Address: 9 Lords Lane Street, Northview Complex, Bendor park, Polokwane, 0699.
Tel: 086 001 8255, Cell: 073 977 9414, Email: musa@ourbiosphere.co.za, website:www.ourbiosphere.co.za

OURBIOSPHERE ENVIRONMENTAL

DRAFT BASIC ASSESSMENT REPORT FOR THE CONSTRUCTION OF RETHUSHENG SPECIAL SCHOOL, ON THE REMAINING EXTENT OF FARM CROMFORD 690-LR, BLOUBERG LOCAL MUNICIPALITY, LIMPOPO

Prepared for IDC Architects on behalf of the Limpopo Department of Public Works, Roads and Infrastructure (LDPWR&I).

IDC Architects

OCTOBER 2025

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PREPARED FOR:	**IDC Architects** on behalf of the **Limpopo Department of Public Works, Roads and Infrastructure** (LDPWR&I).
	Contact Person: Matthew Friedland
	Tel: 043 743 0522 / 011 234 8141
	Cell: 072 407 1111
	Email: friedland@idcarchitects.co.za
PREPARED BY:	**Ourbiosphere Environmental (Pty) Ltd**
	Contact Person: Musa Netshivhambe (EAPASA)
	Tel: 086 001 8255
	Cell: 073 977 9414
	Email: musa@ourbiosphere.co.za
	Physical Address:
	9 Lords Lane Street
	Northview Estate
	Bendor Park
	Polokwane
	0699
	Website: www.ourbiosphere.co.za
COMPILED BY:	Musa Netshivhambe REG. EAP (EAPASA)
	EAPASA REG NO: 2019/1853
	Tel: 086 001 8255
	Cell: 073 977 9414
	Email: musa@ourbiosphere.co.za
REPORT NO:	OUR 2025/1989
REPORT DATE	October 2025
PROJECT LOCATION	Mamehlabe Village, Blouberg Local Municipality
PROVINCE	Limpopo

EXECUTIVE SUMMARY

a) Overview

Ourbiosphere Environmental (Pty) Ltd was appointed by IDC Architects as the independent Environmental Assessment Practitioner (EAP), on behalf of the Limpopo Department of Public Works, Roads and Infrastructure (LDPWR&I), to undertake a Basic Assessment (BA) process for the proposed construction of Rethuseng Special School, on the remaining extent of farm Cromford 690-LR, Blouberg Local Municipality, Capricorn District Municipality, Limpopo. The study area is situated approximately 71 Kilometres (km) Northwest of Polokwane Town along the Matlala Road and is approximately 88 km North of Mokopane Town along N11 into Juno Road and falls within Ward 22.

In terms of the 2014 Environmental Impact Assessment (EIA) Regulations (as amended) promulgated under the National Environmental Management Act (No. 107 of 1998) (NEMA) (as amended), the proposed activity is subject to a Basic Assessment (BA) process. The identified Competent Authority (CA) of the project is the Limpopo Department of Economic Development, Tourism and Environment (LEDET).
Limpopo Department of Public Works, roads and Infrastructure (LDPWR&I) is applying to the Competent Authority (CA) i.e., LEDET on behalf of the Department of Education (DoE) for Environmental Authorisation (EA).

b) Listed Activities

The following activities in **Listing Notice No. 1** of the 2014 EIA Regulations have been identified, and are included in the application for Environmental Authorisation (EA):

- ***Activity 27****:" The clearance of an area of 1 ha or more, but less than 20 ha of indigenous vegetation, except where such clearance of indigenous vegetation is required for —*

  (This listed activity is applicable as the site will be cleared of more than 15 ha of vegetation habitat (found to be heavily degraded and species poor) but supports indigenous vegetation.)

The following activities in **Listing Notice No. 3** of the 2014 EIA Regulations are included in the application for EA:

- ***Activity 12:*** *"The clearance of an area of more than 300m2 or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan".*

  This listed activity is applicable as the site will be cleared of more than 300 m^2 of indigenous vegetation and is located within the central bushveld – Polokwane plateau bushveld (Savannah biome).

c) Project Description

The proposed construction of Rethuseng Special School is proposed on Remaining Extent of Farm Cromford 690-LR, Blouberg Local Municipality, Capricorn District Municipality, Limpopo (T0LR00000000069000002; **S: 23°33'11.82", E: 28°57'23.19"**) which is owned by the Bakone Ba Matlala a Thaba Tribe. Furthermore, the approximate extent of the study area is 15 ha of which 10 ha will be utilised as developable areas with the remaining 6.5 ha set aside as open space areas for future development. The objective of the project is to design and construct a school suitable for 330 boarding learners, maximum of 58 boarding staff and 53 daily staff on site. The site will be graded and grassed, and the parking area will be hard surfaced.

The water supply will be from multiple new boreholes that would be drilled in and around site to supplement the water supply. It was recommended that multiple boreholes be developed, each equipped with submersible pumps, and connected to a reticulated system supplying elevated steel storage tanks. This approach is less susceptible to seasonal fluctuations and, with appropriate filtration and chlorination, can provide water of acceptable quality for school use.

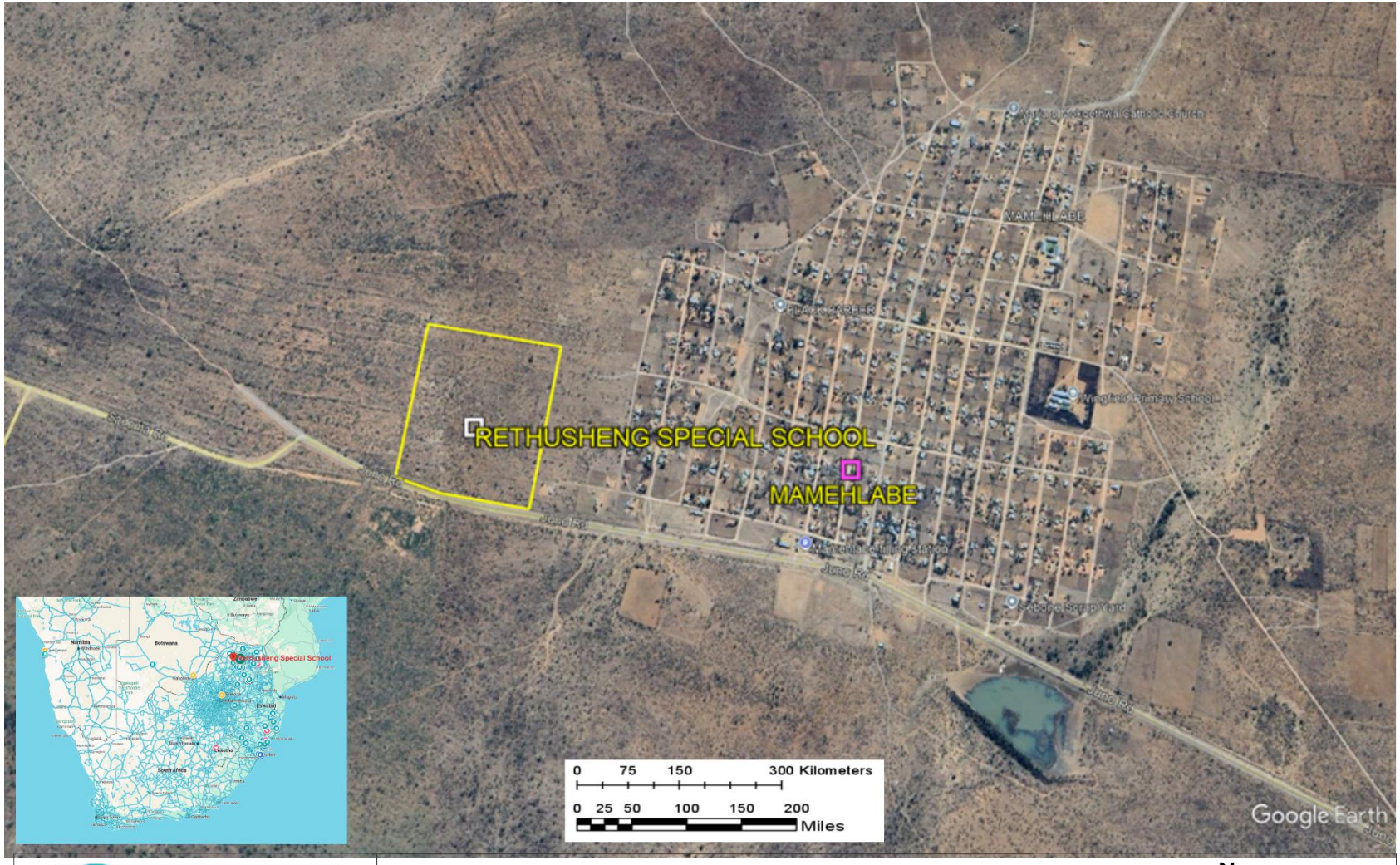
The construction of Rethuseng Special School will include the construction of the following:

- boys & girl's dormitories,
- staff residence,
- class rooms,
- laundry,
- medical building,
- assembly hall,
- vocational room,
- care takers rooms,
- parking bays,
- arts and craft centre,
- ablutions,
- dining hall,
- wood and metal centre
- as well as two sports fields.

d) Impact Identification

An impact assessment process was undertaken to identify the aspects and potential impacts; **Table 40** lists the aspects assessed as part of the Basic Assessment (BA) Process and a brief overview of the assessment approach.

Environmental Aspect	Approach Carried Out
Heritage	The Heritage Impact Assessment was undertaken by Mudzunga Consulting & ICT (Pty) Consulting included the following scope of work: ▪ Verify or dispute the Screening Tool Assessment for the Archaeological and Cultural Heritage Theme of Low Sensitivity.
Biodiversity	The Terrestrial Compliance Statement undertaken by BioAssets included the following scope of work: ▪ Verify or dispute the outcome of the Screening Tool Assessment for the Animal Species Theme of Low Sensitivity, Plant Species Theme of Low Sensitivity and the Terrestrial Biodiversity Theme of very high sensitivity. ▪ Determine the environmental impacts that the proposed activities may have on the biological diversity of the study area, if authorized.
Waste	The potential waste impacts have been assessed by Muteo Consulting Engineers as part of the Bulk Services and include the management of waste during the construction and operational phases of Rethuseng Special School.
Health and Safety	Potential health and safety impacts during the construction phase have been assessed by Aniuke Safety Consultant and Supply.
Socio-Economic	The potential socio-economic impacts have been assessed by Xidzhiva Business Enterprise and include Phase 1 Planning & mobilization, Community Institutional profile, Stakeholder management plan, public participation, Project Steering Committee, Planned activities, red flags during the construction of Rethuseng Special School.
Groundwater	The Geohydrological Assessment undertaken by Naledzi Waterworks Consulting through Muteo Consulting Engineers included the following scope of work: ▪ Undertake the Desktop study. ▪ Undertake the site geohydrological assessment
Sanitation	Potential Sanitation related impacts during the construction phase and Operational Phase have been assessed by Muteo Consulting Engineers as part of the bulk supply services.
Stormwater	The stormwater related impacts during the construction phase and Operational Phase have been assessed by Muteo Consulting Engineers as part of the bulk supply services.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e) Specialist studies

A summary of the specialist study findings is provided below:

Ecological Impact Study

Executive Summary

BioAssets CC was appointed by Ourbiosphere Environmental (Pty) Ltd to assess the possible impacts of the Proposed Construction of Rethuseng Special School, on the Remaining Extent of Farm Cromford 690-LR, Blouberg Local Municipality, Limpopo. The project applicant, Limpopo Department of Public Works, Roads and Infrastructure (LDPWR&I) on behalf of Limpopo Department of Education (DoE). Rethuseng Special School is to be built on the remaining portion of the Bakone Ba Matlala a Thaba Tribe's farm, Cromford 690-LR, Blouberg Local Municipality, Capricorn District Municipality.

Ourbiosphere was appointed by the applicant as the independent Environmental Assessment Practitioner (EAP), to conduct the legally required Basic Assessment (BA) process.

Due to the nature of potential ecological impacts posed by the proposed development to the local ecosystem and ecology, an Ecological study is required. This is required in order to determine the potential presence of ecologically sensitive/conservationally significant areas, plant- and faunal species as well as significant watercourses and/or wetlands and/or other aquatic ecological features/habitats, which may be adversely affected by the proposed development.

Potential ecological impacts posed by the proposed development to the local ecosystem and ecology, must be identified, evaluated, rated and discussed. Impact mitigation and management measures in accordance with the requirements of the National Environmental Management Act (Act 107 of 1998) Mitigation Hierarchy, must subsequently be recommended. This must be done in order to attempt to reduce/alleviate the adverse effects of identified potential ecological impacts associated with the proposed development.

BioAssets CC was consequently appointed by the EAP as the independent ecological specialist, to conduct the required Ecological study for the proposed development. This report constitutes the Ecological Assessment.

Preliminary preparations conducted prior to the ecological site assessment, were as follows:

Georeferenced spatial information was obtained of the proposed development area, in order to determine the direct impact footprint area.

A desktop study was conducted of the most up-to-date information/data available on the relevant vegetation types, national/provincial conservation significance status and the potential/likely presence of watercourses/wetlands associated with the proposed development area.

A desktop study was conducted of conservationally significant faunal and avifaunal species which can potentially be encountered within the proposed development area.

