

Draft Basic Assessment Report

PROPOSED UPGRADING OF THEMBINKOSI PRIMARY SCHOOL

ERF 803 and 804, Osizweni D (Ward 9), Newcastle Local
Municipality, Amajuba District, KwaZulu-Natal



PREPARED FOR:

Coega Development Corporation (Pty) Ltd (CDC)

DATED:

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PREPARED BY:

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PROJECT TITLE

PROPOSED UPGRADING OF THEMBINKOSI PRIMARY SCHOOL SITUATED AT ERF 803 AND 804 IN OSIZWENI D (WARD 9) IN THE NEWCASTLE LOCAL MUNICIPALITY, AMAJUBA DISTRICT, KWAZULU-NATAL

EXECUTIVE SUMMARY

The Coega Development Corporation (Pty) Ltd (CDC) is assisting the KwaZulu-Natal Department of Education (DoE-KZN) in implementing various projects within the province of KwaZulu-Natal. This is being done under the School Building Programme of the DoE-KZN which is aimed at providing quality teaching facilities and to improve the quality of life of the previously disadvantaged communities. The overarching objectives of the programme are to create jobs, develop and transfer skills and fight poverty. The aim of the project is to upgrade the informal school into a new (formal) school to provide teachers and learners with formal infrastructure which will facilitate, support and enhance the teaching and learning environment.

It has been confirmed by the KZN Department of Economic Development, Tourism and Environmental Affairs (EDTEA), the competent authority for the Amajuba District, that the proposed development triggers a NEMA listed activity and as such, prior environmental authorisation, in terms of the National Environmental Management Act 107 of 1998 must be obtained prior to the commencement of any construction related activities. Activity 27 of EIA regulation Government Notice R983, Listing Notice 1 of 2014 (as amended), is triggered and therefore the application for Environmental Authorisation (EA) will need to be supported by a Basic Assessment Report (BAR) prepared in accordance with the requirements of Government Notice R982, 2014 (as amended).

It should be noted that the land on which the activity is proposed to be undertaken is currently unregistered state land. Landowner consent was received on the 13th December 2019 from the Department of Public Works (See BAR **Annexure 1B**). Written consent was also granted in 2011 by the Ingonyama Trust to the KZN Department of Education (DoE) to proceed with the proposed development (See BAR **Appendix 15**). KZN-DoE is the applicant for Environmental Authorisation (EA). NCC Environmental Services (Pty) Ltd were appointed by Delta Built Environmental Consultants (DBEC) on behalf of the DoE's implementing agent, CDC, to undertake the legally required EA application process for the proposed development.

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ACRONYMS / ABBREVIATIONS

BAR	Basic Assessment Report
BID	Background Information Document
CBA	Critical Biodiversity Area
DEA	Department of Environmental Affairs
DOE	Department of Education
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
ECO	Environmental Control Officer
EDTEA	Economic Development, Tourism and Environmental Affairs
EIA	Environmental Impact Assessment
EKZNW	Ezemvelo Kwa-Zulu Natal Wildlife
EMPr	Environmental Management Programme
ESA	Ecological Support Area
I&APs	Interested and Affected Parties
KZN	Kwa-Zulu Natal
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEM:AQA	National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)
NEM:BA	National Environmental Management: Biodiversity Act, 2008 (Act No. 10 of 2004)
NEM:WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
PPP	Public Participation Process
SANBI	South African National Biodiversity Institute
SDG	Sustainable Development Goal
SDF	Spatial Development Framework
SHE	Safety, Health and Environmental
SLA	Service Level Agreement

GLOSSARY OF TERMS AND DEFINITIONS

ALIEN SPECIES	<p>(a) a species that is not an indigenous species; or</p> <p>(b) an indigenous species translocated or intended to be translocated to a place outside its natural distribution range by natural means of migration or dispersal without human intervention.</p> <p><i>(NEM: BA, Act No. 10 of 2004)</i></p>
ALTERNATIVES	<p>In relation to a proposed activity, means different means of meeting general purpose and requirements of an activity, which may include alternatives to –</p> <p>(a) the property on which or location where it is proposed to undertake the activity;</p> <p>(b) the type of activity to be undertaken;</p> <p>(c) the design or layout of the activity;</p> <p>(d) the technology to be used in the activity;</p> <p>(e) the operational aspects of the activity; and the option of not implementing the activity.</p> <p><i>(NEMA EIA Regulations, 2014)</i></p>
ASSESSMENT	<p>The process of collecting, organising, analysing, interpreting and communicating information that is relevant to decision-making <i>(NEMA, Act No. 107 of 1998)</i>.</p>
BUILDING AND DEMOLITION WASTE	<p>Refers to waste, excluding hazardous waste, produced during the construction, alteration, repair or demolition of any structure, and includes rubble, earth, rock and wood displaced during that construction, alteration, repair or demolition <i>(NEM: WA, Act No. 59, 2008)</i>.</p>
BUND	<p>An artificial containment wall (embankment) designed to contain spillages of a hazardous nature such as chemicals and hydrocarbons.</p>
COMPETENT AUTHORITY	<p>In respect of a listed activity or specified activity, means the organ of state charged by this Act with evaluating the environmental impact of that activity and, where appropriate, with granting or refusing and environmental authorisation <i>(NEMA, Act No 107 of 1998)</i>.</p> <p>The Competent Authority for the Project is KZN EDTEA (Department of Economic Development, Tourism and Environmental Affairs).</p>
COMPLAINTS REGISTER	<p>A register containing all contact details of a person who made a complaint, and information regarding the complaint itself.</p>
CONTRACTOR ENVIRONMENTAL OFFICER (EO)	<p>The Contractor EO is employed by the contractor to ensure the contractor complies with the environmental standards, specifications, as well as the conditions and stipulations contained within the Site Documentation. The EO is available on site at all times and has the experience and/or knowledge to deal with environmental issues. The EO is also responsible for the management of all environmental and social related aspects as well as the implementation of this EMPr.</p>
CONTAMINATION	<p>The release/spillage of a substance into an environment where it is not normally found, which is detrimental to that environment, its ecosystems and to humans.</p>
CONTAMINATED	<p>Means the presence in or under any land, site, buildings or structures of a substance or micro-organism above the concentration that is normally present in or under that land, which substance or micro-organism directly or indirectly affects or may affect the quality of soil or the environment adversely <i>(NEM: WA, Act No. 59, 2008)</i>.</p>
CONTRACTOR	<p>The individual and/or company that are responsible for the development and/or construction activities related to the proposed project. The Contractor is further responsible for the implementation of and compliance of all relevant legislation, and with the conditions and stipulations contained within the Site Documentation.</p>
CONSTRUCTION	<p>The construction site camp refers to the designated area where the contractor's</p>

SITE CAMP	offices (temporary), and associated infrastructure will be located during the construction period of the proposed project.
CORRECTIVE (OR REMEDIAL) ACTION	Reactive response required to address an action that is in conflict with the requirements of the Site Documentation. The need for corrective action may be determined through monitoring, audits or management review.
PROJECT FOOTPRINT	Area on a project site that is impacted by the development activity.
DOMESTIC WASTE	Means waste, excluding hazardous waste that emanates from premises that are used wholly or mainly for residential, educational, health care, sport or recreation purposes; (<i>NEM: WA, Act No. 59, 2008</i>).
DECOMMISSIONING	To take out of active service permanently or dismantle partly or wholly, or closure of a facility to the extent that it cannot be readily re-commissioned (<i>NEMA EIA Regulations, 2014, GNR 983</i>).
ECOSYSTEM	A dynamic system of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit (<i>NEMA, Act No 107 of 1998</i>).
ENDANGERED SPECIES	Any indigenous species listed as an endangered species in terms of section 56 of NEM:BA, Act No 10 of 2004.
ENDEMIC SPECIES	An "endemic" is a species that grows in a particular area (is endemic to that region) and has a restricted distribution. It is only found in a particular place. Whether something is endemic or not depends on the geographical boundaries of the area in question and the area can be defined at different scales.
ENVIRONMENT	Means the surrounding within which a human exist and that are made up of: <ul style="list-style-type: none"> (i) The land, water and atmosphere of the earth; (ii) Micro-organism, plant and animal life; (iii) Any part or combination of (i) and (ii) and the interrelationships among and between them; and the physical, chemical aesthetical and cultural properties and conditions of the foregoing that influence human health and wellbeing (<i>NEMA Act 107 of 1998</i>).
ENVIRONMENTAL ASSESSMENT PRACTITIONER	The individual responsible for the planning, management and coordination of environmental impact assessments, strategic environmental assessments, environmental management plan or any other appropriate environmental instruments introduced through regulations (<i>NEMA, Act No 107 of 1998</i>).
ENVIRONMENTAL AUTHORISATION	"Environmental authorisation", when used in Chapter 5, means the authorisation by a competent authority of a listed activity or specified activity in terms of this Act, and includes a similar authorisation contemplated in a specific environmental management Act; (<i>NEMA, Act No 107 of 1998</i>).
ENVIRONMENTAL AUDIT	Means work done to identify and evaluate compliance of the statement and the residual environmental impact of an existing activity, the effectiveness of mitigation measures and the functioning of monitoring mechanisms (<i>).</i>
ENVIRONMENTAL AUDIT REPORT	Means a report contemplated in regulation 34. (<i>NEMA EIA Regulations, GNR982, 2014</i>).
ENVIRONMENTAL CONTROL OFFICER (ECO)	The ECO is an independently appointed duly qualified individual that is appointed to ensure the conditions and measures identified in the EMPr, Environmental Authorisation and all other relevant environmental permits are implemented and adequately monitored. The ECO is responsible to report any non-compliances to the competent authority, and will keep a daily record of all incidents.
ENVIRONMENTAL IMPACT	Change in an environment resulting from the effect of an activity on the environment, whether positive or negative. Impacts may be the direct consequence of an individual's or organisation's activities or may be indirectly caused by them (<i>NEMA</i>).
ENVIRONMENTAL	Means the systematic process of identifying, assessing and reporting environmental

IMPACT ASSESSMENT (EIA)	impacts associated with an activity and includes the basic assessment report and or scoping and environmental impact assessment reports (NEMA, EIA Regulations 982 of 2014).
ENVIRONMENTAL MANAGEMENT	Ensuring that environmental concerns are included in all stages of development, so that development is sustainable and does not exceed the carrying capacity of the environment.
ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)	A programme required in terms of section 24 of NEMA. A detailed action plan prepared for the Project to ensure that the recommendations for minimising and reducing negative environmental impacts as well as enhancing positive environmental impacts are implemented during the Project's life-cycle. This EMPr focuses on the pre-construction and construction (including rehabilitation) phase.
EROSION	The loss of soil through the action of water, wind, ice or other agents, including the subsidence of soil (<i>Conservation of Agricultural Resource Act, Act No 43 of 1983</i>).
GENERAL WASTE	Waste that does not pose an immediate hazard or threat to the environment or health, and includes: <ul style="list-style-type: none"> • domestic waste; • building and demolition waste; • business waste: and • inert waste. (<i>NEM: WA, Act No. 59, 2008</i>).
HABITAT	A place where a species or ecological community naturally occurs (<i>NEM: BA Act No. 10 of 2004</i>).
HARM	Means interference with the ecological systems of which the living organisms form part and in case of a living person includes harm, distress or annoyance to any of his senses or damage to his property.
HAZARD	Means a source of or exposure to danger (<i>NEMA</i>).
HAZARDOUS WASTE	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 (<i>NEM: WA</i>).
HERITAGE	That which is inherited and forms part of the National Estate (historical places, objects, fossils as defined by the <i>National Heritage Resources Act 25 of 1999</i>).
HERITAGE RESOURCE	Any place or object of cultural significance. (<i>National Heritage Resource's Act No 25 of 1999</i>).
HERITAGE SITE	A place declared to be a national heritage site by SAHRA or a place declared to be a provincial heritage site by a provincial heritage resources authority. (<i>National Heritage Resource's Act, No 25 of 1999</i>).
IMPACT	A description of the potential effect or consequence of an aspect of a development on a specified component of the biophysical, social or economic environment within a defined time and space.
INTERESTED AND AFFECTED PARTY (I&AP)	Individuals and/or peer groups that are and/or maybe affected albeit positive or negative by the proposed activity. IAP's include authorities, local communities, environmental interest groups, and the general public.
INDIGENOUS SPECIES	Any species that occurs, or has historically occurred, naturally in a free state in nature within the borders of the Republic, but excludes a species that has been introduced in the Republic as a result of human activity.
INCIDENT	An undesired event which may result in a significant environmental impact but can be managed through internal response.
MITIGATION	Measures designed to avoid, reduce or remedy the proposed adverse impacts (<i>DEAT, 1998</i>).
MONITORING	The repetitive and continued observation, measurement and evaluation of

	environmental criteria to follow changes over a period of time and to assess the efficiency of control measures (<i>DEAT, 1998</i>).
PRE-CONSTRUCTION	Pre-construction entails planning, design and detailing of the development components prior to the commencement of the construction phase.
PREVENTATIVE ACTION	A predetermined action to address potential problems before they develop into situations which would be contrary to the requirements of the EMPr. Preventative action is most often determined from the results of monitoring and audits during management review.
PROJECT APPRAISAL	The collection and evaluation of detailed information concerning a proposed project, usually to assess risk associated with it.
POLLUTION	Means any contamination or change in the environment caused by: <ul style="list-style-type: none"> • Substances; • Radioactive or other waves; or • Noise, odours, dust or heat <p>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 organ of state, where that change has an adverse effect on human health or wellbeing 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 (<i>NEMA, Act No. 107 of 1998</i>).</p>
RARE SPECIES	Taxa with small world populations that are not at present Endangered or Vulnerable, but are at risk as some unexpected threat could easily cause a critical decline. These taxa are usually localized within restricted geographical areas or habitats or are thinly scattered over a more extensive range. This category was termed Critically Rare by Hall and Veldhuis (1985) to distinguish it from the more generally used word “rare”.
RED DATA SPECIES	Species listed in terms of the International Union for Conservation of Nature and Natural Resources (IUCN) Red List of Threatened Species, and/or in terms of the South African Red Data list. In terms of the South African Red Data list, species are classified as being extinct, endangered, vulnerable, rare, indeterminate, insufficiently known or not threatened (see other definitions within this glossary).
REHABILITATION	Return of a disturbed area to a state which approximates the state (wherever possible) which it was before the disturbance.
RISK	The variation of an actual outcome from the expected outcome, which implies the presence of uncertainty (Valsamakis <i>et al.</i> 2005). This definition indicates that there is an uncertainty surrounding the outcome of an event and about the degree of uncertainty of the actual outcome that is expected.
SPECIES	A kind of animal, plant or other living organism that does not normally interbreed with individuals of another kind, and includes any sub-species, cultivar, variety, geographic race, strain, hybrid or geographically separate population.
SITE ENGINEER (SE)	The SE is the Project Proponent’s representative on site. The SE has authority to issue instructions and oversees the operations of the Contractor. Upon request from the CEO/ECO the SE has the mandate whereby, in emergency circumstances, he may override the instructions of the Contractor.
SITE DIARY	A daily site diary will be kept on site by the Contractor EO to record any incidents and non-compliances.
SOLID WASTE	All waste, including construction debris, chemical waste, excess cement/concrete, wrapping material, timber, tins and cans, drums, wire, nails, domestic, dead organic waste, asphalt products (<i>City of Cape Town: Standard Environmental Specification Version 6:2007</i>).

PROJECT	<p>In the context of this EMP, this term refers and applies to the ‘Construction Phase’ and has an end-point <i>i.e.</i> it commences from the time the Principal Contractor, overseen by the Client’s project management team, is appointed to commence with the scope of works associated with upgrading Thembinkosi Primary School. The ‘Project’ lifespan comes to an end when the Construction and Rehabilitation phases are complete and the (normal) Operational phase of the school commences.</p> <p>*It is also used interchangeably with the word ‘<i>development</i>’ in this document where both terms should be considered to have the same meaning.</p>
PROJECT SITE	<p>Erf 803 and erf 804, Osizweni D (Ward 9), Newcastle Local Municipality, Amajuba District, KZN.</p>
SITE DOCUMENTATION	<p>In this document, “<i>Site Documentation</i>” refers to all relevant documentation that pertains to the licensing, development, construction, operation and management of the Project Site:</p> <ul style="list-style-type: none"> • All permits, licenses and authorisations; • Mitigation strategies; • Method statements and standard operating procedures; • Site Operation, Management and Maintenance Plans; • Site Design Documentation and final site layout plan; • Environmental Management Programme; and • Written instructions from the CA.
WASTE	<p>Any substance, whether or not that substance can be reduced, re-used, recycled and recovered –</p> <p>(a) that is surplus, unwanted, rejected, discarded, abandoned or disposed of;</p> <p>(b) which the generator has no further use of for (he purposes of production;</p> <p>(c) that must be treated or disposed of; or</p> <p>(d) that is identified as a waste by the Minister by notice in the Gazette, and includes waste generated by the mining, medical or other sector, but—</p> <p>(i) a by-product is not considered waste; and</p> <p>(ii) any portion of waste, once re-used, recycled and recovered, ceases to be waste;</p> <p><i>(NEM: WA, Act 59 of 2008)</i></p>
WATER POLLUTION	<p>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 (aa) to the welfare, health or safety of human beings; (bb) to any aquatic or non-aquatic organisms; (cc) to the resource quality; or (dd) to property.</p>
WATERCOURSE	<p>(a) a river or spring;</p> <p>(b) a natural channel or depression in which water flows regularly or intermittently;</p> <p>(c) a wetland, lake or dam into which, or from which, water flows; and/or</p> <p>(d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the <i>National Water Act, Act No. 36 of 1998</i> and a reference to a watercourse includes, where relevant, its bed and banks.</p>
WETLAND	<p>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.</p>

SECTION A: DETAILS OF THE APPLICANT

Applicant/Organisation/Organ of State:	KZN Department of Education		
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SECTION B: DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (“EAP”)

Name of the EAP organisation:	NCC Environmental Services		
Lead EAP:	Alicia Govender		
EAP Reg. No.:	Registration in progress		
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Lead EAP Qualifications:	BSc (Hons) Environmental Management		
Assistant EAP:	Craig Burne		
Assistant EAP:	Nicholas Gates		

This Basic Assessment (BA) process was undertaken by NCC Environmental Services (Pty Ltd (hereafter referred to as ‘NCC’)). NCC is a Cape Town based environmental consulting firm with regional offices in Durban and Johannesburg. The company has extensive consulting experience in a variety of private and public sector development and construction projects throughout South Africa. Appendix 1 of the NEMA EIA Regulations (as amended), specifies that a Basic Assessment Report (BAR) must contain the details of the Environmental Assessment Practitioner (EAP) who prepared the document and the relevant expertise of the EAP.

The lead EAP who guided and reviewed the BA process was fulfilled by Ms. Alicia Govender. Alicia has over 12 years of experience in environmental management and has worked as an EAP for over 5 years leading and executing an extensive list of environmental assessments, mainly specialising in renewable energy projects. An additional 5 years have been spent in the private sector in corporate environments, managing and overseeing environmental management and project permitting roles for various Independent Power

Producers. Alicia holds a BSc (Hon) Degree in Environmental Management and is currently in the last phase of completing a master's degree in LLM Environmental Law through UKZN School of Law (coursework completed, dissertation to be finalised December 2019).

The BAR has been prepared by Nicholas Gates & Craig Burne, Senior Environmental Consultants at NCC who have been with the company since June & February 2008 respectively.

Nicholas manages various legal compliance projects which includes applying for various environmentally related licences, permits and authorisations; source, co-ordinate and manage specialist processes, and liaise with various Government Departments to meet minimum requirements. These include environmental assessment processes, water use licence application processes and various permit applications. Coupled with the above he has a wealth of environmental compliance monitoring and implementation projects under his belt on various projects such as Environmental Control Officer, Environmental Manager, Lead Environmental Auditor, compilation of Operational & Environmental Management Plans, conducting Due Diligence, environmental risk assessments.

