

- Section 2(1)(g)(vii) - Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects.
- Section 2(1)(g)(viii) - The possible mitigation measures that could be applied and the level of residual risk.
- Section 2(1)(g)(ix) - The outcome of the site selection matrix.
- Section 2(1)(g)(xi) - A concluding statement indicating the preferred alternatives, including the preferred location of the activity.

PURPOSE OF THIS DOCUMENT

The appointment of Emvelo Quality and Environmental Consultant (PTY) Ltd by the Newcastle Local Municipality (the applicant), to conduct the environmental assessment, was carried out in terms of Section 24(5) and Section 44 of the National Environmental Management Act, 1998 (Act No.107 of 1998) as read with the Environmental Impact Assessment (EIA) Regulations of 04 December 2014, amended in 2017. The appointment relates to the following project;

- The Proposed Development of Roypoint Housing Units within the Newcastle Local Municipality, Amajuba District, KwaZulu-Natal.

This document serves as the draft scoping report for the proposed aforementioned project.

The purpose of the Scoping Process, as the first phase of the Environmental Impact Assessment (EIA) process includes but not limited to the following;

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

1. INTRODUCTION

Emvelo Consultant has been appointed by the Newcastle Local Municipality, to undertake the Environmental Impact Assessment (EIA) for the Proposed Development of Roypoint housing units, within the Jurisdiction of the Newcastle Local Municipality, Amajuba District, Kwa-Zulu Natal Province.

This will include the facilitation of the Scoping/Environmental Impact Assessment processes required in terms of the National Environmental Management Act (NEMA, Act 107 of 1998) for this application.

2. PROJECT TITLE

The Proposed Development of Roypoint Housing Units, within the Jurisdiction of the Newcastle Local Municipality, Amajuba District, Kwa-Zulu Natal.

3. PROJECT DESCRIPTION

The project entails the formalization of the existing informal settlement and will consist of approximately 800 to 900 housing units. The formalization will include; the development of single-story residential dwellings (Low-cost housing), road infrastructure and the installation of bulk services such as water, sewage, electricity and storm water systems. The total development footprint is approximately 38 hectares.

The current zoning of the property is residential, which is primarily made up of well laid out semi-informal settlement and a number of vacant “stands”.

4. GEOGRAPHICAL CONTEXT

The proposed development is located at the Vezobuhle settlement, portion 22 of the Roypoint farm, within the Newcastle Local Municipality, under the Amajuba District which is in the north-west of the KwaZulu-Natal Province. The site is located southeast of the Newcastle CBD, adjacent to the railway line running into the town.

The proposed site (Roypoint settlement) is bordered by the Ingagane river on the north and west, an unnamed stream on the south, and the vacant land (privately owned) on the east.

Below is the geographical context and locality map of the proposed site, (see figure 1 below).

Figure 1: Geographical Context and Locality Map

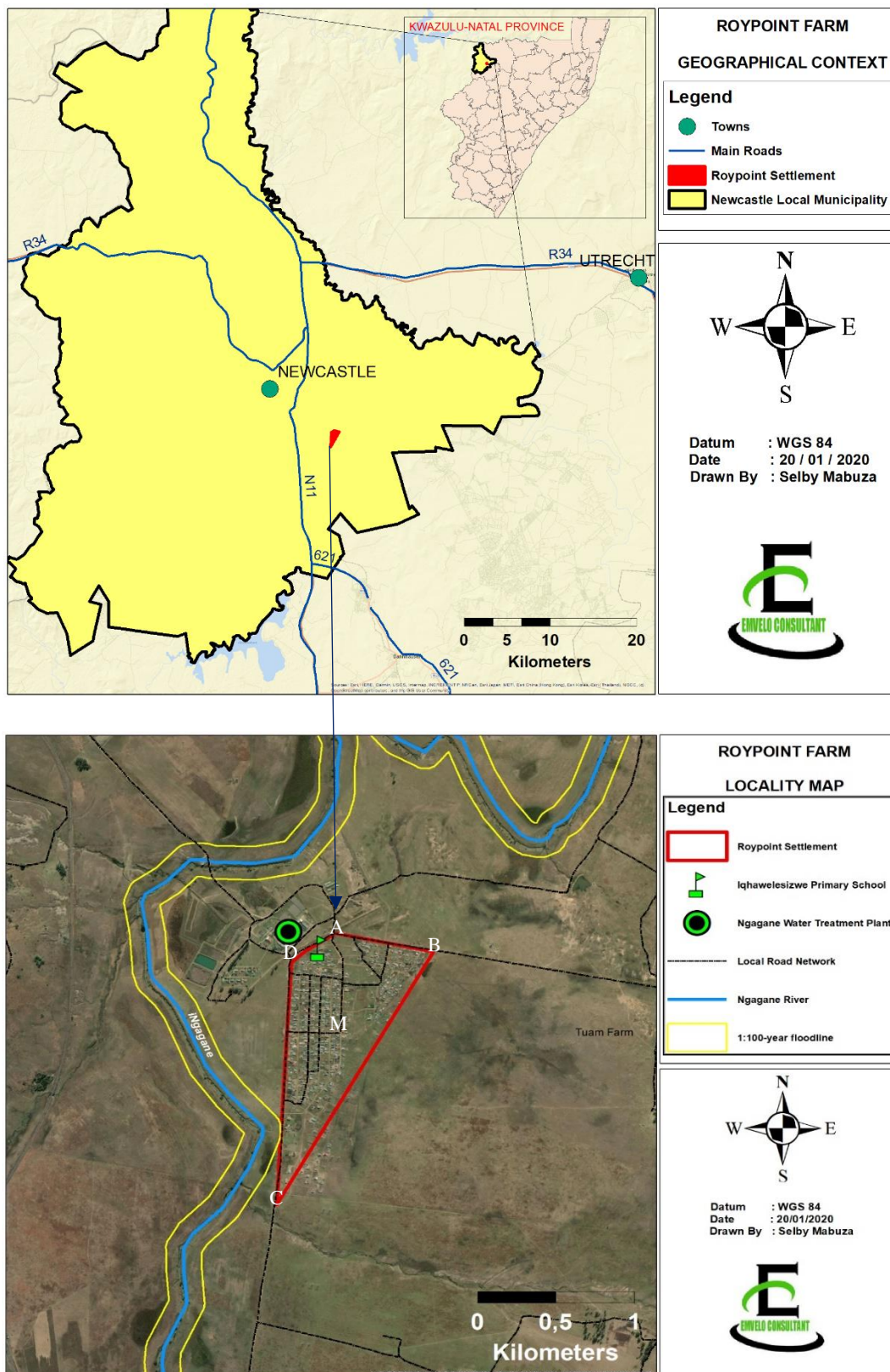


Table 1 below provides the Global Positioning System (GPS) coordinates for the proposed development site.

Table 1: GPS Coordinates

Farm Portions	GPS CO-ORDINATES	
	Latitude	Longitude
Point A	27° 48' 07.61" S	29° 59' 44.48" E
Point B	27° 48' 11.13" S	30° 00' 05.81" E
Point C	27° 48' 57.56" S	29° 59' 32.59" E
Point D	27° 48' 12.29" S	29° 59' 35.29" E
Mid-Point	27° 48' 28.01" S	29° 59' 41.86" E

Table 2 below provides the 21-digits Surveyor General Code (SGC).

Table 2: 21-digits Surveyor General Code

N	0	H	S	0	0	0	0	0	0	0	0	2	9	5	9	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

5. SITE ACCESS

The site takes its access from 3 routes. The first route is from the Newcastle town CBD, via Allen street going south, taking a left to join the N11 national road. Then it continues going to the northeasterly direction for about 900m, before joining the Madadeni road, then to the Karbochem road to the south, going to the Roypoint settlement.

6. SERVICES

The design of the internal services for the proposed development was calculated in accordance with the following Civil Engineering Guidelines:

- Guidelines for Human Settlement Planning and Design, CSIR (Redbook).
- Guidelines and Standards for the Design and Maintenance of Civil Engineering Services (City of Tshwane).
- The National Building Regulations, SANS 0400 – 1990.
- Construction will be specified to be in accordance with SABC/SANS 1200.
- The UTG7 publication, the “Geometric Design of Urban Local Residential Streets”.

6.1. Water Supply

6.1.1 Existing Bulk Water Supply

Bulk water supply services for the proposed development are available. The area, which is currently made up of “semi-informal” stands, currently supplied with water by a 50kl elevated storage tank. The storage tank distributes the water through standpipes.

The water supply to the proposed development will be supplied from the pipeline supplying water to the Ngagane Village that is running on the Western boundary of the proposed site. The developer will have to do an investigation to check if the line will be sufficient in terms of capacity and pressure.

6.1.2 Proposed Water Demand

A proposed water reticulation with a house connection to each stand will be provided. The total average annual daily demand (AADD) and design peak flow for the proposed development are summarized in Table 3 below. The calculations are based on the maximum projected total units that can be developed with each occupied by 5 persons on average and each occupant consuming 500 l/d as specified in “The Red Book”.

Table 3: Water Demand

Zoning	No of Stands	Average Water Demand (l/d)	Average Daily demand(l/s)	Peak Factor	Instantaneous Peak flow (l/s)
RESIDENTIAL	900	600	6.250	4.0	25.000
				Total Instantaneous Peak Demand	25.000

6.1.3 Proposed Internal Water Reticulation.

The pipe sizes and type will be 110mm mPVC class 12. The water mains to be installed will be 0.75m and 2m from the erf boundary forming a loop. Isolating valves will be placed at the reticulation nodes to provide effective isolation of loops.

6.1.4 Upgrades.

From the information gathered from the Newcastle municipality water and sanitation department, the developer will have to conduct an investigation to confirm if there is enough capacity and pressure or if there is a need for an upgrade.

6.2. Sewer.

6.2.1 Existing Bulk Sewer.

The area currently makes use of Ventilated Improve Pit (VIP) toilets and has no waterborne sewerage system. There is also no bulk sewer system in the area. The nearest treatment works is the Kilbarchan. The development will make use of this waste water treatment plant.

6.2.2 Proposed Sewage Discharge

A full waterborne sewerage reticulation with a house connection to each stand will be provided. All sewerage on the development will drain through the gravity waterborne system towards a central collection point on the lowest point of the development. The total peak flows for the proposed development are summarized in Table 4 below.

Table 4: Sewer Design Outflow

Zoning	No of Stands	Discharge (l/d)	Average Daily Flow Rate(l/s)	Peak Factor	Peak flow rate(l/s)
RESIDENTIAL	900	500	5.208	2.5	13.021
Total				Outflow	13.021
Total Incl. 15% Extraneous Flow					14.9740

6.2.3 Proposed Sewer Reticulation

A full sewerage reticulation and toilets to each erf is required. The pipes will be 160 mm diameter uPVC Class 400 and the manholes will be 1 000 mm diameter precast rings with concrete covers.

6.3 Electrical Supply

6.3.1 Existing Electrical Supply

The proposed development currently has electricity supply via overhead poles to existing stands.

6.3.2 Proposed Electricity and Street Lighting

Due to proposed changes to the current settlement pattern on-site to a formal, approved and promulgated township; there will be a need to redo the existing electrical reticulation to align with a new Township Layout. As such, overhead powerlines with erf connections will be required as well as mast lights for public areas.

6.3.3 Upgrades

A new substation for 10MVA transformer will be required for 132KV switching.

6.4 Roads

6.4.1 Existing Roads

There are no existing tarred roads around the proposed development. The local access road to the proposed development is a gravel road.

6.4.2 Access

Access will be taken directly from the un-named untarred local distributor Road which starts from Chivelston towers near Ingagane settlement pass by the southwestern direction to the northwestern direction of the site and continues until it ties into another unknown road which connects Madadeni and Osizweni townships.

6.4.3 Proposed Internal Roads

The roads network will be designed to provide an access point to each residential stand.

6.5 Stormwater Systems

6.5.1 Existing Stormwater

There is no existing stormwater system around the site. The proposed development will drain from the new Streets on the western side and on the Eastern side to the Northern direction

through stormwater pipe system which will discharge into the Ingagane River on the far northern side of the site.

6.5.2 Stormwater Run-off Zones

The determination of peak flows of the various drainage zones will be calculated. The proposed roadways will form part of the stormwater management system as the surface flow will be utilized as far as possible. A roadway system will carry the minor storms and will discharge into a pipe system that will discharge directly into the natural watercourses (Ingagane River). Concrete stormwater pipes will be allowed where the velocity under the 5-year condition is less than 2.5 m/s.

6.5.3 Proposed Stormwater System

Stormwater will be collected and transported by means of mountable kerbs drains into the stormwater concrete pipe system and into Ingagane River.

7 CONSIDERATION OF ALTERNATIVES

The DEA 2006 guidelines on 'assessment of alternatives and impacts' outlines four types of alternatives that need to be considered for any proposed project that undergoes an EIA process, namely: the no-go, location, activity, and design alternatives. However, it is important to note that the regulation and guidelines specifically state that only 'feasible' and 'reasonable' alternatives should be explored. It also recognizes that the consideration of alternatives is an iterative process of feedback between the applicant and EAP, which in some instances culminates into a single preferred project proposal.

7.1. Site Alternatives

The land where the development is proposed to take place is owned by the Newcastle Local Municipality. From the applicant's perspective, the Roypoint farm is currently made up of informal housing units that need to be upgraded/formalized and some vacant stands where a single story-residential unit will be constructed.