2. Date of Ecological Site Assessment

A site assessment of the proposed development area was conducted on 25 August 2025. This date forms part of the winter season. It must therefore be noted that the seasonal timing of the assessment was not necessarily favourable for successful identification of all plant species individuals.

3. Assessment Rational

South Africa is a country rich in natural resources and splendour and is rated as having some of the highest biodiversity in the world. Other than the pure aesthetic value which our biodiversity and natural resources provides, it also plays a significant positive role in our national economy. While continuous economic development and progress is a key national focus area, which forms a cornerstone in the socio-economic improvement of society and the livelihoods of communities and individuals, the preservation and management of the integrity and sustainability of our natural resources is also essential in achieving this objective.

Socio-economic development and progress can therefore not be completely inhibited for the sake of ensuring environmental conservation; solutions and compromises rather need to be explored in order to achieve the need for socio-economic development without unreasonably jeopardising the needs of environmental conservation. A sustainable and responsible balance needs to be maintained in order to accommodate the requirements of both.

Adequate, sustainable and responsible utilisation and management of our natural resources is crucial. Finding the required balance between socio-economic development and environmental conservation, should therefore always be a priority focus point during any proposed development process.

Various environmental legislation in South Africa makes provision for the protection of our natural resources and the functionality of ecological systems in order to ensure sustainability. Such acts include the National Environmental Management: Biodiversity Act (Act 10 of 2004), National Forests Act (Act 84 of 1998), Conservation of Agricultural Resources Act (Act 43 of 1983), National Water Act (Act 36 of 1998) and framework legislation such as the National Environmental Management Act (Act 10 of 2004).

An Ecological Assessment of the proposed development area was therefore conducted in order to identify and quantify any potential ecological impacts, associated with the proposed development.

Objectives of the Survey

- Describe the general terrestrial botanical/vegetation habitats within the assessment area and identify and list conservationally significant plant species encountered within the assessment area. List any nationally- and/or provincially protected- and/or Red Data Listed plant species.
- Identify and discuss any ecologically sensitive/conservationally significant areas/habitats, if potentially found to be present within the assessment area.
- Conduct a desktop assessment of conservationally significant faunal species which can potentially be encountered within the assessment area.
- Assess and discuss the Site Ecological Importance (SEI) of the assessment area and directly surrounding areas, in order to provide an indication of the overall ecological conservational significance/value of the assessment area.
- Identify, delineate and discuss any significant watercourses and/or wetlands and/or other aquatic ecological features/habitats, if potentially found to be present within the assessment area.
  - Assess and discuss the simplified Present Ecological State (PES) of all such identified significant aquatic features associated with the assessment area and directly surrounding areas. This must be done in order to provide an indication of the current ecological condition as well as the extent and severity of degradation and/or transformation of the aquatic features, if applicable.
  - Assess and discuss the Ecological Importance and Sensitivity (EIS) of all such identified significant aquatic features associated with the assessment area and directly surrounding areas. This must be done in order to provide an indication of the ecological sensitivity/conservational significance/value of the aquatic features, if applicable.
  - Assess and discuss the Recommended Ecological Category (REC) of all such identified significant aquatic features associated with the assessment area and directly surrounding areas.
- Identify, evaluate, rate and discuss any potential ecological impacts associated with the proposed development. Provide recommendations on impact mitigation and management measures in accordance with the requirements of the NEMA (Act 107 of 1998) Mitigation Hierarchy, in order to attempt to reduce/alleviate the adverse effects of identified potential ecological impacts.
- Provide recommendations on the ecological suitability/acceptability of the assessment area for the proposed development.
- A digital report (this document) as well as digital .KML files will be provided to the EAP, of any identified ecologically sensitive/conservationally significant areas and/or significant watercourses

and/or wetlands and/or other aquatic ecological features/habitats, if potentially found to be present within the assessment area.

5. Methodology

- The proposed development area was assessed on foot and with the use of a vehicle.
- Visual observations/identifications were made of general terrestrial botanical/vegetation habitats and their conditions as well as any ecologically sensitive/conservationally significant areas/habitats within the assessment area.

Visual observations/identifications were made of general and conservationally significant plant species encountered within the assessment area.

Identified plant species were listed and categorised as per the Red Data Species List; Protected Species List of the National Forests Act (Act 84 of 1998), Provincially Protected species of the Free State's Nature Conservation Ordinance (No 8 of 1969) as well as the Invasive Species List of the National Environmental Management: Biodiversity Act (Act 10 of 2004), Alien and Invasive Species Regulations, 2014.

A desktop assessment was conducted of conservationally significant faunal species which can potentially be encountered within the assessment area. The Virtual Museum and the IUCN Red List of Threatened Species were used for the desktop assessment.

The likelihood was discussed of identified faunal species utilising the terrestrial botanical/vegetation habitats and significant aquatic ecological features/habitats within the assessment area as refuge or for breeding, foraging and/or persistence purposes.

No actual on-site trapping, sampling or specifically focused assessments of any faunal species was conducted.

Faunal species encountered during the site visit were however noted and discussed.

The Site Ecological Importance (SEI) of the assessment area was determined and discussed as per the tables below.

The SEI of an area is considered to be a function of the Biodiversity Importance (BI) of the receptor (e.g. species of conservation concern, the vegetation/fauna community or habitat type present on the site) and its resilience to impacts, expressed as Receptor Resilience (RR). $SEI = BI + RR$

BI in turn, is a function of Conservation Importance (CI) and the Functional Integrity (FI) of the receptor $BI = CI + FI$

Summary and Conclusion

Proposed Development Area Clearance

The proposed development area constitutes Rethuseng Special School 16.5ha. It is however not anticipated that the development of the proposed school will impact significantly wider.

Vegetation Type and Conservation Status

According to SANBI (2006-2019), the entire assessment area falls within the Central Bushveld -Polokwane Plateau vegetation type (svb23), It occurs on moderately undulating plains with a short open tree layer and with a well-developed grass layer to grass plains with occasional trees at higher altitudes. Hills and low mountains of Mamabolo Mountain Bushveld are embedded within this unit. Dense concentration of rural human settlements is found. (SANBI, 2006-2019). This vegetation type is classified as Least Concerned (SANBI, 2006-2019).

The entire assessment area and local surrounding landscape is categorised as Degraded land,

Aquatic Environment

According to the Environmental Screening Tool Report, the Aquatic Biodiversity Theme of the assessment area is rated as being of 'low sensitivity'.

Water Catchment and Drainage

The assessment area falls within the Upper Orange Water Management Area (WMA 13) and the associated C52B quaternary surface water catchment- and drainage area. It is furthermore situated in the C52B - 3782 Sub Quaternary Reach (SQR), within the Highveld Ecoregion (11). The assessment area and surrounding landscape generally slopes slightly to moderately, in a north-westerly direction.

Watercourse Baseline Information

There are no significant perennial watercourses within the vicinity of the assessment area. According to the National Freshwater Ecosystem Priority Areas Database (NFEPA, 2011), the portion of the C52B - 3782 Sub Quaternary Reach (SQR) associated with the assessment area, does not fall within any Fish Support Area, -Sanctuary, -Corridor, -Rehabilitation Area or Freshwater Ecosystem Priority Area (FEPA). No populations of conservationally significant threatened fish species have been recorded throughout the assessment area or local downstream region or are expected to specifically utilise the assessment area as refuge or for breeding, foraging and/or persistence purposes.

Watercourses and Wetlands

Preferential water flow path/drainage line

There are no significant perennial watercourses within the vicinity of the assessment area. The central section of the proposed school site runs along the edge of a small second-order seasonal preferential water flow

path/drainage line, which flows through the extensive existing residential landscape associated with the township. This flow path/drainage line channels low to moderate volumes of surface water runoff and drainage towards the west, from a local upstream surface water catchment area to the east.

It is therefore evident from a hydrological perspective, that the flow path/drainage line merely plays a minor role in the local and broader quaternary surface water catchment- and drainage area, towards the north-west.

The flow path/drainage line is however in a highly degraded and polluted ecological state, mainly as a result of historical and continued upstream domestic waste/garbage dumping and likely raw sewage discharge into the flow path/drainage line along with continued anthropogenic activity and disturbance associated with the township.

It is recommended that the development be approved, all the mitigation measures referred to in this report be incorporated into an Environmental Management Programme.

- To meet national, provincial and district conservation targets, conservation of a substantial portion of the remaining natural areas in the Municipality is required. It is therefore recommended that a Strategic level approach (SEA) to cumulative impacts will be more suitable to identify and minimize potential cumulative impacts on the VECs in the municipal area.
- It is further recommended that should the development be approved, all the mitigation measures referred to in this report be incorporated into an Environmental Management Programme if not already addressed on the Generic Environmental Management Report for the EGI process and stipulated as part of the requirements for environmental authorisation.
- It is recommended that considering the large-scale developments planned for the municipality, any proposed land-use change and transformation prior to authorisation be viewed within the context of cumulative impacts on VECs, and not on individual project-based impacts alone.

To compensate for the loss of VECs in the municipal area, the identification of potential opportunities for municipal level mitigation (i.e., biodiversity offsets), should be investigated by municipal/district/provincial authorities responsible for strategic planning, together

Table 41: Summary of impact significance ratings for the proposed construction of Rethuseng Special School

Impact	Mitigation status	Consequence	Probability	Significance	Status	Confidence
PROJECT CONSTRUCTION PHASE						
Health and Safety	Construction Scenario Before Mitigation	High	Possible	Medium	Negative	High
	Construction Scenario Before Mitigation	High	Possible	Medium	Negative	High
Socio-Economic Employment opportunities	Construction Scenario	Low	Definite	Low	Positive	High
Impact on Heritage and Paleontological Resources	Construction Scenario	Very Low	Improbable	Insignificant	Negative	High
Impact on Floral and Faunal within the Study Area	Transformed Habitat Before Mitigation	Very Low	Improbable	Insignificant	Negative	High
	Transformed Habitat after Mitigation	Very Low	Improbable	Insignificant	Negative	High
Impact on Flora and Faunal Habitat and Diversity	Transformed Habitat Before Mitigation	Very Low	Improbable	Insignificant	Negative	High
	Transformed Habitat after Mitigation	Very Low	Improbable	Insignificant	Negative	High
	Grassland Habitat Before Mitigation	Very Low	Definite	Very Low	Negative	High
	Grassland Habitat after Mitigation	Very Low	Definite	Very Low	Negative	High
Impact on Surface Groundwater Resources	Construction Scenario Before Mitigation	Low	Definite	Low	Negative	High
	Construction Scenario After Mitigation	Very Low	Possible	Very Low	Negative	High
Waste Management	Construction Scenario Before Mitigation	Medium	Probable	Medium	Negative	High
	Construction Scenario After Mitigation	Low	Possible	Very Low	Negative	High
PROJECT OPERATION PHASE						

Impact	Mitigation status	Consequence	Probability	Significance	Status	Confidence
Socio-Economic Employment opportunities	Operational Scenario	Low	Definite	Low	Positive	High
Waste Management	Current Scenario	Medium	Possible	Low	Negative	High
	Future Scenario	Low	Possible	Very Low	Negative	High
Impact to Surface Groundwater Resources	Current Scenario	Low	Probable	Low	Negative	High
	Future Scenario	Very Low	Probable	Very Low	Negative	High
Impact on Flora and Faunal Habitat and Diversity	Study Area Before Mitigation	Very Low	Probable	Very Low	Negative	High
	Study Area After Mitigation	Very Low	Possible	Insignificant	Negative	High
Impact on Floral and Faunal within the Study Area	Transformed Habitat Before Mitigation	Very Low	Improbable	Insignificant	Negative	High
	Transformed Habitat after Mitigation	Very Low	Improbable	Insignificant	Negative	High

Heritage Impact Study

Executive Summary

This report serves to inform and guide the applicant and contractors about the possible impacts that the proposed Rethuseng Special School may have on heritage resources (if any) located in the study area. In the same light, the document must also inform South African heritage authorities (SAHRA) about the presence, absence and significance of heritage resources located within the proposed study site. This report is submitted in terms of Section 38 (8) of the National Heritage Resources Act 25 of 1999 as part of the proposed Rethuseng Special School. The purpose of this study is to identify, record and if necessary, salvage the irreplaceable heritage resources that may be impacted by the proposed development. In compliance with heritage legislation, Ourbiosphere Environmental (Pty) Ltd on behalf of the Department of Public Works, Roads and Infrastructure, tasked Mudzunga Consulting & ICT (Pty) Ltd to conduct a Phase 1 Archaeological and Heritage Impact Assessment (AIA/HIA) for the proposed development of Rethuseng Special School.

Desktop studies, drive-throughs and fieldwalking were conducted in order to identify heritage landmarks within the proposed cemetery and associated infrastructure site. The study site is not on pristine ground, having seen significant transformations owing to previous and current activities. The study did not record any confirmable archaeological remains within the proposed Rethuseng Special School development site. The general project area is known for the occurrence of archaeological and historical sites. In terms of the built environment, the study did not record any buildings and structures older than 60 years within the proposed cemetery site. It should be noted that archaeological material and unmarked graves may exist in the area and

when encountered during construction work, must be stopped forthwith, and the finds must be reported to the South African Heritage Resource Agency (SAHRA) or the heritage practitioner. This report must be submitted to the SAHRA for review in terms of Section 38 (4) of the NHRA.