Craig is a registered professional natural scientist with the South African Council for Scientific Professions (SACNASP) in the field of Environmental Science with registration number 115213. Craig's qualifications include an MSc (by dissertation) in Aquatic Ecology from the University of the Witwatersrand, a BSc (Hons) in Environmental Science from the University of KwaZulu-Natal and a BSc degree with majors in Environmental Science and Zoology from Rhodes University. Craig is also an accredited SASS5 practitioner with the Department of Water and Sanitation (DWS). Since initial employment in 2008, Craig's functional duties have been cross-cutting within the field of environmental management where he has been involved in environmental assessment processes, water use licence application processes, permit applications, environmental risk assessments, compliance monitoring and environmental auditing for various construction development projects across South Africa. Craig also has specialist experience in water quality monitoring and interpretation, aquatic biomonitoring, freshwater and wetland habitat assessments and the compilation of management plans for river rehabilitation and alien vegetation management and monitoring.

Please refer to BAR **Annexure 1C** for the EAP Declaration, BAR **Annexure 1D** for the EAP and Specialists CVs and BAR **Annexure 1E** for the Specialists Declarations of Interest. A summary table of the specialist team who were appointed and carried out specialist studies in terms of this proposed application are included in BAR **Section C** below.

SECTION C: DETAILS OF THE SPECIALIST TEAM

Name	Area of expertise	Company	Study conducted	Qualifications
Trevor O' Donoghue	Terrestrial Ecology	NCC Environmental Services (Pty) Ltd	Terrestrial Biodiversity Assessment	MSc (Nature Conservation) B Tech (Nature Conservation - Cum Laude) Nat Dipl (Nature Conservation)
Craig Burne	Freshwater Ecology	NCC Environmental Services (Pty) Ltd	Surface Water Verification and Risk Assessment	MSc (Freshwater Ecology) BSc (Hons) Environmental Science BSc (Zoology and Environmental Science)
Chris Viljoen	Soil Science	Viljoen Associates	Agricultural Potential Assessment	MSc (Soil Science) BSc (Hons) in Soil Science BSc (Soil Science and Botany)
Wouter Fourie	Archaeology & Anthropology	PGS Heritage (Pty) Ltd	Heritage Impact Assessment	BA (Hons) Archaeology - Cum laude BA (Archaeology, Geography & Anthropology)

SECTION D: PROJECT INFORMATION

1.1 Activity Location

Location of all proposed sites:	The property on which the development is proposed is located between Od9 and Od4 Streets in the township of Osizweni D (Ward 9) in the jurisdictional boundary of the Newcastle Local Municipality in the Amajuba District, KwaZulu-Natal
Erf name(s) and number(s) for each proposed site:	ERF 803 ERF 804
Property size(s) in m² for each proposed site:	ERF 803 – 10 142m ² (1.0142ha) ERF 804 – 25 066m ² (2.5066ha)
Co-ordinates:	27°47'17.4"S 30°09'49.2"E
Development footprint size(s) in m²:	21 200m ² / 2.12ha (See BAR APPENDIX 13 GENERAL SCHOOL LAYOUT)
Surveyor General (SG) 21 digit code for each proposed site:	ERF 803 - NOHT06200000080300000 ERF 804 - NOHT06200000080400000

1.2 Project Description

The Coega Development Corporation (Pty) Ltd (CDC) is assisting the KwaZulu-Natal Department of Education (DoE-KZN) in implementing projects within the province of KwaZulu- Natal. This is being done under the School Building Programme of the DoE-KZN which is aimed at providing quality teaching facilities and to improve the quality of life of the previously disadvantaged communities. The programme is also aimed at creating jobs, developing and transferring skills and fighting poverty. Thembinkosi Primary School (EIMS Number: 500489954) is situated in the Osizweni Township (Section D, Ward 9) in the Newcastle Local Municipality (NLM), Amajuba District. Prefabricated containers are currently used as classrooms by children and staff at this school. The purpose of the project is to upgrade the current informal school into a new formal school to provide learners with proper infrastructure that supports and improves teaching and learning.

The project objectives are:

- a) To provide quality teaching facilities;
- b) To improve the quality of life of previously disadvantaged communities;
- c) To create jobs;
- d) To develop and transfer skills;
- e) To fight poverty.

See **Tables 4** and **5** below for a description of the proposed upgrades.

1.3 Activities Assessed During the Basic Assessment Process

Table 1: Activities triggered in terms of the National Environmental Management Act 107 of 1998 and the 2014 EIA Regulations (as amended) (Government Gazette No. 38282).

Listed Activity No(s):	Describe the relevant Basic Assessment Activity (ies) in writing as per Listing Notice 1 (GN No. R. 983)	Description of the activity
27	The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— (i) The undertaking of a linear activity; or (ii) Maintenance purposes undertaken in accordance with a maintenance management plan.	The collective area of indigenous vegetation (Income Sandy Grassland) which exists on the site which will be cleared as part of the development project exceeds an area of 1 hectare. The footprint of the proposed new school building infrastructure and sport fields would replace the current indigenous vegetation footprint.
No(s):	Describe the relevant Basic Assessment Activity (ies) in writing as per Listing Notice 3 (GN No. R. 985)	Describe the portion of the development that relates to the applicable listed activity as per the project description.
Not applicable		

Table 2: Waste management activities in terms of the NEM: WA (Act 59 of 2008) listed in GN No. 921 of 29 November 2013.

Category A Listed Activity No(s):	Describe the relevant Category A waste management activity in writing as per GN No. 921	Describe the portion of the development that relates to the applicable listed activity as per the project description
Not applicable		Waste generated on site during Construction will vary between general and hazardous waste streams predicted to be of small (minor) quantities. Waste materials will not be stored on the site for a period longer than a month nor will quantities reach that of the thresholds as prescribed in the listing notices. A regional landfill site for disposal will be utilised. Waste management during the Operational phase of the school will fall within the area serviced by the Newcastle Local Municipality.

Table 3: Atmospheric emission activities in terms of the NEM: AQA (GN No. 893).

Listed Activity No(s):	Describe the relevant atmospheric emission activity in writing as per GN No. 893	Describe the portion of the development that relates to the applicable listed activity as per the project description.
No listed atmospheric pollution or emission activities are foreseen. Dust created during construction will be managed in terms of the EMPr.		

1.4 Details of All Components of the Proposed Project

1.4.1 Buildings

As per the Department of Education’s Accommodation Schedule for Thembinkosi Primary School and the design layout (See BAR Appendix 13), the list of proposed buildings to be constructed are illustrated in **Table 4**.

Table 4: List of buildings proposed to be constructed for Thembinkosi Primary School.

Brief description	
<ul style="list-style-type: none"> • An Administration Block; • Team Teaching Building; • 1 x SNP kitchen and Garden stores; • 4 x classrooms and HOD office; (with Male ablutions) • 5 x classrooms no HOD office; (with Male ablutions) • 5 x Grade-R classrooms; (with Female ablutions) 	<ul style="list-style-type: none"> • 4 x classrooms and HOD office; (with Female ablutions) • Multipurpose rooms; • 5 x classrooms no HOD office; (with Male ablutions) • 1 x Media room and Computer room; • 3 x Classrooms and Counselling Suite; • 1x guard house.

1.4.2 Other associated infrastructure/amenities (e.g. roads, power and water supply/ storage)

There are associated amenities which are proposed to be developed in conjunction with construction of the new school buildings (See BAR Appendix 13); as highlighted in **Table 5** below.

Table 5: List of other associated amenities proposed for Thembinkosi Primary School.

Brief description	
<ul style="list-style-type: none"> • A chessboard; • An assembly area; • A teacher’s parking area (30 parking bays); • Water storage tanks; • Garden patches; • A refuse area; 	<ul style="list-style-type: none"> • 2 x flag poles; • A sand pit; • A jungle gym, slides and swings; • A soccer field and athletics track; • A multi-purpose court; • A netball court.

1.4.3 Processing activities (e.g., manufacturing, storage, distribution)

Brief description
N/A

1.4.4 Storage facilities for primary raw materials and products (e.g., volume and substances to be stored)

Table 6: List of primary raw materials and products to be used.

Brief description		
Material	Storage Method	Expected Volumes/Quantities
Diesel	Any fuels will be stored in one or more above ground storage tanks (self-bunded) or on a weatherproof, impermeable bunded area. The bund capacity/volume must be 110% of the diesel tanks capacity.	Unknown and variable during Construction, however less than 20 000l (20m ³) will be stored on site at any given time.
Motor oils	Will be stored in the site camp within a bunded area which will be 110% of the oil volume.	Unknown, small quantities.
Grease	Stored at the site camp in a hazardous materials store.	Unknown, small quantities.
Hydraulic oils	Stored at the site camp in a hazardous materials store.	Unknown, small quantities.
Cement and stabilising agent	Stored at the site camp in a dedicated weatherproof storage facility. Delivered to site in batches as and when needed.	59 tons (access road and parking).
Base building materials (building sand, gravel, bedding material, bricks, rock and/or G7 material sourced from commercial sources or registered quarries/borrow pits)	Stored on site in designated laydown areas as separate stockpiles.	+/- 9078m ³
Asphalt*	Stored on site next to the road in stockpiles.	20 cubes per stockpile – TBC.

*Asphalt may be used to re-surface Od4 St as a possible alternative to using paving and/or concrete. However a budget for any type of re-surfacing Od4 Street still needs to be confirmed.

1.4.5 Storage and treatment facilities for effluent, wastewater or sewage:

Brief description below

N/A.

Wastewater and sewerage generated at the school will be removed/disposed via existing municipal connections and sewer lines to the relevant wastewater treatment works (WWTW) in Osizweni. Please refer to **Appendix 17** for the letter [pending] from the NLM indicating the capacity of the WWTW to cater for additional waste water from the school.

1.4.6 Storage and treatment of solid waste:

Brief description

During Construction, a temporary waste storage area will be designated prior to waste materials being transferred to an authorised facility (for recycling and/or final disposal). A permanent refuse/waste area will be constructed for waste storage during the Operational phase of the school where municipal compactor trucks will have unimpeded access for the servicing/replacing of the skips/bins/containers.

As indicated in the NLM IDP, the municipal Class 2 Waste Disposal Site (license no: B33/2/2010/8/P138) classified G:M:B¹ is nearing the end of its carrying capacity hence its lifespan. The establishment of a new landfill site is one of the outputs in terms of basic service delivery and infrastructure for the local municipality.

In terms of any potential recycling opportunities/ initiatives during the Operational phase, these can be collaboratively explored and agreed to between the school management staff (KZN-DoE) and the Waste Management Section of the Newcastle Local Municipality.

Website: <https://newcastle.gov.za/community-services/environment-waste-management/>

1.4.7 Other activities (e.g. water abstraction activities, etc.)

Brief description

N/A.

In terms of the National Water Act (Act 36 of 1998), no anticipated Section 21 water uses or water use activities will be triggered and no water use authorisation will be required (See BAR **Appendix 8**). Municipal water will be utilised during the Construction and Operational Phase.

Any additional water use abstraction needs which may potentially arise in the future will be subject to enquiry and clarification with the relevant authority (DWS) relating to any potential registration and authorisation processes and/or requirements.

Please refer to BAR **Appendix 18** for correspondence [letter pending] from the NLM confirming existing municipal water lines will be connected to and will service the school.

1.5 Physical Size of the Proposed Development

Property size(s):

The size of all the properties (cadastral units) on which the development proposal is to be undertaken

35 208m²
(3.5208ha)

Size of the Facility:

The size of the facility (development area) where the activity is to be undertaken	21 200m² (2.12ha)
Development Footprint:	
The area that will be physically altered as a result of the undertaking of the development (<i>i.e.</i> , the physical size of the development together with all its associated structures and infrastructure, and clearing)	21 200m² (2.12ha)
For Storage Facilities:	
The volume of any storage facility (combined)	110% capacity of stored contents m ₃
For Sewage/Effluent Treatment Facilities:	
The volume of the facility Note: Effluent treatment will be off site at a municipal WWTW, no treatment on site. The maximum design capacity will be indicated in the building plans submitted to the NLM for approval.	N/A m ₃

1.6 Site Access

Description of the Access Roads that will be used during the Construction Phase:

Access during construction will be via the existing road network in Osizweni. Direct access onto the site footprint will be via a gate along Od4 Street, currently a gravel road situated on the western boundary with the proposed point of access shown below in **Figure 1**. Alternative access for school staff and children will be via existing pedestrian access gates at the intersection of Od4 and Od9 Street and on Od9 Street. Refer also to BAR **Appendix 10** (Traffic Impact Statement). The final proposed positions of the emergency and service gates and guard house are shown in BAR **Appendix 13**.

Please note: The position(s) and route(s) of the proposed, temporary internal access roads (to be utilised during Construction on the site footprint) must be indicated by the appointed Contractor on their Site Access Plan and Site Establishment method statement.



Figure 1: Planned construction access point to the site, from the existing road network. The same access point will be the final (*i.e.* permanent) and main access point to the school where gates and a guard house will exist.

1.7 Description of the Property (ies) on which the Listed Activity (ies) are to be Undertaken and the Location of the Activity on the Property

Brief Description:

Currently Thembinkosi Primary School and basic playground facilities exist on erf 803 and 804.

There are currently +/-14 pre-fabricated structures on the property consisting of classrooms, ablution blocks and other buildings. See BAR **Annexure 5** for site photographs of existing facilities.

The topography of the property is characterised mostly as flat landscape (See also **BAR Appendix 14 - Topographical Survey**) with the surrounding properties consisting of residential townships zoned for residential land use.

The site is situated within a vast network of residential roads, with no major connector road within close proximity to the property.

The following roads serve as the boundary of the site:

- Od 3 Street (Southern Boundary);
- Od4 Street (Western Boundary);
- Od5 Street (Eastern Boundary);
- Od9 Street (Northern Boundary); and (concrete)
- Od14 Street (Northern Boundary).

Roads Od 3 and Od 5 are asphalt with roads Od 9 and Od 14 being concrete. Od4 is a gravel road.

The main vegetation type of the study area forms part of the Grassland Biome and predominantly split into four different vegetation units namely:

- 1) Semi Natural Grassland;
- 2) Degraded grassland;
- 3) Built-up areas and infrastructure; and
- 4) Entrance and recreational areas.

The conservation status ranges from medium to low.

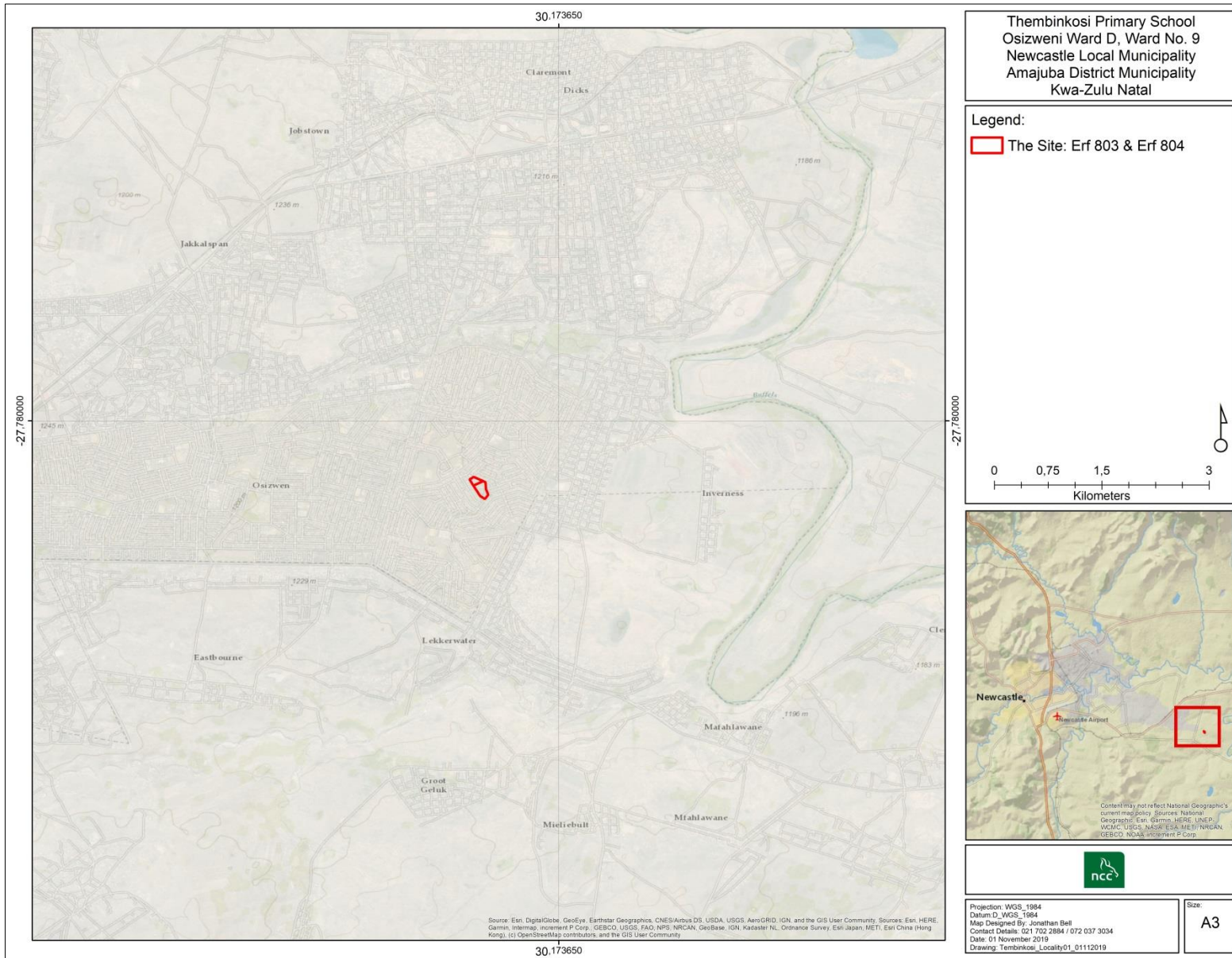
Table 7: GPS* positions of the extent of the property (WGS84 datum).

	Points	Latitude (S): (deg.; min.; sec)			Longitude (E): (deg.; min.; sec.)		
Coordinates of all the proposed activities on the property or properties (sites):	Corner 1	27°	47'	14.5"	30°	09'	44.9"
	Corner 2	27°	47'	13.4"	30°	09'	46.7"
	Corner 3	27°	47'	15.65"	30°	09'	52.38"
	Corner 4	27°	47'	18.6"	30°	09'	53.6"
	Corner 5	27°	47'	18.99"	30°	09'	52.64"
	Corner 6	27°	47'	21.42"	30°	09'	53.43"
	Corner 7	27°	47'	23.56"	30°	09'	51.84"
	Corner 8	27°	47'	21.99"	30°	09'	49.45"

***Please note:** The co-ordinates provided are for the entire property, both erf 803 and 804.

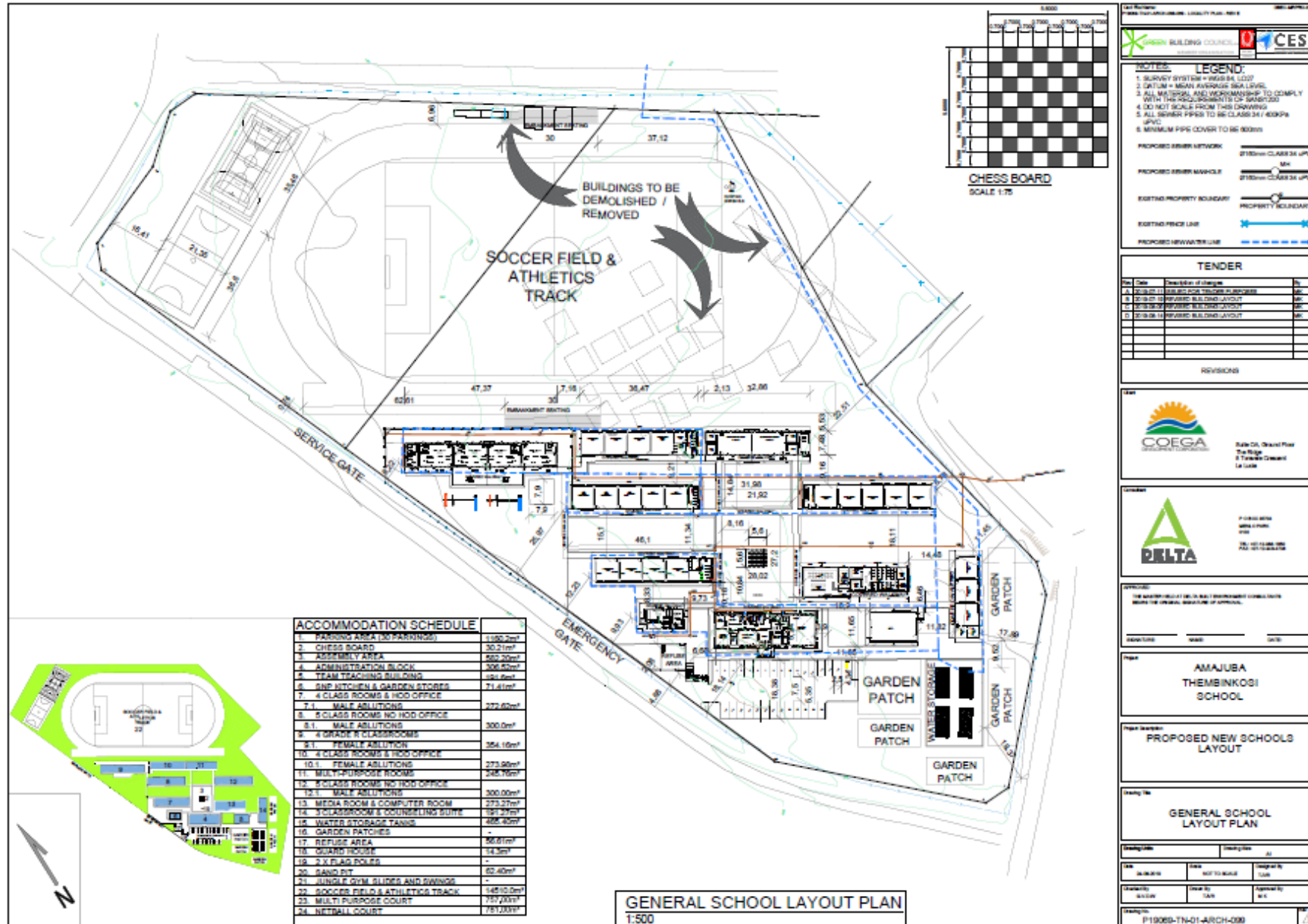
1.7.1 LOCALITY MAP

*See also BAR Annexure 1F.