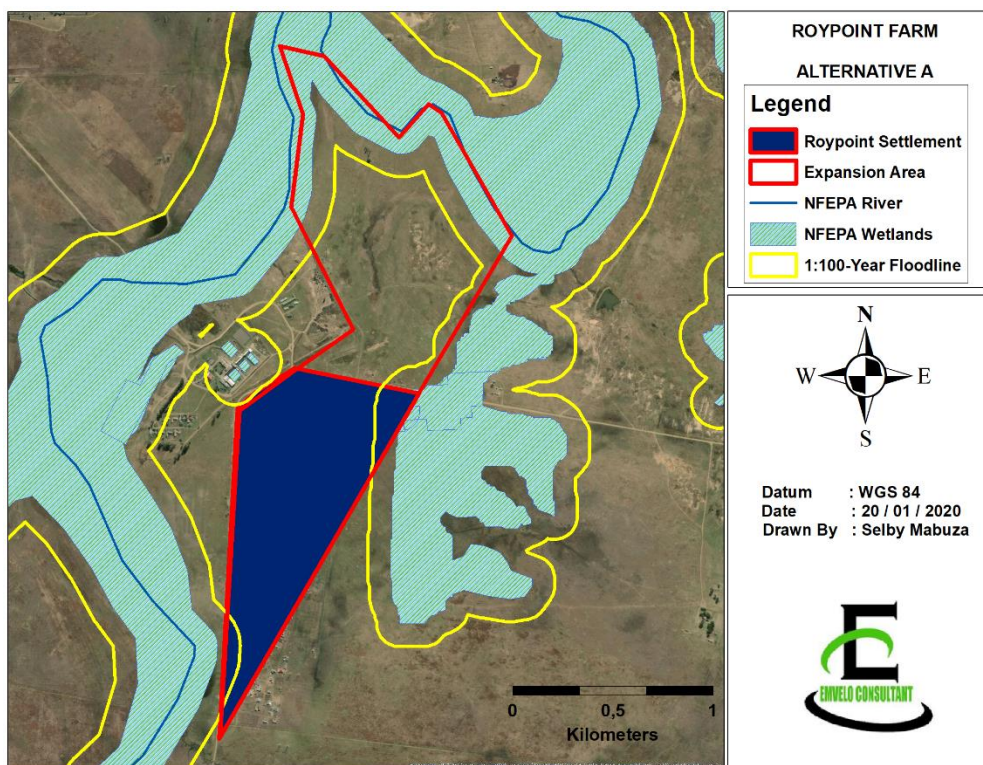
The Newcastle Local Municipality published a Spatial Development Framework (SDF) Plan in 2012 to guide development. The SDF refers generally to the need for higher density, and more mixed-use settlements through the promotion of general development principles, including a compact urban form. The formalization of settlements is mentioned in Table 5 of the SDF and

the list includes the Roy Point Informal Settlement. Taking the above into consideration, the following development alternatives are outlined for the proposed Roypoint project.

7.1.1. Alternative A

This alternative proposes that +/-200 housing units be developed on the wider farm portion, to the north-east of the farm. The remaining housing units will be constructed on the vacant stands that have been identified in the area, as per the initial plan. This alternative will result in the settlement being extended towards the north-easterly portion of the Roypoint farm, which is currently undeveloped, see figure 2 below.

Figure 2: Alternative A



However, a GIS desktop analysis that was conducted shows that the proposed extension to the north-easterly portion of the farm falls within the 1:100-year flood line, as it is closely bordered by the Ngagane river and the National Freshwater Ecosystems (NFEPA wetlands). Therefore, this environmental condition does not allow for people to settle in the area, as the place is likely to be flooded during heavy rainfall periods, putting people's lives in danger. Also, this alternative is not desired as it does not comply with the development principle of creating a more compact urban form that is promoted in the Newcastle Municipal SDF (NLM SDF, 2012).

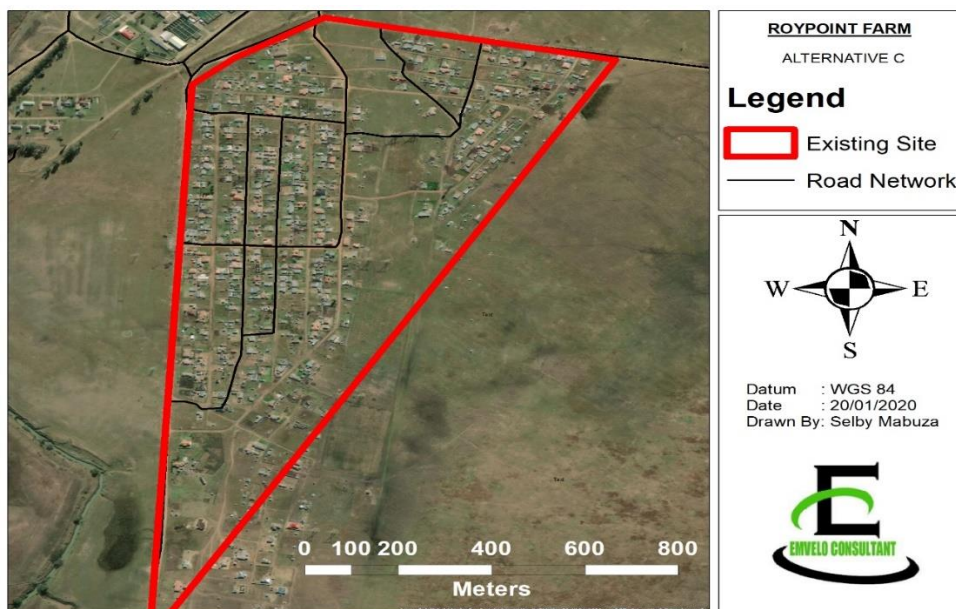
7.1.2. Alternative B

This alternative proposes the relocation of the affected households to a more favourable location. This alternative requires the identification and acquisition of a better site and negotiation with the existing residents, followed by the normal township application and land servicing procedures. This means that a new settlement will be established at an alternative location, other than the one currently existing at the Roypoint farm. This alternative will have negative implications, such as a possible conflict with the local people, since the current settlement has already been established, and some people have families and other social ties with the area.

7.1.3. Alternative C

This alternative proposes the formalization of the existing erven and houses, so as to ensure the possibility of retaining most of the ± 800 houses that have been built on the allocated “stands” in the settlement. Houses will only be constructed for those who cannot afford to build their own houses on the vacant stands identified in the area. The alternative also includes the installation of bulk services such as water, electricity sewage and storm water systems for all the houses, old and new, and the upgrading of local roads.

Figure 3: Alternative C



From an environmental perspective, alternative C is the most preferable alternative. This is due to the minimal environmental degradation that might be expected during the course of the

project, as there will be a minimum clearance of vegetation. Furthermore, this alternative will ensure that the environmental risks associated with alternative A and B will not be incurred. Also, upgrading the already existing houses will maximize the provision of basic services through the installation of adequate sanitation infrastructure and the upgrading of the local roads within the community. This will improve the overall standard of living for the local people of the Roypoint settlement.

7.2. No-Go Option

This alternative considers the option of ‘doing nothing’ and maintaining the status quo. This means that no housing units will be formalized or constructed for the local people of the Roypoint farm. This will ensure that the current state of the area is maintained, including its ecological and social makeup. However, there will also be no positive impacts associated with the project, for instance, the provision of formal housing facilities, adequate sanitation infrastructure, the provision of job opportunities and skills development, etc.

8 ACTIVITY MOTIVATION

8.1. Need

The Vezobuhle settlement is an informal settlement which consists of families who are settled on a farm called Roypoint. Within the municipality, especially in low income and poor communities, the population growth rate is in an upward trajectory, with glaringly disturbing inequalities characterized by a large number of informal housing facilities and lack or poor provision of basic services.

As a result, the KwaZulu Natal Department of Human Settlements and the Newcastle Municipality have prioritized the formalization of this settlement as part of the Integrated Residential Development Programme. This project will, therefore, provide access to more formal housing in a municipality that is experiencing population growth and hence higher human settlements demands.

8.2. Desirability

The project seeks to facilitate the provision of housing in line with the national and provincial norms and standards and hence reduce housing back-logs to meet the provincial and national targets. The project will also create more opportunities for the local people, including the creation of jobs and the provision of basic services, as formal roads and sanitation facilities

will be installed as part of the development. Also, the formalization of the settlement will attract businesses and services from the government, improving the overall quality of life for the local and surrounding communities.

9 LEGISLATION AND GUIDELINE CONSIDERED

The legislation that has a possible bearing on the proposed project from an environmental perspective is captured in Table 5 below. Note: this list does not attempt to provide a detailed explanation, but rather represents an identification of the most appropriate sections from pertinent pieces of legislation.

Table 5: Environmental Statutory Framework

Legislation	Relevance and Relevance
Constitution of the Republic of South Africa, (No. 108 of 1996)	<ul style="list-style-type: none"> ➤ Chapter 2 – Bill of Rights. ➤ Section 24 – Environmental Rights.
National Environmental Management Act (NEMA) (No. 107 of 1998)	<ul style="list-style-type: none"> ➤ Section 24 – Environmental Authorisation (control of activities which may have a detrimental effect on the environment). ➤ Section 28 – Duty of care and remediation of environmental damage. ➤ Environmental management principles. ➤ Authorities – Department of Environmental Affairs (DEA) (national) and Department of Economic Development Tourism and Environmental Affairs (provincial).
GN No. 326 (7 April 2017)	<ul style="list-style-type: none"> ➤ Purpose - regulate the procedure and criteria as contemplated in Chapter 5 of NEMA relating to the preparation, evaluation, submission, processing, and consideration of, and decision on, applications for environmental authorizations for the commencement of activities, subjected to EIA, in order to avoid or mitigate detrimental impacts on the environment, and to optimize positive environmental impacts, and for matters pertaining thereto.
	<ul style="list-style-type: none"> ➤ Purpose - identify activities that would require environmental authorizations prior to commencement of that activity and to identify competent authorities in terms of sections 24(2) and 24D of NEMA.

<p>GN No. 325 (7 April 2017) (Listing Notice 2)</p>	<ul style="list-style-type: none"> ➤ The investigation, assessment, and communication of the potential impact of activities must follow the procedure as prescribed in regulations 21, 22, 23 and 24 of the EIA Regulations published in terms of section 24(5) of the Act unless otherwise indicated by the Minister in a government notice. ➤ Activities under Listing Notice 2 that are relevant to this project are as follows: 		
	<table border="1"> <tr> <td data-bbox="491 533 1046 1032"> <p>GN No.325-Activity no 15:</p> <p>The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for;</p> <p>(i) The undertaking of linear activity; or</p> <p>(ii) maintenance purposes undertaken in accordance with a maintenance management plan.</p> </td> <td data-bbox="1046 533 1383 1032"> <p>The proposed development requires the clearance of more than 20 hectares of indigenous vegetation, as approximately 38 hectares in total will have to be cleared.</p> </td> </tr> </table>	<p>GN No.325-Activity no 15:</p> <p>The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for;</p> <p>(i) The undertaking of linear activity; or</p> <p>(ii) maintenance purposes undertaken in accordance with a maintenance management plan.</p>	<p>The proposed development requires the clearance of more than 20 hectares of indigenous vegetation, as approximately 38 hectares in total will have to be cleared.</p>
<p>GN No.325-Activity no 15:</p> <p>The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for;</p> <p>(i) The undertaking of linear activity; or</p> <p>(ii) maintenance purposes undertaken in accordance with a maintenance management plan.</p>	<p>The proposed development requires the clearance of more than 20 hectares of indigenous vegetation, as approximately 38 hectares in total will have to be cleared.</p>		
<p>National Water Act (Act No. 36 of 1998)</p>	<ul style="list-style-type: none"> ➤ Chapter 3 – Protection of water resources. ➤ Section 19 – Prevention and remedying effects of pollution. ➤ Section 20 – Control of emergency incidents. ➤ Chapter 4 – Water use. ➤ Authority – Department of Water and Sanitation (DWS). 		
<p>National Environmental Management Air Quality Act (Act No. 39 of 2004)</p>	<ul style="list-style-type: none"> ➤ Air quality management ➤ Section 32 – Dust control. ➤ Section 34 – Noise control. ➤ Authority – EDTEA. 		
<p>National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)</p>	<ul style="list-style-type: none"> ➤ Management and conservation of the country's biodiversity. ➤ Protection of species and ecosystems. ➤ Authority – EDTEA. 		

Occupational Health & Safety Act (Act No. 85 of 1993)	<ul style="list-style-type: none"> ➤ Provisions for Occupational Health & Safety ➤ Authority – Department of Labour.
National Heritage Resources Act (Act No. 25 of 1999)	<ul style="list-style-type: none"> ➤ Section 34 – protection of structure older than 60 years. ➤ Section 35 – protection of heritage resources. ➤ Section 36 – protection of graves and burial grounds. ➤ Authority – KwaZulu Natal Heritage Resources Authority (KZHRA)

9.1. National Environmental Management Act

According to Section 2(3) of the National Environmental Management Act, 1998 (Act No. 107 of 1998), “*development must be socially, environmentally and economically sustainable*”, which means the integration of these three factors into planning, implementation, and decision-making so as to ensure that development serves present and future generations is critical.

The proposed development of the Roypoint housing units will require authorization in terms of NEMA. The EIA is being undertaken in accordance with the EIA Regulations of 2014 as amended in 2017. The project triggers activities under Listing Notices 2 and thus it would be subjected to a Scoping and EIA process. The listed activities triggered are explained in the context of the project in Table 5.