The report makes the following observations:

- The findings of this report have been informed by desktop data review, field survey and impact assessment reporting, which include recommendations to guide heritage authorities in making decisions about the proposed development of Rethuseng Special School.
- The field survey was effective enough to cover the entire development site, especially significant sections of the project receiving environs.
- The immediate project area is predominantly rural settlements and grazing.
- Some sections of the proposed cemetery development site are severely degraded from previous and current land use activities.

The report sets out the potential impacts of the proposed development of Rethuseng Special School on heritage matters and recommends appropriate safeguard and mitigation measures that are designed to reduce the impacts where appropriate. The Report makes the following recommendations:

1. It is recommended that SAHRA endorse the report as having satisfied the requirements of Section 38 (8) of the NHRA requirements.
2. It is recommended that SAHRA make a decision in terms of Section 38 (4) of the NHRA to approve the proposed development of Rethuseng Special School.
3. From a heritage perspective supported by the findings of this study, the proposed development of Rethuseng Special School is supported. However, the construction should be approved under the observation that construction work does not extend beyond the area considered in this report/affect the identified heritage sites.
4. Should chance archaeological materials or human remains be exposed during clearing/construction work on any section of the cemetery development site, work should cease on the affected area, and the discovery must be reported to the heritage authorities immediately so that an investigation and evaluation of the finds can be made. The overriding objective, where remedial action is warranted,

is to minimize disruption in construction scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the NHRA regulations.

5. Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project EMPR, there are no significant cultural heritage resource barriers to the proposed cemetery project. The Heritage authority may approve the proposed development of Rethuseng Special School from a heritage perspective.

This report concludes that the impacts of the proposed development of Rethuseng Special School on the cultural environmental values are not likely to be significant on the entire site if the EMPr includes the recommended safeguard and mitigation measures identified in this report.

Terms of Reference (ToR)

Mudzunga Consulting & ICT (Pty) Ltd was requested by Ourbiosphere Environmental (Pty) Ltd to conduct an AIA/HIA study addressing the following issues:

- Archaeological and heritage potential of the proposed development of Rethusheng Special School, including any known data on affected areas.
- Provide details on methods of study; potential and recommendations to guide the SAHRA to make an informed decision in respect of authorization of the proposed development of Rethusheng Special School.
- Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located within the proposed Rethusheng Special School development site.
- Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value.
- Describe the possible impact of the proposed development of Rethusheng Special School on these cultural remains, according to a standard set of conventions.
- Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources; and
- Review applicable legislative requirements.

Findings

The literature survey suggests that prior to the 20th century, the general project area would have been a rewarding region to locate heritage resources related to the Stone Age and particularly the Iron Age and

historical sites (Bergh 1999). However, the situation today is completely different. The study area now lies on a clearly modified landscape that has previously been cleared for residential developments and agriculture.

Archaeology

The proposed development of Rethusheng Special School site was surveyed for archaeological remains; however, given the previous and current destructive land use activities, no confirmable archaeological remains were identified during the survey. Based on the field study results and field observations, the receiving environment for the proposed development of Rethusheng Special School site is low to medium potential to yield previously unidentified archaeological sites during construction. Literature review also revealed that no archaeological sites are shown on a map contained in a historical atlas of this area. This, however, should rather be seen as a lack of research in the area and not as an indication that such features do not occur.

Burial grounds and Graves

Human remains and burials are commonly found close to archaeological sites and abandoned settlements; they may be found in abandoned and neglected burial sites or occur sporadically anywhere because of prehistoric activity, victims of war, conflict or crime. It is often difficult to detect the presence of archaeological human burials on the landscape, as these burials, in most cases, are not marked at the surface and concealed by dense vegetation cover. Human remains are usually identified when they are exposed through erosion, earth-moving activities, mining and construction. In some instances, packed stones or bricks may indicate the presence of informal burials. If any human bones are found during the course of construction work, then they should be reported to an archaeologist and work in the immediate vicinity should cease until the appropriate actions have been carried out by the archaeologist. Where human remains are part of a burial, they would need to be exhumed under a permit from either SAHRA (for pre-colonial burials as well as burials later than about AD 1500) or Department of Health for graves younger than 60 years.

The field survey did not record any burial sites within the proposed Rethusheng Special School development site. As such the proposed development of Rethusheng Special School may be approved without any further investigation and mitigation in terms of Section 36 of the NHRA.

It should be noted that burial grounds and gravesites are accorded the highest social significance threshold (see Appendix 3). They have both historical and social significance and are considered sacred. Wherever they exist or not, they may not be tampered with or interfered with without a permit from SAHRA. It should also be borne in mind that the possibility of encountering human remains during subsurface earth-moving works anywhere on the landscape is ever present. The possibility of encountering previously unidentified burial sites

is low to medium within the Rethusheng Special School development site; however, should such sites be identified during construction, they are still protected in terms of Section 36 of NHRA.

Public Monuments and Memorials

The study did not record any public memorials and monuments within the proposed Rethusheng Special School development site. As such the proposed development may be approved without any further investigation and mitigation in terms of Section 27 of the NHRA.

Buildings and Structures

The survey did not identify any historical buildings and structures within the proposed development site. As such, the proposed project may be approved without any further investigation and mitigation in terms of Section 34 of the NHRA, which protects buildings and structures that are older than 60 years

Socio-Economic Impact Study

Rethuseng SNS is to be located within the Mamehlabe village led by Headwoman Matlala under the Matlala Tribal Authority. Mamehlabe is one of the five villages under the Blouberg municipality ward 22. The furthest village from Mamehlabe is about 15km. Mamehlabe has an estimated population of 13 763 with 619 households. Although the community is characterised by high levels of alcohol abuse, levels of crime and violence are reported to be the lowest in comparison to the other four villages. Alcohol abuse is a red flag for this project in particular on the aspect of local labour force not reporting for duty soon after pay days. The majority of residents rely on social grants whilst others rely on short term and long-term jobs and self-initiated economic activities. Whilst the dominant political party is the ANC, there are other parties such as the EFF, DA and others. The community has a Development forum with various portfolios such as Water, Electricity, Community Policing Forum, Education and Health.

Various sessions were conducted to solicit information on existing internal, external, direct and indirect stakeholders. The primary source of information was the Mamehlabe Traditional Council, ward councillor and ordinary members of the community. A designated stakeholder, the Rethuseng Special School has been consulted to formally introduce the construction project. Further engagements with other stakeholders are envisaged during the planning phase. In anticipation of potential emergence of new stakeholders triggered by socio-economic interests, the stakeholder register will remain work in progress and will therefore be updated as the need arise.

Active public participation is at the heart of community development project success. The project initiation phase requires robust engagements with the broader populace of the area where the project is located. These

meetings were preceded by round table engagements with various local stakeholders to introduce the project, whilst establishing and enlisting existing stakeholders. One community / public participation meeting was held on the 17th of August where the following objectives were achieved;

- An outline of the project protocol (IA, Client, PA, PSP, PSC & CLO) was made in order for the community to understand how the project is going to be managed.
- The community resolved that unskilled job opportunities shall not be restricted to Mamehlabe village but shall be open to all residents of Ward 22.
- That database of illegible unskilled labour force shall be created in each of the village. The database frame shall be based on the EPWP demographic requirements; i.e Females, Youth & Males.
- PSC selection guide was shared and the meeting resolved that members of the community should instead volunteer themselves.
- Four members volunteered themselves to the PSC and were endorsed by the congregated community members.
- A community readiness charter was discussed and agreed to that the Social Facilitator will consolidate for the Traditional Council and Ward councillor to sign off (unsigned copy attached).

Training needs assessment was conducted in preparation for the induction workshop. The induction workshop will be planned and conducted in phases preferably towards the beginning of the next calendar year of 2026.

The activities covered during this phase were mainly to initiate community institutionalization processes through contact engagement meetings and workshops. The phase is essentially preparatory to ensure community understanding of and readiness for project support. The phase is not conclusive but an ongoing process. In view of various project predecessors that are still outstanding, some of the social facilitation activities and milestones such as the recruitment of the CLO, labour recruitment planning etc. will be halted whilst others such as PSC induction and development of important frameworks (communication, community participation etc) will be done in phases in order to ensure alignment and interfacing.

Traffic Impact Assessment Study

Project Overview

The proposed Rethuseng Special School development will be located on Part of Portion 2 of Farm Cromford 690-LR within the Blouberg Local Municipality. The school is expected to accommodate a total of 332 boarding students. In addition, the development will include accommodation for a maximum of 58 boarding staff and 53 daily staff members.

The proposed Rethuseng Special School aims to cater to learners with special educational needs, including physical disabilities, learning difficulties or sensory impairments. This Traffic Impact Assessment (TIA) evaluates the potential impact of the proposed development on the existing road network and recommends any necessary improvements to accommodate future traffic demand.

Key Findings

Trip Generation & Distribution: Based on COTO TMH17 trip rates, the development is expected to generate significant traffic volumes. The proposed school development will generate the following additional vehicle trips per hour:

- Weekday morning peak hour trips:
  - Inbound traffic: 141 trips
  - Outbound traffic: 141 trips
- Weekday afternoon peak hour trips:
  - Inbound traffic: 50 trips
  - Outbound traffic: 50 trips
- Midday peak hour trips:
  - Inbound traffic: 52 trips
  - Outbound traffic: 64 trips
- **Trip Reductions**: No trip reduction was applied to this development's trips.
- **Critical Intersections:** Tuesday classified traffic counts were conducted at the following three critical intersections that act as main feeders in and out of the study area:
  - Juno Road / Unnamed Road (D3429)
  - Juno Road / Sadoma Road
  - Sadoma Road / Lekhureng Road
- **Capacity Analysis:** The capacity analysis evaluated these key intersections under three traffic scenarios for current base year (2025), projected (2030), projected (2030) and development traffic conditions. Currently, all intersections operate within acceptable levels of service (LOS) and volume-to-capacity (v/c) ratios. Projections indicate that by 2030, the intersections will continue to function efficiently without delays. Furthermore, when traffic generated by the proposed school is included, no significant delays are expected. Therefore, no road improvements are required, as the development does not substantially impact intersection performance under the assessed projected (2030) and development traffic scenario.

Conclusion and recommendation: This traffic study analysed the impact of a proposed Rethuseng Special School development that is expected to accommodate up to 322 boarding students, maximum of 58 boarding

staff and 53 daily staff on site. It is anticipated that the proposed development may generate maximum of 141 for both inbound and outbound trips, during the weekday morning peak hour, 50 for both inbound and outbound trips, during the weekday afternoon peak hour, as well as 52 and 64 inbound and outbound trips, respectively during Midday peak hour. No trip reduction was applied to this development's trips.

The report recommended the creation of a partial intersection (Left-in/Left-out/Right-in only) on Juno Road (D19) to serve as a primary access. Three internal priority stop-controlled accesses will be provided from the internal road to serve the proposed Rethuseng Special School development. The partial intersection will be located approximately 540 m from Sadoma Road and 1.06 km from Unnamed Road (D3429).

The capacity analysis included three scenarios namely, base year (2025), horizon year (2030) traffic with and without the development. The intersections were analysed based on the existing geometry and control. The analysis indicated that all the intersections operate under an acceptable level of service for all three scenarios. The developer will have to provide public transport lay-by at the development access point (along Juno Road). Pedestrian crossing facilities (tactile paving and ramps) will be provided at the access, and the developer should construct pedestrian walkways on the development site boundary (along Juno Road) and within the development site to accommodate non-motorised transport users.

A total of 54 parking bays should be provided on the development site as per the Blouberg Local Municipality Land Use Scheme 2022 parking requirements for place of education land-use. It is recommended that the refuse trucks do not enter the development site, since the dustbins used by the development, will be put outside the access gate.

This report recommends the following:

The developer:

- To construct the proposed development access (along Juno Road) as outlined in Section 6 of this traffic study;
- The developer provides public transport lay-bys, pedestrian walkways and pedestrian crossing facilities as outlined in Section 10 of this report and in consultation with relevant departments of Blouberg Local Municipality; and
- This Traffic Impact Assessment (TIA) in support of the proposed Rethuseng Special School to be located on Part of Portion 2 of Farm Cromford 690-LR, Blouberg Local Municipality, Limpopo Province be approved.

Stormwater Management Plan Study

The purpose of this report is to present stormwater management strategies for flood control measures, managing stormwater within the proposed development, and reduction in post development runoff flows to ensure appropriate stormwater disposal.

An external catchment is noted to contribute overland runoff towards the site, posing a risk to flooding. A catchwater channel and berm is proposed at the high lying site development boundary line to divert external stormwater runoff away from the site for the 100 year design storm. The discharge point of the catchment channel must be provided with appropriate erosion control measures to ensure controlled discharge. The design specification of the catchwater channel and berm are similar to that of open channel systems.

A benefit of this system is that the excavated material from the channel could be used for the construction of the adjacent berm. Furthermore, the hydraulic capacity of the channel is increased with the berm acting and a barrier for increased flow depth during major events.