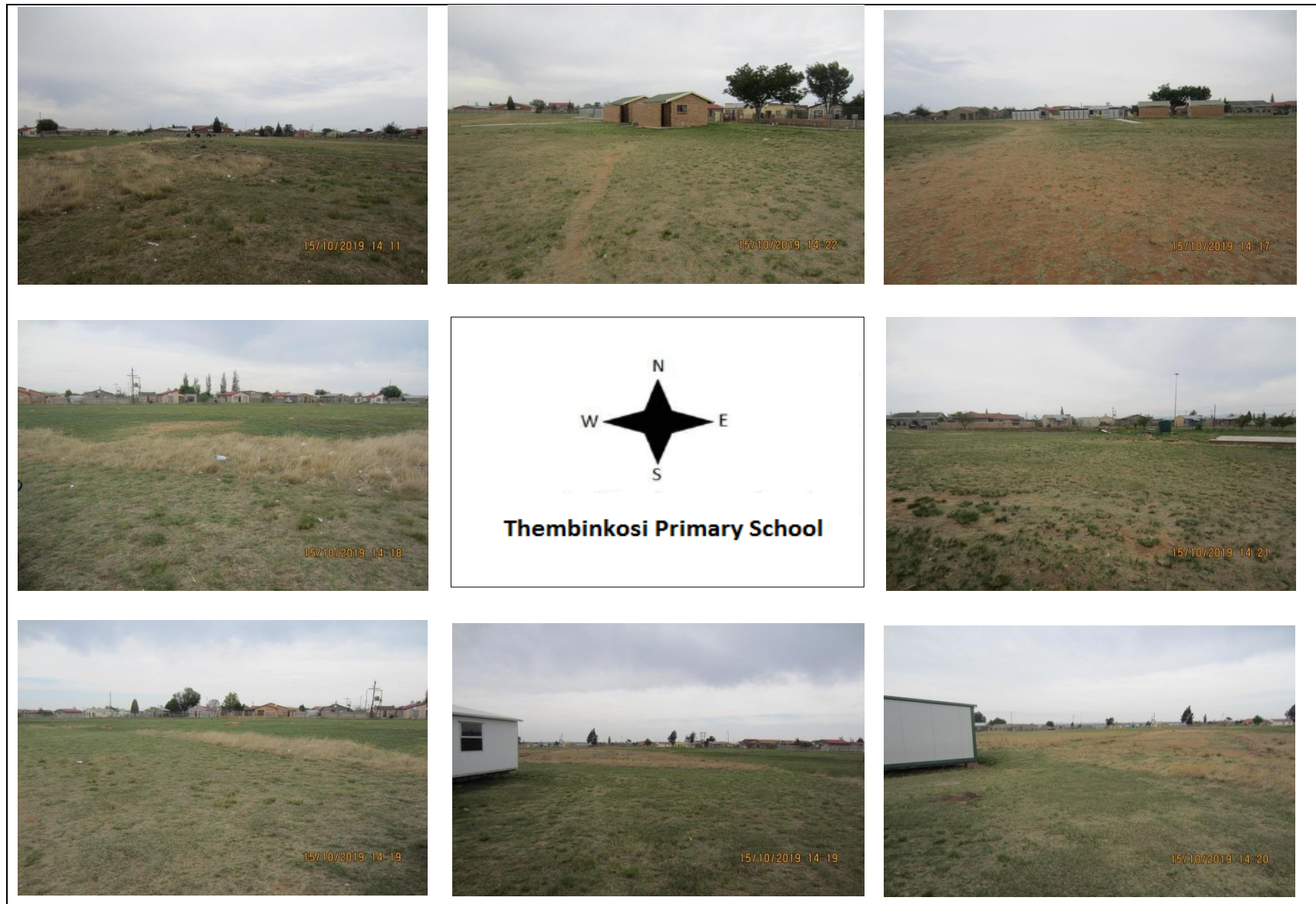
1.7.2 SITE LAYOUT PLAN

*See also BAR Appendices 13 and 14.



1.7.3 Site photographs

Views from the centre of the site footprint in the eight major compass directions (See also BAR **Annexure 5**).



SECTION E: DESCRIPTION OF THE RECEIVING ENVIRONMENT

1.1 Gradient of the Site

The general gradient of the site:

Flat	Flatter than 1:10	1:10 – 1:4	Steeper than 1:4
Description			
The landscape of the area is characterised by generally flat surfaces. The surrounding landscape consists of flat areas transformed into residential townships zoned for residential land use.			

1.2 Location in Landscape

The landform(s) that best describes the site:

Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain	Undulating plain/low hills	Dune	Sea-front
Description								
The landscape of the area is characterised by generally flat surfaces. The surrounding landscape consists of flat areas transformed into residential townships zoned for residential land use.								

1.3 Groundwater, Soil and Geological Stability of the Site

This section provides a description of the groundwater, soil and geological stability of the project area.

More detailed information can be found within the baseline study references as per the Geotechnical (BAR **Appendix 4**), Heritage (BAR **Appendix 6**), Terrestrial Biodiversity (BAR **Appendix 5**) and Surface-water verification (BAR **Appendix 7**) and Agricultural Potential (BAR **Appendix 9**) assessments which were conducted; as well as the background maps and descriptions in BAR **Annexure 6**.

Description of Groundwater on Site:

Shallow water table (less than 1.5m deep)	YES	NO	UNSURE
Seasonally wet soils (often close to water bodies)	YES	NO	UNSURE
Unstable rocky slopes or steep slopes with loose soil	YES	NO	UNSURE
Dispersive soils (soils that dissolve in water)	YES	NO	UNSURE
Soils with high clay content	YES	NO	UNSURE
Any other unstable soil or geological feature	YES	NO	UNSURE
An area sensitive to erosion	YES	NO	UNSURE

An area adjacent to or above an aquifer.	YES	NO	UNSURE
An area within 100m of a source of surface water	YES	NO	UNSURE
An area within 500m of a wetland	YES	NO	UNSURE
An area within the 1:50 year flood zone	YES	NO	UNSURE
A water source subject to tidal influence	YES	NO	UNSURE

Type/s of geological formation underlying the site:

Granite	Shale	Sandstone	Quartzite	Dolomite	Dolorite	Other (describe)
Description						
<p>The area consists of Ecca Group Arenite which is a group of sedimentary geological formations and a component of the Karoo Supergroup. It consists mainly of shales and sandstones laid down in the sandy shorelines of swamplands during the Permian Period (<i>Amajuba SDF, 2019/2020</i>).</p> <p>In terms of the lithostratigraphy, the site footprint is predicted to fall on top of the Vryheid Formation. The lithology consists of fine to coarse-grained sandstone, shale and in places, coal seams (<i>Council for Geoscience, 2003</i>).</p>						

Soil type/s predicted on site:

Soil Type	Diagnostic Horizons	Effective Depth (mm)
Bainsvlei (1,548ha)	Orthic A – Horizon/Red Apedalic B – Horizon/Soft Plinthic B – Horizon	>300
Avalon (1,935ha)	Orthic A – Horizon/Yellow Apedalic B – Horizon/Soft Plinthic B - Horizon	>300
Mispah* (0,861ha)	Orthic A – Horizon/Rock	<300

*Please refer to BAR **Appendix 9**. Important to note is that most of the predicted Mispah soils (0.861ha) fall on erf 806 which does not form part of the proposed footprint.

1.4 Surface Water

Type/s of water features on site:

Perennial River	YES	NO	UNSURE
Non-Perennial River	YES	NO	UNSURE
Permanent Wetland	YES	NO	UNSURE
Seasonal Wetland	YES	NO	UNSURE
Artificial Wetland	YES	NO	UNSURE
Estuarine / Lagoon	YES	NO	UNSURE

Description:
No watercourses occur in the 100m regulated area around the site footprint and no wetlands were identified within the 500m buffer zone/regulated area. There are no ecologically sensitive areas in terms of watercourses on the site footprint itself and the flood risk for the area is low.

1.5 Biodiversity

In terms of the biodiversity assessment category, the following was observed with regards to the proposed project area. The SANBI biodiversity network (BioNet) was used in order to indicate the biodiversity category in the study area.

The BioNet can be found on the following internet resource <http://bgis.sanbi.org> or BGIShelp@sanbi.org.

1.5.1 Systematic Biodiversity Planning Category

Category			If CBA or ESA, the reason(s) for its selection must be described	
CBA	ESA	Other Natural Area (ONA) / Ecological Infrastructure (EI)	N/A	N/A

1.5.2 Habitat Condition on Site

(Please also refer to BAR **Appendix 5**).

Habitat Condition	Description and observations
Semi Natural Grasslands	Open grassland with a poorly developed woody layer. This vegetation unit makes up a small section of the study area that consists of natural degraded grassland and is located just off the north western corner of the study boundary. It is isolated with low species diversity with a well-formed homogenous grass layer and some indigenous and alien forbs.
Degraded Grasslands	Degraded grassland with alien and invasive forbs with no woody cover. This vegetation unit is the largest in the study area and is in a secondary successional phase. A small section is located in the north-western corner of the study site with the majority in the southern part of the study area. The soils are disturbed sandy to loam and shallow in areas where infilling

	<p>has occurred. In sections where excavations occurred or were left open the soils are deep with a sandy texture, and contains a large bare patch in the southern section where storm water from the school buildings are guided towards and accumulates in this section during the rainy season.</p> <p>The excavated, cleared and tilled sections of this give rise to numerous pioneer and alien and invasive forbs.</p>
Built-up areas and infrastructure	<p>Disturbed grassland with bare soils.</p> <p>The school and all temporary and permanent infrastructure make up this vegetation unit. The soils are loam and compacted with large bare patches with sheet erosion from a lack of vegetation cover. The grass layer is sparse with isolated tufts and accumulated organic materials most likely from cutting the grass in this area. The forb layer is mostly found under the pre-fabricated classrooms or in a vegetable garden located on the northern boundary fence where soils are less compact and deeper.</p>
Main entrance and recreational area	<p>Secondary successional grassland.</p> <p>This vegetation unit is situated from the main entrance of the study area (Thembinkosi Primary School) in the north-western part to the northeast where it borders the school classrooms.</p> <p>The soils are loam and shallow and compacted on the access areas to the north and tilled on areas to the south. Loosened and tilled soil in the southern section appears to be a potential fire break to protect the existing school infrastructure against potential fires. Vehicular traffic and mowing have caused the vegetation layer to be dominated by pioneer grasses and forbs. The woody layer is absent.</p>

1.5.3 Ecosystems

Any ecosystem types will be identified and a description provided (if applicable), this can include terrestrial, aquatic, marine, etc.

Terrestrial Ecosystems		Description of Ecosystem (Vegetation Type, Original Extent, Threshold (ha, %), Ecosystem Status)
Ecosystem threat status as per the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	Critically	N/A
	Endangered	N/A
	Vulnerable	N/A
	Least Threatened	N/A

Aquatic Ecosystems

Wetland (including rivers, depressions, flats, seeps pans, and artificial wetlands)			Estuary		Coastline	
YES	NO	UNSURE	YES	NO	YES	NO

Description of any vegetation type and/or aquatic ecosystem present on the site.

This includes any important biodiversity features/information identified on the site (e.g. threatened species and special habitats). Biodiversity targets and management objectives will be described if applicable:

Terrestrial Ecosystems

The surrounding vegetation of the study area is classified as belonging to the vulnerable **Income Sandy Grassland (Gs 7)** (Mucina & Rutherford 2006).

Majority of the area consists of disturbed and degraded grassland with some natural features but surrounded by disturbed vegetation units and built-up environments.

The study area borders onto urban built-up environments and has no connectivity with similar grasslands due to large scale urbanisation and township expansion over the years.

No specifically protected plants were observed during the study.

A total of two (2) different medicinal plants were identified within the study area and are listed below, neither of these species are threatened or protected.

- *Gomphocarpus fruticosus*
- *Leonotis leonuris*

1.6 Land Use of the Site

This section highlights the current land uses type/s and/or prominent features that occur within project area.

The highlighted land use/s have been identified as the current land use.

Description of Land Use on Site:

Untransformed area	Low density residential	Medium density residential	High density residential	Informal residential
Retail	Commercial & warehousing	Light industrial	Medium industrial	Heavy industrial
Power station	Office / consulting room	Military or police base / station / compound	Casino / entertainment complex	Tourism and Hospitality facility
Open cast mine	Underground mine	Spoil heap or slimes dam	Quarry, sand or borrow pit	Dam or reservoir
Hospital/medical centre	School	Tertiary education facility	Church	Old age home
Sewage treatment plant	Train station or shunting yard	Railway line	Major road (4 lanes and more)	Airport
Harbour	Sport facilities	Golf course	Polo fields	Filling station
Landfill or waste treatment site	Plantation	Agriculture	River, stream or wetland	Nature conservation area
Mountain, koppie or ridge	Museum	Historical building	Graveyard	Archaeological site
Other land uses (describe):				
Description:				
Both ERF 803 and ERF 804 are currently zoned for 'Education'. The Thembinkosi Primary School is currently located on both erven and comprise of pre-fabricated containers (temporary infrastructure) currently used as classrooms. Open areas are utilised for sporting activities.				

1.7 Land Use Character of the Surrounding Area

Urbanisation between the township of Osizweni and neighbouring towns (Madadeni, and Dannhauser) has resulted in the blurring of boundaries between rural and urban thus creating clusters of peri-urban settlements. The Madadeni road linking Newcastle West to Madadeni, Osizweni and Emadlangeni has been identified as a mixed activity corridor. Mixed-use development allows for the development of parcels of land as different land uses on adjoining sites. Nodal points of activity are planned to be developed along this corridor to provide points of opportunity for the provision of services as well as economic activities (*Amajuba SDF, 2019/2020*). In terms of land-use, Osizweni is classified as a 'Built-up Dense Settlement' (*NGI, 2017*). Maps in BAR **Annexure 6** indicate the overall land-use character of the surrounding area including various other environmental attributes, illustrated spatially.

The section below highlights the current land uses and/or prominent features that occur within a +/- 500m radius around the site and neighbouring properties, if these are located beyond 500m of the site. The highlighted land use/s below have been identified as the land uses identified in close proximity to the site.

Description of land use of surrounding areas:

Untransformed area	Low density residential	Medium density residential	High density residential	Informal residential
Retail	Commercial & warehousing	Light industrial	Medium industrial	Heavy industrial
Power station	Office / consulting room	Military or police base / station / compound	Casino / entertainment complex	Tourism and Hospitality facility
Open-cast mine	Underground mine	Spoil heap or slimes dam	Quarry, sand or borrow pit	Dam or reservoir
Hospital / medical centre	School	Tertiary education facility	Place of Worship	Old age home
Sewage treatment plant	Train station or shunting yard	Railway line	Major road (4 lanes and more)	Airport
Harbour	Sport facilities	Golf course	Polo fields	Filling station
Landfill or waste treatment site	Plantation	Agriculture	River, stream or wetland	Nature conservation area
Mountain, koppie or ridge	Museum	Historical building	Graveyard	Archaeological site
Other land uses (describe):	Public Open Space			

Description:

The majority of the immediate surrounding area constitutes single dwelling erven in a high density residential (urban and peri-urban) area. Located to the NW of erf 803 directly adjacent to the site footprint is a place of worship. Another place of worship is located roughly 300m to the SW, in Osizweni Section H. Located within 400m of the site to the NW, in Osizweni Section C, are light industrial, mixed use, limited commercial, and educational zoned properties. Public open spaces in Osizweni Section D can be found roughly 100m to the NE and beyond, as well as one located directly adjacent to the site footprint (*i.e.* erf 805).

Refer also to See BAR **Annexure 6** (Map 20).

1.8 Socio-Economic Aspects

Socio-economic impacts, both positive and negative, were also consider during the assessment. This section describes the existing social and economic characteristics of the community in the vicinity of the proposed site, in order to provide baseline information (*e.g., population characteristics /demographics, level of education, the level of employment and unemployment in the area, available work force, major economic activities in the local municipality, etc.*).

1.8.1 Administrative context

Newcastle Local Municipality (**NLM**), in which the project area is in, is one of three local municipalities that make up Amajuba District Municipality, with the others being Dannhauser and eMadlangeni Local Municipalities.

It is located in the North West of the KwaZulu-Natal Province and borders onto Free State and Mpumalanga Provinces to the West and North respectively (*NLM: IDP, May 2018*)

The project area is located in Ward 9 of the NLM in the township area of Osizweni (Section D).

1.8.2 Local Demographic Profile

The official government figures reflected in the 2011 census data estimate the total population of the Newcastle Local Municipality to be 363 236 people. This marks a population increase of 0.87% per annum between 2001 and 2011 (*NLM: IDP, May 2018*).

In terms of the immediate area, Ward 9 is the 8th most populated area within the Newcastle Local Municipality (NLM) with a population estimate of 16 805.

POPULATION SIZE & GENDER DISTRIBUTION					
	MALES	%	FEMALES	%	TOTAL
Newcastle Local Municipality	172 900	52.4%	190 336	47.6	363 236
Ward 9	7685	46%	9121	54	16805

AGE STRUCTURE							
	0 – 14	15 - 29	30 – 44	45 - 59	60 - 74	75 above and	Grand Total
Newcastle Local Municipality	11696 2	11260 3	63930	39956	20341	5085	358877
	32.2%	31%	17.6%	11%	5.6%	1.4%	98.80%
Osizweni	25922	24210	13156	8641	4281	1401	77611
	33.3%	31.1%	16.9%	11.10%	5.5%	1.8%	99.7%
Ward 9	5770	5446	2924	1955	557	153	16805
	35%	32%	17%	12%	3%	1%	100%

1.8.3 Household

Newcastle accounts for the majority of the households found within Amajuba District. This is consistent with the population distribution which suggests that the majority of the population within the district resides in the Newcastle Local Municipal area. The average household size is 4.3 people.

Further analysis of the total number of households within NLM shows that Ward 9 has the highest number of households more than any other ward in NLM. The total number of households within Ward 9 is 3872 and the average household size is 4 people per household. This is below the average household size of NLM which is 4.3 people per household, however this can be disputed according to the Community Base Plan for Ward 9. It is of the opinion that the majority of the households within Ward 9 are made up of an average of 8 people per household, hence a need for the delivery of housing (*Ward 9 Community Based Plan, Ngema. 2019*).

Based on the high number of households in Ward 9 and the number of people, the need for ample schooling facilities should be planned to complement the housing demand.