9.2. National Water Act

The purpose of the National Water Act, 1998 (Act No. 36 of 1998) is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways which consider amongst other factors:

- Meeting the basic human needs of present and future generations;
- Promoting equitable access to water;
- Redressing the results of past racial and gender discrimination;
- Promoting the efficient, sustainable and beneficial use of water in the public interest;
- Facilitating social and economic development;
- Providing for the growing demand for water use; protecting aquatic and associated ecosystems and their biological diversity;
- Reducing and preventing pollution and degradation of water resources;
- Meeting international obligations;

- Promoting dam safety; and
- Managing floods and droughts.

Part 1 of Chapter 4 (Use of Water) of the NWA sets out general principles for regulating water use. In general, water use must be licensed unless it is listed in Schedule I, as an Existing Lawful Use, is permissible under a General Authorisation, or if a responsible authority waives the need for a license. The Minister may limit the amount of water that a responsible authority may allocate. In making regulations the Minister may differentiate between different water resources, classes of water resources.

The project entails the following activities that constitute water uses in terms of Section 21 of the NWA:

- Section 21(c) - Impeding or diverting the flow of water in a watercourse (instream works associated with access roads' crossings and placing towers within the regulated area of a watercourse); and
- Section 21(i) - Altering the bed, banks, course or characteristics of a watercourse (instream works associated with access roads' crossings and placing towers within the regulated area of a watercourse); and
- Separate approval for water uses will be sought from the DWS.

9.3. Guidelines

The following guidelines were considered during the preparation of the Scoping Report:

- Integrated Environmental Management Information Series, in particular, Series 2 – Scoping (DEAT, 2002);
- Guideline on Alternatives, EIA Guideline and Information Document Series (DEA&DP, 2010a);
- Integrated Environmental Management Guideline Series 5: Companion to the EIA Regulations 2010 (DEA, 2010a);
- Integrated Environmental Management Guideline Series 7: Public Participation in the EIA Process (DEA, 2010b); and
- Guidelines for Involving Specialists in the EIA Processes Series (Brownlie, 2005).

9.4. Regional Plans

The following regional plans were or will be considered during the execution of the EIA (amongst others):

- The municipal Spatial Development Framework (SDF);
- The municipal Integrated Development Plan (IDP);
- Amajuba District Municipality Biodiversity Plan, 2015; and
- Other relevant national, provincial, district and local policies, strategies, plans, and programs.

10 SCOPING AND EIR PROCESS

10.1. Environmental Assessment Practitioner

In accordance with Appendix 2, Section 2(1)(a) of GN No. 326 (7 April 2017), this section provides an overview of Emvelo Consultant and the company's experience with EIAs, as well as the details and experience of the EAPs that form part of the project.

Emvelo Consultant is an independent quality and environmental practitioners' firm, specializing in Environmental Impacts Assessment studies, Environmental Monitoring and Auditing, Surface and Groundwater Monitoring just to name a few. The company is directed by a competent, experienced and capable Environmental Scientist.

The core members of Emvelo Consultant that are involved with the Scoping and EIA process, as well as the appointed Specialists for the project, are captured in Tables 6 and 7 below:

Table 6: Scoping and EIA Team

Name	Qualification	Experience (Years)	Duties
Phumzile Lembede	<ul style="list-style-type: none">• Bsc. Honours in Environmental Management.• B. tech Quality Management.• Dip Chemical Engineering.	14	<ul style="list-style-type: none">• Project Manager• Quality Control• EIA Process• Scoping & EIR Report

Selby Mabuza	<ul style="list-style-type: none"> • Bss. Geography and Environmental Management. • Bsc Honours Candidate in Environmental Management. 	6 Months	<ul style="list-style-type: none"> • Assisting in Writing Scoping & EIR Report
Linda Gumede	<ul style="list-style-type: none"> • Bss. Geography and Environmental Management. • Bsc Honours Candidate in Environmental Monitoring and Modelling. 	3	<ul style="list-style-type: none"> • Quality Review • Technical Inputs • Scoping and EIR Report
Nokulunga Goqo	<ul style="list-style-type: none"> • BSc. Honours in Biological Sciences. • BSc. Environmental Sciences. • MSc. In Biological Sciences. 	1	<ul style="list-style-type: none"> • Quality Review • Technical Inputs

Table 7: Specialists

Name	Qualification	Experience (Years)	Duties
Andrew Briggs	Master's Degree in Conservation Ecology	3 years	Wetland Impact Assessment Specialist
Leigh-Ann de Wet	<ul style="list-style-type: none"> ➤ MSc in Botany ➤ BSc Honours in Botany ➤ BSc Botany and Entomology 	10 years	Terrestrial Ecological Impact Assessment
Roy Muroy	<ul style="list-style-type: none"> ➤ B. A Archaeology, Cultural Heritage and Museum Studies ➤ Hon Archaeology Cultural Heritage 	5 years	Heritage Impact Assessment

	and Museum Studies ➤ B.A. Archaeology, Cultural Heritage and Museum Studies		
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10.2. DEA-Application Consultation (Pre-Application Meeting)

A Pre-Application Meeting was convened with EDTEA on 08 November 2019 (refer to Appendix F for a copy of the minutes for the outcome of the meeting). The purpose of the meeting included the following:

- To clarify the issue of hectares;
- To give feedback and confirm the Triggered Listed Activities; and
- To confirm the process and timeframes.

10.3. Environmental Assessment Triggers

Based on the type of activity involved, the extent and the biophysical environment within which it is set to occur as reflected in **Table 5 above**, the required environmental assessment for the project is a Scoping and EIR process. Refer to **Section 9** for the project's legal framework and specifically, the activities triggered by the project in terms of Listing Notices 2 of the EIA Regulations of 2017.

10.4. Environmental Assessment Authorities

In terms of NEMA, the lead decision-making authority for the environmental assessment is EDTEA.

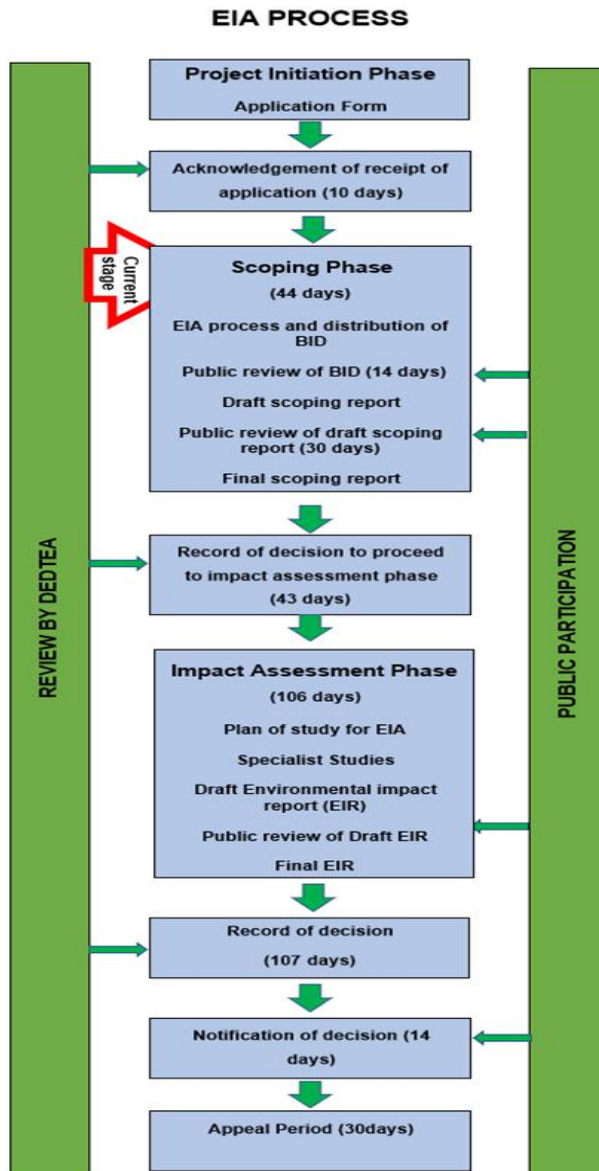
Various other authorities with jurisdiction over elements of the receiving environment or project activities (refer to **Section 9**) will also be consulted during the course of the EIA. Refer to the database of Interested and Affected Parties (IAPs) contained in Appendix D-3 for a list of the government departments that were notified during the EIA process to date.

10.5. Scoping Process

The process for seeking authorization under NEMA is being undertaken in terms of the prevailing EIA Regulations of 2014 as amended in 2017.

An outline of the Scoping and EIA process for the proposed development is provided in **Figure 4 below**.

Figure 4: EIA Process



The purpose of Scoping, which constitutes the first phase of the formal EIA process, is as follows:

- Identify the legal framework in terms of the proposed project
- Identify and engage with IAPs and allow for adequate participation in the process;
- Duly consider alternatives for achieving the project's objectives;
- Identify significant issues to be investigated further during the execution of the EIA phase;

- Clarify the roles and responsibilities of various stakeholders in the process;
- Determine the scope of the ensuing EIA phase, in terms of specialist studies, public participation, assessment of impacts and appraisal of alternatives; and
- Allow for informed decision-making by EDTEA and other authorities regarding the EIA process.

10.5.1. Landowner Consent

According to Regulation 39(1) of GN No. 326 (7 April 2017), if the applicant is not the owner or person in control of the land on which the activity is to be undertaken, the applicant must, before applying for an environmental authorization in respect of such activity, obtain the written consent of the landowner or person in control of the land to undertake such activity on that land.

In this case, the Newcastle Local Municipality is the owner of the land on which the proposed development is to be undertaken.

10.5.2. Application Form

A copy of the Application Form was submitted to EDTEA PMB Office and the reference number has been obtained (DC25/003/2020: KZN/EIA/0001310/2020).

10.5.3. Screening of Alternatives

Alternatives are the different ways in which the project can be executed to ultimately achieve its objectives. Examples could include carrying out a different type of action, choosing an alternative location or adopting a different technology or design for the project.

The following alternatives were investigated with regards to the development of the housing units;

- Site Alternatives
- No-option- basically means do nothing, leave the land lying fallow.
- Upgrading the current existing informal housing structures
- Constructing the housing units on the vacant municipal land on the northeast of the settlement.

10.5.4. Prediction of Impact

The potential environmental impacts associated with the proposed project were identified during the Scoping phase through consideration of the following:

- Proposed locations and the extent of the proposed development, which included site investigations as well as a desktop evaluation with a Geographical Information System (GIS) (various data sources) and aerial photography;
- Activities associated with the project life cycle (i.e. Planning, Construction, and Operational).
- Profile of the receiving environment and the potential sensitive environmental features and attributes;
- Input received during public participation from authorities and IAPs; and
- Legal and policy context.

The Scoping exercise is aimed at identifying and qualitatively predicting significant environmental issues for further consideration and prioritization during the EIR stage. Note that “significance” relates to whether the effect (i.e. change to the environmental feature/attribute) is of sufficient importance that it ought to be considered and have an influence on decision-making.

During the EIR stage a detailed quantitative impact assessment will be conducted via contributions from the project team and requisite specialist studies, and through the application of the impact assessment methodology contained in **Section 16**. Suitable mitigation measures will be identified to manage (i.e. prevent, reduce, rehabilitate and/or compensate) the environmental impacts, and will be included in the EMPr.

11 LIMITATIONS AND ASSUMPTIONS

The following assumptions and limitations accompany the Scoping exercise:

- In accordance with the purpose of Scoping, the report does not include specialist investigations on the receiving environment, which will only form part of the EIR phase. The environment in the project area was primarily assessed in the Scoping phase through site visits and appraisals, desktop screening, incorporating existing information from previous studies, and input received from authorities and IAPs. A refinement of all maps will also be undertaken in the EIR phase, if necessary.

12 DESCRIPTION OF THE ENVIRONMENT THAT MAY BE AFFECTED BY THE ACTIVITY

This section provides a general description of the status quo of the receiving environment in the project area. This serves to provide the context within which the Scoping exercise was conducted. It also allows for an appreciation and identification of sensitive environmental features and possible receptors of the effects of the proposed project.

Where necessary, the regional context of the environmental features is also explained, with an ensuing focus on the local surrounding environment. More in-depth discussions on the receiving environment will be provided in the EIA Report, where the findings of the requisite specialist studies will be incorporated into the document.

A brief overview is also provided on the way the environmental features may be affected (positively or negatively) by the proposed development. Significant environmental issues are discussed further in **Section 14**. These preliminary impacts are only discussed concisely on a qualitative level, as part of the Scoping phase. The EIA report will provide a comprehensive evaluation of the potential impacts and will quantify the effects on the environment based on the methodology presented in **Section 16**.