Summary of recommendations:

- It should be noted that any post development within the external catchment must ensure that runoff is attenuated and released as predevelopment flow towards the proposed catchwater channel and berm. A separate stormwater management plan will need to be developed for this area to not negatively impact neighboring properties and lower lying development. The proposed site boundary (88.03Ha) is noted to be much larger than the currently proposed site development area (16.70Ha). The stormwater management plan only considers the site development area and the undeveloped external catchment that impacts on the site development area.
- This stormwater management plan must be updated when further details of the site and surrounding developments are proposed.
- The impact of surrounding rivers and tributaries must be concluded with a floodline assessment using accurate survey terrain data. Upon which, recommendations from the floodline assessment will be considered in this report.
- 3no. of existing 900mm pipe culverts are noted to service the adjacent Juno Road. An independent stormwater outlet for the site is proposed and therefore not reliant on the existing 900mm pipe culverts.
- The stormwater management system has been proposed in accordance with Red Book and applicable guidelines.
- Minor and major stormwater systems must cater for the 5-year and 50-year design flood, respectively.

- Climate change impacts for the Blouberg Local Municipality were extracted from the GreenBook. These impacts were considered by selecting upper limits of the currently available design rainfall values.
- A good consideration to account for the impact of climate change is to adopt higher return periods (e.g 10-year) for the design of minor systems.
- Minor and major stormwater systems should cater for the 5-year and 50-year design flood, respectively.
- The stormwater management system comprises of stormwater pipes, roads, overland flow paths and open channels discharging into an attenuation pond (dry type).
- Minor stormwater systems consist of underground pipe networks, and the major system consists of open channel flow.
- External stormwater catchment diversion with use of a catchwater channel and berm is proposed to divert runoff away from the site for the 100-year return period, mitigating the risk overland runoff flooding the site.
- The outlet orifices of the attenuation pond are to be appropriately sized for the 5yr, 50yr and 100yr return periods such that predevelopment flow conditions are met.
- Stormwater discharge points to be provided with erosion control in the form of headwalls, gabion baskets and mattresses.
- Stormwater runoff is proposed to ultimately discharge across Juno Road as predevelopment flow with a headwall and erosion protection to reduce flow velocities.
- Rainwater harvest tanks are recommended in applicable areas where space permits. However, due to the low annual rainfall of the area this may provide little benefit when compared to the space requirements for such infrastructure.
- Rainwater can be used for general maintenance of the site and not for human consumption. Appropriate treatment stormwater is required and can be used to supplement other water recourse shortfalls.
- An ongoing maintenance management plan should be implemented to ensure that the stormwater network and storage facility are kept free of silt and debris to prevent any blockage that may arise.
- This stormwater management plan is to be incorporated and be implemented into the proposed development drawings for submission by the Architect.
- This stormwater management plan must be updated according to changes/revisions of the site development plan.

Geotechnical Assessment Study

Mobu Geo Services (Pty) Ltd was commissioned by Muteo Consulting (Pty) Ltd on behalf of Limpopo Department of Public Works, Roads and Infrastructure to undertake a geotechnical investigation to support the design and construction of Rethuseng Special School in Mamehlabe, Blouberg Local Municipality, Capricorn District, Limpopo Province. The objective of the investigation was to characterise the subsurface conditions and to develop engineering parameters for design and construction.

Fieldwork was carried out on the 2nd of August 2025. The investigation comprised excavation of eight (8) test pits advanced to depths of approximately 1.05 m below ground level, supplemented with Dynamic Cone Penetrometer (DCP) testing conducted adjacent to each test pit. Representative samples were submitted to a civil engineering materials laboratory for classification testing, moisture–density relationships (Modified AASHTO), and California Bearing Ratio (CBR) testing. The site is mantled by transported soils overlying residual granite. The residual granite is underlain by weathered granite bedrock at shallow depth. The transported horizons comprise silty sandy gravel and gravelly silty sand, whereas the residual profile is predominantly granitic gravelly sand to sandy gravel.

The transported soils generally classify as G8 quality material according to COLTO specifications and are not suitable for use as engineered fill. The residual soils derived from granite bedrock classify predominantly as G5–G6 and are suitable for use as an engineered fill, provided they are placed and compacted in accordance with specification.

DCP testing was conducted to depths of approximately 0.23m to 0.755m below ground level, and the results indicate lower inferred bearing capacity within the transported horizon, typically in the range of approximately 90 kPa to150 kPa, with values increasing to greater than 200kPa within the residual and weathered bedrock profile.

No seepage was observed in the test pits at the time of investigation. The presence of ferricrete nodules, however, suggests that perched water may occur on a seasonal basis. The design should therefore include positive surface drainage to prevent water ingress adjacent to structures.

In terms of NHBRC guidance, the site is zoned as Site Class R–C, where "R" reflects areas controlled by shallow bedrock and "C" reflects areas underlain by compressible and potentially collapsable soils. Normal strip foundations are recommended. Where footings are founded directly on bedrock, an indicative allowable

bearing capacity of approximately 500 kPa is appropriate, and where foundations are placed on engineered fill over residual soils, an indicative allowable bearing capacity of approximately 200 kPa is appropriate when

compacted using G5 quality material. These values are subject to confirmation at founding level during construction.

Excavation conditions are generally soft to depths of approximately 1.05 m below ground level. Deeper excavation is feasible using suitable mechanized plant. Earthworks should follow SANS 1200 principles. The contractor should strip vegetation and topsoil, proofroll the formation, undercut soft or yielding zones, and replace them with approved selected material. Fill should be placed in layers not exceeding 150 mm and compacted to the specified Modified AASHTO density with appropriate moisture control. Routine density and moisture testing should be carried out, and founding inspections should be documented by a competent person. The site is suitable for the proposed school development, provided the drainage, earthworks, and foundation controls described above are implemented and founding levels and layerworks are verified during construction.

Conclusion: The site is underlain by transported soils overlying residual granite, with weathered granite bedrock occurring locally at shallow depth. Transported horizons comprise silty sandy gravel / gravelly silty sand, while the residual profile is predominantly quartzitic gravelly sand to sandy gravel. The transported soils generally classify as G8 according to COLTO specifications and are not suitable as engineered fill, whereas the residual granite soils classify as G5–G6 and are suitable for engineered fill.

Where transported soils predominate, imported selected material will be required to achieve consistent layerworks quality. Stormwater should be collected and either piped off-site or led to controlled discharge points well downslope of structures; provide profiling to falls and concrete splash aprons to prevent ingress adjacent to foundations. Soft excavation conditions (SANS 1200DA) are anticipated to depths of approximately 1.05 m below existing ground level; deeper excavation is feasible using mechanised plant of higher capacity.

Floodline Desktop Study

To comply with the National Water Act and the project planning and design stages, floodlines must be determined for any development subject to flooding. NNB Engineering Consultants were appointed by Muteo Consulting to conduct a Flood risk assessment for the proposed school.

The scope of this study is to conduct a hydrological and hydraulic analysis of the study area to determine the floodlines and evaluate flood risks that may impact the proposed development.

The following portions of watercourses were identified and forms part of the scope of this report.

Watercourse 1 – A small non-perennial Tributary which eventually connect to a large tributary of the Nokayamatlala River.

- **Watercourse 2** – A small non-perennial Tributary which eventually connect to a large tributary of the Nokayamatlala River. This tributary passes the built-up residential settlement of Mamehlabe.
- **Watercourse 3** – A large non-perennial Tributary Nokayamatlala River.
- **Watercourse 4** - The non-perennial Nokayamatlala River.

Hydrological assessment: This section provides details of the catchment characteristics and design flood estimation (peak flows) for the identified watercourses.

Catchment boundary delineation: The four watercourses of the non-perennial Nokayamatlala River catchment were identified, the corresponding catchment boundary was delineated using 2m contours.

Climate change: Studies have shown that climate change is leading to more frequent and intense extreme rainfall events in South Africa. However, currently there are no definitive updated design rainfall figures which account for climate change. This means that current design rainfall estimates should, to some degree, account for these increased intensities. The GreenBook (an online planning support tool) was utilised to inform the selection of design rainfall data for the purposes of climate change considerations in this stormwater management plan. The Blouberg Municipality in Limpopo was selected to extract related climate change data projected for the year 2050.

Climate Change Considerations: Based on the findings above, it is evident that Blouberg Local Municipality is expected to be impacted by climate change. Therefore, to account for climate change in the hydrological analysis of this Floodline assessment, the upper 90% design rainfall data was adopted as recommended by "A best practice guideline for design flood estimation in municipal areas in South Africa, July 2023."

Rainfall data: The 2012 rainfall records from the "Design Rainfall and Flood Estimation in South Africa" by Prof Jeff Smithers from The University of Natal (Pietermaritzburg) were considered in this study. The average adopted design rainfall depths for different Return Intervals, extracted from the gridded rainfall dataset taken at 1 minute grid intervals within the catchment boundary.

As discussed in the previous section, the impact of climate change on rainfall within the Blouberg Local Municipal is noted to increase annual rainfall and extreme rainfall days by the year 2050. Therefore, as recommended by the best practice guidelines for design flood estimation in municipal areas in South Africa, the upper 90% rainfall values were considered.

Catchment land use: The estimated land cover for the study catchment was derived from the South African National Land Cover (SANLC 2020) dataset, provided by the Department of Forestry, Fisheries and the Environment. The area of interest was divided into four sub-basins, for which the findings are tabulated with the corresponding maps for reference.

Catchment slope: A slope analysis of the catchment was conducted for each Sub Basin for which the findings are tabulated with the corresponding maps for reference. It is noted that the catchment predominately comprises of slopes ranging from 10%-30% and therefore can be classified as a predominantly hilly catchment.

A study of the estimated slope distribution within the catchment indicates that the terrain is predominantly gentle, with the majority of the area falling under the Vleis and Pans category (0%–3%), accounting for 74.3% of the surface. The remaining portion is classified as Flat Areas (3%–10%), which represent 25.7% of the total catchment.

No areas were classified as Hilly (10%–30%) or Steep Areas (>30%), indicating the catchment is characterized by low-relief terrain with minimal slope variability.

The slope distribution shows a more diverse terrain:

- Vleis and Pans (0%–3%) dominate, covering 53.59% of the catchment.
- Flat Areas (3%–10%) account for a significant 42.53%.
- A small portion is classified as Hilly (10%–30%), comprising 1.97%.
- Steep Areas (>30%) are present but limited, representing 1.92% of the total area.

The catchment is predominantly characterized by gentle terrain, with the majority of the area (54–80%) classified as Vleis and Pans (0–3%) and a further 20–43% as Flat Areas (3–10%). In three datasets, no hilly or steep slopes were observed, confirming the dominance of low-relief terrain. However, one dataset indicated ~4% hilly and steep slopes, suggesting localized zones of higher gradient.

Design flood peak flow estimation: The magnitude of the flood peaks is dependent on the catchment characteristics, rainfall data, land use and developments. The magnitude of flood peaks depends on various factors, including catchment characteristics, rainfall data, land use, and developments. Given the varying catchment areas, the following peak flow calculation methods were evaluated, namely:

Small Catchment (<15km2)

- Rational Method - All Alternatives
- Unit Hydrograph Method
- Standard Design Flood Method
- Midgley & Pitman

From the methodologies considered above, the results obtained from the **Rational method Alternative** were adopted to represent the peak flows for the sub basin 1 and 2. The selection of this method is proposed due to the following:

- The use of the rational method is suitable for calculating peak flows for catchment areas less than 15km2.
- This method considers rainfall data records more specific to the site location as opposed to regional statistic and allows for considering increases to rainfall figures due to climate change.
- The results are noted to be relatively similar to the SDF method for the higher magnitude return periods

From the methodologies considered above, the results obtained from the Standard Design Flood Method (SDF) were adopted to represent the peak flows for sub basins 2 and 3. The selection of this method is proposed due to the following:

- The use of the SDF Method is suitable for calculating peak flows for large catchment areas .
- The peak flow results from the SDF method are noted to be significantly higher than most methods and a conservative approach can therefore be adopted.

Results of hydraulic analysis: The hydraulic analysis for this desktop floodline assessment was conducted utilising online elevation data sourced from the Advanced Land Observing Satellite (ALOS) Global Digital Surface Model (AW3D30) via the OpenTopography database. The use of online data was selected to perform the study due to limited extent of detailed topographical survey.

A comparison was made between the site-specific topographical survey data conducted by THOTHOME GEOMATICS cc and the online elevation data. The 100-year flood map generated from online data suggests that the proposed site is at low risk of inundation from adjacent watercourses. However, the accuracy and confidence of this assessment is deemed very low due to the elevation discrepancies and coarse resolution of the online data, which fails to adequately define the watercourse channels and floodplain areas, resulting in unrealistic flood map delineation.

f) Environmental Impact Statement

It should be understood that Ourbiosphere is not in anyway an elected body that has been tasked with making decisions for civil society; yet, hereunder does offer a qualified view as a responsible citizen. According to Ourbiosphere, the Final BA Report, the EMPr, and the specialist reports that have been attached and are expected to all adhere to the pertinent rules and provide all the data needed in accordance with GN 326 so that LEDET may make a much needed informed decision on the construction of the proposed Rethuseng Special School.

A range of low to medium indirect environmental impacts are anticipated as a result of the proposed construction of Rethuseng Special School in Mamehlabe village, which is located within the Blouberg Local Municipality. If not properly managed, a number of secondary impacts could transcend the site borders even while the direct construction footprint is small.