1.8.4 Education

The NLM, in terms of the number of people with access to primary education, has the highest level of education (Grade 0 – Grade 9) however there has been a decrease since 2001. In

2001 the number of people who had access to primary education as the highest level of education constituted 52.08% (173 404) of the total population *i.e.* 363 236 people. This decreased in the year 2011 to 40.11% (145 730). The assumption made regarding the observed decrease in primary education and the increase in secondary education is that the majority of the population that was surveyed as having access to primary education in 2001 have progressed and went on to secondary school in 2011 (*NLM: IDP, May 2018*).

It has been indicated that a high majority of people within Ward 9 have completed Grade 12/Standard 10/Form 5 as the highest level of education, after which the numbers fall drastically which indicates that the majority have not had the opportunity to obtain tertiary education.

This has been identified as a major concern as the implication is that a high majority of the people within Ward 9 are unskilled. This further increases the likelihood of a high unemployment rate within the ward.

1.8.5 Economic overview

Due to a high rate of illiteracy and unemployment, there is a high level of poverty within Ward 9. Due to the migration of males out of Ward 9 seeking employment, a majority youth age structure and a high dependency ratio; there is currently a high dependency on government support through social grants. However according to the Community Based Plan the community has initiated programmes towards fighting the scourge of poverty within Ward 9 through feeding schemes (*NLM: IDP, May 2018*). The following organisations have played an important role in ensuring the success of programmes towards fighting poverty:-

- Red Cross.
- Operation Sukuma Sakhe.
- DSD.

In addition, CDC is in support of economic development under the school building programme and that the development of the school will aid in economic development.

1.8.6 Sources of income/employment

In terms of local economic development within Ward 9, the only form of economic activity indicated to be operating within the ward entails Spaza Shops and a number of car wash establishments (*Ward 9 Community Based Plan, Ngema*).

1.9 Historical and Cultural Aspects

The Heritage Impact Assessment (HIA) considered that overall impact on heritage resources as Low. Provided that the recommended mitigation measures are implemented, the impact would be acceptably low or could be totally mitigated to the degree that the project could be approved from a

heritage perspective. The management and mitigation measures as described in **Section G** of this report have been developed to minimise the project impact on heritage resources (See also BAR **Appendix 6**).

1.9.1 Heritage Impacts

The HIA conducted during the Basic Assessment Process indicated that no heritage resources were identified during the field work and no impact is expected. Possible sub-surface chance finds will have a post-mitigation impact rating of low negative.

1.9.2 Palaeontological Impacts

It was indicated in the HIA that the school occurs in an area which is broadly considered as being almost entirely highly sensitive in terms of palaeontology. Deep excavations are not anticipated however and any heritage impacts and/or discoveries must be managed through the *Chance Finds Protocol* (See BAR **Appendix 6**). The post-mitigation impact rating was assigned as low negative.

Is Section 38 of the NHRA applicable to the proposed development?	YES	NO	UNCERTAIN
Description			
In terms of the NHRA, section 38(1)(c)(i) is applicable as the proposed development exceeds 5000m ² in extent and will change the character of the site.			
Will the development impact on any national estate referred to in Section 3(2) of the NHRA?	YES	NO	UNCERTAIN
Description			
n/a			
Will any building or structure older than 60 years be affected in any way?	YES	NO	UNCERTAIN
Description			
n/a			
Are there any signs of culturally or historically significant elements, as defined in section 2 of the NHRA, including Archaeological or paleontological sites, on or close (within 20m) to the site?	YES	NO	UNCERTAIN
Description			
n/a			

SECTION F: APPLICABLE LEGISLATION, POLICIES, CIRCULARS AND/OR GUIDELINES

Table 8: List of all applicable environmental legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to the project.

Legislation	Administering Authority	Type of Permissions (If required)
National Environmental Management Act (NEMA) Act 107 of 1998 (as amended)	Kwazulu-Natal Department of Economic Development, Tourism and Environmental Affairs	Environmental Authorisation
National Heritage Resources Act (NHRA) Act 25 of 1999	KwaZulu-Natal Amafa and Research Institute	Notice of Intent to Develop - Letter of no objection
National Environmental Management: Biodiversity Act (NEMBA) Act 10 of 2004	Kwazulu-Natal Department of Economic Development, Tourism and Environmental Affairs	Relevant consideration - Commenting authority
National Environmental Management: Waste Act (NEMWA) Act 59 of 2008	Kwazulu-Natal Department of Economic Development, Tourism and Environmental Affairs	Relevant consideration - Commenting authority
National Water Act (NWA) Act 36 of 1998	Department of Water and Sanitation	Relevant consideration - Commenting authority
Conservation of Agricultural Resources Act (CARA) Act 43 of 1983	Department of Agriculture, Fisheries and Forestry	Relevant consideration - Commenting authority
KwaZulu-Natal Amafa and Research Institute Act (Act 5 of 2018)	Amafa aKwaZulu-Natali Heritage Council	Relevant consideration - Commenting authority
Policies, plans, guidelines, spatial tools, municipal development planning framework		
Amajuba District Municipality Integrated Development Plan	Amajuba District Municipality	Relevant consideration - Commenting authority
Newcastle Local Municipality Integrated Development Plan	Newcastle Local Municipality	Relevant consideration - Commenting authority
Newcastle Local Municipality Community Based Plan, Ward 9	Newcastle Local Municipality	Relevant consideration - Commenting authority
2014 KZN Biodiversity Sector Plan	Ezemvelo KZN Wildlife	Relevant consideration - Commenting authority
Public Participation Guideline in terms of National Environmental Management Act, 1998 - (Department of Environmental Affairs 2017)	Department of Environmental Affairs	Relevant consideration

Table 9: Description of how the proposed development complies with and responds to the legislation and policy context, plans, guidelines, spatial tools, municipal development planning frameworks and instruments.

Legislation, Policies, Plans, Guidelines, Spatial Tools, Municipal Development Planning Frameworks, And Instruments	Describe How The Proposed Development Complies With And Responds:
National Environmental Management Act (NEMA) Act 107 of 1998	<p>Environmental Impact Assessment process being complied with according to the Section 24 of NEMA (Act 107 of 1998) and NEMA EIA Regulations GNR 982 (Government Gazette 38282, 14 December 2014), Regulation 19 under the National Environmental Management Act (NEMA) Act 107 of 1998:</p> <ul style="list-style-type: none"> (a). Basic Assessment Report (BAR) – (b). Environmental Management Programme (EMPr)
National Heritage Resources Act (Act 25 of 1999)	<p>The following sections under the National Heritage Resources Act (NHRA) Act 25 of 1999 refer directly to the identification, evaluation and assessment of cultural heritage resources:</p> <ul style="list-style-type: none"> a) Protection of Heritage Resources – Sections 34 to 36; and b) Heritage Resources Management – Section 38 <p>A Heritage Impact Assessment (HIA) was compiled to identify, assess and, if necessary, mitigate against areas of heritage significance.</p>
National Environmental Management: Biodiversity Act (NEMBA) Act 10 of 2004	<p>The Act was considered for determining plants protected under the act listed as critically endangered, endangered, vulnerable and nationally protected species.</p> <p>The Act was consulted during the identification and compilation of a list of alien and invasive plant species; their control method and eradication at national level. A biodiversity impact assessment was undertaken. No plants protected or threatened plant species observed on the development footprint.</p>
National Environmental Management: Waste Act (NEMWA) Act 59 of 2008	<p>The Act was considered in determining whether any listed activities were triggered by the proposed project.</p> <p>No listed waste activities will be triggered. Definitions of waste types were identified through the applicable sections in the Act.</p>
National Water Act (NWA) Act 36 of 1998	<p>The Act was considered in determining whether any water uses were applicable to the Project. A surface water verification and risk assessment was conducted and communication was received from the authority (DWS) that no water uses requiring authorisation would be triggered. Refer to BAR Appendix 8.</p>

Amajuba District Municipality Integrated Development Plan (IDP)	The IDP was considered in order to ascertain information relevant to biodiversity, cultural, and socio-economic considerations in order to align the project with its vision and requirements at a district level.
Newcastle Local Municipality Integrated Development Plan (IDP)	The IDP was considered in order to ascertain information relevant to biodiversity, cultural, and socio-economic considerations in order to align the project with its vision and requirements at a local level.
Newcastle Local Municipality Community Based Plan, Ward 9	The IDP was considered in order to ascertain information relevant to biodiversity, cultural, and socio-economic considerations in order to align the project with its vision and requirements at a ward level.
KwaZulu-Natal Amafa and Research Institute Act (Act 5 of 2018)	The KZN-RIA is utilised as the basis for the identification, evaluation and management of heritage resources and in the case of Cultural Resource Management (CRM) those resources specifically impacted on by development as stipulated in Section 41 of NHRA. This study falls under s41(8) and requires comment from the relevant heritage resources authority.
Amajuba District Municipality Biodiversity Sector Plan (BSP)	<p>As precursor to a Bioregional Plan, this is a tool for supporting and streamlining land-use planning and environmental decision-making across all sectors and tiers of government, with an emphasis on the spatial implications for development and conservation.</p> <p>The BSP provides a clear indication of all Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) identified across the province.</p> <p>The proposed development footprint does not fall within a CBA or ESA.</p>
Public Participation Guideline in terms of National Environmental Management Act, 1998 (Department of Environmental Affairs, 2017)	Guideline document in conducting the Public Participation Process for Basic Assessments. This document was used to guide the public participation process for the proposed development, including Chapter 6 of GN.R 982.

SECTION G: PUBLIC PARTICIPATION

All public participation processes must fulfil the requirements set out in Section 41 of the 2014 EIA Regulations (as amended) as well as the actions taken by the EAP.

All methods considered and undertaken during the Project's public participation process can be referred to in **Table 10**.

A Background Information Document (BID) (See BAR **Annexure 4A** and **4B**) was compiled for the public participation process (PPP) in order to provide pertinent information, summarised into the following key points:

1. A brief description of the Project;
2. Location of the proposed site footprint of the Project;
3. An explanation of the NEMA-listed activities triggered and how the Basic Assessment (BA) and EA application process are to be followed;
4. The locations for public viewing of the BAR and specialist studies; and
5. Contact details of the EAP in order to address any queries and/or obtain the BAR.

During the public participation process, the BAR, BID, Specialist Reports and all BAR Annexures and Appendices will be uploaded to the NCC website and made available for review by Project Stakeholders and registered Interested and Affected Parties (I&APs) at the following web-link: <https://www.dropbox.com/sh/mtbnsh1uob804ws/AAD9NykaNyiA7x-z2pW8FSv8a?dl=0>.

Any member of the public that requests to be registered as an I&AP or requests more information relating to the Project and BAR will be forwarded the above web-link by the EAP where all information will be available.

Table 10: Summary of various methods adopted and followed during the public participation, as considered necessary in terms of the Regulations.

In terms of Regulation 41 (2) of the EIA Regulations, 2014 (as amended) -	
(a) fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of -	
i. the site where the activity to which the application relates, is or is to be undertaken; and	IsiZulu and English notices were fixed to the entrance gate at the location of the proposed site footprint. Furthermore, public notices were placed at a number of other locations, <i>i.e.</i> the nearest store (Supersaver Store), the Osizweni Public Library's noticeboard and at the entrance to the Newcastle Municipality Building (See BAR Annexure 9).

<p>ii. any alternative site</p>	<p>No alternative sites were considered as this is a proposed upgrade project.</p>
<p>(b) giving written notice, in any manner provided for in Section 47D of the NEMA, to –</p>	
<p>i. the occupiers of the site and, if the applicant is not the owner or person in control of the site on which the activity is to be undertaken, the owner or person in control of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;</p>	<p>The proposed site footprint is situated on unregistered state land. Written notice (registered post and email) was accordingly provided to both the Department of Public Works and the Ingonyama Trust. Refer to BAR Appendix 3B.</p>
<p>ii. owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;</p>	<p>Written notice letters, in both IsiZulu and English (See BAR Annexures 3A & 3B), were hand-delivered in sealed envelopes to all occupiers of plots/erven immediately surrounding the proposed site footprint (<i>i.e.</i> erf 803 and 804). Included in the sealed envelopes were copies of the Registration and Comment Form (See BAR Annexure 7A & 7B), in both IsiZulu and English. Where occupiers of the surrounding plots were available to receive the letters, a register (BAR Annexures 3D & 11) was signed by each recipient. In cases where the adjacent land occupiers were not available to receive and sign for the letters at the time of delivery and distribution, the letters were left in either post boxes (if available), securely attached to the plot's fence and/or left secured at/on the doorsteps to each respective plot (BAR Appendix 3B).</p>
<p>iii. the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;</p>	<p>Email notice was accordingly provided. Refer to BAR Appendix 3B.</p>
<p>iv. the municipality (Local and District Municipality) which has jurisdiction in the area;</p>	<p>Written notice (registered post and email) was accordingly provided. Refer to BAR Appendix 3B.</p>
<p>v. any organ of state having jurisdiction in respect of any aspect of the activity; and</p>	<p>Written notice (registered post and email) was accordingly provided. Refer to BAR Appendix 3b.</p>
<p>vi. any other party as required by the Department;</p>	<p>Not Applicable.</p>

(c) placing an advertisement in -	
i. one local newspaper; or	Advertisements were placed in both the Newcastle Advertiser (English) and Eyethu Amajuba (IsiZulu) local newspapers. Refer to BAR Appendix 3B and Annexure 8A & 8B.
ii. any official Gazette that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;	Not Applicable.
(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken	Not Applicable as the project does not extend across the areas as indicated in the Regulations.
(e) using reasonable alternative methods, as agreed to by the Department, in those instances where a person is desirous of but unable to participate in the process due to—	Not Applicable.
i. illiteracy;	
ii. disability; or iii. any other disadvantage.	

1.1 Advertisements

Advertisements in terms of the notification for public participation were placed in two separate local newspapers:

- i) Newcastle Advertiser
- ii) Eyethu Amajuba

1.2 Public Facilities

Stakeholders, I&APs and members of the public are able to review the basic assessment report (BAR) located at the nearest Public Library in Osizweni. Copies of IsiZulu and English BIDs are included in the BAR.

1.3 Electronic Correspondence

Stakeholders and interested and affected parties (I&APs) are able to download and review the BAR located at the web-link <https://www.dropbox.com/sh/mtbnsh1uob804ws/AAD9NykaNyiA7x-z2pW8FSv8a?dl=0>. Emails were sent to various Organs of State and government departments. The details of which government departments and/or authorities which emails were sent to can be referred to in **Table 11** and BAR **Annexure 3C**. Included in the email distribution list were the relevant

heritage authority (AMAFSA-KZN), conservation authority (Ezemvelo KZN Wildlife), Department of Water and Sanitation (DWS) and the local government *i.e.* the Newcastle Local Municipality. All relevant email-related notifications which were sent to the relevant Departments and any correspondence received will be included as part of the Final BAR submission after the public participation review process and regulated timeframe is complete. Copies of the emails and attached notification letters will be included as BAR **Appendix 3** (Comments and Response Report).

1.4 Notifications and Notice Boards

An IsiZulu and English project notice board, each 600mm x 420mm as per the Regulations, were erected on the perimeter fence surrounding the property. Refer to BAR **Annexures 9 and 10**.

1.5 Letter Drops

As the Project area is located in a relatively remote setting consisting of a number of adjacent properties, hand-delivered letters / letter drops were considered the preferred option for initial communication to inform the occupiers of adjacent properties about the proposed Project. Where occupiers of the surrounding plots were available to receive the letters, a receipt register was signed by each recipient. In cases where the adjacent land occupiers were not available to receive and sign for the letters at the time of delivery and distribution, the letters were:

- left in post boxes (if available); or
- securely attached to the fence around the respective plot/erf/stand; or
- left secured at/on the doorsteps to each respective plot/erf/stand.

Copies of the letter receipt register, as well as photographic evidence of the letter drops, are included in BAR **Appendix 3**.

1.6 Summary of Comments and Responses

Comments received throughout the public participation process (PPP), and the responses provided by the EAP, can be found in BAR **Appendix 3: Comments and Response Report (CRR)**. Please refer to the relevant table in the CRR for a detailed account of the comments raised and responses provided. Also included in the CRR are copies of supporting records, relevant email correspondence, proof of various submissions, notifications, adverts, etc relating to the PPP.

1.7 Organ of State and Authority Consultation

Table 11: A list of the State Departments / Organs of State / Authorities that were consulted.

Name	State Department / Organ of State/ Authority	Date notification was sent:	Date comment received:	Contact Details		
				Phone	Email	Address
Zama Mbanjwa	KZN Department of Economic Development, Tourism & Environmental Affairs (EDTEA)	6 February 2020		034 328 0310	zama.mbanjwa@kznedtea.gov.za	Private Bag X9152, Pietermaritzburg, 3201
Poovie Moodley	KZN EDTEA - Amajuba District Office	6 February 2020		033 264 2898	poovie.moodley@kznedtea.gov.za	P. O Box 170, Newcastle, 2940
Nerissa Pillay	Ezemvelo KZN Wildlife	6 February 2020		033 845 1817	nerissa.pillay@kznwildlife.com	PO Box 13053, Cascades, Pietermaritzburg, 3202
Sabelo Dube Sithembile Mbuyisa	KZN Department of Education	6 February 2020		072 152 0030 078 309 6334	Sabelo.Dube@kzndoe.gov.za Sithembile.Mbuyisa@kzndoe.gov.za	Private Bag X9137, Pietermaritzburg, 3200
Bernadet Pawandiwa	Amafa-KZN	6 February 2020		033 394 6543	bernadetp@amafapmb.co.za phoarchaeology@amafapmb.co.za archaeology@amafapmb.co.za	PO Box 2685, Pietermaritzburg, 3200
Themba Mthembu	Department of Agriculture & Rural Development	6 February 2020		033 343 8240	phaka.maphanga@kzndard.gov.za	Private Bag X9059, Pietermaritzburg, 3200
Judy Reddy	KZN Department of Transport	6 February 2020		033 355 0027 033 355 0043 033 355 0569	judy.reddy@kzntransport.gov.za	Private Bag X9043, Pietermaritzburg, 3200
C.M. Khumalo B.M. Mhlungu	Department of Health - Amajuba District	6 February 2020		034 329 7322	Mthokozisi.Khumalo@kznhealth.gov.za Silindo.Mhlongo@kznhealth.gov.za	38 Voortrekker Street, Newcastle, 2940
V. Govender	Newcastle Local Municipality	6 February 2020		034 328 7907	Vish.Govender@newcastle.gov.za	Private Bag X6621, Newcastle, 2940
Krishnee Naidoo Colleen Moonsamy	Department of Water & Sanitation (Pongola-Umzimkulu WMA)	6 February 2020		031 336 2889 031 336 2846	NaidooK@dws.gov.za MoonsamyC@dws.gov.za	88 Joe Slovo Street, Durban, 4000 PO Box 1018, Durban, 4000
Wiseman Rozani Jeffrey Maivha	Department of Agriculture, Forestry and Fisheries	6 February 2020		033 392 7700 033 392 7721	WisemanR@daff.gov.za JeffreyMAI@daff.gov.za	185 Langalibalele Street, Old Mutual Building, Pietermaritzburg, 3201
Xolile Ntanzi Meryl Naicker Lungile Mantambo	KZN Department of Public Works	6 February 2020		033 355 5524 033 355 5570 033 355 5562	xolile.ntanzi@kznworks.gov.za Meryl.Naicker@kznworks.gov.za lungile.mantambo@kznworks.gov.za	Private Bag X9041, Pietermaritzburg, 3200
Suewellan Ellis	Ingonyama Trust	6 February 2020		034 846 9900	elliss@ingonyamatrust.org.za	PO Box 601, Pietermaritzburg, 3200

SECTION H: NEED AND DESIRABILITY

The following section motivates and explains the needs and desirability of the project (including demand for the activity) by highlighting the needs and desirability of the project in the context of various integrated and spatial plans, frameworks and other pertinent information, either Provincial or Municipal.

The development in terms of the property's existing land use rights.

Description

Both erven 803 and 894 are currently zoned as educational according to the NLM spatial maps (<https://newcastle.gov.za/about-newcastle/maps>) and are currently both being utilised as an informal school. Temporary schooling facilities exist on the property. The proposed project will formalise the school's infrastructure through upgrading of the current facilities into more permanent, formal facilities which are more conducive to a learning and sporting environment. BAR **Annexure 6** (Map 20) shows a zonation map for the site footprint.