12.1. Climate

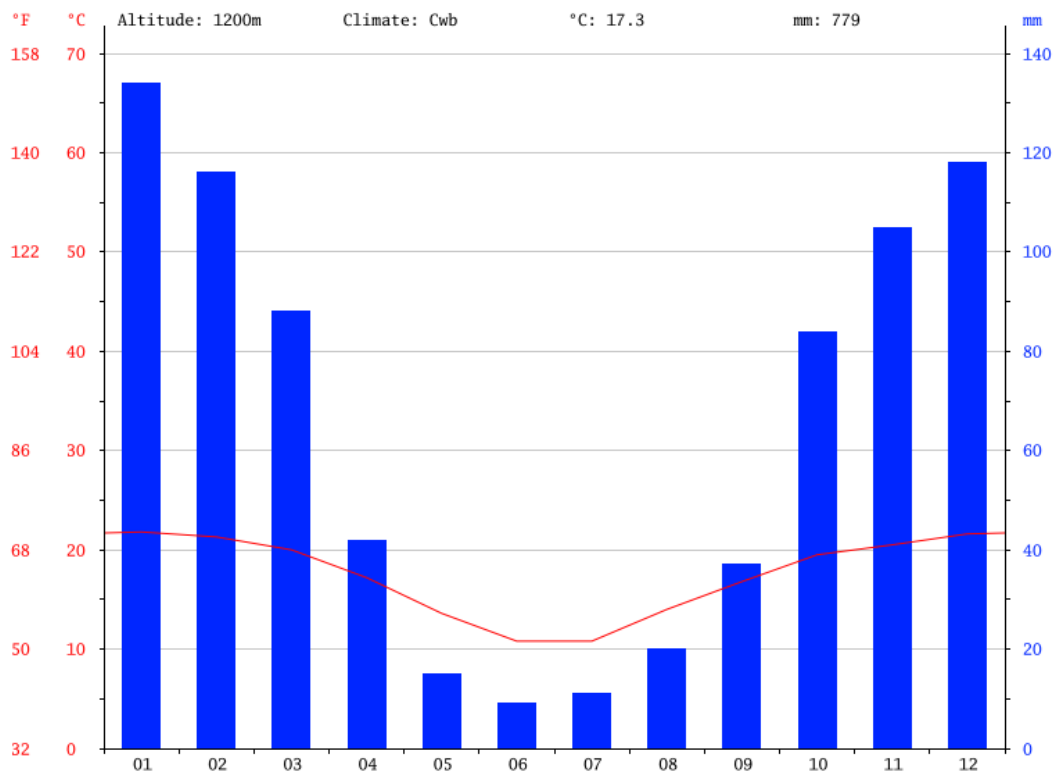
The regional climatic conditions vary considerably between winter and summer months. The region (Amajuba) usually experiences very cold weather conditions in winter dropping up to less than -1 degrees Celsius and very hot weather conditions in summer reaching 30 degrees Celsius and above. The average annual rainfall is estimated to be between 504mm and 1149mm and this is consistent throughout the district with no major deviation between the local municipal regions (Amajuba District Biodiversity Sector Plan,2014).

Newcastle's Local Municipality climate is classified as warm and temperate. The summer months are much rainier than the winter months. This location is classified by Köppen and Geiger as Cwb. The average annual temperature in Newcastle is 17.3 °C and the variation in temperatures throughout the year is 11.0 °C (Climate-Data.Org).

Throughout the year the average annual rainfall is 779 mm. The variation in the precipitation between the driest and wettest months is 125 mm. Of all months the least amount of rainfall

occurs in June. The average rainfall in this month is estimated to be 9 mm. The greatest amount of precipitation occurs in January, with an average of 134 mm (Climate-Data.Org).

Figure 5: Climatic Graph



12.1.1 Potential Impacts

There are no direct adverse impacts foreseen in terms of the project to climate. However, measures to reduce the project’s carbon footprint will be considered further in the EMPr.

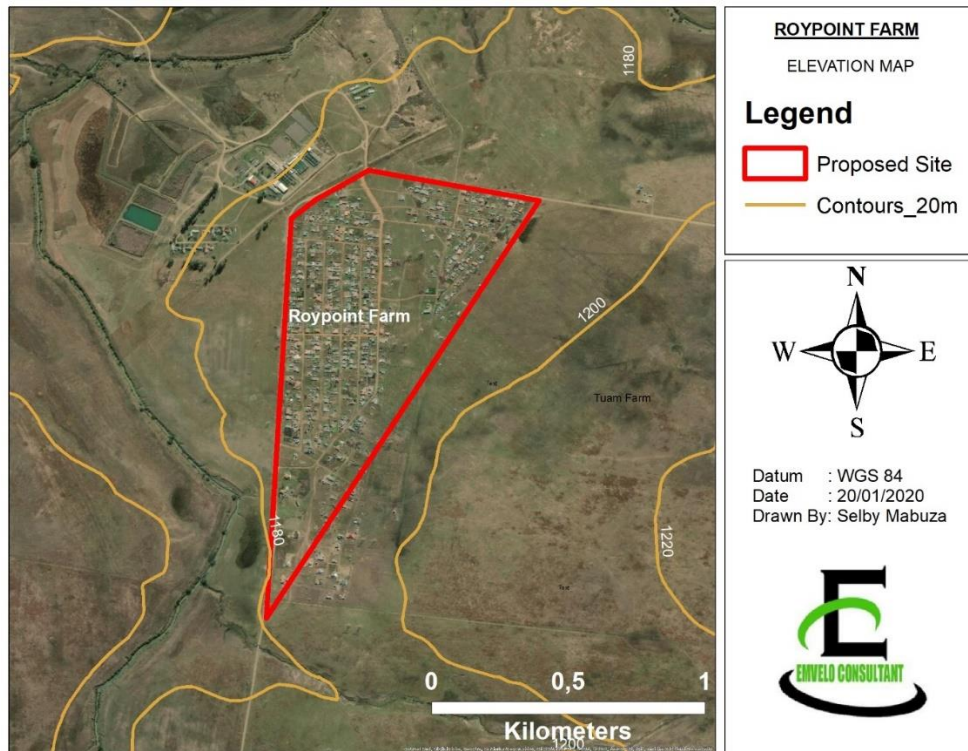
Climate change may impact on the project through extreme floods, which may pose a risk to the housing units.

12.2. Topography

The Newcastle Local Municipality (NLM) is characterized by two distinct physical features which almost separate the area into two distinct topographical settings. The eastern region is characterized by flat to gentle surfaces. Whereas the western regions are characterized by gentle to steep surfaces. According to the NLM IDP 2012/2017, the elevated region on the west is referred to as the Drakensburg range.

The development site is located between 1180 and 1200 meters above sea level on the eastern section of the municipality which is characterized by gentle to flat surfaces as described above (refer to figure 6 below).

Figure 6: Topography



12.2.1 Potential Impacts

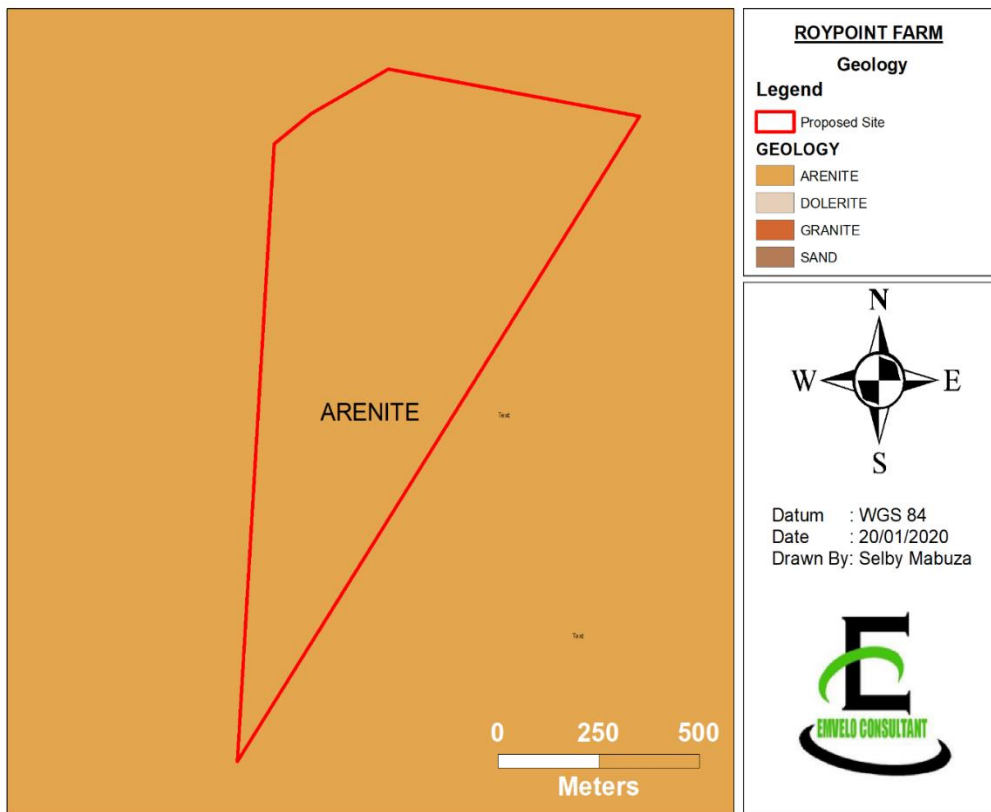
The visual impact of the proposed development will be insignificant as the project is expected to blend in with the existing settlements. The visual impact would only be felt during the construction period, due to construction activities taking place i.e. Movement of delivery vehicles possibly generating dust.

12.3. GEOLOGY AND SOILS

According to the Amajuba District Environmental Management Framework (EMF) of 2019, the is comprised of Karoo Supergroup which is mainly represented by the Ecca and the Beaufort Groups. Of these, the Ecca Group is by far the best represented, by the Vryheid Formation.

The local geology of the proposed site area is underlain by the Arenite rock type, which is a sedimentary clastic rock with sand grains.

Figure 7: Geology



12.3.1 Potential Impacts

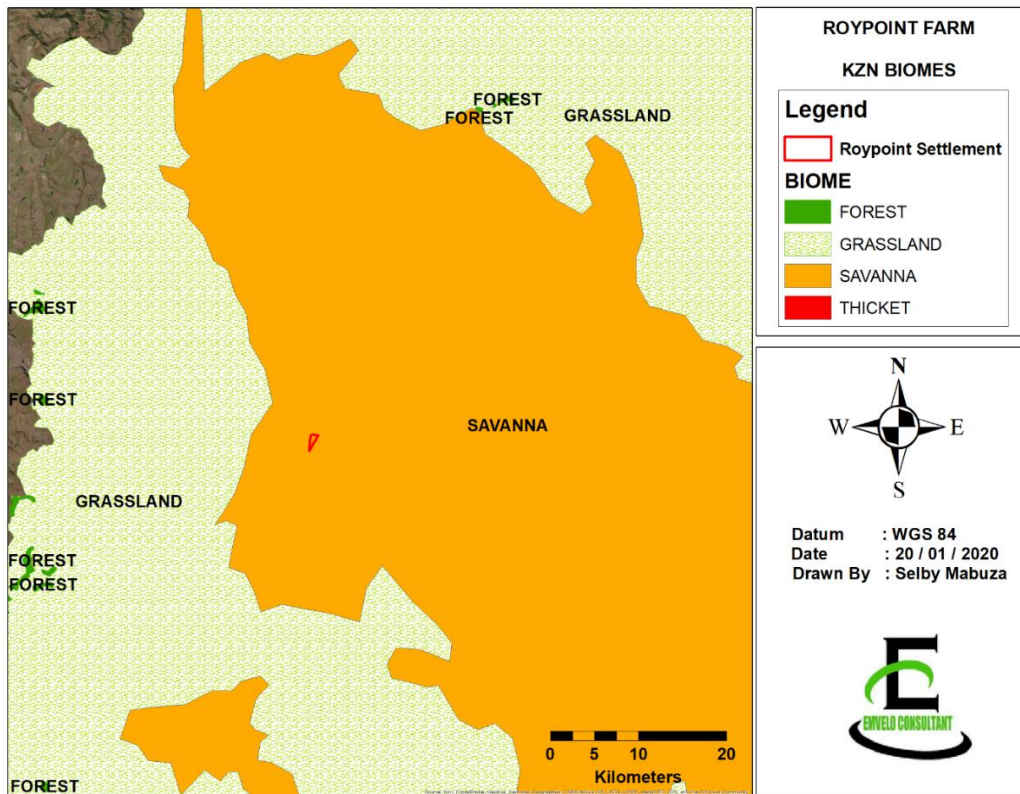
The clearing of vegetation and the use of heavy machinery could cause soil erosion and compaction respectively. The inappropriate handling and storage of hazardous substances, spillages from equipment and plant and poor management of waste, wastewater and cement mixing could cause soil contamination.

12.4. Flora

12.4.1. Biomes

The Amajuba District Municipality (ADM) has the following types of biomes: Forest, Savanna, Grasslands, and wetlands.

Figure 8: Biomes



The proposed development site is located within the Savanna Biome.

12.4.2. Vegetation types

Within the biomes of the Amajuba District Municipality, there are 14 different vegetation types (Scott-Shaw and Escott 2011). A list of the vegetation types around the proposed site and their conservation status is set out in the table below.