Indirect effects of habitat loss include fragmentation of nearby natural habitat, which may compromise wildlife corridors and ecological integrity. However, it is anticipated that long-term cumulative effects will be minimal with mitigation and post-construction rehabilitation. Increased exposure from surrounding vegetation removal, root disturbance, and hydrological changes can all have an indirect effect on protected species like Sclerocarya birrea. Low levels of these consequences can be maintained by strict permitting, delineation, and avoiding disturbances outside of the authorized region.

The most important fundamental decision sought after is whether LEDET allows a development that brings social-economic and operational benefits needed by the affected community. In this case, identified potential negative impacts arising from the proposed construction of Rethuseng Special School can be managed to remain within acceptable environmental limits as so long as all the measures that has been set out in the EMPr are implemented to the latter. The need for Rethuseng Special School development must be evaluated in terms of the NEMA principles, inclusive of sustainable development, taking into consideration the environmental impacts due to development as well as positive socio-economic impacts as mentioned above. Therefore, the no-go option is not supported from the holistic sustainability perspective.

The air quality in the immediate vicinity may be momentarily impacted by dust emissions from site clearing, vehicle traffic, and soil exposure. Localized deterioration may result from a combination of agricultural operations, even while individual impacts are minimal. Reducing clearance areas and suppressing dust are essential. During construction, trucks, machinery, and other equipment may occasionally disturb the tranquility in rural areas. Although these effects are transient and localized, if adjacent projects occur at the same time, sensitive receptors (like cattle) may be subject to cumulative disruptions.

It is recommended that the following conditions are included in the environmental authorisation:

- *An independent Environmental Control Officer (ECO) should be appointed to provide environmental training to the construction team prior to the commencement of construction.*
- *The conditions of the EMPr* ***(refer to Appendix G)*** *must be implemented and monitored.*
- *As recommended by the Blouberg Local Municipality "Building plans must be submitted to the Development Planning and Human Settlements for approval prior to construction".*

- *A service level agreement between the DoE and Blouberg Local Municipality is required to be put in place which specifically addresses the waste management and collection, should the SLA not be achievable then the DoE must make provisions for waste to be collected and disposed of at registered landfill site.*
- *The independent ECO should undertake a pre-construction audit, regular construction audits and a post-construction audit in terms of the EMPr (refer to Appendix G), which must be approved by the relevant Competent Authorities (i.e. LEDET) prior to commencement of construction.*

- Based on the professional objectivity, Ourbiosphere believes that this report and the specialist inputs confirmed that IDC Architects, Department of Education, and Department of Public Works, Roads and Infrastructure preferred option is acceptable.
- The EMPr stipulates the mitigation measures identified that will mitigate the potential impacts identified to within acceptable limits.

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Disclaimer

The data provided to Ourbiosphere served as the foundation for the views presented in this Report. IDC Architects specifically requested that the opinions in this report be furnished. After analysing the provided information, Ourbiosphere has taken all necessary precautions. The accuracy of the results and conclusions from the evaluation are totally dependent on the completeness and accuracy of the provided data, even if Ourbiosphere has compared important provided data with expected values. Ourbiosphere does not assume duty for any mistakes or omissions in the information provided, nor does it assume any accountability for any ensuing business decisions or activities. The opinions in this report are applicable to the site's features and conditions as they were at the time of Ourbiosphere's research, as well as those that may have been predicted. These views may not necessarily apply to circumstances and characteristics that might emerge after the Report's date, regarding which Ourbiosphere was neither prepared nor able to conduct an assessment.

List of Abbreviations

BAR	Basic Assessment Report
BID	Background Information Document
RSC	Rethuseng Special School
DFFE	Department of Forestry, Fisheries and the Environment
DoE	Department of Education
DPWR&I	Limpopo Department of Public Works, Roads & Infrastructure
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
EAP	Environmental Assessment Practitioner
LEDET	Department of Economic Development, Environment and Tourism
EMPr	Environmental Management Programme
Ha	Hectares
HIA	Heritage Impact Assessment
I&APs	Interested and Affected Parties
IDP	Integrated Development Plan
NBA	National Biodiversity Assessment
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
LEMA	Limpopo Environmental Management Act, 2003 (Act No 7 of 2003
WUL	Water Use Licence
WMA	WMA Water Management Area
SANS	South Africa National Standards
SLA	Service Level Agreement
SCC	Species of Conservation Concern
OSHA	Occupational Health and Safety Act
NHRA	National Heritage Resources Act
NWA	**National Water Act 1998 (Act No. 36 of 1998)**
PPP	**Public Participation Process**
SABS	**South African Bureau of Standards**
SAHRIS	**South African Heritage Resources Information System**

1. Introduction

Ourbiosphere Environmental (Pty) Ltd was appointed by IDC Architects as the independent Environmental Assessment Practitioner (EAP), on behalf of the Limpopo Department of Public Works, Roads and Infrastructure (LDPWR&I), to undertake a Basic Assessment (BA) process for the proposed construction of Rethuseng Special School, on the remaining extent of farm Cromford 690-LR, Blouberg Local Municipality, Capricorn District Municipality, Limpopo. The study area is situated approximately 71 Kilometres (km) Northwest of Polokwane Town along the Matlala Road and is approximately 88 km North of Mokopane Town along N11 into Juno Road and falls within Ward 22.

In terms of the 2014 Environmental Impact Assessment (EIA) Regulations (as amended) promulgated under the National Environmental Management Act (No. 107 of 1998) (NEMA) (as amended), the proposed activity is subject to a Basic Assessment (BA) process. The identified Competent Authority (CA) of the project is the Limpopo Department of Economic Development, Tourism and Environment (LEDET).
Limpopo Department of Public Works, roads and Infrastructure (LDPWR&I) is applying to the Competent Authority (CA) i.e., LEDET on behalf of the Department of Education (DoE) for Environmental Authorisation (EA).

The proposed construction of Rethuseng Special School is proposed on Remaining Extent of Farm Cromford 690-LR, Blouberg Local Municipality, Capricorn District Municipality, Limpopo (T0LR00000000069000002; **S: 23°33'11.82", E: 28°57'23.19"**) which is owned by the Bakone Ba Matlala a Thaba Tribe. Furthermore, the approximate extent of the study area is 15 ha of which 10 ha will be utilised as developable areas with the remaining 5 ha set aside as open space areas for future development. The objective of the project is to design and construct a school suitable for 330 boarding learners, maximum of 58 boarding staff and 53 daily staff on site. The site will be graded and grassed, and the parking area will be hard surfaced.

The water supply will be from multiple new boreholes that would be drilled in and around site to supplement the water supply. It was recommended that multiple boreholes be developed, each equipped with submersible pumps, and connected to a reticulated system supplying elevated steel storage tanks. This approach is less susceptible to seasonal fluctuations and, with appropriate filtration and chlorination, can provide water of acceptable quality for school use.

The construction of Rethuseng Special School will include the construction of the following:

- boys & girl's dormitories,
- staff residence,
- class rooms,
- laundry,

- medical building,
- assembly hall,
- vocational room,
- care takers rooms,
- parking bays,
- arts and craft centre,
- ablutions,
- dining hall,
- wood and metal centre
- as well as two sports fields.

The objective of the project is to design and construct Rethuseng Special School that is suitable for 332 boarding leaners within the existing site footprint. The site will be graded and grassed, and the parking area will be hard surfaced. In terms of the 2014 Environmental Impact Assessment (EIA) Regulations (as amended) promulgated under the National Environmental Management Act (No. 107 of 1998) (NEMA) (as amended), the proposed activity is subject to a Basic Assessment (BA) process.

Therefore, on behalf of Department of Education (DoE), DPWR&I is submitting an application for Environmental Authorization (EA) to the Competent Authority (CA), i.e., LEDET. DoE and Rethuseng Special School will oversee the operating phase, while DPWR&I, the EA holder, will be in charge of the site.

This report is created as part of the BA process and is called a Basic Assessment Report (BAR). The BAR's objective is to present a succinct analysis of the possible environmental effects of the proposed activity, taking into account the concerns and remarks made by Interested and Affected Parties (I&APs). The BA Process is briefly described in **Figure 1** below.

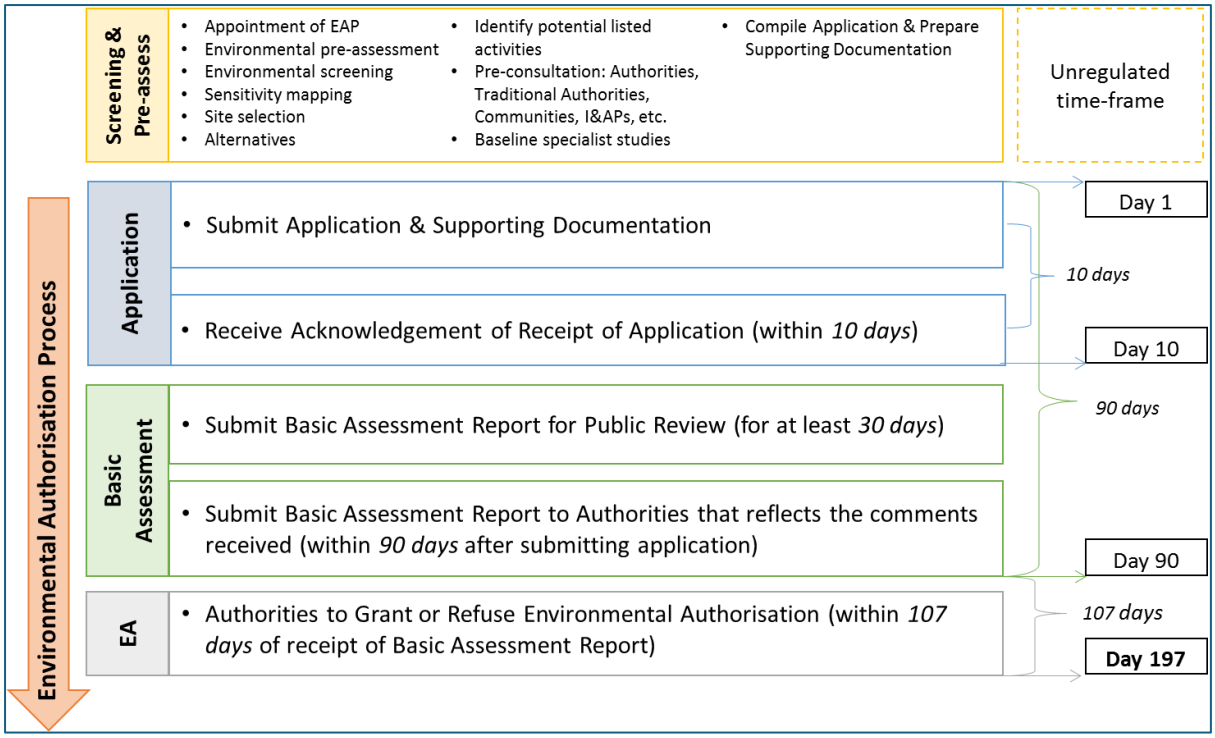


Figure 1: A Simplified Overview of the Basic Assessment Process,

2. Environmental Assessment Practitioner

Operating out of four established locations across four provinces, Ourbiosphere Environmental Consulting (Pty) Ltd employs twelve (12) professionals. Knowledge in a variety of environmental fields is provided by Ourbiosphere. Since 2011, Ourbiosphere's has operated in South Africa and has a stellar record of overseeing significant environmental initiatives. With strict quality assurance guidelines, Ourbiosphere aims to become ISO 9001 certified.

The qualifications and experience of the environmental practitioners responsible for this project are provided in **Table 3**.

Refer to **Appendix B** for the EAP Declaration of Interest and **Appendix C** for the Curriculum Vitae of the EAPs, Mr. Musa Netshivhambe, Mr. Khumbudzo Maphangwa and Ms. Linky Tseka. **Table 3** provides the summarised details of the EAPs.