Location factors which favour the current land use (associated with the development proposal and associated listed activity (ies) applied for)

Description

As the identified area already has an existing school (temporary infrastructure) established on site and the area is zoned as education, this site is ideally located for the upgrading of the current school. The proposed upgrade will create a safe and healthy learning environment that will not only benefit current and future learners and educators, but the community as a whole, through the uplift of the community in support of positive social change. The proposed upgrade will also remedy the current informal facilities through the upgrade of proper ablution facilities, and improved recreational areas, amongst the proposed development of an administration block consisting of principal offices, HOD offices, general offices, classrooms, multipurpose laboratories, specialist rooms, a media centre, a computer room, a teaching room, a counselling suite, a staff room with kitchen, garden stores, a general storeroom, change rooms, a gate house, toilet facilities, teachers parking bays, a soccer field, parking bays for the soccer field and future multi-sports fields, enhancing the learners schooling experience.

The Community Based Plan for Ward 9 indicates that the majority of children are dropping out of school at an early age which thus means there is also a need for an integration of efforts within the community through the development of mentorship programmes that will result in meaningful

social development. It was further indicated that there is still a need for a “High School” within the ward which help decrease the distance travelled for local children, and help to increase children’s surveillance in the hope that they do not drop-out of school at an early age. The need for a school is based on the fact that there are only three (3) schools in the area, namely Inverness, Thembinkosi Primary School and the Osizweni High School (*Ward 9 Community Based Plan, Ngema. 2019*).

The project area is located in a community where the demand for quality education is likely to be high. The local ward councillor has indicated the project would be beneficial as local residents want to improve the level of education within their community. In addition all comments from a public meeting, if one is to be held, as well as any comments received during the PPP, can be found in BAR **Appendix 3**.

The Development in terms of the following:

(a) Provincial Development Plans (“PDP”)*

Description

The implementation of the Provincial Growth and Development Plan is to assist the Province in realising its vision. A number of goals are identified however in the context of this project, the PDP makes reference to education goals as:

Improve and Expand Education and Training

- Early Childhood Development to be transferred from Social Development to Basic Education;
- 18% of the age group 3-4 have access to ECD in contrary to the 2020 target of 35%;
- 74% of Grade 1 learners have attended Grade R;
- 6.5% improvement in Matriculant results since 2014 with a pass percentage of 76.2% in 2018;
- 43 new schools have been constructed since 2014;
- 604 Leaner Support Agents have been employed to curb the rate of drop-outs with special focus towards the girl-child;
- Over the past 5 years 47 000 school children have benefited from the learner transport in 320 schools across the province;
- Bursaries to the tune of R1.8 billion has been awarded to more than 16 000 students between 2014-2018;
- The province cannot participate in the Fourth Industrial Revolution and its opportunities and all skills development due to the slow pace in rolling out broadband connectivity.

**The above represents factors relevant to the project and do not highlight all goals identified.*

(b) Integrated Development Plan and Spatial Development Framework of the Local Municipality

Description

At a district level, the Amajuba District Municipality have a Plan in place to ensure alignment with government priorities. By aligning its priorities with the National Government Priorities and Plans, their intention is to facilitate the Government’s implementation of Plans. The Amajuba District Municipality will directly and indirectly address most of Government Plans through Plan and Priorities alignment. Education is included as one of the priorities in the Plan.

Sustainable Development Goals (SDGS)	National Development Plan (NDP - Vision 2035)	Provincial Growth and Development Plan (PGDP Goals 2035)	KZN/MP Cross Border Priorities	District Priorities (IDP/DGDP)
<ul style="list-style-type: none"> Quality Education 	<ul style="list-style-type: none"> Quality education Build a capable state 	<ul style="list-style-type: none"> Human Resource Development 	<ul style="list-style-type: none"> Education 	<ul style="list-style-type: none"> Skills Development Social Facilitation and Development

The Newcastle Integrated Development Plan indicates that access to education facilities in the NLM is generally good with about 118 schools including both primary and secondary schools.

This can be broken down further as follows:

- 10 combined schools;
- 12 junior primary schools;
- 7 senior primary schools;
- 55 primary schools;
- 34 secondary schools.

It goes on further to state that the average size of schools, taking into consideration the amount of the population of school-going age, is 995. Planning standards for education facilities reveal that in terms of threshold, NLM should have between 90 and 120 primary schools to accommodate the population size, however there is a need for additional primary schools.

Although the number of schools in the area seems to be adequate, the quality of each facility and the teacher pupil ratios are important aspects which must be borne in mind for future planning and development in the area.

Although the NLM has made significant progress in addressing service backlogs and promoting development within its area of jurisdiction, there are still a number of key development challenges that face the municipal area and its people this includes the poor condition of public facilities and a general lack of the required tools and equipment for effective delivery of the related services. This includes poor condition of schools, which does not contribute to building a culture of learning and teaching with the resultant recommendation being to improve access to formal public facilities through refurbishment and upgrade/ construction of the related infrastructure.

(c) An Environmental Management Framework (“EMF”) adopted by the Provincial Department.

Description

Not applicable, no EMF currently exists for the Province or District.

Community need for the Project and the associated land use

Description

It has been indicated in the IDP that following lengthy processes and concentrated deliberation between the Newcastle Local Municipality, Ward Committee Members and Community Based Organisations, various outcomes emanated as Ward Priorities within all 34 wards of the Newcastle Local Municipality.

In terms of Ward 9, fifteen priority needs were identified in terms of poor access to community facilities. One of the needs identified being educational facilities amongst others, *i.e.* clinics, halls etc.

The provision of new or upgrading of existing facilities such as schools has also been identified in the Ward 9 Community Based Plan.

The impact on sensitive natural and cultural areas by the Project or the land use associated with the development proposal

Description

It has been identified through Biodiversity and Heritage Impact Assessments that the proposed Project will have little to no impact on any sensitive natural and cultural areas. See BAR **Appendix 5** and **6** respectively.

The development impact on people's health and well-being (e.g. Noise, odours, etc.)

Description

The development may have limited negative impact during the construction phase in terms of typical construction related activities. Visual and sense of place impacts are relative and will be temporary during the construction phase, and will be confirmed through consultation from interested and affected parties through the public participation process. Provided that the conditions and other precautionary and mitigation measures stipulated in both this BAR and the EMPr are complied with, it is not anticipated that the proposed activity will impact negatively on people's safety, health or wellbeing, but rather have a positive impact on the well-being of the local community once the upgraded school is functionally operational.

Cumulative impacts (positive and negative) of the proposed land use associated with the development proposal and associated listed activity (ies) applied for.

Description

In terms of peer-reviewed published literature based on various case studies, it is broadly accepted that cumulative impacts (effects) are best considered at a *policy, plan or programme* level (Clarke, 1994) for example in a Strategic Environmental Assessment (SEA) rather than at a *project* level (*i.e.* a BA or EIA). The temporal and geographical scales of analysis used at a *project* level are insufficient to comprehensively assess cumulative effects owing to numerous data, jurisdictional and methodological obstacles (Canter and Kamath, 1995).

Literature sources:

Canter, L.W. and Kamath, J. (1995) Questionnaire checklist for cumulative impacts, *Environmental Impact Assessment Review*, **15(4)**, 311 – 339.

Clarke, R. (1994) Cumulative effects assessment: a tool for sustainable development, *Environmental Impact Assessment Review* **12(3)**, 319:322.

In the context of this proposed land use, it will not change as the current land use is zoned as Educational. Given the nature, scale and type of development proposal, it is anticipated that no

new significantly negative land-use impacts (cumulative or otherwise) will result. As an informal school currently exists on the property, albeit with temporary infrastructure, it is anticipated that both neutral and/or positive impacts will result as an overall net effect. This is coupled with the site footprint being located within a densely populated human settlement which lends further support as to the need for a formal school to benefit the local community.

The site footprint does not possess any biodiversity areas or aspects of significant importance. The same applies from a heritage/cultural perspective. From a socio-economic point of view, the Project will deliver on the need for good educational facilities and assist in increasing the number of youth gaining improved access to primary education. Enhanced primary education aligns directly with Goal 4 of the 2030 Sustainable Development Goals (SDGs) which is to achieve universal quality education; and indirectly with many of the other SDGs relating to reducing poverty, hunger and inequality and creating conditions for decent work opportunities and economic growth.

Source: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

The cumulative effect of improved education enhances competitiveness and increases the quality of life. Improved human health & well-being are examples of indices which are used to assess changes in the quality of life.

**Please note: This section is subject to change once all input and comments have been received during the PPP.*

The development in terms of best practicable environmental option for the site

Description

The proposed development would take place on land where Thembinkosi Primary School is already operating using informal infrastructure. The currently informal school on the property is the best option as the site footprint has already been altered by existing school activities and is ideally located in terms of scholar access for the local community. The current location would ensure that no virgin land is required to be disturbed / degraded / transformed.

The benefits to society in general and the local communities

Description

New and improved facilities will allow the community to benefit through access to a significantly improved education platform. It is anticipated that the proposed school upgrade will assist in increasing the number of pupils gaining access to school and enhancing their educational careers.

Description of how the general objectives of Integrated Environmental Management as set out in Section 23 of the NEMA have been taken into account:

Description

The purpose of Section 23 of NEMA is to promote the application of appropriate environmental management tools in order to ensure the integrated environmental management of activities. The aim of these principles is to identify, predict and evaluate the actual and potential impact on the environment (including socio-economic and cultural environments), to assess alternatives and propose mitigation options which will contribute to minimizing detrimental impact.

For this application:

- The principles of environmental management as set out in section 2 of NEMA were taken into account and integrated during the EIA process.
- The actual and potential impact that the proposed development might have on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts and maximising benefits, were identified and evaluated during the EIA process. The nature of the application results in minimal negative impacts.
- The effects that the proposed activity will have on the environment will receive adequate consideration before actions are taken in connection with them. Mitigation measures have been proposed in this regard and described in both this report and the attached Environmental Management Programme which will ensure that the activities proposed will be conducted in a controlled manner therefore assisting in reducing the chances of significant adverse environmental impacts.
- A Public Participation Process (PPP) is being followed to ensure an adequate opportunity for all affected parties to comment.
- All environmental attributes in management and decision-making were considered that may have a significant effect on the environment.
- Modes of environmental management, best suited to ensuring the best activity is pursued, were identified and employed, including the Environmental Management Programme and mitigation measures as identified in this Report.

Description of how the principles of environmental management as set out in Section 2 of the NEMA have been taken into account

Section 2 of NEMA contains the principles of NEMA which, amongst other functions, serve as guidelines, by reference, to which any organ of state must exercise any function when taking a decision in terms of NEMA or any statutory provision concerning the protection of the environment.

In general, the principles must guide the interpretation, administration and implementation of NEMA and any other law concerned with the protection or management of the environment. Section 2 of the NEMA provides that development must be socially, environmentally and economically sustainable.

The main and applicable principles of environmental management as set out in Section 2 of NEMA emphasises the following in Section 2(2):

- Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.

The proposed development of the upgrade of Thembinkosi School will serve the wider community without negatively affecting others.

- Sustainable development requires the consideration of all relevant factors, including but not limited to being socially, environmentally and economically sustainable.

For the Project to be socially and environmentally sustainable, it must have the ability to maintain the qualities as highlighted in the principles:

- That the disturbance of ecosystems and loss of biological diversity are avoided, or where they cannot be altogether avoided, are minimised and remedied

The proposed development of the upgrade of Thembinkosi School will not result in the loss of biological diversity or disturbance of ecosystems. Disturbance will be kept to the project footprint, and mitigation measures put in place to avoid disturbance outside of the site footprint.

- That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied

It is anticipated that with the diligent implementation of the recommendations of the BAR and the EMPr, significant environmental pollution and degradation will be avoided.

- That the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied

The project is predicted to not have a negative impact on the nation's cultural heritage as no areas of heritage value have been identified on the site by the heritage specialist.

Mitigation measures have been recommended in the event of any chance finds of any items of cultural or historical importance, in particular during site clearing and evacuation.

- That waste is avoided, or where it cannot be altogether avoided, minimised and reused or recycled where possible and otherwise disposed of in a responsible manner.

It is inevitable that the Construction phase of the proposed project will generate a certain amount of general waste, mostly in the form of building rubble. It has been recommended in the EMPr that disposal to landfill is considered a last resort. The contractor is advised to adopt the waste hierarchy approach of re-using and recycling waste materials, where feasible, prior to landfill disposal.

During the operational phase, any waste generated should be appropriately managed (minimised, collected, sorted, temporarily stored, re-used and recycled, where feasible) with any remaining waste being serviced and transported to a

registered municipal landfill site.

- That the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource.

The use of non-renewable resources is arguably not relevant to this Project application. More remote site locations, for example those without access to permanent electricity infrastructure, would better qualify for electricity provision via renewable energy sources e.g. solar panels.

- Avoidance, minimisation and remedying of negative environmental impacts

The implementation of precautionary and mitigation measures that have been incorporated in the EMPr and specialist reports will ensure that detrimental environmental impacts are avoided or limited. The applicant will have to comply with the conditions of the Environmental Authorisation, recommendations of the BAR and EMPr should a positive EA be received as anticipated. The applicant is also advised to implement best practice principles to avoid causing any unnecessary and unforeseen damage to the natural environment.

- Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons.

The project will make every effort to address the requirements set out by the local community and minimise environmental impact on the surrounding environment. A public participation process in terms of Chapter 6 of the 2014 EIA Regulations (as amended) is undertaken to ensure a just process is followed.

- Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law. The participation of all interested and affected parties must be promoted.

The information contained in this report, including all comments, correspondence with organs of state and local authorities will be made available to the public. The EIA process provides interested and affected parties, including organs of state, with ample opportunity for review, comment and input on the process and available documentation. A public participation process in terms of Chapter 6 of the 2014 EIA Regulations (as amended) is undertaken to ensure a just process is followed.

- Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores,

estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.

The proposed development is not likely to increase pressure on human resource usage as the development is an upgrade from its present state. There are no sensitive ecosystems affected by the proposed Project.

Considering the above, it is clear that the Department (in this case KZN EDTEA) has a responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution and in particular the basic needs of categories of persons disadvantaged by unfair discrimination.

During the BA process, various options were considered in terms of the proposed development being environmentally sustainable. Alternatives were investigated to ensure that disturbance of ecosystems and loss of biological diversity is avoided through implementation of appropriate mitigation measures.

The proposed activity will not impact negatively on the nation's cultural heritage nor exploit non-renewable natural resources. A risk-averse and cautious approach was followed taking into account the limits of current scientific knowledge regarding the consequences of decisions and actions.

The proposed project will not impact negatively on people's environmental rights. The participation of all interested and affected parties in environmental governance will be promoted and their comments will be respected and considered.

If the Competent Authority grants permission to commence with the proposed project, the State will not disregard its responsibility towards the citizens of this country, or promote unfair discrimination.

SECTION I: DETAILS OF ALTERNATIVES CONSIDERED

The NEMA EIA regulations, 2014 (as amended) defines “**Alternatives**” as:

“In relation to a proposed activity, means different means of fulfilling the general purpose and requirements of the activity, which may include alternatives to the—

- a) Property on which or location where the activity is proposed to be undertaken;*
- b) Type of activity to be undertaken;*
- c) Design or layout of the activity;*
- d) Technology to be used in the activity; or*
- e) Operational aspects of the activity;*

And includes the option of not implementing the activity;”

The general objective of integrated environmental management (Section 23 of NEMA, refers) is, *inter alia*, to “*identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management*” set out in NEMA.

The identification, evaluation, consideration and comparative assessment of alternatives directly relate to the management of impacts, in relation every identified impact, alternatives, modifications or changes to the activity must be identified, evaluated, considered and comparatively considered to:

- In terms of negative impacts, firstly avoid a negative impact altogether, or if avoidance is not possible alternatives to better mitigate, manage and remediate a negative impact and to compensate for/offset any impacts that remain after mitigation and remediation; and
- In terms of positive impacts, maximise impacts.

1.1 Preferred Alternative

The preferred alternative is the proposed school development upgrade, as is described and assessed in this BAR. This is the alternative for which an environmental authorisation is being applied for.

1.2 Location Alternative

Due to existing school infrastructure, albeit being temporary structures, along with sports fields being located on both erven; as well as existing municipal infrastructure servicing the erven, this is the only site location alternative considered in this BAR.

1.3 Activity Alternatives

As the proposed project is for the upgrading of a pre-existing school and facilities, with the erven being zoned for Education, no activity alternatives have been considered or assessed.

1.4 Design/Layout alternative

As there have been no identified environmental sensitivities on the property erven, no design alternatives have been considered. The proposed design maximises the school layout in terms of the site footprint.

1.5 Technology Alternative

Consideration of such alternatives is to include the option of achieving the same goal by using a different method or process (*e.g. to reduce resource demand and increase resource use efficiency.*) In a building type development, technology could be applied to enhance energy efficiency, water saving, waste management etc, depending on the nature and scale of the development.

Within the context of the applicant's/developer's existing school building designs, traditional energy options (*i.e. electricity*) and technology options (*i.e. building materials*) have been considered and included in the proposed design. Rainwater harvesting from roofs (for small-scale storage and irrigation requirements at the school) will be incorporated as an additional technology incorporated into the technology design. No further technology alternatives were considered.

1.6 Operational Alternative

Not applicable to this type of development.

1.7 No-Go Alternative

Should the no-go option be implemented, the project area would remain a school with temporary/basic facilities along with an already altered/degraded environment. This will not address the issue of inadequate educational facilities available to the surrounding community, thus maintaining the status quo in terms of the number of youth not gaining access to a quality schooling facility and acquiring the associated benefits from a safe and healthy learning environment. This will potentially result in an increase in the number of youth not attending primary school and, in turn, not finishing a complete schooling career. This would further exacerbate the level of unemployable individuals in the area which will place a further strain on both the government and local community.

SECTION J: ENVIRONMENTAL ASPECTS ASSOCIATED WITH THE ALTERNATIVE

1.1 Description of the Environmental Aspects Associated with the Proposed Development

If the planned upgrading of Thembinkosi Primary School is approved, there are activities which will have an impact on various aspects that should be taken into account during various phases. These impacts on identified aspects are summarised in the section boxes below.

1.2 Ecological Aspects

The proposed development and its alternatives impact on CBAs or ESAs.

Description

The proposed development is not located within any CBAs or ESAs.

The proposed developments impact on terrestrial vegetation, or aquatic ecosystems.

Description

Currently the site footprint is heavily degraded and very little remains of the original/natural/undisturbed terrestrial vegetation. Any remaining vegetation is likely to be removed to make way for proposed school buildings and associated infrastructure including recreational areas, *i.e.* sports facilities.

No aquatic, riparian or wetland habitats or vegetation will be affected by the proposed development.

The proposed development impact on any populations of threatened plant or animal species, and/or on any habitat containing unique signature of plant or animal species.

Description

No threatened flora or faunal species were identified on site by the Terrestrial biodiversity specialist.

Other biological aspects which will be impacted on by the Project

Description

No other biological aspects of significance were identified during the BA process.

1.3 Heritage and Cultural aspects

No heritage or cultural aspects have been identified on the proposed development footprint during the BAR process. See BAR **Appendix 6** for the Heritage Impact Report.