Table 7: Local vegetation types

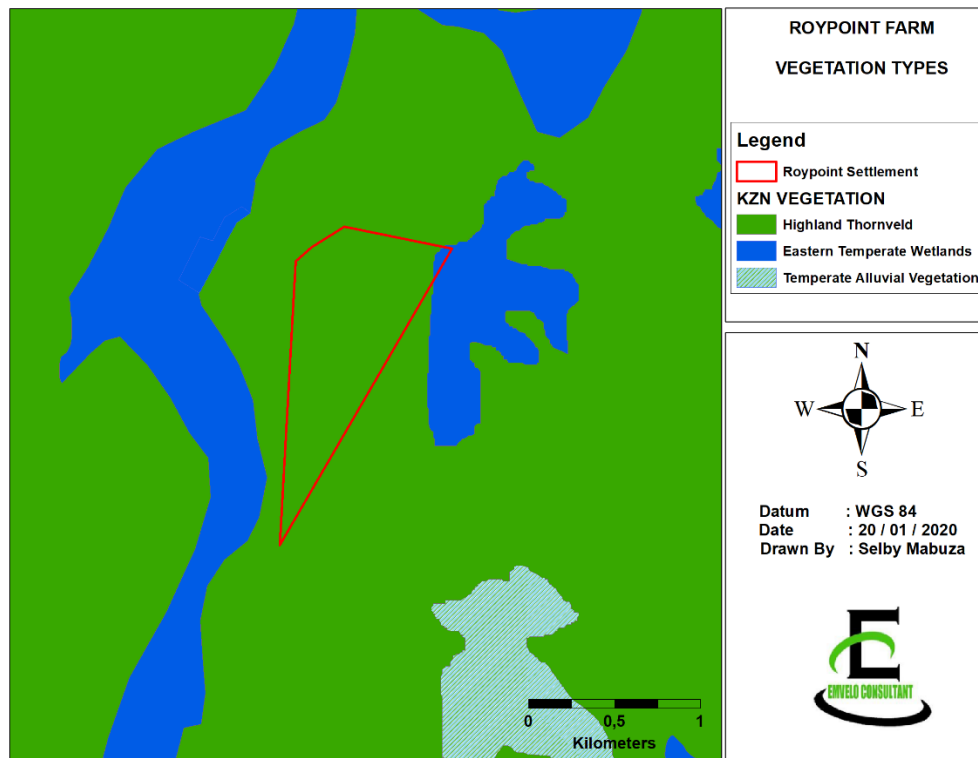
Vegetation type	Conservation status	Historical Area (Ha)	2008 Area (Ha)	Percentage lost (Ha)
Forest Biome				
Eastern Mistbelt Forests	Endangered	5444.14	5289.56	2.84
Savanna Biome				
KwaZulu-Natal Highland Thornveld	Least Threatened	73206.077	54468.829	25.60
Thukela Thornveld	Least Threatened	21.38	21.38	0
Grassland Biome				
Wakkerstroom Montane Grassland	Least Threatened	128535.034	116688.917	9.22
Amersfoort Highveld Clay Grassland	Least Threatened	13214.733	10086.585	23.67
Eastern Free State Sandy Grassland	Least Threatened	268.915	268.915	0
Income Sandy Grassland	Vulnerable	149900.447	94294.226	37.10
Low Escarpment Moist Grassland	Least Threatened	62941.885	56930.63	9.55
Northern KwaZulu-Natal Moist Grassland	Vulnerable	157172.37	109620.616	30.25
Paulpietersburg Moist Grassland	Vulnerable	35547.935	23674.717	33.40
Northern Zululand Mistbelt Grassland	Vulnerable	7007.729	6582.965	6.06
Wetlands Biomes				
Freshwater Wetlands: Eastern Temperate Wetlands	vulnerable	24481.368	20339.582	16.92
Alluvial Wetlands: Temperate Alluvial Vegetation	vulnerable	32996.645	23114.188	29.95
Alluvial Wetlands: Temperate Alluvial Vegetation: Midland Floodplain Grasslands	Least threatened	422.644	361.367	14.50

(Source: Amajuba District Biodiversity Sector Plan, 2014:20)

Over the years mainly between 1990 to 2014 the district has seen a major decline of these vegetation types in terms of their spatial coverage as a result of land-use change. However, the major impact has been largely on grasslands such as Income sandy grassland, Paul Pietersburg moist grassland, Northern KZN moist grassland, and Amersfoort Highveld Clay grassland (ADM EMF,2019).

The proposed development site is located on the Kwazulu-Natal Highland Thornveld of the Savanna biome with a national threat status of Least Threatened (LT), see figure 9.

Figure 9: Vegetation Types

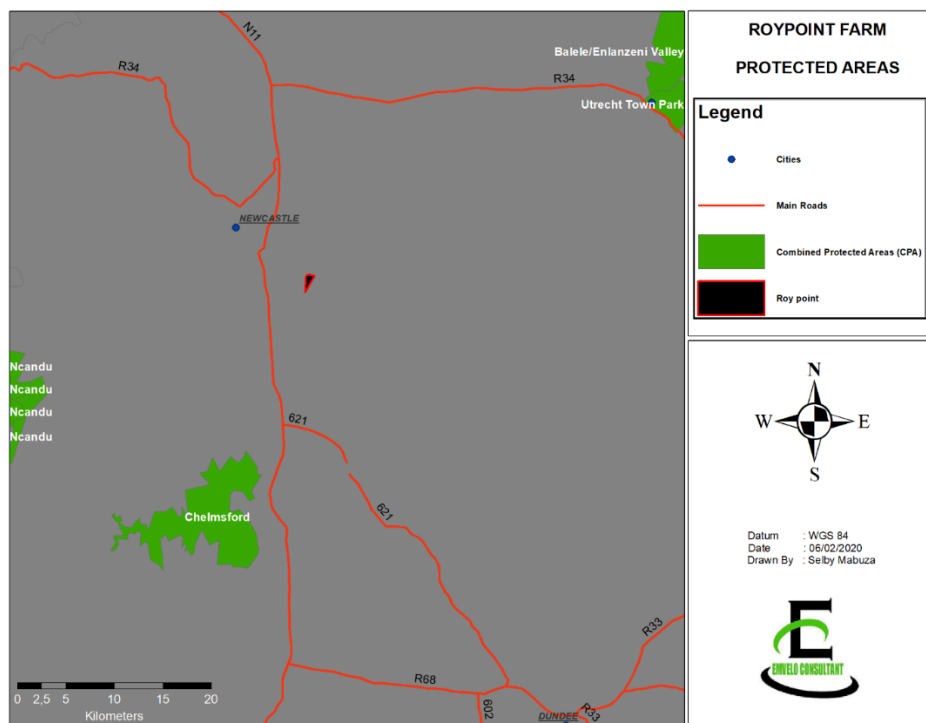


Also, the north eastern corner of the proposed site falls on the Eastern Temperate Wetlands, which has a national threat status of vulnerable.

12.4.3. Protected Areas

In South Africa, a 'protected area' is defined as areas of land (e.g. a national park) or ocean (e.g. a marine protected area) that is legally protected and managed for the conservation of biodiversity, as per the National Environmental Management: Protected Areas Act (No. 57 of 2003) (Department of Environmental Affairs 2009).

Figure 10: Protected Areas



The proposed development does not fall within any of the protected areas. The nearest protected area from the site is the Chelmsford Nature Reserve, located at approximately 19km to the southwest.

12.4.4. Biodiversity

According to the Amajuba Biodiversity Sector Plan, the following terminologies describe features on the Biodiversity Plan. These definitions were adapted from the Document describing the Conservation Planning Terms for the Ezemvelo KZN Wildlife Spatial Planning Product (EKZMW, 2014). They include; Critical Biodiversity Areas (Irreplaceable and optimal), Ecological Support Areas (ESA), Ecological Infrastructure (EI), as well as other natural areas.

12.4.4.1 Critical Biodiversity Areas (CBA).

Critical Biodiversity Areas are areas required to meet biodiversity targets for ecosystems, species and ecological processes, as identified in a systematic biodiversity plan. The CBAs can be divided into two subcategories, namely Irreplaceable and Optimal (Ezemvelo KZN Wildlife, 2016).

The CBA: Irreplaceable Areas are identified as having an Irreplaceability value of 1. These Planning Units (PU's) represent the only localities for which the conservation targets for one or more of the biodiversity features contained within can be achieved, i.e. there are no alternative sites available.

Optimal Areas are areas that represent the best localities out of a potentially larger selection of available PU's that are optimally located to meet both the conservation target but also the criteria defined by either the Decision Support Layers or the Cost Layer.

12.4.4.2 Ecological Support Areas (ESAs)

Functional but not necessarily entirely natural areas that are required to ensure the persistence and maintenance of biodiversity patterns and ecological processes within the critical biodiversity areas. These areas also contribute significantly to the maintenance of ecological infrastructure.

12.4.4.3 Ecological Support Areas: Species

Terrestrial modified areas that provide a support function to a threatened or protected species, for example, agricultural land.

12.4.4.4 Ecological Infrastructure (EI)

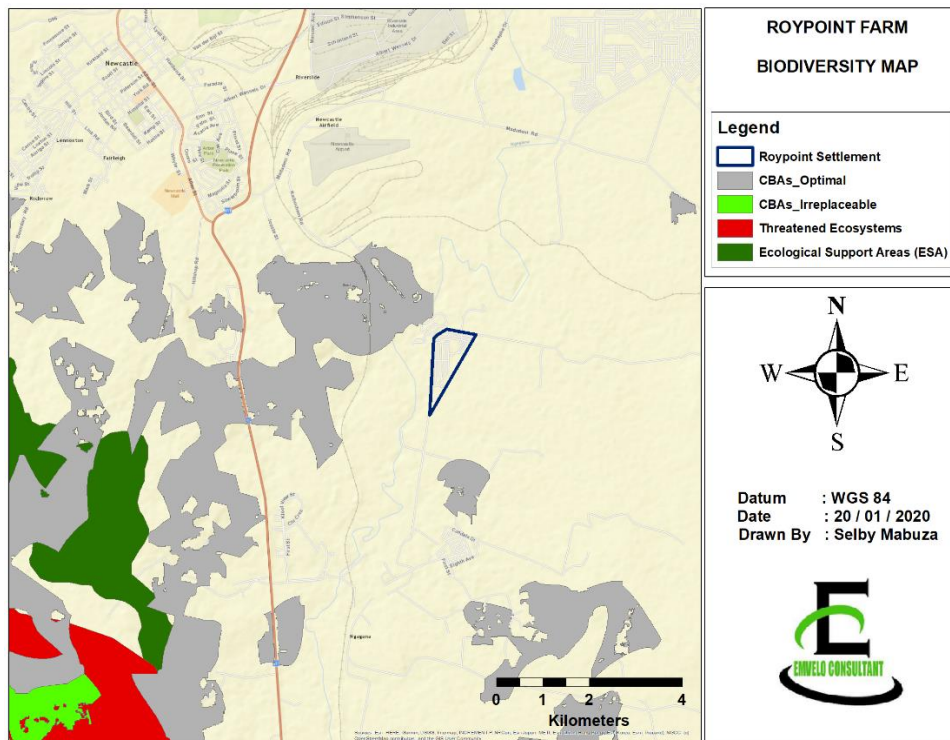
Ecological Infrastructure (EI) refers to the functioning ecosystems, within landscapes, that provide environmental services that contribute positively to the economy and human welfare. The ecological infrastructure that provides such services includes healthy and well-maintained wetlands, rivers, catchments, coastal dunes, grasslands and forests (Amajuba BSP, 2014:46).

Services provided include the promotion of water security through for example the provision of clean water and increased lifespan of dams; reduction in disaster risk through for example the control of flood intensities & coastal erosion; the prevention of soil loss, and climate regulation.

12.4.4.5 Other Natural Areas

Are natural, near-natural vegetation and functional habitats or landscapes not yet classified as one of the above categories (i.e. CBAs, ESAs, or EI).

Figure 11: Biodiversity Map



Biodiversity in the Amajuba District Municipal Area has been positively influenced by the conservation areas (ADM IDP 2019/20).

There are no Critical Biodiversity Areas (Irreplaceable or optimal), no threatened ecosystems and no ecological support areas (ESAs) within the proposed development site. The nearest CBA is the CBA Optimal which is located at approximately 345m northeast from the proposed site, as shown in figure 10 above.

12.4.5 Potential Impacts

Potential impacts to vegetation resulting from the construction of the proposed housing units include the clearance of vegetation within the proposed footprint. Once the housing units have been allocated to people, the adjacent vegetation is also at risk of being degraded by community members.

Also, If the biodiversity and related ecosystem services are badly reduced, it could have direct negative consequences for the economy and social structures. These consequences could have a detrimental effect on efforts to reduce poverty, inequity, and unemployment in the Amajuba District Municipal Area.

12.4.6 Specialist Study Triggered/ Further Investigations

A terrestrial Impact Assessment study will be undertaken in the EIA phase and the aim of the study will be to identify habitats of critical importance and significant flora species to be affected by the development. Recommendations and mitigations measures will be provided and they will form part of the EMP.

12.5. Fauna

To determine the fauna likely to occur on-site, the lists for the Quarter Degree Square within which the proposed location is contained were obtained from the FitzPatrick Institute of African Ornithology virtual museum. These lists include all fauna previously recorded from the area. Although it is unlikely that all of these species will be found on-site, primarily due to the influx of people and other anthropogenic disturbance, there are some areas of the site which form suitable habitat for faunal species. A list of expected species can be found in the Appendices L.

12.5.1. Species of Conservation Concern (SCC)

SCC that are likely to occur on site include birds, mammals, and herpetofauna (reptiles and amphibians). Only two mammal species of conservation importance have been recorded from the proposed area and surroundings and include; *Dasymys incomtus* (Common Dasymys) and *Otomys auratus* (Southern African Vlei Rat), which are both classified as near threatened.

12.5.2 Potential Impacts

- Fragmentation, reduction, and loss of Habitat as a result of vegetation clearance
- Migration of animals away from the areas
- Poaching and willful harming of animals by construction workers

12.6. SURFACE WATER

In general, most river sources within the district are at risk of degradation, and if deterioration takes place it is likely to result in poor water yield and water quality to the detriment of development. Development planning in these areas should, therefore consider riparian management requirements and suitable flood lines. An example of this is the implementation of development outside flood line areas (1:100-year flood line), which must always be maintained in order to protect the catchment within the area (ADM IDP 2019/20).

12.6.1. Hydrology

The Amajuba District Municipality (ADM) falls entirely into two primary catchments namely the Thukela and Pongola catchments. The Ngogo, Ncandu, Horn and Ngagane Rivers are important tributaries of the Buffalo River draining from the western highlands while the Slangspruit, Doringspruit, and Dorpspruit form the main tributaries in the north. The headwaters of the Pongola River (including the Bivane River) are found in the high lying north-eastern areas of the ADM and drain eastwards out of the District” (ADM EMF,2019:14).