Table 3: Ourbiosphere Team involved with the BA Process

Name	Qualification	Years of Experience
Mr. Musa Netshivhambe *Reg EAP (EAPASA) 2019/1853* *Certificated Environmental Scientist (SACNASP)*	BEnvM - (Bachelor of Environmental Management – (Univen 2003); MEnvSc - Master of Environmental Sciences (Univen - 2007); National Diploma – Safety Management (Unisa - 2024)	22 Years
Dr. Mr. Walter Maphangwa	BEnvM - (Bachelor of Environmental Management – (Univen 2007); Masters in Science (University of Western Cape -2011); Doctor of Philosophy (Unisa)	18 Years
Ms. Linky Tseka	BA. Environmental Management (Unisa – 2019)	1 Year

3 Project Location

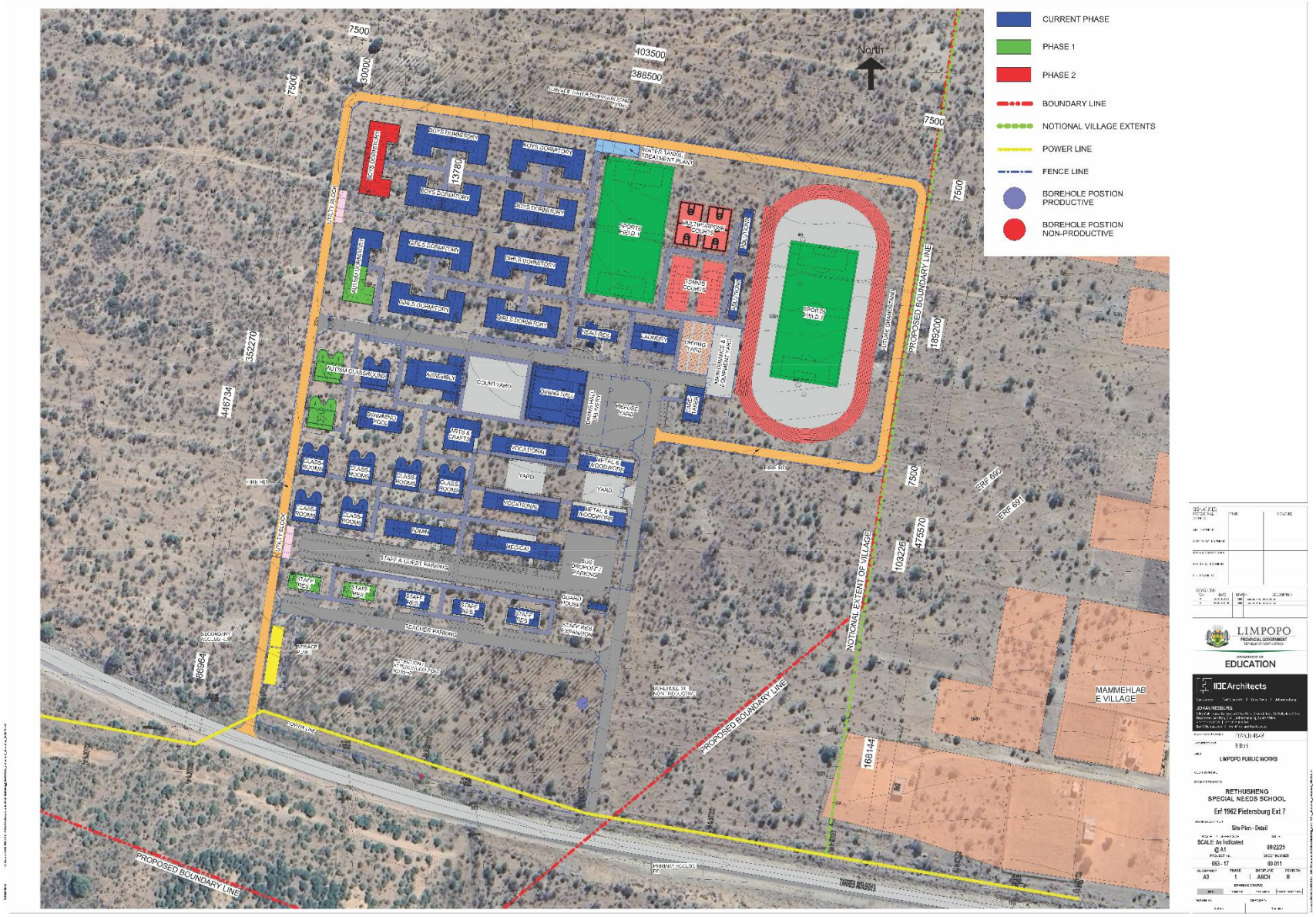
The proposed construction of Rethuseng Special School is proposed on Remaining Extent of Farm Cromford 690-LR, Blouberg Local Municipality, Capricorn District Municipality, Limpopo (T0LR00000000069000002; **S: 23°33'11.82", E: 28°57'23.19"**) which is owned by the Bakone Ba Matlala a Thaba Tribe.

Refer to **Table 4** below for the Property Description for Rethuseng Special School.

Table 4: Property Description

Property Description	SG 21-Digit Code	Centre Co-ordinate of Property
Remaining Extent of Farm Cromford 690-LR	**N0HT06160000152600000**	**S: 23°33'11.82", E: 28°57'23.19"**

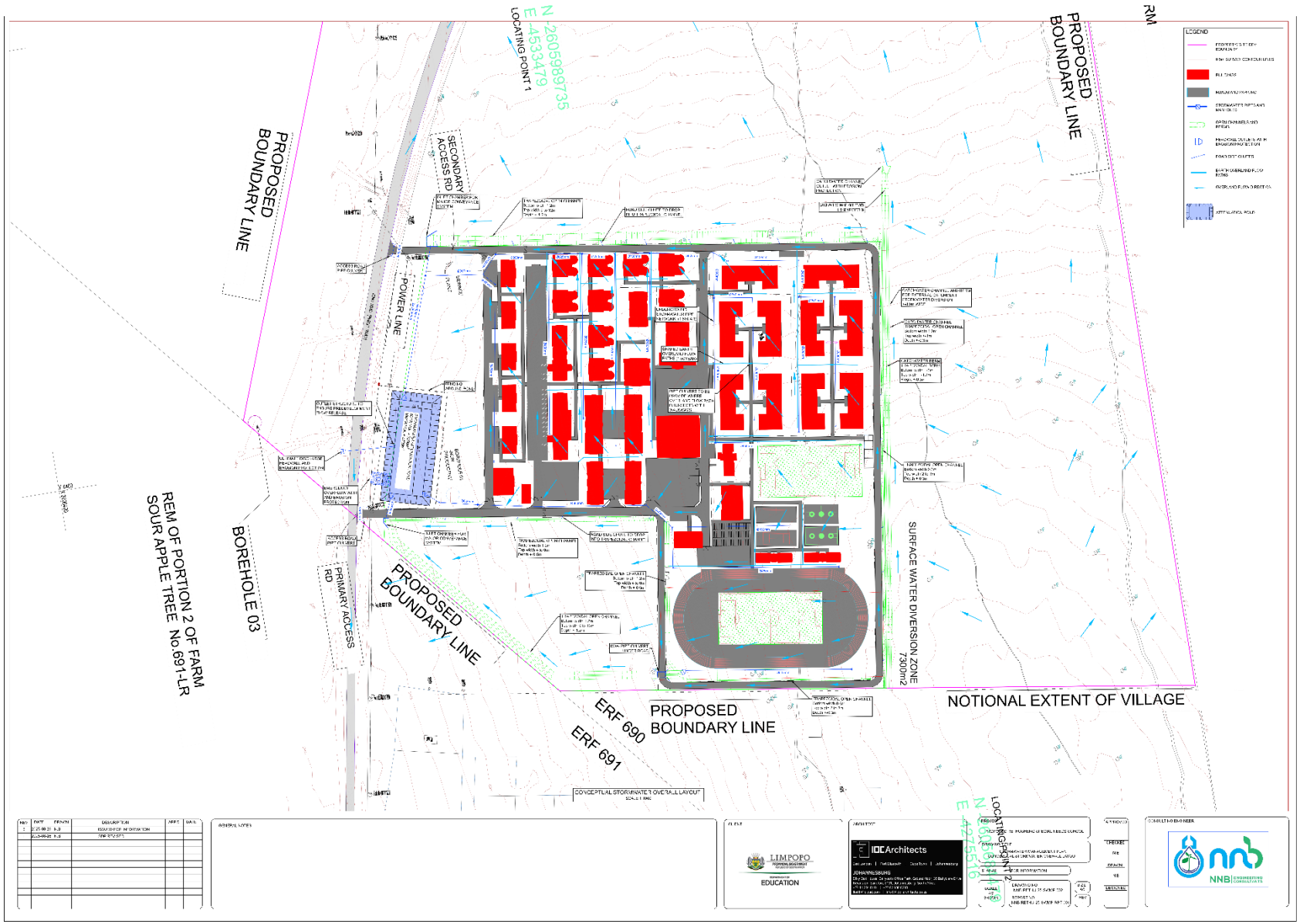
See the Locality Map in **Figure 2** on the overleaf.


CURRENT PHASE
PHASE 1
PHASE 2
BOUNDARY LINE
NOTIONAL VILLAGE EXTENTS
POWER LINE
FENCE LINE
BOREHOLE POSTION PRODUCTIVE
BOREHOLE POSTION NON-PRODUCTIVE
North
PROPOSED BOUNDARY LINE
NOTIONAL EXTENT OF VILLAGE
MAMMEHLAB E VILLAGE
LIMPOPO
EDUCATION
LIMPOPO PUBLIC WORKS
RETHUSHENG SPECIAL NEEDS SCHOOL
Erf 1962 Pietersburg Ext 7
Site Plan - Detail

4. Baseline environment

4.1 Site Description

- The site is currently undeveloped and predominately in a natural state that has been heavily disturbed by agricultural activities with some gravel/ unpaved paths noted that traverse the site East-t0-west. A public road (Juno Road) is located adjacent to the site in the lower lying portions on the southern boundary. This road consists of numerous stormwater pipe culvert crossings that serve the side drains of the road. 3no of 900mm pipe culvert crossings are noted to service the road in the vicinity of the site development area.
- The natural ground is noted to slope at 0%-4% on average from the northeast to the southwest direction
- Although there are non-perennial rivers and tributaries that surround the proposed site boundary, there is no waterbody present on the proposed.
- The proposed site is currently covered by vegetation, predominantly Vachellia species, some *Dichrostachys cinerea* and scattered protected trees like *Sclerocarya birrea* and sporadic grass; some portion of the site have been recently cleared for agricultural purposes.
- To the eastern boundary of the Rethuseng Special School is the Mamehlabe Village– this area forms part of the school grounds and there is a perimeter fence around the entire school grounds.
- To the northern boundary of the site is also an open area covered by scattered vegetation that has been disturbed agricultural activities and recent veld fire.
- The soil on the surface is comprised of silty sandy gravel and gravelly silty sand, whereas the residual profile is predominantly granitic gravelly sand to sandy gravel.
- In the western direction of site, the area is also undeveloped and covered by disturbed vegetation, and Juno Road becomes grave road from this point.
- The proposed site development plan of the school has a catchment area of approximately 167000m2 (16.70Ha).


PROPOSED BOUNDARY LINE
SECONDARY ACCESS RD
LOCATING POINT 1
N 2605989735
E 4533479
PROPOSED BOUNDARY LINE
RM
POWER LINE
REM OF PORTION 2 OF FARM SOUR APPLE TREE No.691-LR
BOREHOLE 03
PRIMARY ACCESS RD
PROPOSED BOUNDARY LINE
SURFACE WATER DIVERSION ZONE 7300m2
NOTIONAL EXTENT OF VILLAGE
ERF 690
ERF 691
PROPOSED BOUNDARY LINE
LEGEND
LIMPOPO
EDUCATION
IDC Architects
NNB

4.2 Topography

A detailed topographical survey was conducted by Thothome Geomatics cc which captured the ground levels, existing infrastructure and natural features for the site. The natural ground is noted to slope at 0%-4% on average from the northeast to the southwest direction. **Figure 4** provides a general slope map and fall direction of the site.

The general area indicates a gently sloping site, with levels ranging from 1060m above mean sea level (northeast) to 1049m above mean sea level (southwest), giving a total relief of approximately 11m across the footprint. Surface runoff, particularly during periods of heavy or prolonged rainfall is anticipated to be in the form of sheetwash towards the south-southwest.

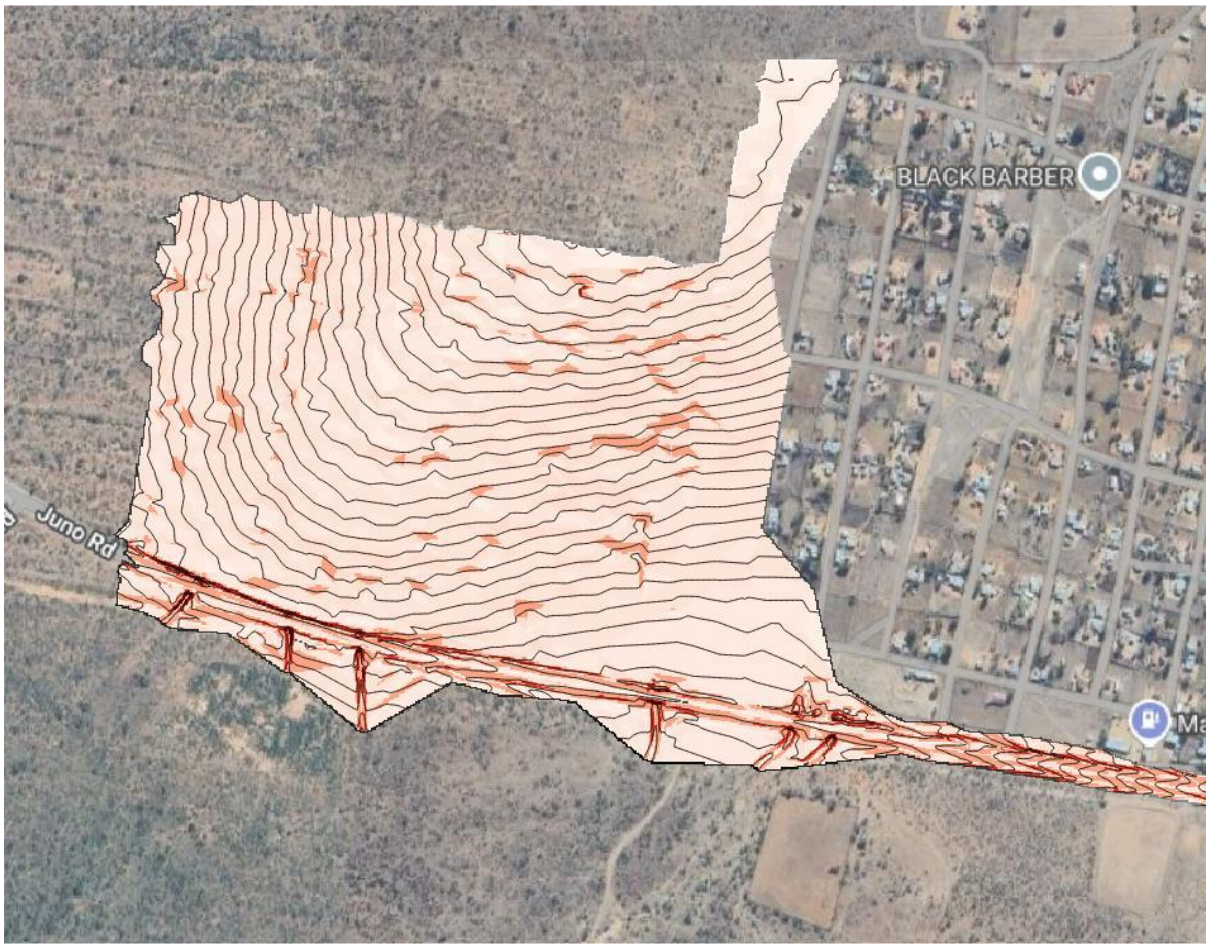


Figure 3 - General slope map and fall direction of site

4.3. Climate

Mamehlabe experiences a warm semi-arid climate. Summers (November to February) are hot and humid, with average daytime highs of 30°C to 34°C and frequent afternoon thunderstorms delivering most of the annual rainfall (around 450–600mm). Winters (June to August) are dry and mild, with pleasant daytime temperatures of 22°C to 26°C and cool nights that can drop to lows of between 5°C and 8 °C.