1.4 Social and Economic aspects

Expected capital value of the project on completion.	R 40 000 000.00
Expected yearly income or contribution to the economy that will be generated by or as a result of the project.	R 21 000 000.00
New skilled employment opportunities created in the <u>construction</u> phase of the project	100
New skilled employment opportunities created in the <i>operational</i> phase of the project	50
New un-skilled employment opportunities created in the <u>construction</u> phase of the project	75
New un-skilled employment opportunities created in the <i>operational</i> phase of the project	50
What is the expected value of the employment opportunities during the operational and construction phase?	R 10 560 000.00

1.5 Waste (Including Effluent) Management

Predicted waste types and quantity produced during the construction phase (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type?	m ³
General Waste	
Building and Demolition Waste	Unknown and expected to be variable
The construction phase will result in the generation of some excess spoil material and building and demolition waste. This is however expected to be of relatively minimal quantities. Construction sites will be contained and all related waste generated during the construction phase will be removed to the Newcastle Waste Disposal Site, a registered landfill site. Construction rubble (excess concrete/soil/rock/spoil) will be removed to a registered landfill site. All waste material categorised as recyclable may be donated to local SMMEs within the area.	
Domestic Waste	Unknown, expected to be minimal
Waste from general construction workers will be contained in a designated refuse area. Waste will be separated into recyclable waste streams, and non-recyclable waste will be directed to a registered landfill site. All waste material categorised as recyclable may be donated to the local SMME's within the area.	
Inert Waste	Unknown expected to be minimal
The construction phase may result in the generation of some inert waste. This is however expected to be minimal. Construction sites will be contained and all related waste generated during the construction phase will be removed to the Newcastle Waste Disposal Site. All waste material categorised as recyclable may be donated to the local SMME's within the area.	
Hazardous Waste	

Oil wastes and other liquid fuel wastes	Unknown expected to be minimal
May be produced from construction vehicles/ workshop. Separate bins should be provided for general and hazardous waste. As far as possible, provision should be made for separation of waste for recycling.	
Construction Waste	Unknown
The construction phase may result in the generation of some construction waste. This is however expected to be minimal. Construction sites will be contained and all related waste generated during the construction phase will be removed to the Newcastle Waste Disposal Site. Construction rubble (excess cement/concrete) will also be removed to a registered landfill site. All waste material categorised as recyclable may be donated to the local SMME's within the area.	
Predicted waste types and quantity produced during the operational phase (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type?	m³
General Waste	
Domestic Waste	Unknown
Hazardous Waste	
Little to no hazardous wastes are predicted	Negligible/none
Types of waste and estimated quantity per waste treated/disposed of on-site	m³
Not Applicable (No on-site treatment or disposal will occur)	-
Identified locations and Service provider for the treatment and disposal of waste (private vs. municipality)	
Registered waste service providers to be appointed by Contractor for waste disposal at registered site(s) within the Newcastle Local Municipality	
Facilities operating license (Copy of the licence attached.)	
Facility name:	Newcastle Waste Disposal Site (B33/2/2010/008)
Contact person:	Mr P. Reddy
Address	Private Bag X6621, Newcastle, 2940
Location:	Remainder of Lot 1 Newcastle, District of Klip River
Tel:	031 306 2700
E-mail:	Not specified on license

Measures that will be taken to reduce, reuse or recycle waste

Waste on site will be managed in such a way as to conform to the National Environmental Management Waste Act (Act 59 of 2008). The following waste streams will provisionally be reduced, reused or recycled if there is local capacity in terms of service provision to do so:

- 1) Building rubble to be used as fill material where possible
- 2) Glass and office waste paper/cardboard should be recycled
- 3) Scrap metal and used steel should be taken off site for recycling
- 4) Old/used oil should be sold if possible to hydrocarbon recycling service providers (e.g. OILKOL, Rose Foundation). If not, it must be disposed of at a licensed/certified hazardous waste management facility with proof of safe disposal submitted
- 5) Wood/timber should be distributed for re-use if opportunities exist to do so

1.6 Water Use

Indication of the source(s) of water for the development proposal

Municipal	Water board	Groundwater	River, Stream, Dam or Lake	Other	The project will not use water	
Predicted volume of municipal water to be utilised during Construction:					Unknown	m ³
Predicted volume of water to be extracted from a groundwater source, river, stream, dam, lake or any other natural feature per month:					0	m ³

Any Project requirement for a water use authorisation from DWS?

No water use authorisation is required for the Project (See BAR **Appendix 8**) as no watercourses have been identified to exist on the site footprint or in the watercourse regulated area (See BAR **Appendix 7**). No water is planned to be abstracted from a borehole/well-point for Construction or Operational purposes, municipal water is currently available and will be supplied.

Important note: If water abstraction from a borehole becomes an intended need, the Project applicant/developer will need to officially enquire and clarify with the relevant authority (DWS) relating to any potential authorisation and registration processes and requirements for any use of borehole water (*i.e.* groundwater).

Measures that will be taken to reduce water demand, and measures to reuse or recycle water

Rainwater harvesting from roofs for small-scale storage and irrigation requirements at the school will be implemented using pipes connected to roof gutters directed to temporary storage tanks.

1.7 Transport, Traffic and Access

Impacts in terms of transport, traffic and access

The existing road network on the western boundary of the site may require an upgrade from a gravel road to a concrete or paved road depending on the available budget due to increased traffic and to improve safety.

1.8 Nuisance Factors (Noise, Odour, Etc.)

Impacts in terms of Nuisance Factors

Noise

There will be a short-term increase in noise levels during the Construction phase due to the use of construction machinery and the introduction of labour and Contractor personnel to the site.

Dust

Increased dust levels due to construction activity on the project footprint are anticipated, primarily during the earthworks phase (which includes clearing of the site, excavations and digging of trenches). Vehicle movement and labour transportation are likely to be minor contributors to short-term dust generation.

SECTION K: IMPACT ASSESSMENT, IMPACT AVOIDANCE, MANAGEMENT, MITIGATION AND MONITORING MEASURES

1.1 METHODOLOGY

In this assessment, the impacts are described in terms of their characteristics, including the impact's spatial and temporal features (namely *extent*, *duration*, *probability* and *severity*). While an impact assessment typically focuses on the negative (-) impacts, an impact can also be positive (+) or neutral (0). Whether an impact is negative, positive or neutral is referred to as its **Nature**. The definitions of the impact terms used in this BA are described below:

- **Duration (temporal scale)** – how long will the impact last? The time period over which a resource / receptor is affected
- **Extent (spatial scale)** – will the impact affect the national, regional or local environment, or only that of the site? The reach of the impact (i.e. physical distance an impact will extend to)
- **Probability (likelihood)** – how likely is it that the impact may occur? Measure of the probability with which the impact is expected to occur
- **Severity (consequence)** – will the impact be of high, moderate or low severity? A measure of the damage that the impact will cause if it does occur

Impact characterisation and criteria are summarised in the matrix below:

Occurrence	Duration	Temporary - (period of less than 1 year)	1	Probability	Unlikely - probably will not happen	1
		Short term - period of less than 5 years	2		Improbable - some possibility, but low likelihood	2
		Medium term - period of less than 15 years	3		Probable - distinct possibility	3
		Long term - period of less than 20 years	4		Highly probable - most likely	4
		Permanent - a period that exceeds the life of project	5		Definite - impact will occur regardless of any prevention measures	5
Severity	Extent	On-site - impacts that are limited to the Project site.	1	Severity	No effect - will have no effect on the environment	0
		Local - impacts that are limited to the Project site and adjacent properties.	2		Minor – minor and will not result in an impact on processes	2
		Regional - impacts that are experienced at a regional scale, i.e. Kwazulu-Natal.	3		Low – low and will cause a slight impact on processes	4
		National - impacts that are experienced at a national scale.	4		Moderate – moderate and will result in processes continuing but in a modified way	6
		Trans-boundary/International - impacts that are experienced outside of South Africa.	5		High - processes are altered to the extent that they temporarily cease	8
					Very high - results in complete destruction of patterns and permanent cessation of processes	10

The **Significance** (quantification) of potential environmental impacts identified during the Basic Assessment have been determined using a ranking scale, based on the following (terminology has been taken from the Guideline Documentation on EIA Regulations, of the Department of Environmental Affairs and Tourism, April 1998):

Occurrence

- Probability of occurrence (how likely is it that the impact may occur?)
- Duration of occurrence (how long may it last?)

Severity

- Severity (Magnitude) of impact (will the impact be of high, moderate or low severity?)
- Scale/extent of impact (will the impact affect the national, regional or local environment, or only that of the site?)

The environmental significance of each potential impact is assessed using the following formula:

Significance Points (SP) = (Severity + Duration + Extent) x Probability

The maximum value is 100 Significance Points (SP). Potential environmental impacts were rated as *HIGH*, *MODERATE* or *LOW* significance on the following basis:

≤ 30 significance points	LOW environmental significance
31 - 60 significance points	MODERATE environmental significance
≥ 61 significance points	HIGH environmental significance

1.1.1 Description of any gaps in knowledge

Gaps in knowledge include:

- Issues that may arise from the public participation process which have not yet been identified by the EAP.
- Future changes in circumstances and legislation can also not be accounted for at this stage.
- Uncertainties in current scientific understanding.

1.1.2 Description of any underlying Assumptions and Uncertainties

Initial assumptions

- It is assumed that all information on which this report is based is truthful and correct.

- All the relevant design and mitigation measures specified in this report will be implemented in order to achieve an acceptable level of impact and to ensure minimal impact on the surrounding environment.
- It has been assumed that the description of the proposed project, provided by the applicant, is accurate.
- It is assumed that the Public Participation Process undertaken as part of the Basic Assessment Process will be sufficient and adequate. Every effort will be made to inform all potential stakeholders of the proposed development (notification through letters, advertisements, site notices). The demography, language preferences or social standing of some potential I&AP's cannot always be catered for despite best efforts.

Initial Uncertainties

The impacts have been identified and assessed to the EAP's best ability. Any other impacts not identified are currently unknown.

1.1.3 Adequacy of the Assessment Methods

During the Basic Assessment process a range of potential impacts are identified, and assessed/evaluated against certain criteria. Impacts are identified through various ways which include:

- Site visits by the EAP and specialists to determine the nature and sensitivity of the site and to gain an understanding of the surrounding environment;
- Consultation with the Applicant and key stakeholders to provide an understanding of the need for the proposed activity;
- Environmental screening using the recently developed DEA Screening Tool (<https://screening.environment.gov.za>);
- The following specialist input was obtained via the following specialist studies:
 - Terrestrial Biodiversity Assessment
 - Heritage Impact Assessment
 - Soil (Agriculture) Impact Assessment
 - Surface-water resource verification
 - Traffic Impact Statement
- Consideration of the applicable legislation, guidelines and policies (see complete list in **Section C** of this document);
- Standard impact assessment methodology was utilised so that a wide range of impacts can be compared (in order to ensure uniformity).

The assessment methods used are anticipated to be adequate for the nature of the application and site and it is believed that sufficient information has been compiled and assessed during this BA.

1.1.4 Cumulative impacts

Cumulative impacts (effects) are impacts which result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseen future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period of time and can include both direct and indirect impacts. Considering the complexity of assessing the nature and significance of cumulative impacts, a detailed cumulative effects assessment may strictly not be feasible, particularly for a project of this nature.

1.2 IDENTIFICATION, ASSESSMENT AND RANKING OF IMPACTS TO REACH THE PROPOSED ALTERNATIVES INCLUDING THE PREFERRED ALTERNATIVE WITHIN THE SITE

This section focuses on the identified issues, impacts and risks that influenced the identification of the alternatives. This includes how aspects of the receiving environment have influenced the selection.

Summarised list of identified potential impacts for each alternative:

<p>Alternative 1: <i>Preferred Alternative</i></p>	<p>Construction impacts:</p> <ul style="list-style-type: none"> • Loss of terrestrial vegetation - biodiversity (permanent/long-term) • Soil and groundwater contamination (short term/local) • Pollution (all media) • Loss of heritage and cultural resources • Increased water usage (temporary) • Traffic congestion (temporary) • Air quality <ul style="list-style-type: none"> ○ Dust (temporary) ○ Noise (temporary) • Visual (temporary) • Socio-economic (positive and negative) <p>Operational impacts:</p> <ul style="list-style-type: none"> • Socio-economic (positive) <ul style="list-style-type: none"> ○ Increase in education levels ○ Adequate schooling facilities • Cumulative (net positive – enhanced quality of life)
<p>Alternative 2: <i>No-go Alternative (Status Quo)</i></p>	<p>Construction impacts:</p> <p>None - no construction activities will take place (<i>Status quo</i> remains)</p> <p>Operational impacts: n/a</p> <ul style="list-style-type: none"> • Socio-economic impacts <p>Positive impacts would not be realised:</p> <ul style="list-style-type: none"> ○ No increase in education levels ○ Inadequate schooling facilities <p>Negative impacts</p> <ul style="list-style-type: none"> • No improvement in education levels • Continued rate of unemployment • Potential increased risk of crime

The following section describes the impacts and risks identified for each alternative, including the **Nature of Impact, Significance, Severity** (Consequence), **Extent, Duration and Probability** (Likelihood) of the impacts, including the degree to which these impacts can be reversed; may cause irreplaceable loss of resources; and can be avoided, managed or mitigated.

THE ALTERNATIVES WHICH WERE ASSESSED WERE:

Alternative 1 (A1): PREFERRED ALTERNATIVE - (Construction of facilities to upgrade Thembinkosi Primary School)

Alternative 2 (A2): NO-GO ALTERNATIVE (*Status quo*)

The following tables below serve as a guide for summarising each alternative in relations to aspects. The tables incorporate each alternative to ensure a comparative assessment. The alternatives being assessed are divided into ‘Columns 2 and 3’ for each impact assessed with ‘Column 1’ containing the various impact criteria; as follows:

Column 1	Column 2	Column 3
Nature of Impact, criteria and rating descriptions	Assessment per criteria and rating descriptions for A1: Preferred Alternative	Assessment per criteria and rating descriptions for A2: No-go Alternative

Impacts that may result from the planning, design and construction phase (briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the planning, design and construction phase.

CONSTRUCTION PHASE						
Aspect		Biodiversity				
Activity		Site Clearance				
Nature of Impact		Negative (-) Impact on terrestrial vegetation and ecological processes. Direct loss of vegetation, loss of existing Grasslands.				
Alternative		A1			No-Go (A2)	
Status		Pre-Mitigation	Post-Mitigation		Pre-Mitigation	Post-Mitigation
Significance rating	Duration	1	1		N/A	N/A
	Extent	5	3		N/A	N/A
	Severity	2	2		N/A	N/A
	Probability	4	1		N/A	N/A
	Significance	32	7		N/A	N/A
Risk Rating		Moderate	Low		<i>Status quo</i> remains – Low . The current condition (mostly degraded grassland) would persist	
Indirect Impact		Low				
Cumulative Impacts prior to mitigation		Low/ Negligible				
Degree to which the impact can be reversed		Irreversible to improbable				
Degree to which the impact may cause irreplaceable loss of resources		Irreplaceable				
Proposed Mitigation Measures		<ul style="list-style-type: none"> • Areas not affected by the placement of new facilities must be cleared of alien invasive species. • Restrict losses of natural habitat to footprints, avoid peripheral or unnecessary losses of natural habitat; ensure proper rehabilitation of areas outside development footprints (where accidental habitat degradation occurs). • Worker/ contractor awareness programmes, ensuring minimal conflict situation. • Control of human movement in adjacent natural habitat, frequent patrols. • Implement generic monitoring programme and mitigation measures that are aimed at identifying and preventing the uncontrolled spread of impacts into adjacent areas of natural habitat 				
OPERATIONAL PHASE						
Not Applicable. The site will be cleared of all vegetation with mono-specific (grass) sports fields which form part of the new school infrastructure.						

CONSTRUCTION PHASE						
Aspect		Loss of or Discovery of Heritage and Cultural Resources				
Activity		Trenching & Excavations				
Nature of Impact		Negative (-) if destroyed, Positive (+) if discovery contributes to new scientific knowledge. Direct impact on chance finding of heritage resources and Palaeontological finds during site excavations				
Alternative		A1			No-Go (A2)	
Status		Pre-Mitigation	Post-Mitigation		Pre-Mitigation	Post-Mitigation
Significance rating	Duration	5	5		N/A	N/A
	Extent	1	1		N/A	N/A
	Severity	10	10		N/A	N/A
	Probability	2	1		N/A	N/A
	Significance	32	16			
Risk Rating		Moderate	Low		Low	Low
Indirect Impact		None				
Cumulative Impacts prior to mitigation		Negligible				
Degree to which the impact can be reversed		Improbable to Irreversible				
Degree to which the impact may cause irreplaceable loss of resources		Irreplaceable				
Proposed Mitigation Measures		Demarcate find and manage via the Chance Find Procedure (See Heritage Impact Report)				
OPERATIONAL PHASE						
Not applicable as the site would be established; no future earth works are planned or predicted.						

CONSTRUCTION PHASE						
Aspect		Environmental Contamination / Hazardous wastes				
Activity		Hazardous Substances Use				
Nature of Impact		Negative (-) Potential soil and groundwater contamination				
Alternative		A1		No-Go (A2)		
Status		Pre-Mitigation	Post-Mitigation	Pre-Mitigation	Post-Mitigation	
Significance ranking	Duration	2	1	N/A	N/A	
	Extent	2	1	N/A	N/A	
	Severity	8	8	N/A	N/A	
	Probability	3	2	N/A	N/A	
	Significance	36	20			
Risk Rating		Moderate	Low	Status quo remains – Low. The current condition would continue.		
Indirect Impact		None				
Cumulative Impacts prior to mitigation		Negligible				
Degree to which the impact can be reversed		Partially reversible				
Degree to which the impact may cause irreplaceable loss of resources		Low				
Proposed Mitigation Measures		<ul style="list-style-type: none"> Removal and clean-up of spill immediately after occurrence. All construction vehicles must be properly maintained to prevent leaks. Cement mixing must be confined to a designated area and must be done on an impervious surface, or pre-mixed cement must be used. Any fuel stored on site must be kept in bunded storage tanks. Drip trays are to be utilised during daily greasing and re-fuelling of machinery and to catch incidental spills and pollutants. Drip trays are to be inspected on a weekly basis for leaks and effectiveness, and emptied when necessary. This is to be closely monitored during rain events to prevent overflow. All hazardous waste materials and chemicals must be removed for reuse (<i>i.e.</i> stored) or appropriate management (lawful disposal or recycling) through authorised waste management service providers. 				
OPERATIONAL PHASE						
Not Applicable as the facility is a Primary School, it is predicted that little to no hazardous substances will be located or used on site during operational phase.						

CONSTRUCTION PHASE						
Aspect		Waste Management				
Activity		General construction wastes produced on site				
Nature of Impact		Negative (-) if waste is not properly managed; Positive (+) if a formal waste management system is established. Impact of surrounding environment and community, along with potential health risks to users and local community.				
Alternative		A1			No-Go (A2)	
Status		Pre-Mitigation	Post-Mitigation		Pre-Mitigation	Post-Mitigation
Significance ranking	Duration	2	2		N/A	N/A
	Extent	2	2		N/A	N/A
	Severity	6	2		N/A	N/A
	Probability	3	2		N/A	N/A
	Significance	30	12			
Risk Rating		Moderate	Low		<i>Status quo</i> remains – Moderate. The current condition (no formal waste management system) would continue.	
Indirect Impact		Bad odours, breeding of pests and vermin.				
Cumulative Impacts prior to mitigation		Negligible				
Degree to which the impact can be reversed		Reversible				
Degree to which the impact may cause irreplaceable loss of resources		Low				
Proposed Mitigation Measures		<ul style="list-style-type: none"> • Implement waste management measures as per EMPr. • Demarcated area must be allocated for waste sorting and disposal on the site. • Place adequate number of waste receptacles around site during Construction • Disposal of all wastes at an appropriate registered landfill site. 				
OPERATIONAL PHASE						
In terms of long-term waste monitoring, maintenance and servicing requirements and procedures to be followed at the school during operations, an Operation Manual / SLA should be developed which details the timeframes, responsibilities and financial provisions/arrangements between the NLM and KZN-DoE.						

CONSTRUCTION PHASE						
Aspect		Wastewater (Sewerage) Management				
Activity		Disposal of sewerage				
Nature of Impact		Negative (-) impact on surrounding environment and local community if wastewater is not disposed of correctly and lawfully (<i>i.e.</i> through leaks, spills, breakages, blockages, overloading, etc of the WWTW)				
Alternative		A1			No-Go (A2)	
Status		Pre-Mitigation		Post-Mitigation		
Significance ranking	Duration	2	2		N/A	N/A
	Extent	2	2		N/A	N/A
	Severity	4	2		N/A	N/A
	Probability	4	3		N/A	N/A
	Significance	32	18			
Risk Rating		Moderate		Low		
Indirect Impact		Maintenance impacts experienced at the site footprint (<i>i.e.</i> a school) associated with any servicing, repairing and/or un-blocking of the sewerline infrastructure system anywhere in Osizweni. This impact would potentially occur regardless of whether the project is approved <i>i.e.</i> whether the school is upgraded or not.				
Cumulative Impacts prior to mitigation		Significant				
Degree to which the impact can be reversed		Reversible				
Degree to which the impact may cause irreplaceable loss of resources		Low to Moderate				
Proposed Mitigation Measures		<ul style="list-style-type: none"> Contractors must make sufficient chemical ablution facilities available for all staff on site, including for the school staff and learners, for as long as there may be no access to utilise the existing sewerage infrastructure e.g. during any pipe/sewerline connections / re-connections during construction. Sufficient numbers of chemical ablutions (ratio 1: 10) for both males and females must be regularly serviced, always supplied with toilet paper and maintained in hygienic conditions. All sewage disposal must take place at a registered and functionally operational wastewater treatment works (WWTW). A letter must be obtained from the Newcastle Municipality confirming there is sufficient unallocated capacity for the relevant WWTW to receive and treat any additional sewage effluent generated from the proposed site footprint <i>i.e.</i> the school. 				