The project area is situated along the Ingagane tributary, which falls within the V31K quaternary catchment and Pongola-Mtavuma Water Management Area (see Figures 12–13). The Ingagane River flows into the Buffalo River which is one of the major rivers in the Thukela Water Management (Newcastle Local Municipality IDP 2016/2017).

Figure 12: V31K Quaternary Catchment

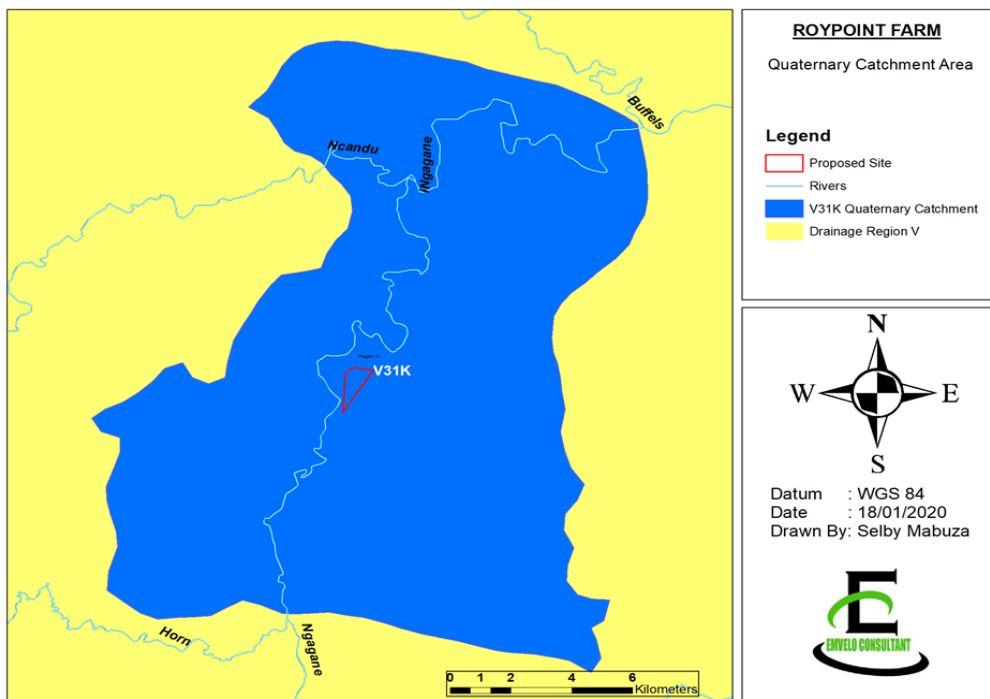
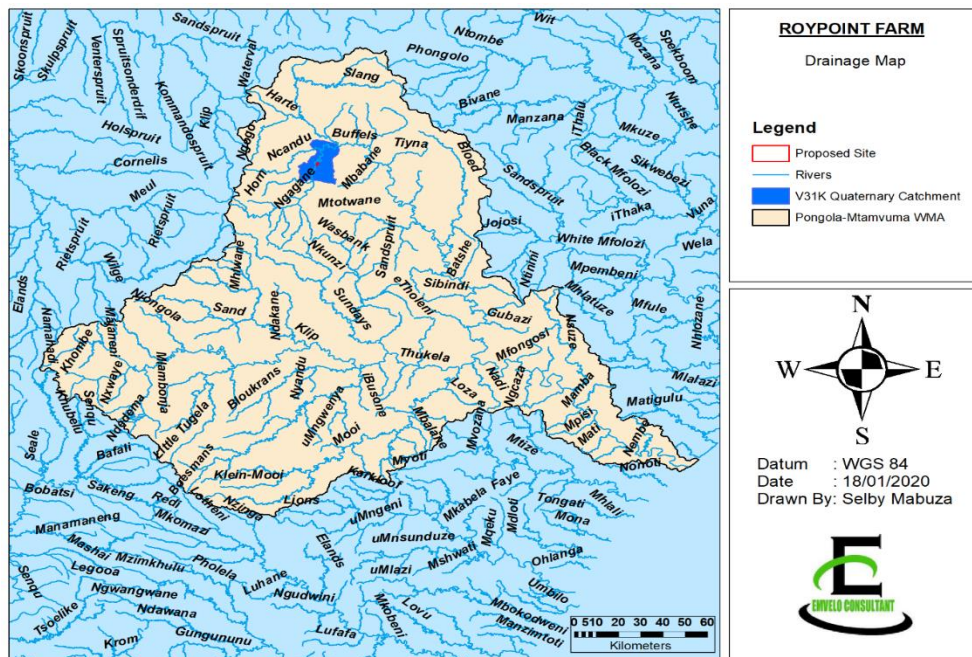


Figure 13: Drainage Map



12.6.2. Water Quality

There is a complete contrast of water quality between the high lying mountainous areas to the lower-lying Buffalo River Basin within ADM. This is attributed to various human activities (domestic, mining, agricultural and industrial activities) taking place, particularly within Newcastle and Dannhauser. Acid mine drainage has been singled out as a real threat to water quality within the district (ADM EMF, 2019).

Within the Newcastle local Municipality, the water quality is mainly affected by poor performing Wastewater Treatment Works or urban run-off with total coliforms and faecal coliforms (NLM IDP 2016/2017).

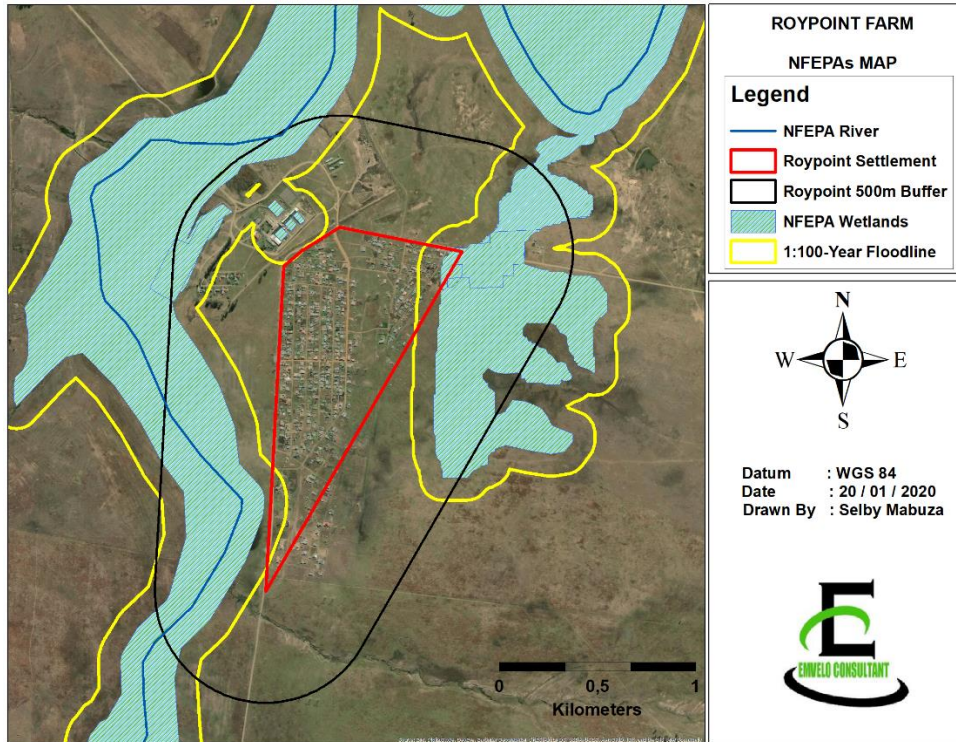
The ingagane river catchment which runs along the proposed site is mainly affected by industrial activities located alongside the river (NLM IDP 2016/2017).

12.6.3. National Freshwater Ecosystem Priority Areas (NFEPAs)

With reference to the National Freshwater Ecosystem Priority Areas (NFEPAs) GIS dataset, the proposed location has several NFEPAs wetlands within 500m. Also, the study shows that some of the sections of the proposed area fall within the 1:100-year flood line. Furthermore,

the Ingagane river runs along the proposed location, from the north section, down to the south, please refer to figure 14 below.

Figure 14: NFEPA Map



12.6.4 Potential Impacts

The impacts on wetlands systems are expected to be minimal, this is partly because almost the entire site is not sitting on these systems except the north eastern corner which has already been developed. Nonetheless, the following can be anticipated; A contaminated surface run-off from sidewalks, driveways, site camp has the potential of polluting the adjacent freshwater ecosystems.

12.6.5 Specialist Study Triggered/Further Investigations

A Wetland Impact Assessment will be undertaken in the EIA phase. The status of wetlands (including delineation) and impacts on these systems will be assessed as part of this study. A wetland specialist will also provide recommendations or mitigation measures. The mitigation measures will also form part of the environmental management programme.

12.7. Visual-Environment and Land Use Character

Along the proposed site, on the north and west sections, runs the Ingagane river flowing to the south. In the north section, a few meters from the river there is the Water Treatment Plant. The site is located within a residential area that is owned by the local municipality. Some parts of it are vacant stands that are covered in vegetation. Prior to the formalization of the housing units, there will be the clearance of vegetation. Refer to figure 15



Figure 15: Case Images

12.7.1 Potential Impact

Potential visual impacts during the soil preparation phase include the clearing of vegetation around the existing houses and the increase in the number of vehicles as there will be more construction vehicles operating around the area.

12.8. Heritage and Cultural Aspects

A desktop study was conducted using The SAHRIS website for palaeontological fossils sensitivity of the proposed site. As per figure 16 falls within high sensitivity, as result a field assessment and protocol for finds is required.



Figure 16: Palaeo Sensitivity

(Source: <https://sahris.sahra.org.za/map/palaeo>)

12.8.1 Potential Impact

The EAP has no knowledge regarding the potential archaeological or cultural heritage resources, including human remains / graves on site. However, should these be present the development has the potential of damaging these features.

12.8.2 Specialist Study Triggered/ Further Investigations

The identification of features of historical, cultural and heritage importance including the location of ancestral graves would be undertaken on the Heritage Impact Assessment Study. The EMPr will also include recommendations from a specialist.

12.9. Social and Economic Environment

12.9.1. Population Distribution

Amajuba District is a Category C municipality that is made up of three local municipalities namely, Newcastle (KZN 252), Dannhauser (KZN 253) and the Emadlangeni (KZN 254). The total population within the district is estimated to be at 531 327 people who are accommodated on 117 256 households.

Table 9: Total population

Municipality	TOTAL POPULATION			Population Growth Rate (2011 – 2016)
	2001	2011	2016	
Newcastle	332 981	363236	389117	7.1%

Emadlangeni	32277	3442	36869	7.0%
Dannhauser	102779	102161	105341	3.1%
Amajuba DM	468036	499839	531327	6.3%

Source: Statistics SA, Census 2011 & Community Survey 2016

The Newcastle Local Municipality has the highest population which is estimated to be at 389 117 people (90 347 households) within 34 wards.

Immigration and birth rate contribute to the increased number of people within the geographical area, and this is supported by the increase in average household size, especially in the Newcastle Local Municipality.

12.9.2. Basic Services (Water and Sanitation)

12.9.2.1 Water

Based on the 2016 Stats SA Community Survey, within the district a total of 111632 of households have piped water supply either to inside the home or on-site, 17 % of households rely on communal standpipes and 7.9% of the households are reliant on boreholes or springs as opposed to the previous and are reliant on other sources of water. The quality of the water obtained from these sources is unknown and cannot be guaranteed, thus possibly leading to health problems (ADM IDP 2018/2019).

The Newcastle Local Municipality comprises of up to 83% of all households with piped water supply, either to dwelling or on-site.

12.9.2.2 Sanitation

About 58% (Community Survey 2016) of the households in the Amajuba DM area has flush toilets that are connected to a sewerage system - an improvement of 4% when compared with figures from the Census 2011. The 2016 figures also indicate only 41% of households in the ADM do not have any form of sanitation.

Over the years it has been evident that more and more communities are having access to waterborne sanitation in the urban areas with a significant decrease in the bucket latrine which has been replaced by Pit latrine in most rural areas.

Out of the three municipal areas, the highest level of service is found in Newcastle Municipality, where over 67.7% of households have either flush or chemical toilets or pit latrines.

12.9.3. Unemployment Profile

The unemployment rates are high in the ADM, reflecting a large portion of the working-age population that has either been discouraged from seeking employment due to a lack of opportunities, or who are actively seeking employment but cannot find any opportunities.

Table 10: Unemployment rates

Year	Amajuba	Newcastle	eMadlangeni	Dannhauser
2014	31.9%	30.3%	30.3%	40.7%
2015	31.9%	30.3%	30.2%	40.8%
2016	33.7%	32.0%	31.7%	43.0%

Source: KZN Provincial Treasury (HIS Markit: Regional Explorer)

The Newcastle Local Municipality has the second-lowest unemployment rate within the district, after eMadlangeni. However, it is also evident that over the years unemployment rates have been increasing throughout the district.

12.9.4. Energy Source

In the context of the Amajuba DM, Eskom is the main supplier of electricity, whilst the Newcastle and eMadlangeni Municipalities have the license to supply the electricity in certain areas within their jurisdiction.

In all the municipalities, electricity is mainly used for lighting, cooking, and heating, as the least type of use for electricity.