The climatic regime plays a fundamental role in the development of the soil profile and the weathering of rocks. Weinert (1964) demonstrated that chemical decomposition is the predominant mode of rock weathering in areas where the climatic "N-value" is less than 5. In areas where the climatic N-value is between 5 and 10, disintegration is the predominant form of weathering, although some chemical decomposition of the primary rock minerals still takes place. Where the climatic N-value is greater than 10, secondary minerals do not develop to an appreciable extent, and all weathering takes place by mechanical disintegration of the rock. Weinert's climatic N-value for the area is less than 5. This implies that chemical decomposition is the predominant form of weathering.

4.4. Drainage

The preliminary stormwater management plan was conducted by NMB Consulting Engineers. There are non-perennial rivers and tributaries that surround the proposed site boundary. The flooding impact of these rivers and tributaries are to be concluded with a Floodline risk assessment. The 100-year flood map generated from online data suggests that the proposed site is at low risk of inundation from adjacent watercourses. **Figure 4** below showing the non-perennial rivers on surrounding the site.

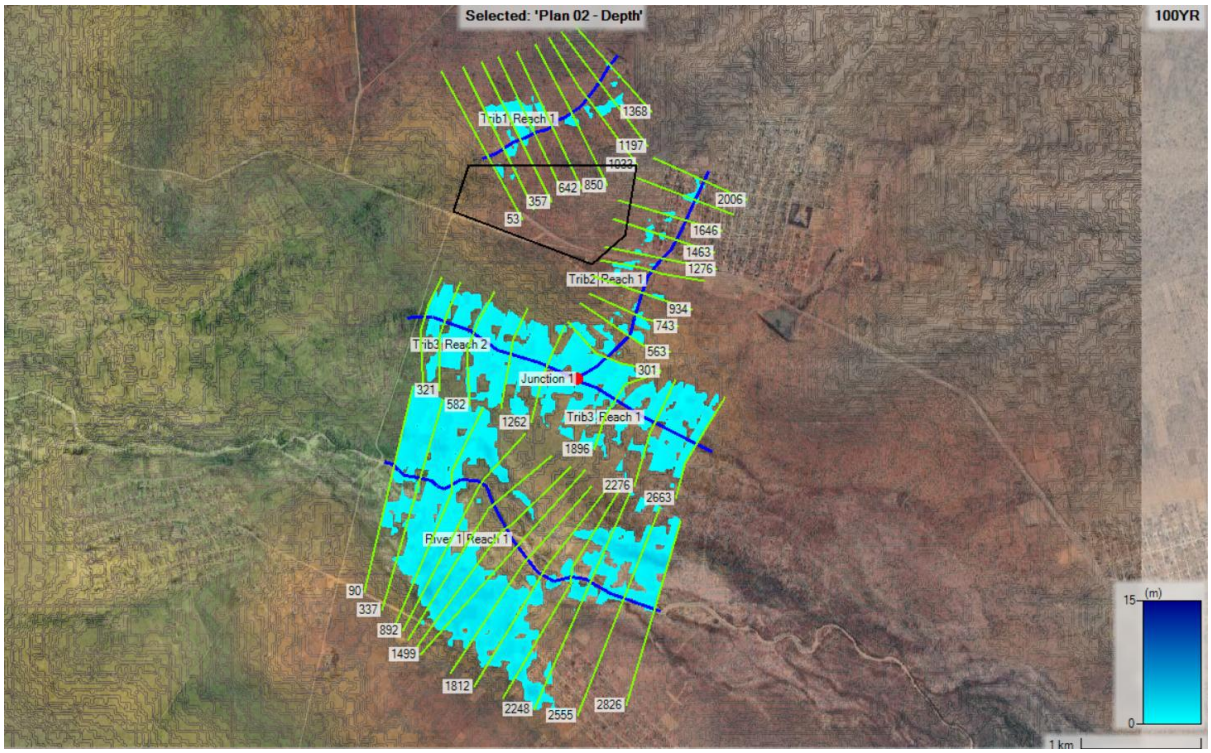


Figure 4: below showing the non-perennial rivers on surrounding the site.

4.5. Regional Geology

Geotechnical Investigation was conducted by Mobu Geo Services. A review of the 1:250 000 Geological Map **2328 PIETERSBERG** indicates that the site is underlain by lithologies of the Hout River Gneiss (Rhr) comprising

leucocratic migmatite and gneiss, grey and pink hornblende-biotite gneiss, grey biotite gneiss, minor muscovite-bearing granite, pegmatite and gneiss. An extract of the geological map is shown in **Figure 5.**

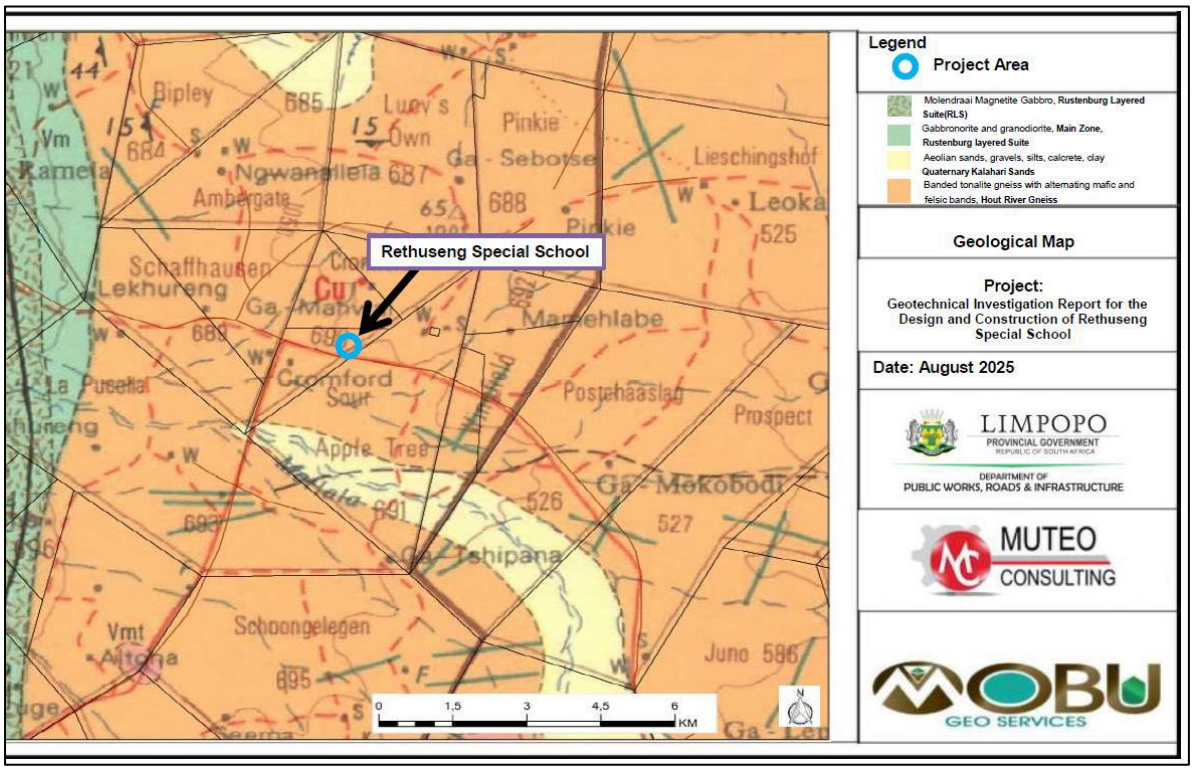


Figure 5: The geological map of the site

4.5. Ground Water

Hydrogeological assessments conducted in similar rural areas of Limpopo suggest that boreholes can yield between 0.5 and 2.5 L/s (DWAF, 2006). Based on these findings, groundwater presents the most sustainable long-term water supply solution for the proposed Rethuseng Special School. It is recommended that multiple boreholes be developed, each equipped with submersible pumps, and connected to a reticulated system supplying elevated steel storage tanks. This approach is less susceptible to seasonal fluctuations and, with appropriate filtration and chlorination, can provide water of acceptable quality for school use.

Geohydrological investigations were conducted were conducted on the site by Naledzi Waterworks on 08 August 2025. Three boreholes were drilled and the geohydrological results of the boreholes are as summarized in table 1 below. Detailed geohydrological results of the boreholes can be located under

Annexure 1: Prelim Geohydrological Report

.

Table 5: Boreholes testing summary of geohydrological findings

Borehole No.	Coordinates	Yield (l/s)	Duty cycle (hours)	Daily abstraction (kl/day)	Borehole depth (m)
BH1	-23.55531 28.95703	0.5	12hrs	21.5	100
BH2	-23.55684 28.95663	0.5	12hrs	21.5	120
BH3	-23.55685 28.95663	Dry	-	-	-
TOTAL		1		43	

4.6. Terrestrial Biodiversity

This section has been summarised from:

Ecological Impact Study for the Proposed Construction of Rethuseng Special School (September 2025). Refer to **Appendix E-1** for further detailed information.

4.6.1 Flora

According to SANBI (2025) the study area is mostly dominated by Central Bushveld Vegetation type of the Fine-Leaved-Savannah Biome, which forms part of the Savannah Biome. This kind of vegetation occurs in the study area that is Flat and gentle undulating plains covering the largest part of Limpopo Province. Vegetation is typically a mosaic of Fine-leaved and Broad-leaved Savanna.

These areas receive summer rainfall varying between 350 and 650 mm per annum. The winters are very dry and light frost occurs occasionally in some areas. Altitudes range from about 800 to 1 400 m.a.s.l. At higher latitudes (e.g. in Gauteng) the upper limit before the Savanna Biome grades into the Grassland Biome is about 1 200 m.a.s.l. (Refer to **Figure 6**) which is considered "Not protected" as per the 2018 National Biodiversity Assessment.

The woody layer of Fine-leaved Savanna is dominated by thorn trees (e.g. *(e.g., Vachellia hebeclada, V. karroo, V. nilotica* and *V. tortilis)*). Other woody species regularly found in Fine-leaved Savanna include *Combretum imberbe*, *C. hereroense*, *Diospyros lycioides*, *Euclea crispa*, *E. undulata*, *Grewia flava*, *Searsia lancea*, *Senegalia cinerea* and *Ziziphus mucronata*. The common grasses in Fine-leaved Savanna include *Bothriochloa insculpta (SANBI 2018)*,

The prominent trees in Broad-leaved Savannas are *Burkea africana*, *Combretum apiculatum*, *C. zeyheri*, *Ochna pulchra*, *Peltophorum africanum*. *Sclerocarya birrea* and *Terminalia sericea*. Other woody species include *Commiphora mollis*, *Dichrostachys cinerea*, *Grewia bicolor*, *G. monticola*, *Kirkia acuminata*, *Searsia leptodictya*, *Senegalia burkei*, *S. erubescens*, *S. senegal, Strychnos pungens* and *Vachellia robusta*. Common

grass species include *Anthephora pubescens*, *Brachiaria nigropedata*, *B. serrata*, *Enneapogon cenchroides*, *Eragrostis rigidior*, *Hyperthelia dissoluta*, *Panicum maximum, Perotis patens* and *Schmidtia pappophoroides*.