CONSTRUCTION PHASE						
Aspect		Water Management (including stormwater)				
Activity		Construction-related water use				
Nature of Impact		Negative (-) impact on municipal water supply and on surrounding environment				
Alternative		A1			No-Go (A2)	
Status		Pre-Mitigation	Post-Mitigation		Pre-Mitigation	Post-Mitigation
Significance ranking	Duration	2	2		N/A	N/A
	Extent	2	2		N/A	N/A
	Severity	4	2		N/A	N/A
	Probability	4	3		N/A	N/A
	Significance	32	18			
Risk Rating		Moderate	Low		Low	Low
Indirect Impact		If groundwater abstraction becomes a requirement, there may be an impact on the surrounding users if quantities exceed the capacity of the catchment.				
Cumulative Impacts prior to mitigation		Leaking Negligible				
Degree to which the impact can be reversed		Reversible				
Degree to which the impact may cause irreplaceable loss of resources		Low				
Proposed Mitigation Measures		<ul style="list-style-type: none"> • Limit vegetation clearing to only the site footprint, reducing need for dust suppression with water on exposed soil surfaces. • Adopt a phased approach to site clearing or a no impact approach (leave vegetation <i>in-situ</i> until such time it needs to be removed. • Installation of water capture (rainwater harvesting) devices such as storage JoJo tanks linked to roof gutters, etc. • Implement proper waste management and rehabilitation measures as per EMP to prevent any localised water quality decline (e.g. turbidity and sedimentation due to due lack of vegetation cover and contamination of storm/rain water due to poorly managed wastes). • The quantity of water needed for the duration of the 				



construction phase is to be calculated and planned for in detail.

- Contractors to conservatively use water during the construction period and train and monitor staff usage.
- No liquid waste, including grey water, or contaminated water with spilled chemicals may be discharged into or onto any water body, drainage line, road or stormwater drain to avoid groundwater and surface water pollution.
- Fix leaking or broken taps.

OPERATIONAL PHASE

The school will be linked to the municipal water system. Responsible water use is recommended throughout the operational phase. Inspecting, reporting and fixing of leaking or broken taps is recommended. Rain water harvesting/capture for non-potable water uses at the school (e.g. for sport field irrigation) recommended to continue with all necessary maintenance to be carried out as and when required.

Stormwater management infrastructure must be properly maintained and monitored.

If stormwater management measures put in place are deemed insufficient, a qualified engineer must be approached to assist with additional stormwater attenuation mechanisms and remediation.

CONSTRUCTION PHASE						
Aspect		Noise				
Activity		Construction vehicles movement, machinery usage, construction workers				
Nature of Impact		Negative (-) Increased noise levels may be a nuisance factor to learners/teachers (<i>i.e.</i> concurrent occupiers of the property during construction) and neighbouring land occupiers/users				
Alternative		A1		No-Go (A2)		
Status		Pre-Mitigation	Post-Mitigation		Pre-Mitigation	Post-Mitigation
Significance ranking	Duration	1	1		N/A	N/A
	Extent	2	2		N/A	N/A
	Severity	6	4		N/A	N/A
	Probability	4	4		N/A	N/A
	Significance	36	28			
Risk Rating		Moderate	Low		Low	Low
Indirect Impact		None expected				
Cumulative Impacts prior to mitigation		None expected as the impact would be limited to the site and immediate surrounds				
Degree to which the impact can be reversed		Completely reversible at the end of construction				
Degree to which the impact may cause irreplaceable loss of resources		None				
Proposed Mitigation Measures		<ul style="list-style-type: none"> Noise should be kept to a minimum in accordance with the SANS standards for urban areas. Construction activity to be restricted to normal labour law working hours (Limit working hours to daylight hours). Attend to complaints as far as reasonably possible, as per EMPr specifications. Notify surrounding properties and school occupants of potentially high noise levels. Environmental induction and awareness training for all site-based project role-players. 				
OPERATIONAL PHASE						
Not applicable as majority of the nuisance noise will originate during the Construction Phase which has been addressed above. Adherence to Municipal Noise By-Laws will be sufficient enough to address any future noise related issues. Noise levels for the Operational phase should remain as per the <i>Status quo</i> as the site footprint is currently functioning/operating as a school.						

CONSTRUCTION PHASE						
Aspect		Traffic				
Activity		Increased traffic activity				
Nature of Impact		Negative (-) Disturbance to traffic flow conditions and safety risks for local residents, road construction workers and road users during the proposed construction upgrade of the school and existing gravel road (Od4 Street).				
Alternative		A1			No-Go (A2)	
Status		Pre-Mitigation	Post-Mitigation		Pre-Mitigation	Post-Mitigation
Significance ranking	Duration	2	2		N/A	N/A
	Extent	2	2		N/A	N/A
	Severity	4	2		N/A	N/A
	Probability	3	3		N/A	N/A
	Significance	24	18			
Risk Rating		Low	Low		Low	Low
Indirect Impact		Increased vehicle emissions				
Cumulative Impacts prior to mitigation		Negligible				
Degree to which the impact can be reversed		Irreversible				
Degree to which the impact may cause irreplaceable loss of resources		No loss of resources				
Proposed Mitigation Measures		<ul style="list-style-type: none"> Establish speed reduction measures around project area. Establish construction vehicle warning signs around project area. Demarcate and temporarily fence off dangerous areas/ construction areas as no-go areas for learners, teachers and the general public to avoid safety related incidents. Constantly inform/educate learners and teachers about no - go areas to avoid safety related incidents. Notify surrounding properties of potentially high noise levels. Adhere to Health & Safety Specification for the Project. 				
OPERATIONAL PHASE						
<p>It is predicted that if upgraded, the school may possibly generate up to 50 peak hour trips. It is highly unlikely to attain 150 peak hour trips. As the development is situated in an area with very low vehicle ownership, most of the students will continue to walk to school and/or use public transport. An increased in traffic volumes during the Operational Phase is likely to be negligible and limited to any school staff that own a vehicle and drive daily to and from the school.</p>						

CONSTRUCTION PHASE						
Aspect		Air Quality				
Activity		General site activities				
Nature of Impact		Negative (-) Increase in Dust Levels during Construction				
Alternative		A1			No-Go (A2)	
Status		Pre-Mitigation	Post-Mitigation		Pre-Mitigation	Post-Mitigation
Significance ranking	Duration	1	1		N/A	N/A
	Extent	2	2		N/A	N/A
	Severity	6	4		N/A	N/A
	Probability	4	3		N/A	N/A
	Significance	36	21			
Risk Rating		Moderate	Low		Low	Low
Indirect Impact		None significant				
Cumulative Impacts prior to mitigation		Should more than one other construction project be underway and commence at the same time in the immediate/local vicinity, this may result in cumulative dust (air quality) impacts in the area.				
Degree to which the impact can be reversed		Fairly reversible				
Degree to which the impact may cause irreplaceable loss of resources		None				
Proposed Mitigation Measures		<ul style="list-style-type: none"> • Limit vegetation clearing to only the site footprint. • Adopt a phased-approach to site clearing (vegetation/soil) or a no impact approach (leave vegetation <i>in-situ</i>) until such time it needs to be removed, reducing the area and duration time of exposed soil surfaces. • Demarcate and cover any soil stockpiles with shade netting to reduce dust during windy conditions. • Where appropriate, use dust control methods (e.g. water or dust suppressants). • Implement dust control/reduction and mitigation measures as per EMPr. 				
OPERATIONAL PHASE						
Not applicable as the majority of the dust related issues will originate during the Construction phase, which has been addressed above. Once fully developed and rehabilitated, the operational school should result in little to no poor air quality or dust-related impacts.						

CONSTRUCTION PHASE					
Aspect		Visual			
Activity		General construction activities will have a visual impact			
Nature of Impact		Negative (-)			
Alternative		A1		No-Go (A2)	
Status		Pre-Mitigation	Post-Mitigation	Pre-Mitigation	Post-Mitigation
Significance ranking	Duration	2	2	N/A	N/A
	Extent	2	2	N/A	N/A
	Severity	2	0	N/A	N/A
	Probability	4	4	N/A	N/A
	Significance	24	16		
Risk Rating		Low	Low	Low	Low
Indirect Impact		None significant			
Cumulative Impacts prior to mitigation		Low			
Degree to which the impact can be reversed		Low to moderate			
Degree to which the impact may cause irreplaceable loss of resources		Low			
Proposed Mitigation Measures		<ul style="list-style-type: none"> • Good housekeeping and maintain a neat construction site. • No work permitted to take place at night where light disturbances (visual impacts) could impact residents. • Rehabilitate disturbed areas appropriately in line with EMPr guidelines. 			
OPERATIONAL PHASE					
<p>The resulting visual impact of the school, once constructed, could be argued to be negative (-), positive (+) or neutral (0) and is a subjective/qualitative judgement based on people’s personal values, experiences and opinions – whether similar or different. There are no long-term visual impacts that the school will have on any visually sensitive receptors and their locations e.g. resorts, reserves, parks, tourist sites, heritage sites, scenic routes, recreational areas, etc.</p>					

CONSTRUCTION PHASE					
Aspect		Socio -economic benefits (job creation)			
Activity		Construction and investment of capital and human resources in the development			
Nature of Impact		Positive (+)			
Alternative		A1		No-Go (A2)	
Status		Without Enhancement	With Enhancement	Without Enhancement	With Enhancement
Significance ranking	Duration	2	2	N/A	N/A
	Extent	2	2	N/A	N/A
	Severity	2	4	N/A	N/A
	Probability	4	4	N/A	N/A
	Significance	24	32		
Risk Rating		Low	Moderate	Low	Low
Indirect Impact		Increase in regional and national level of education of South Africans to increase quality of life.			
Cumulative Impacts prior to mitigation		Alignment with the Municipality's overarching development strategies for the area in general.			
Degree to which the impact can be reversed		Moderate			
Degree to which the impact may cause irreplaceable loss of resources		None			
Proposed Enhancement Measures		<ul style="list-style-type: none"> • Oblige Contractor to increase local procurement practices and employ people from local communities, as far as feasible, to maximise the benefits to the local economy. • Procure construction materials, goods, and products from local suppliers where feasible, and keep records of local procurement by both themselves and contractor. • Employ labour-intensive methods in construction, where feasible. • Facilitate the training and upskilling of local employees in the broader construction industry to contribute towards local community upliftment. 			

OPERATIONAL PHASE						
Aspect		Socio-economic benefits (job creation)				
Activity		Operational and maintenance activities required for a functioning, formal school				
Nature of Impact		Positive (+)				
Alternative		A1		No-Go (A2)		
Status		Without Enhancement	With Enhancement	Without Enhancement	With Enhancement	
Significance ranking	Duration	5	5	N/A	N/A	
	Extent	2	2	N/A	N/A	
	Severity	0	6	N/A	N/A	
	Probability	2	4	N/A	N/A	
	Significance	14	52			
Risk Rating		Low	Moderate	Low	Low	
Indirect Impact		Increase in regional and national level of education of South Africans to increase quality of life.				
Cumulative Impacts prior to mitigation		Alignment with the Municipality's overarching development strategies for the area in general.				
Degree to which the impact can be reversed		Moderate				
Degree to which the impact may cause irreplaceable loss of resources		None				
Proposed Enhancement Measures		<ul style="list-style-type: none"> A small number of new permanent employment opportunities are likely to be created during the Operational phase of a formal school. The demand for several more teachers and support staff (e.g. administration, sport and ground staff) may increase. School management guided by the KZN-DoE and the NLM can provide support to SMME development in Ward 9 e.g. hire local community members for any basic ongoing maintenance requirements at the school e.g. grass cutting, alien vegetation clearing, refuse removal, fence repairs, etc. 				

OPERATIONAL PHASE ¹						
Aspect		Wastewater Management				
Activity		Disposal of sewerage				
Nature of Impact		Negative (-) impact on surrounding environment and communities if wastewater is not disposed of correctly and lawfully				
Alternative		A1		No-Go (A2)		
Status		Pre-Mitigation	Post-Mitigation	Pre-Mitigation	Post-Mitigation	
Significance ranking	Duration	5	5	N/A	N/A	
	Extent	3	3	N/A	N/A	
	Severity	6	6	N/A	N/A	
	Probability	3	1	N/A	N/A	
	Significance	42	14			
Risk Rating		Moderate	Low	Low	Low	
Indirect Impact		Maintenance impacts experienced at the site footprint (<i>i.e.</i> a school) associated with any servicing, repairing and/or un-blocking of the sewerline infrastructure system anywhere in Osizweni. This impact would potentially occur regardless of whether the project is approved <i>i.e.</i> whether the school is upgraded or not.				
Cumulative Impacts prior to mitigation		Significant				
Degree to which the impact can be reversed		Reversible				
Degree to which the impact may cause irreplaceable loss of resources		Low to Moderate				
Proposed Mitigation Measures		<ul style="list-style-type: none"> All sewage disposal must take place at a registered and operational wastewater treatment works (WWTW). A letter must be obtained from the Newcastle Municipality confirming there is sufficient unallocated capacity for the relevant WWTW to receive and treat any additional sewage effluent generated from the site <i>i.e.</i> the site footprint proposed School to utilise chemical ablution facilities serviced by registered local service providers in any event that the municipal sewage infrastructure is temporarily out of service and/or under maintenance/repair. 				

¹**Important to note** that the same impacts for this aspect *i.e.* 'Wastewater Management' as identified for the Construction Phase apply to the Operational Phase. Hence the recommendation for written confirmation from the Newcastle Municipality, **before** construction commences, that the WWTW will have sufficient capacity to service any additional sewerage waste from the proposed development.

1.3 SPECIALIST INPUTS/STUDIES, FINDINGS AND RECOMMENDATIONS

Specialist studies are attached to this report as BAR **Appendices** which are in line with the content requirements set out in Appendix 6 of the EIA Regulations, 2014 (as amended).

A summary of the specialist study findings, impact management measures and recommendations have been included in **Tables' 12 -16** below.

Table 12: Terrestrial Biodiversity Report Impacts and Recommendations.

Activity	Potential Impact	Comments and Recommendations
Clearing of vegetation	<ul style="list-style-type: none"> • Loss of Plant Species • Loss of Animal Species • Loss of Biodiversity • Loss of Rare/Medicinal Species • Increased Soil Erosion • Alien Plant Invasion 	<p>Storm water Management and pollution of the water system</p> <ul style="list-style-type: none"> • All storm water and runoff generated by the construction activities must be appropriately managed. • The storm water drainage network system must be kept separate from the wastewater (water containing waste) system. • The storm water system must be designed such that no large amount of water is released at one point only. • The release of water must be designed such that the force of the water is reduced to prevent unnecessary erosion.
		<p>Protected plants</p> <p>No protected plants were found on-site and no protected plants were listed in the QDG data searched on the SANBI POSA (Plants of Southern Africa) website site. The ECO should scan construction areas prior to clearing of the topsoil to ensure that no protected or rare plants are present before construction commencement (Refer to ECO duties in recommendations section).</p>
		<p>Top Soil conservation and rehabilitation</p> <ul style="list-style-type: none"> • Topsoil conservation is crucial as the import of topsoil in the case of shortages during rehabilitation has the risk to introduce alien and invasive vegetation from other areas. • Imported materials must preferably be from the same area or vegetation community as the one construction is taking place in. • Topsoil stripped from the construction site must be stockpiled and protected and re-used for rehabilitation purposes in the surrounding property that will ensure that no foreign or alien plants are imported.
		<p>Management & control programme for Alien & Invasive Plants</p> <ul style="list-style-type: none"> • Follow up areas should preferably be logged with the use of a Global Positioning System (GPS) to ensure that the same area is treated. • Ensure that follow up exercises are budgeted for the required time frames of at least one year after construction. • If follow-up work is not done after clearing of the site for construction the activities will most probably cause a worse infestation problem than before. • Where herbicides are used to clear vegetation, selective and biodegradable herbicides registered for the specific species should be applied to individual plants only. • General spraying and the use of non-selective herbicides (e.g. Roundup, Mamba etc.) should be prohibited at all times. • A registered Pest Control Officer (PCO) must be used in the application of herbicides during alien plant eradication processes. • This person must ensure that herbicides are applied correctly and responsibly in terms of excessive and responsible use. • Herbicides may not be applied close to water sources and stormwater drainage and must be done selectively and minimised to prevent contaminating water bodies that can cause possible non – selective damage to indigenous or to drinking water sources.
<p>Fire management and prevention plan</p> <ul style="list-style-type: none"> • Fire mitigation and prevention plan (or method statement) should be drafted before construction to ensure preparedness toward preventing fires starting from construction or elsewhere to limit or prevent damage to neighbouring properties or that can affect the school infrastructure. • The fire management plan must specify how fires will be prevented from frequently breaking out and causing damage to the surrounding vegetation during construction. • Alien Invasive Species Management must apply in areas where fires have occurred as these species may establish in areas where fires are prone to occur. 		

Waste Management

- Establish a section on the site footprint for the use of waste management during construction.
- The waste management area must be planned in such a way that it can be used by the school after construction to manage waste at the school.
- This waste management area can be used to educate learners on the importance of waste minimization, segregation and recycling.
- The waste management facility must be located in an accessible area to simplify collection and removal of wastes, but in the same time it must be located in such a way as to accommodate for easy disposal of waste from the school and not cause a nuisance by odour or vectors.
- All waste management areas must be situated on an impermeable layer to prevent soil contamination.
- A fenced area must be allocated for waste sorting and disposal.
- All receptacles and containers must have adequate lids to prevent rainwater and animals from entering.
- Adequate measures must be implemented preventing possible illegal dumping and littering of adjacent areas and within the school.
- Adequate toilet facilities must be provided for all staff to prevent pollution of the environment.
- The excavation and use of rubbish pits are not allowed.
- Burning of waste is not allowed.

Rehabilitation

- Rehabilitation must commence in the construction area as soon as construction has been completed.
- The use of a geotextile to stabilize the exposed topsoil surface is advised, especially on areas with mild to steep slopes.
- Alternatively, the slightly sloped sections may be contoured to prevent erosion and excessive runoff to cause rills and gullies.
- An alternative for contours is the use of sandbags to slow down water runoff and create optimum conditions for water infiltration.
- The ultimate objective for rehabilitation should focus on the stabilization of soil to prevent unnecessary erosion.
- Soil stability will enable successful rehabilitation of the vegetation to retain and improve the vegetation cover and species richness to resemble the natural vegetation occurring in the area.
- The timeframes for rehabilitation should be planned to commence from August-February, to allow the vegetation to establish during the growing season.
- Only indigenous plants should be used for rehabilitation purposes.
- A suitable grass mixture can be obtained from the local agricultural organizations and no exotic species such as *Pennisetum clandestinum* (Kikuyu) may be used for rehabilitation.
- Based on the grasses identified in this study the following grass mixture is recommended (ratios between brackets): *Themeda triandra* (4); *Eragrostis curvula* (5), *Digitaria eriantha* (4), *Cynodon dactylon* (6), *Chloris gayana* (4), *Dactyloctenium aegyptium* (5). It is recommended that the grass seeds are sown at a density of between 20-30kg/ha to ensure effective germination of species.

Environmental Control Officer (ECO)

- A suitably qualified ECO should be appointed to monitor all activities and to report any actions that could potentially have a negative effect on the environment during construction and rehabilitation.
- The ECO should also keep records of all actions related to the EMP that should be available on-site for inspection.
- It is also recommended that photographic records are kept before, during and after the construction of the various activities.
- ECO duties should include the search and identification of red data and rare plants before the clearing of areas before construction.