12.9.5 Potential Impacts

The proposed development seeks to transform the settlement by providing more formal houses and adequate sanitation facilities for the local people. This will improve the overall standard of living, attracting more people and businesses into the area, thus increasing the overall population of the municipality.

Also, the consideration of local laborers, suppliers in the area and the transferring of skills will help in stimulating the local economy (positive impact).

12.9.6 Triggered Specialist Study/Further investigation

The socio-economic impact will be further investigated in an EIA phase and also will be addressed in an EMPr.

13 PUBLIC PARTICIPATION

The Public Participation Report is attached as appendix E

14. ENVIRONMENTAL ISSUES

This section seeks to provide an overview of environmental issues to be further investigated or prioritized during an EIA phase and methodology to be used when assessing those impacts. This allows for a more efficient and focused impact assessment in the EIA phase, where the analysis is largely limited to significant issues and reasonable alternatives.

14.1. Approach

The environmental issues associated with the proposed development were identified by referring to the following;

- Activities associated with the project life cycle.
- Activities relating to the construction phase.
- Nature and profile of the receiving environment and potential sensitive environmental features and attributes (see Section 12), which included a desktop evaluation (via literature review, specialist input, GIS, topographical maps and aerial photography) and site investigations.
- Direct and Indirect impact related to the proposed development
- Input from Public Participation
- Legal and Policy Context

Section 11 does not only provide a detailed description of the receiving environment, but the section also outlines the possible impact associated with the proposed activity. The significant environmental issues were distilled from this information and are summarised in Table 11. Cumulative impacts are briefly explained in Section 15.

14.2. Mitigation Measures

The EIA report will provide a detailed analysis of the impact and their significance to the receiving environment, using the above methodology as well as the input from the project team specialists' studies, comments from Interested and Affected Parties.

A suitable and practical mitigation measure will be developed to minimize the impact of the proposed activity on the receiving environment. The mitigation measures will seek to achieve the following;

- Initial efforts will strive to prevent the occurrence of the impact
- If the above is not achievable, mitigation will include measures that reduce or minimize the significance of the impact to an acceptable level;
- Remediation and rehabilitation will take place if measures cannot suitably prevent or reduce the impacts, or to address the residual impacts; and
- As a last measure, compensation will be employed as a form of mitigating the impacts associated with a project.

The mitigation measure will be included in the EMPr, which will form part of the EIA report. Together with the Environmental Authorization, the EMPr is binding on the Applicant, all contractors and sub-contractors and visitors to the site.

Table 11: Direct and Indirect Impacts

Environmental factors	Potential issues and impacts	Further investigation/ EIA Provisions
Construction Phase		
Bio-Physical Impacts		
Indigenous Vegetation	<ul style="list-style-type: none"> • several hectares of indigenous plant species will be removed. • Loss of habitat. 	<ul style="list-style-type: none"> • Ecological impact assessment. • EIR and EMPr.
Invasive species	<ul style="list-style-type: none"> • Increase in weeds and pest due to cleared vegetation • 	<ul style="list-style-type: none"> • EIR and EMPr.

Environmental factors	Potential issues and impacts	Further investigation/ EIA Provisions
Fauna	<ul style="list-style-type: none"> • Habitat fragmentation • Disruption of the food web/food chain. • Loss of faunal species of conservation significance. 	<ul style="list-style-type: none"> • Ecological impact assessment. • EIR and EMPr.
Surface Water	<ul style="list-style-type: none"> • Wetland infilling • Chemicals could pollute the nearby watercourses and cause algae to bloom and kill aquatic life. 	<ul style="list-style-type: none"> • EIR and EMPr. • Wetland impact assessment.
Surface Water	<ul style="list-style-type: none"> • Increase in sediments due to soil erosion. • Spillage of harmful substances on nearby water sources. 	<ul style="list-style-type: none"> • EIR and EMPr.
Underground water	<ul style="list-style-type: none"> • Leaching of chemicals to groundwater. • Accidental oil spills from construction vehicles could contaminate groundwater. 	<ul style="list-style-type: none"> • EIR and EMPr.
Soil	<ul style="list-style-type: none"> • Soil erosion as a result of exposure. • Modification of soil form structure. • Disturbance of soil and land use (soil compaction). • Physical and chemical degradation of the soils by construction vehicles (spills). 	<ul style="list-style-type: none"> • EIR and EMPr.
Noise Pollution	<ul style="list-style-type: none"> • Noise generated by construction vehicles will affect birdlife and other fauna species. 	<ul style="list-style-type: none"> • EIR and EMPr.

Environmental factors	Potential issues and impacts	Further investigation/ EIA Provisions
Historical and cultural features		
Air quality	<ul style="list-style-type: none"> • Dust will be generated. 	<ul style="list-style-type: none"> • EIR and EMPr.
Visual impact	<ul style="list-style-type: none"> • Potential visual impacts on residents and motorists in proximity due to dust. 	<ul style="list-style-type: none"> • EIR and EMPr.
Carbon footprint	<ul style="list-style-type: none"> • Emission from construction vehicles. 	<ul style="list-style-type: none"> • EIR and EMPr.
Socio-economic aspects		
Heritage and cultural features	<ul style="list-style-type: none"> • There may be grave on the site and other important heritage resources. • Removal or destruction of archaeological and/or paleontological sites. • Removal or destruction of buildings, structures, places, and equipment of cultural importance. 	<ul style="list-style-type: none"> • Heritage impact assessment. • EIR and EMPr.
Conflict	<ul style="list-style-type: none"> • The conflict could arise as the proposed site is within an already established settlement. 	<ul style="list-style-type: none"> • EIR and EMPr.
Construction and Operational Phase		
Socio-Economic Impacts	<ul style="list-style-type: none"> • Formal housing units for the local people. • Local communities will receive employment opportunities. • Skills development. 	N/A
General waste management	<ul style="list-style-type: none"> • General waste will be generated from domestic activities and Mismanagement of waste could lead to negative visual and environmental impacts. 	<ul style="list-style-type: none"> • EIR and EMPr.

Air quality	<ul style="list-style-type: none"> • The removal of trees and vegetation will increase the level of CO₂ (Carbon dioxide) in the atmosphere, thus affecting the air quality of the area. 	<ul style="list-style-type: none"> • N/A
Visual impact	<ul style="list-style-type: none"> • Potential visual impacts on residents of farmhouses and motorists in proximity due to dust. 	<ul style="list-style-type: none"> • EIR and EMPr
Surface Water	<ul style="list-style-type: none"> • Chemical spills could potentially reach nearby water sources. 	<ul style="list-style-type: none"> • Wetland Assessment. • EIR and EMPr.

15. CUMULATIVE IMPACTS

In terms of the EIA Regulations, the cumulative impact is considered from the holistic point of view. It means that the impacts of an activity are considered from the past, present and foreseeable future together with the impact of activities associated with that activity. The activity itself may not be significant, but when combined with the existing and reasonably foreseeable impacts eventuating from similar or diverse activities may result in a significant change. "Cumulative impacts can be: Additive, synergistic, time crowding, neutralizing and space crowding" (DEA, 2017;14).

15.1. Synergistic: Fragmentation of indigenous Habitat

Continuous clearance of vegetation in the local area will have a significant cumulative impact on populations of different flora and fauna species. The transformation of natural sites that are identified to meet biodiversity patterns and process thresholds will disintegrate the network of these natural habitats.

15.2. Synergistic: Social transformation

The construction of more housing units within the community will transform the settlement into a compact settlement with a high population density. This will have an exhaustive effect on the local environment and resources, including the increasing demand for the provision of basic services.

15.3. Regional Economic Development

The creation of employment opportunities would subsequently improve the economic development within the region.

16. ENVIRONMENTAL IMPACT ASSESSMENT METHODOLOGY.

Each impact identified will be assessed in terms of probability (Likelihood of occurring), scale (spatial scale), magnitude (severity) and duration (temporal scale). To effectively implement the adopted scientific approach in determining the significance of the environmental impact, a numerical value was linked to each rating scale.

The following criteria will be applied to the impact assessment for the EIA:

Occurrence

- ✚ Probability- The probability of the impact describes the likelihood of the impact actually occurring.
- ✚ Impact Duration- the Duration of the impact describes the period of time during which an environmental system or component is changed by the impact.

Severity

- ✚ Magnitude –refers to the ‘Degree of Disturbance’ to biophysical systems and components expresses the change in the health, functioning and/or role of the system or component as a result of an activity
- ✚ Scale/extent - The Extent of the impact generally expresses the spatial influence of the effects produced by a disturbance to an environmental system or component

The following ranking scales were used:

<i>Probability: =P</i>	<i>Duration: =D</i>
5 – Definite (More than 80 % chance of occurrence)	5 – Permanent- The only class of impact that will be non-transitory (Indefinite)
4 – Probable (Between 60-80% chance of occurrence)	4 - Long-term-: The impact and its effects will continue or last for the entire operational life of the development (15- 50years)
3 – Possible (Between 40-60% chance of occurrence)	3 - Medium-term-: The impact and its effects will continue or last for some time after the construction phase (5-15 years)
2 – Fairly Unlikely (Between 20-40% chance of occurrence)	2 – Medium-short- The impact and its effects will continue or last for the period of a relatively
1 – Unlikely (Less than 20% chance of occurrence)	

	long construction period and/or limited recovery time after this construction period (2-5 years) 1 – Short Term- Likely to disappear with mitigation measures or through natural processes span shorter than construction phase (0-2 years)
<i>Scale: =S</i> 5 – International (beyond 200km) 4 – Regional (50-200km radius) 3 – Local (2-50km radius) 2 – Surrounding Area (within 2km) 1 – Site (within100m)	<i>Magnitude: =M</i> 10 - High 8 – Medium High 6 – Medium 4 – Medium Low 2 – Low

Status of Impact

+ Positive / -Negative or 0-Neutral

The overall impact significance score/points (**SP**) for each identified impact is calculated by multiplying magnitude, duration, and scale by the probability of all this happening

The range of possible significance scores is classified into seven rating classes as shown in Table 12 below.

$$\mathbf{SP = (Magnitude +Duration +Scale) x Probability}$$

The impacts status can either be positive, negative or neutral as depicted in table 1.1.

Table 12: Impact significance Ratings

Significance	Environmental Significance Points	Colour Code
Negligible	0-10	N
Very low	11-20	VL
Low	21-30	L
Medium	31-40	M
Medium-high	41-50	MH

High	51-60	H
Very high	61-75	VH

17. A PLAN OF STUDY

In accordance with Appendix 2 of GN No.326 (7 April 2017), a plan of study has been drafted, to outline an approach within which the EIA phase of the proposed development will be undertaken.

The main aim of the scoping report is to qualitatively identify and predict environmental issues that need to be prioritized or considered during the EIA phase. During an EIA phase, an in-depth quantitative impact assessment is carried, with input from specialist studies and through the implementation of the impact assessment methodology as outlined in section 16 above. Appropriate mitigation measures will be identified to manage (i.e. prevent, reduce, rehabilitate and/or compensate) the environmental impacts, and will be incorporated into an EMPr.

The environmental issues which will be further investigated in the EIA phase are listed in table 11 above.

17.1 Specialist studies identified

The required specialist studies triggered by the findings of the Scoping process, aimed at addressing the key issues and compliance with legal obligations, include:

- Wetland Impact Assessment
- Terrestrial Ecological/Biodiversity Impact Assessment
- Heritage Impact Assessment
- Traffic Impact Assessment

Prior to any work, both general and specific, the Terms of reference were determined for each specialist study. In determining general Terms of reference for specialist studies, the following guideline was used;

- Guideline for determining the scope of specialist involvement in EIA processes (Münster, 2005).

The subsequent guidelines were also employed in determining the specific terms of reference for respective specialist studies (where appropriate);

- Guideline for involving biodiversity specialists in EIA processes (Brownlie, 2005);
- Guideline for involving heritage specialists in EIA processes (Winter & Baumann, 2005);

In addition to the above guidelines, the relevant specialists need to satisfy specific requirements stipulated by the following key environmental authorities:

- Economic Development Tourism and Environmental Affairs;
- Department of Water and Sanitation;
- Amafa;
- DAFF
- Ezemvelo KZN Wildlife
- KZN Department of Transport

For the incorporation of the findings of the specialist studies into the EIA report, the following guideline will be used:

- Guideline for the review of specialist input in EIA processes (Keatimilwe & Ashton, 2005).
Key considerations will include:
 - Ensuring that the specialists have adequately addressed IAPs' issues and specific requirements prescribed by environmental authorities.
 - Ensuring that the specialists' input is relevant, appropriate and unambiguous; and
 - Verifying that information regarding the receiving ecological, social and economic environment has been accurately reflected and considered.

17.2 Terms of Reference – General

The following general Terms of Reference apply to all the EIA specialist studies to be undertaken for the proposed project:

- Address all triggers for the specialist studies contained in the subsequent specific Terms of Reference.
- Address issues raised by IAPs, as contained in the Comments and Response Report, and conduct an assessment of all potentially significant impacts. Additional issues that have not been identified during Scoping should also be highlighted to the EAP for further investigations.

- Ensure that the requirements of the environmental authorities that have specific jurisdiction over the various disciplines and environmental features are satisfied.
- Approach to include desktop study and site visits, as deemed necessary, to understand the affected environment and to adequately investigate and evaluate salient issues. Indigenous knowledge (i.e. targeted consultation) should also be regarded as a potential information resource.
- Assess the impacts (direct, indirect and cumulative) in terms of their significance (using suitable evaluation criteria) and suggest suitable mitigation measures. In accordance with the mitigation hierarchy, negative impacts should be avoided, minimized, rehabilitated (or reinstated) or compensated for (i.e. offsets), whereas positive impacts should be enhanced. A risk-averse and cautious approach should be adopted under conditions of uncertainty.
- Consider time boundaries, including short to long-term implications of impacts for the project lifecycle (i.e. pre-construction, construction, operation and decommissioning).
- Consider spatial boundaries, including:
 - (a) The broad context of the proposed project (i.e. beyond the boundaries of the specific site);
 - (b) Off-site impacts; and
 - (c) Local, regional, national or global context.
- The provision of a statement of impact significance for each issue, which specifies whether or not a pre-determined threshold of significance (i.e. changes in effects to the environment which would change a significance rating) has been exceeded, and whether or not the impact presents a potentially fatal flaw or not. This statement of significance should be provided for anticipated project impacts both before and after the application of impact management actions.
- Recommend a monitoring programme to implement mitigation measures and measure performance. List indicators to be used during monitoring.
- Appraisal of alternatives (including the No-Go option) by identifying the BPEO with suitable justification.
- Advise on the need for additional specialists to investigate specific components and the scope and extent of the information required from such studies.
- Engage with other specialists whose studies may have bearing on your specific investigation.
- Present findings and participate in public meetings, as necessary.
- Information provided to the EAP needs to be signed off.

- Review and sign off on the EIA report prior to submission to DEA to ensure that specialist information has been interpreted and integrated correctly into the report.
- Sign a declaration stating independence.
- The appointed specialists must take into account the policy framework and legislation relevant to their particular studies.
- All specialist reports must adhere to Appendix 6 of GN No. 326 (7 April 2017).

17.2.1. Wetland Impact Assessment

17.2.1 (a) Summary of Key Issues & Triggers Identified During Scoping

Impacts posed by the project development to surface water, in terms of:

- Excavations.
- Construction on or near wetlands.

17.2.1. (b) Approach

- Undertake desktop study (literature review, topographical maps, and aerial photographs) and baseline aquatic survey and describe affected aquatic environments/watercourses within the project footprint.
- Determine the ecological status of the receiving aquatic environment, including the identification of endangered or protected species.
- Delineate riparian habitat and all wetlands in accordance with the guideline: *A practical field procedure for identification and delineation of wetlands and riparian areas* (DWAf, 2005) (or any prevailing guidelines prescribed by DWS). This includes assessing terrain, soil form, soil wetness, and vegetation unit indicators to delineate permanent, seasonal and temporary zones of the wetlands. Allocate conservation buffers from the outer edge of the temporary zones of the wetlands (provincial-specific).
- Provide a concise description of the importance of the affected aquatic environments/watercourses in terms of pattern and process, ecosystem goods and services, as appropriate.
- Assess the impacts of the proposed project on aquatic environments/watercourses.
- Provide suitable mitigation measures to protect the aquatic ecosystems during project life-cycle.

Nominated Specialist	
Organization	Afzelia Environmental Consultants Pty (Ltd)
Name	Andrew John Briggs
Qualifications	Master's Degree Conservation Ecology
Years of Experience	3 years
Affiliation (if applicable)	<ul style="list-style-type: none"> ➤ South African Council for Natural Scientific Professions- Registered as Candidate Natural Scientist (Reg No:116886) ➤ International Association of Impact Assessment South Africa (Membership No:6076) ➤ Accredited SASS5 Practitioner-South African Scoring System Version 5

17.2.2 Terrestrial Ecological Impact Assessment

17.2.2 (a) Summary of Key Issues & Triggers Identified During Scoping

- The potential loss of significant flora and fauna species.
- Impacts to sensitive terrestrial ecological features.
- Management actions for controlling exotic vegetation.

17.2.2. (b) Approach

- Undertake baseline survey and describe the affected environment within the project footprint from a biodiversity perspective.
- Take into consideration the provincial conservation goals and targets.
- Assess the current ecological status and the conservation priority within the project footprint and adjacent area (as deemed necessary). Provide a concise description of the importance of the affected area to biodiversity in terms of pattern and process, ecosystem goods and services, as appropriate.
- Undertake sensitivity study to identify protected and conservation-worthy species. Prepare a biodiversity sensitivity map with the use of GIS, based on the findings of the study.
- Assess impacts on fauna and flora, associated with the project. Consider cause-effect impact pathways for assessing impacts on biodiversity-related to the project.

- Identify potential fatal flaws associated with the project and its alternatives from a biodiversity perspective.
- Comply with specific requirements and guidelines of EDTEA
- Consider the Amajuba District Biodiversity Plan (2014) and other relevant policies, strategies, plans, and programmes.

Nominated Specialist	
Organization	Afzelia Environmental Consultants Pty (Ltd)
Name	Leigh-Ann de Wet
Qualifications	<ul style="list-style-type: none"> ➤ Msc in Botany ➤ BSc Honours in Botany ➤ BSc Botany and Entomology
Years of Experience	10 years
Affiliation (if applicable)	<ul style="list-style-type: none"> ➤ South African Council for Natural Scientific Professions: Ecological Science (No 400233/12)

17.2.3 Heritage Impact Assessment

17.2.3. (a) Summary of Key Issues & Triggers Identified During Scoping

The potential occurrence of heritage resources, graves, and structures older than 60 years within the project footprint.

17.2.3 (b) Approach

- Undertake a Heritage Impact Assessment in accordance with the South African Heritage Resources Act (No. 25 of 1999).
- The identification and mapping of all heritage resources in the area affected, as defined in Section 2 of the National Heritage Resources Act, 1999, including archaeological and palaeontological sites on or close (within 100 m) of the proposed developments.
- Undertake a desktop palaeontological assessment (evaluate a site in terms of SAHRIS).
- The assessment of the significance of such resources in terms of the heritage assessment criteria as set out in the regulations.
- An assessment of the impact of development on such heritage resources.

- An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development.
- Prepare a heritage sensitivity map (GIS-based), based on the findings of the study.
- Identify heritage resources to be monitored.
- Comply with specific requirements and guidelines of KZNHRA.

Nominated Specialist	
Organization	Tsimba Archaeological Footprints (Pty) Ltd
Name	Roy Muroyi
Qualifications	<ul style="list-style-type: none"> ➤ B. A Archaeology, Cultural Heritage and Museum Studies ➤ Hon Archaeology Cultural Heritage and Museum Studies ➤ B.A Archaeology, Cultural Heritage and Museum Studies
Years of Experience	5 years
Affiliation (if applicable)	<ul style="list-style-type: none"> ➤ Association of Southern African Professional Archaeologist CRM 453 ➤ Association of Professional Heritage Practitioners (APHP-Western Cape) C0115 ➤ Society of Black Archaeologist Member

17.2.4 Traffic Impact Assessment Study

17.2.4 (a) Summary of Key Issues & Triggers Identified During Scoping

- The determine an impact that the proposed development will have on the existing surrounding road network (e.g. road capacity, intersection capacity)
- The traffic-related geometric requirements of the proposed accesses to the development
- Determination of the requirements for public transport facilities on the existing surrounding road network as a result of the proposed development.

17.2.4 (b) Approach

A traffic impact study must be in accordance with the following acts and manuals:

- National Land Transport Act No 5 of 2009, Section 38. (2)(b) _ (NLTA)
- “Manual for Traffic Impact Studies”, by the National Department of Transport in 1995
- A Traffic Impact Study is required for all developments where the peak hour trip generation is greater than 150 trips.
- “South African Trip Generation Rate, 2nd Edition 1992”
- Department of Transport, Parking Standards, Second Edition, November 1985.
- Guidelines for the design of combi taxi facilities, RR 88/140 ,1989.

Nominated Specialist	
Organization	Tsibong Consulting Engineers
Name	Mr B Sibiya

18. Public Participation-EIA Phase

18.1 Updating of IAP Database

The IAP database/spreadsheet will be updated and reviewed as and when necessary during the execution of the EIA.

18.2. Review of Draft EIA Report

The draft scoping report will be circulated for 30 days and copies of the document will be lodged for public review at the following venue:

Copy	Location	Address	Tel No.
1	27°48'10.56"S, 29°59'41.68"E	Iqhawelesizwe Primary School	N/A

Copies of the Draft EIA Report will be provided to the regulatory and commenting authorities contained in Appendix D-3.

All parties on the I&Ap’s spreadsheet will be provided with the opportunity to comment on the draft report in the following manner;

- An email containing a draft report will be forwarded to all stakeholders, except to those who have clearly indicated that they only receive hard copies.

- All parties on the IAPs database will be notified via email, fax or post of the opportunity to review the Draft EIA Report at the abovementioned locations.

18.3. Comments and Responses Report

A Comments and Responses Report will be compiled and included in the EIA Report, which will record the date when issues were raised, a summary of each issue, and the response of the team to address the issue.

In addition, any unattended comments from the Scoping Phase or where the status of the previous responses has changed will also be addressed in the Comments and Responses Report for the EIA phase.

18.4. Notification of DEA Decision

Within 10 days of receipt of the final decision on the application. All stakeholders will be notified via email. The notification will include the appeal procedure to the decision.

18.5. EIA Report

The report will provide enough evidence or information for EDTEA to make a final decision. At a minimum, the report will contain the following information which is in accordance with Appendix 3 of GN No. 326 (7 April 2017).

The following critical components of the EIA Report are highlighted;

- A description of the policy and legislative context.
- A detailed description of the proposed development (full scope of activities).
- A detailed description of the proposed development site, which will include a plan that locates the proposed activities applied for as well as the associated structures and infrastructure.
- A description of the environment that may be affected by the activity and the way physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed development.
- The methodology of the stakeholder engagement process.
- The Comments and Responses Report and IAPs Database will be provided as an appendix to the EIA Report.

- A description of the need and desirability of the proposed development and the identified potential alternatives to the proposed activity.
- A summary of the methodology used in determining the significance of potential impacts.
- A description and comparative assessment of the project alternatives.
- A summary of the findings of the specialist studies.
- A detailed assessment of all identified potential impacts.
- A list of the assumptions, uncertainties, and gaps in knowledge.
- An environmental impact statement.
- Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorization.
- A reasoned opinion as to whether the proposed activity should or should not be authorized, and if the opinion is that it should be authorized, any conditions that should be made in respect of that authorization.
- An opinion by the consultant as to whether the development is suitable for approval within the proposed site.
- An EMPr that complies with Appendix 4 of GN No. 326 (7 April 2017).
- Copies of all specialist reports appended to the EIA report; and
- Any further information that will assist in decision making by the authorities.

18.6. Authority Consultation.

Once the Scoping report and the Plan of Study have been approved by EDTEA, the EIA will commence. If relevant, the necessary revisions will be made to the aforementioned documents if requested by this Department.

In addition, copies of the Draft EIA Report will be provided to the following key regulatory and commenting authorities.

- Newcastle Local Municipality.
- Department of Water and Sanitation.
- Department of Economic Development, Tourism, and Environmental Affairs.
- Department of Agriculture, Land Reform and Rural Development (DALRRD).
- Department of Agriculture, Fisheries and Forestry.
- Ezemvelo KZN Wildlife.
- Amafa /KZN Heritage.
- Amajuba District Municipality

The final EIA report will be submitted to EDTEA. Any requested amendments will be discussed with the Department to ensure that their queries are adequately and timeously attended to.

For the remainder of the Scoping process and EIA the interaction with EDTEA will be as follows:

- Address comments on Scoping Report.
- Submission of the Final Scoping Report.
- Submit the EIA Report.
- Address comments on EIA Report; and
- Obtain a decision.

18.7. Time Frames.

The table to follow presents the proposed timeframes for the EIA process. Note that these dates are subject to change.

Table 13: EIA Timeframes (dates may change during the course of the EIA).

Scoping Phase	Start	Finish
Submit the Application Form	07/02/2020	07/02/2020
Submit Draft Scoping Report	17/02/2020	17/02/2020
Review of the Draft Scoping Report by authorities & IAPs (30 days)	17/02/2020	17/03/2020
Submit Final Scoping Report	22/03/2020	22/03/2020
EDTEA Review and Decision (43 days review period) on scoping report	23/03/2020	04/05/2020
Review of Draft EIR by authorities & IAPs (30 days)	11/05/2020	18/06/2020
Submit Final EIA Report & EMPr to EDTEA	27/06/2020	27/06/2020
EDTEA Review and Decision (107 days)	27/06/2020	14/10/2020
IAP Notification Period	16/10/2020	04/11/2020

19. CONCLUSION.

The scope of an environmental assessment is defined by the range of issues and alternatives it considers, the nature of the receiving environment, and the approach towards the assessment. Key outcomes of the Scoping phase for the proposed development of the Roypoint housing project are as follows:

- Stakeholders were effectively identified and were afforded adequate opportunity to participate in the scoping process.
- Alternatives for achieving the objectives of the proposed activity were duly considered.
- Significant issues pertaining specifically to the pre-construction, construction and operational phases of the project were identified.
- Sensitive elements of the environment to be affected by the project were identified.
- A Plan of Study was developed to explain the approach to executing the EIA phase, which also includes the Terms of Reference for the identified specialist studies; and
- The scoping exercise set the priorities for the ensuing EIA phase.
- No fatal flaws were identified in terms of the proposed activities and the receiving environment that would prevent the environmental assessment from proceeding beyond the Scoping phase. It is the opinion of the EIA team that Scoping was executed in an objective manner and that the process and report conform to the requirements of Regulation 21 and Appendix 2 of GN No. 326 (7 April 2017), respectively. It is also believed that the Plan of Study for EIA is comprehensive and will be adequate to address the significant issues identified during Scoping and to ultimately allow for informed decision-making.

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