Table 13: Surface water Impacts and Recommendations

Aspect	Potential Impact	Comments and Recommendations
Construction and operation of school	<ul style="list-style-type: none"> • Water pollution and contamination • Soil contamination • Vegetation removal • Erosion and sedimentation • Turbidity impacts • Impacts on and//or loss of aquatic biodiversity 	<ul style="list-style-type: none"> • No watercourses occur around the site footprint and no wetlands identified within the 500m buffer zone/regulated area. • There are no ecologically sensitive areas in terms of watercourses and aquatic biodiversity on the site footprint itself and the flood risk for the area is low. • The sport fields will retain natural functionality in terms of rainwater percolation / seepage owing to the final proposed covering of soil and grassed surfaces. • The risks associated with all aspects of construction on the drainage (stormwater) canals can be managed and controlled in terms of appropriate measures in a site-specific Environmental Management Programme (EMPr). • Any mechanical machinery that is used should be thoroughly and frequently inspected for leaks and ensure spill preventive measures (e.g. spill kits, drip trays) are always readily available. • Spill preventive measures (for potential accidental spillages and for re-fuelling) should always be followed (e.g. bunded storage facilities for fuels and chemicals, drip trays, sealed containers, spill kits). • Storage of any hazardous chemicals and materials should be on impermeable surfaces (including during use) and under cover and protected from wind and rainfall. • Mixing of any cement should be on mortar boards and not directly on the ground. • Avoidance of construction activity during wet conditions is recommended. • Temporary ablution facilities must be situated securely only within the boundary of the site footprint. • All excavations should be limited to the construction footprint only. • Infrastructure should be designed to adequately allow for both natural percolation of rainwater on site and stormwater management on hard surfaces which conform with the local Municipality's town planning designs. • Appropriate stormwater designs and materials, both temporary and for the permanent infrastructure in the long-term, should be utilised during construction (e.g. stone pitching, earth berms, biodegradable materials such as hay/straw bayles, biddim fabrics/ geotextiles, etc) to control surface water runoff and minimise erosion, soil loss, siltation and sedimentation from the site into the adjacent stormwater and road network of the township (Osizweni). • Appropriate waste storage facilities should be utilised and implemented with disposal of all rubble, soil or any material at a registered landfill site. No illegal dumping should be permitted. • Any general rehabilitation on non-permanent areas of the development footprint, post-construction, using appropriate methods should be implemented. • In the context of this proposed development, no specific rehabilitation of any watercourses or wetlands is perceived to be necessary; the construction footprint will not encroach on such resources. • Any risks can be better controlled and mitigated through effective awareness creation and communication to site staff and contractors working on site. • Mitigation controls and measures including compliance monitoring and reporting responsibilities should be detailed in a site-specific Construction EMPr.

Table 14: Geotechnical Report Impacts and Recommendations.

Aspect	Potential Impact	Comments and Recommendations
Construction and operation of school	Foundations	<ul style="list-style-type: none"> Considering the medium dense to dense consistency of the residual sandy soils below about 0.8 metres depth, it is recommended that foundations comprise reinforced concrete strip footings (1000mm wide x 300mm thick). Foundations should be placed at a minimum depth of 1.0 metre below EGL. A provision for possible movements between floors and walls should be allowed for in the design e.g. provision of construction joints and use of appropriate softboard between walls and floors as per Structural Engineer's detail. All brickwork and foundation footings will need to be reinforced as determined by a Structural Engineer. The use of movement joints should also be considered. The surrounding ground should also be graded away from the structure to limit infiltration of water into the subsoils immediately beneath the building. Blinding should be cast as soon as foundations have been inspected and approved by the Engineer.

Table 15: Traffic Impact Statement Impacts and Recommendations.

Aspect	Potential Impact	Comments and Recommendations
Traffic	<ul style="list-style-type: none"> Road Deterioration Increased Traffic Volume 	<p>INTERSECTION UPGRADES</p> <p>All intersections surrounding the site will be able to accommodate the traffic demand of the proposed primary school.</p>
		<p>ROAD NETWORK UPGRADE</p> <p>The proposed site is currently surrounded by various types of road networks:</p> <ul style="list-style-type: none"> Gravel road on the western boundary Concrete road on the north-eastern boundary Paved road on the south-eastern boundary <p>In order to increase accessibility and safety for the proposed public primary school, it is proposed that Od4 Street, which is a gravel road situated on the western boundary, be upgraded to either of the following (dependent on available budget):</p> <ul style="list-style-type: none"> 350 m concrete road that is 6.6 m wide with 3.3 m lanes 350 m paved road that is 6 m wide with 3 m lanes.
		<p>PUBLIC TRANSPORT AND PEDESTRIAN FACILITY UPGRADES</p> <p>The road network adjacent to the site is classified as a Class 5 road, which means that no formal public transport facilities or pedestrian footways are required.</p>

Table 16: Heritage Impacts and Recommendations.

Activity	Potential Impact	Comments and Recommendations
Construction Excavations and Trenching	Discovery of subsurface Artefacts during trenching and excavations.	<p>Implement Chance find procedure</p> <ul style="list-style-type: none"> • An appropriately qualified heritage practitioner / archaeologist must be identified to be called upon in the event that any possible heritage resources or artefacts are identified. • Should an archaeological site or cultural material be discovered during construction (or operation), the area should be demarcated and construction activities halted. • The qualified heritage practitioner / archaeologist will then need to come out to the site and evaluate the extent and importance of the heritage resources and make the necessary recommendations for mitigating the find and the impact on the heritage resource. • The contractor therefore should have some sort of contingency plan so that operations could move elsewhere temporarily while the materials and data are recovered. • Construction can commence as soon as the site has been cleared and signed off by the heritage practitioner / archaeologist.
	Discovery of fossils during trenching and excavations.	<p>The study area occurs within a greater historical and archaeological site as identified during the desktop and fieldwork phase. Soil clearance for infrastructure as well as the proposed reclamation activities, could uncover the following:</p> <ul style="list-style-type: none"> • Stone foundations; • Ash middens associated with the historical structures that can contain bone, glass and clay ceramics, ash, metal objects such as spoons, forks, and knives. • Unmarked graves • Timeframes <p>It must be kept in mind that mitigation and monitoring of heritage resources discovered during construction activity will require permitting for collection or excavation of heritage resources and lead times must be worked into the construction time frames.</p>

1.4 IMPACT MANAGEMENT, MITIGATION AND MONITORING MEASURES

Based on the assessment, a description of the impact management, mitigation and monitoring measures as well as the impact management objectives and impact management outcomes included in the Environmental Management Programme (EMPr) are provided. The project-specific EMPr constitutes part of this BAR, as **Appendix 2**.

The EMPr represents an overall framework for the Project to ensure that the recommendations for minimising and reducing negative environmental impacts as well as enhancing positive environmental impacts are implemented during the Project's life-cycle. It serves as an additional guideline to prevent unnecessary environmental impacts by providing a description of the methods, measures and procedures for mitigating and monitoring impacts and contains environmental objectives to reduce or eliminate negative impacts throughout the Construction phase, and where relevant, the Operational phase.

The objective of the EMPr is to provide consistent information and guidance for implementing the management and monitoring measures to help achieve environmental policy goals. An effective EMPr is concerned with both the immediate outcome as well as the long-term impacts of the Project.

The EMPr aims to achieve the following objectives:

- To provide a structured framework within which the environmental management requirements will be implemented, audited and reported on, in order to ensure that potential impacts on the environment are minimised.
- To set out mitigation measures and environmental specifications which are required to be implemented during the various phases of the development in order to minimise the extent of environmental impacts, to manage environmental impacts and where possible to improve the condition of the environment.
- To emphasise standards and guidelines that are required to be achieved in terms of environmental legislation and authorisation conditions.
- To provide a clear indication of the environmental management requirements of each of the role players involved.

Mitigation and monitoring measures included in the EMPr are as follows:

Construction Phase –

- Access and construction traffic
- Site demarcation and no-go areas

- Contractor's camp
- Housekeeping, health and safety
- Plant and fuel handling
- Waste management
- Concrete and cement works
- Paints, hazardous substances
- Materials handling, use and storage
- Stormwater and erosion controls
- Dust controls
- Fire controls
- Avoidance of water wastage
- Ablution facility requirements

Operational Phase –

- Infrastructure maintenance and associated requirements in terms of long-term waste, water and vegetation management.

1.4.1 Other Impact Management, Mitigation and Monitoring Measures

The adherence to requirements that are prescribed in a Specific Environmental Management Act relevant to the listed activity or specified activity in question include the NHRA.

In terms of the NHRA, specifications for archaeological monitoring have been included in the EMPr.

1.5 ASSUMPTIONS, UNCERTAINTIES, LIMITATIONS AND GAPS IN KNOWLEDGE

FLORA:

As part of the study, a once-off survey was conducted on 15th October 2019. The survey was conducted within the Spring season and as such, some inconspicuous species and those with few flowers or leaves may have been overlooked. A section of the study area was recently burnt however new growth of the herbaceous layer was present and plants could be identified.

Most of the species involved in post-fire flowering are geophytes and their ability to survive fires and the presence of underground energy and nutrient reserves, prompt them to flower after a fire (Booyesen & Tainton, 1984), therefore if any inconspicuous geophytes were present, it is assumed that they would have been observed. Multiple visits to any site during the different seasons of the year could, therefore, increase the chances to record a larger portion of the total species complex associated with the area (The 2013 Guidelines for Biodiversity Impact Assessments in KZN requires studies to be undertaken in the growing season: November-April). The survey was restricted to the proposed study site. The survey of the study site is however considered as successful with correct identification of the different vegetation units.

APPROACH

Conclusions reached and recommendations made are based not only on the occurrence of individual species but more appropriately on habitats and ecosystem processes. Planning must therefore allow for the maintenance of species, habitats and ecosystem processes, even if Red Data or endemic plant or animal species are absent.

SECTION L: SUMMARISED FINDINGS OF THE SPECIALIST STUDIES

- 1) According to the **Heritage Assessment** - no heritage resources were identified during the field work and no significant impacts are expected with a post-mitigation impact rating of low negative. Although the site footprint occurs in an area where the palaeontology was assessed as being almost entirely of high sensitivity, deep excavations are not anticipated and any impacts will be managed via a Chance Finds Protocol. It is the specialist's considered opinion that overall impact on heritage resources are **Low**. Provided that the recommended mitigation measures are implemented, the impact would be acceptably low or could be totally mitigated to the degree that the project could be approved from a heritage perspective. The management and mitigation measures as prescribed would assist to minimise the project impact on heritage resources
- 2) In terms of the findings of the **Terrestrial Biodiversity Assessment** - the vegetation within the study site as surveyed is degraded, heavily grazed and trampled and only a small section is in moderate condition. The effects of activities on the school property over the recent past including adjacent land uses have already impacted negatively on the condition of the vegetation; however vegetation cover and species richness is high in a small area. The habitat connectivity with adjacent grasslands and habitats no longer exists as urbanisation has mostly cut the study site off from any other natural forms of habitat. Based on what is contained in the report and the present state of the vegetation surveyed for the proposed school upgrade, it is not expected that the project will have a significant negative impact on the surrounding environment or the existing road reserve if the recommendations in the report are implemented pre- , during, and post-construction.
- 3) In terms of the **Surface Water Verification Assessment** - no watercourses will be directly affected by the proposed development where all risks were found to be low.
- 4) In terms of the **Agriculture Potential (Soil) Assessment** - Mispah soils are not suitable for agricultural purposes due to the effective depth being shallower than 300mm. The Avalon and Bainsvlei soils would have *low* to *medium* agricultural potential under *dryland* and *irrigation* conditions respectively.
- 5) In terms of **Traffic Impact Statement** - the road network adjacent to the proposed site is classified as a Class 5 road meaning no formal public transport facilities or pedestrian footways are required. The school is situated in an area with very low vehicle ownership with the school generating possibly more than 50 peak hour trips but less than 150 peak hour trips per day. Use of public transport facilities such as taxis are likely to continue. Depending on the available budget, it is recommended that Od4 Street (350m) on the western boundary is upgraded from a gravel surface to either a concrete or paved surface.

SECTION M: RECOMMENDATIONS OF THE EAP

In our view as the appointed EAP, the information contained in this BAR and corresponding documentation is sufficient to make a decision in respect of the application for environmental authorisation for the listed activity. It is the opinion of the EAP team that the required specialist studies as recommended in the DEA National Screening Tool have been carried out. A socio-economic assessment has been sufficiently incorporated into this BAR and terrestrial and aquatic biodiversity components have been incorporated into the respective specialist reports with the respective recommendations (BAR **Appendix 5** and **7**). Based on the following motivational reasons in the Environmental Impact Statement (EIS) below, it is recommended that this proposed Project be authorised (subject to any input during the Public Participation Process):

Environmental Impact Statement - a summary of the key findings of the BA

The environmental attributes of the site are not such that the proposed development would have significant negative impacts. The proposed footprint is on an already transformed site within a high density peri-urban built-up settlement. No direct impacts on biodiversity resources of significance are expected. No significant impacts to watercourses (and the associated habitats and freshwater biodiversity) are expected to occur. The proposed erven have been allocated for education purposes according to the municipal zoning plans. The proposal would result in optimal utilisation of the site with minimal adverse impacts on the ecological (natural) environment. Impacts on other aspects of the proposed project were also investigated and have been assessed, namely heritage, traffic and soil impacts. The impacts identified have been assessed and err on the conservative side. Refer to impact tables in **Section G**.

The socio-economic benefits cannot be overlooked. A new and adequate learning facility for young learners will be provided along with the introduction of temporary jobs and skills development for the surrounding communities during construction. The project will provide 175 employment opportunities during the construction phase and a further 100 during the operational phase. General impacts such as noise and dust disturbance will be short term and low in impact.

In terms of the long-term cumulative impact of the project, it will have an overall net positive effect due to the provision of better educational facilities which will enhance the education levels of children in the community. The IDP and SDF both provide for the development of educational facilities in the Newcastle Local Municipality. The proposed development will complement what is stipulated in these overarching framework plans. Compared with the No-Go Alternative, the overall net cumulative impact of the Preferred Alternative is expected to enhance human benefits with no negative effect on human health or well-being and no significant ecological damage to the natural environment. Cumulative negative effects on the biophysical environment are likely to be minor/negligible due to the low terrestrial and aquatic biodiversity in the surrounding area. The long term cumulative visual impact is considered to be a neutral one given the surrounding land-use/landscape is already an urban built up residential area.

All things considered, it is the EAP's opinion that the development would not have detrimental effects on the environment or society, but should in fact have an overall significant positive impact in terms of the wider considerations regarding socio-economic impacts benefits, in particular within the Education Sector.

On average, the overall impact significance would be moderate to low and should not affect the decision to proceed. The proposed site footprint is already disturbed by means of existing school activities on the affected erven where no re-zoning is required.

The positive impacts (benefits) of the proposed development outweigh the negative impacts. Any negative impacts can be mitigated as per the proposed measures in this document and the EMPr (BAR Appendix 2).

There is a social need and desirability for the development. The proposal is in line with social Infrastructure and services development strategies of the Local and District Municipalities and in particular with regards to providing pre-primary educational facilities.

Summary of the positive and negative impacts that the proposed development and alternatives will cause in the environment and community.

Apart from the anticipated Construction phase impacts, which would be temporary (short-term duration), other impacts identified (including cumulative impacts) are associated with ecological aspects, waste and potential, but slight, increase in traffic volumes. Where impacts are unavoidable, they have been found to be of moderate to low significance according to the criteria used and furthermore, can be mitigated through appropriate design and effective implementation of the EMPr. The only feature of significance would be the possible occurrence of buried heritage artefacts, graves or fossils, however mitigation measures through monitoring and recording have been proposed for any chance finds/discoveries.

Positive socio-economic impacts are associated with job creation which would materialise during the Construction phase, thus reducing the unemployment rate in the area and the creation of increased educational opportunities for learners within Ward 9.

The No-Go Alternative will result in the environment remaining as is with no construction upgrades of the facilities currently utilised at Thembinkosi Primary School. Should the proposed development not proceed, the local community and its surroundings will not benefit from the positive impacts associated with the development. The No-Go Alternative conflicts with the Local Municipality's Strategic and Integrated Development Plans whereas the Preferred Alternative is aligned with the aforementioned as it proposes to address the needs of the local community by providing them with formal educational facilities.

SECTION N: LIST OF BAR APPENDICES AND ANNEXURES

The following BAR *Appendices* and *Annexures* form part of and should be read in conjunction with this document (BAR).

APPENDICES		Confirm Appendix is attached (✓ or X)
APPENDIX 1	BAR (this document)	
APPENDIX 2	EMPr	
APPENDIX 3A	COMMENTS AND RESPONSE REPORT Contains public participation information including a list of the authorities, stakeholders and registered I&APs that provide comments/input and the responses provided by the EAP. To be updated and maintained during the PPP and finalised at the end of the PPP timeframe.	
APPENDIX 3B	PROOF OF PUBLIC PARTICIPATION	
APPENDIX 3C	EMAIL CORRESPONDENCE	
APPENDIX 4	GEOTECHNICAL REPORT	
APPENDIX 5	TERRESTRIAL BIODIVERSITY ASSESSMENT REPORT	
APPENDIX 6	HERITAGE IMPACT ASSESSMENT REPORT	
APPENDIX 7	SURFACE WATER VERIFICATION ASSESSMENT REPORT	
APPENDIX 8	DWS NO TRIGGER LETTER	
APPENDIX 9	AGRICULTURE POTENTIAL STUDY	
APPENDIX 10	TRAFFIC IMPACT STATEMENT	
APPENDIX 11	ERF 803 ENVIRONMENTAL SENSITIVITY REPORT	
APPENDIX 12	ERF 804 ENVIRONMENTAL SENSITIVITY REPORT	
APPENDIX 13	GENERAL SCHOOL LAYOUT PLAN	
APPENDIX 14	TOPOGRAPHICAL SURVEY	
APPENDIX 15	INGONYAMA TRUST LETTER	
APPENDIX 16	DoE ACCOMMODATION SCHEDULING MODEL	
APPENDIX 17	LETTER CONFIRMING WWTW CAPACITY	
APPENDIX 18	LETTER CONFIRMING EXISTING WATER SUPPLY	
APPENDIX 19	AMAFA KZN APPLICATION FORM J	

ANNEXURES		Confirm Annexure is attached (✓ or X)
ANNEXURE 1A	EDTEA EA APPLICATION FORM	
ANNEXURE 1B	EDTEA LANDOWNER CONSENT FORM	
ANNEXURE 1C	EDTEA EAP DECLARATION FORM	
ANNEXURE 1D	CVs OF EAP AND SPECIALIST TEAM	
ANNEXURE 1E	EDTEA DECLARATIONS OF INTEREST	
ANNEXURE 1F	LOCALITY MAPS At an appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffer areas.	
ANNEXURE 2A	PRE-APPLICATION MEETING AGENDA	
ANNEXURE 2B	PRE-APPLICATION MEETING MINUTES AND ATTENDANCE REGISTER	
ANNEXURE 2C	EDTEA LETTER	
ANNEXURE 2D	EDTEA ACKNOWLEDGEMENT LETTER	
ANNEXURE 3A	AUTHORITY AND STAKEHOLDER NOTIFICATION LETTER ENGLISH	
ANNEXURE 3B	AUTHORITY AND STAKEHOLDER NOTIFICATION LETTER ISIZULU	
ANNEXURE 3C	STAKEHOLDER AND I&AP DATABASE	
ANNEXURE 3D	LAND OCCUPIER NOTIFICATION LETTER DELIVERY REGISTER	
ANNEXURE 4A	BACKGROUND INFORMATION DOCUMENT (BID) ENGLISH	
ANNEXURE 4B	BACKGROUND INFORMATION DOCUMENT (BID) ISIZULU	
ANNEXURE 5	SITE PHOTOGRAPHS	
ANNEXURE 6	ENVIRONMENTAL SENSITIVITY MAPS	
ANNEXURE 7A	REGISTRATION AND COMMENT FORM ENGLISH	
ANNEXURE 7B	REGISTRATION AND COMMENT FORM ISIZULU	
ANNEXURE 8A	NEWSPAPER ADVERTISEMENT ENGLISH	
ANNEXURE 8B	NEWSPAPER ADVERTISEMENT ISIZULU	
ANNEXURE 9	LOCATIONS OF SITE NOTICES AND BAR FOR PUBLIC REVIEW	
ANNEXURE 10A	ENGLISH SITE NOTICEBOARD	
ANNEXURE 10B	ISIZULU SITE NOTICEBOARD	
ANNEXURE 11	LAND OCCUPIER NOTIFICATION LETTER DROP REGISTER	
ANNEXURE 12	PUBLIC MEETING ATTENDANCE REGISTER - TBC	