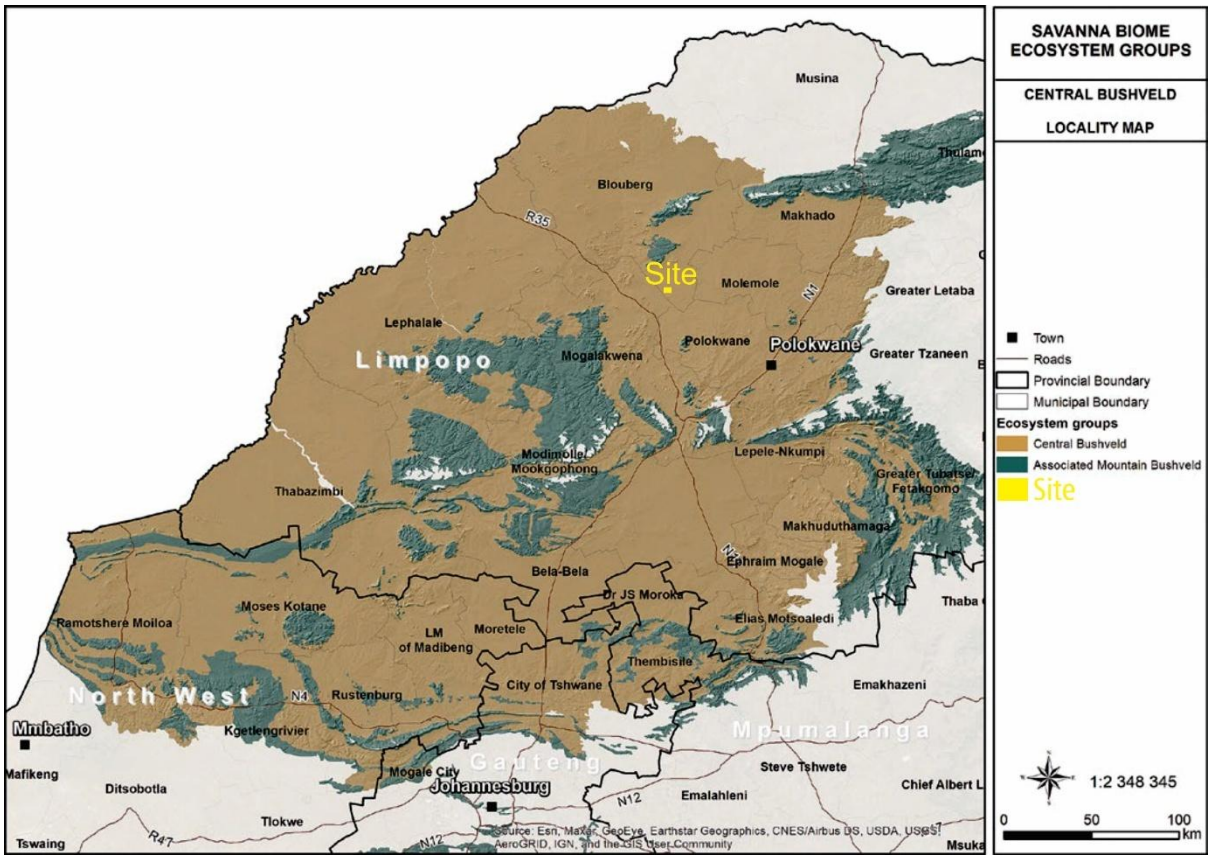


Figure 6: Showing Central Bushveld Vegetation type of the Savannah Biome - Polokwane Plateau Bushveld which considered to be Least Concern and is Poorly Protected (SANBI 2018).

Main pressures, risks and threats on site is overgrazing is a widespread and significant pressure in the Central Bushveld on site. When combined with the incorrect application of fire as observed on site, the undesired results of overgrazing are amplified

Figure 7: Showing the Central Bushveld of Savannah Biome on Site

4.6.2 Fauna

Specialist findings indicate that the study area's faunal species diversity was low. The study area's high levels of habitat disturbance and change are mostly to blame for the underrepresented faunal communities. During the field assessment, only common faunal species—the majority of which were bird species—that were well suited to urban environments were seen. Those are i.e., *Acridotheres tristis* (Common myna), *Ploceus velatus* (Southern masked weaver), *Streptopelia capicola* (Ring-necked dove), *Threskiornis aethiopicus* (African sacred ibis), and *Vanellus armatus* (Blacksmith plover). Only a few, widespread insect species were recorded, including *Danaus chrysippus* (Plain tiger butterfly), *Hycleus oculatus* (Blister beetle), and *Zonocerus elegans* (Elegant grasshopper). No signs or observations of other animals (including reptiles and mammals) were noted within the study area.

The study area is situated on the proximity of the Mamehlabe Village western boundary rural environment and therefore succumb to heavy grazing activities and collection of firewood and agriculture. Food availability primarily composes of seed-bearing grasses and fruiting species (mainly *Schlerocrya birrea*). Although habitat modification and transformation have occurred, the study area is still capable of providing habitat to some faunal species, albeit common, widespread species. It should be noted that the continued presence of firewood collectors, livestock headers and passersby within the study area also likely limit the presence of some faunal species, including small mammal species.

4.7. Climate Change

Studies have shown that climate change is leading to more frequent and intense extreme rainfall events in South Africa. However, currently there are no definitive updated design rainfall figures which account for climate change. This means that current design rainfall estimates should, to some degree, account for these increased intensities.

The GreenBook (an online planning support tool) was utilised to inform the selection of design rainfall data for the purposes of climate change considerations in this stormwater management plan. The Blouberg Municipality in Limpopo was selected to extract related climate change data projected for the year 2050.

This section has been summarised from:

Blouberg Local Municipality 2025 – Draft reviewed Integrated Development Plan (Review 2025/2026). Refer to https://www.blouberg.gov.za/sstaff/pages/sites/blouberg/documents/idp/SUMMARY%20OF%20THE%20IDP.pdf for further detailed information [Accessed: 02 October 2025].

The issue of climate change if ignored poses a great danger to the communities. Firstly, it was severe drought, which killed many livestock and reduce harvest, it was followed by Black Frost, which was a cold front with temperatures dropping below the freezing point, and this led to the extermination of crops and plant bringing maximum loss to farmers. The most parts of the country was covered with snowfall during the September month. Then the recent rainfall brought with it floods that damaged the houses, road infrastructure and other infrastructure. In some other parts of the country, it caused the loss of life. Council need to be ready to address such disasters when they occur. The development of the climate change adaptation strategy is key to address the above disasters caused by global warming. We welcome the initiatives by the provincial government to compensate farmers who suffered the loss because of the Black Frost.

Effects of Climate Change- Implementation of the Climate Change Adaptation Strategy- Building resilient infrastructure- Climate Change Respond Fund.

Table 6: Baseline Climate Information

4.7.1. Climate Change Impacts

As depicted in **Figure 7**, Blouberg Local Municipality average rainfall is expected to experience increases of 56mm. Furthermore, as depicted in **Figure 7**, the extreme rainfall days are expected to increase by +-1.

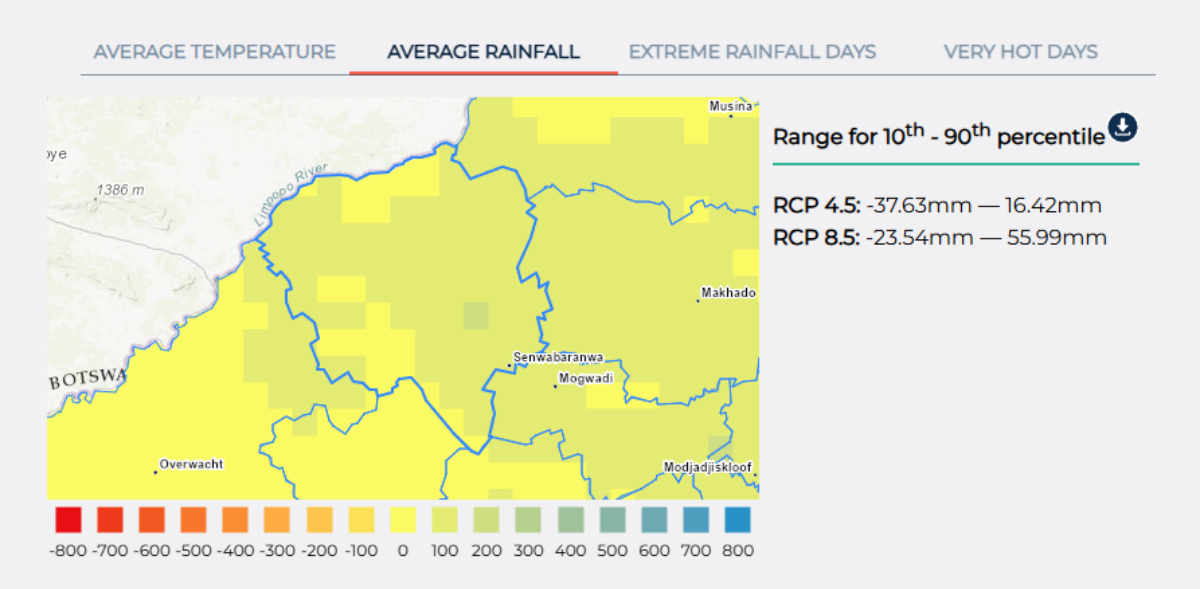


Figure 8, the extreme rainfall days are expected to increase by +-1.

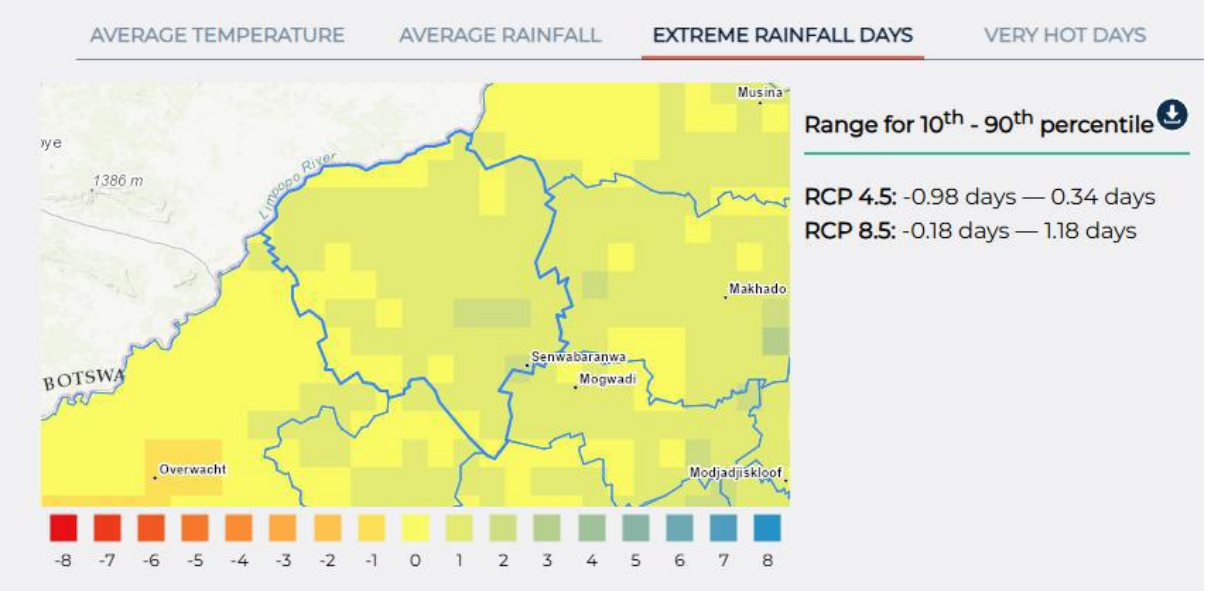


Figure 9 – *GreenBook – Climate impact on Average rainfall in Blouberg Local Municipality.*

4.7.2. Climate Change Impacts

Based on the findings above, it is evident that Blouberg Local Municipality is expected to be impacted by climate change. Therefore, to account for climate change in the hydrological analysis of this Floodline assessment, the upper 90% design rainfall data was adopted as recommended by "A best practice guideline for design flood estimation in municipal areas in South Africa, July 2023."

Furthermore, the selection of peak flows calculated from the various methods should done with the above information taken into consideration.

4.7.3. Rainfall Data

The 2012 rainfall records from the "Design Rainfall and Flood Estimation in South Africa" by Prof Jeff Smithers from The University of Natal (Pietermaritzburg) were considered in this study (The RLMA&SI method). The below **Table 7** - Rainfall Station Details 2, provides details of the five weather stations applicable to the catchments assessed.

Station Name:	Cromford	Chloe	Vulcans (hosp)	Swerwerskraal	Vaalpenskraal	Salem
SAWS Number	0676783_W	0677099_W	677188_W	0676705_W	0676523_W	0676363_W
Latitude (S)	23° 32'	23° 38'	23° 38'	23° 44'	23° 42'	23° 32'
Longitude (E)	28° 57'	29° 04'	29° 07'	28° 54'	28° 48'	28° 42'
MAP (mm)	445	434	418	474	506	419
Record (years)	45	51	49	52	43	45
Altitude (m)	1057	1141	1176	1066	1104	929

***Table 7** - Rainfall Station Details*

The **Table 8** below indicates the average adopted design rainfall depths for different Return Intervals, extracted from the gridded rainfall dataset taken at 1 minute grid intervals within the catchment boundary.

As discussed in the previous section, the impact of climate change on rainfall within the Blouberg Local Municipal is noted to increase annual rainfall and extreme rainfall days by the year 2050. Therefore, as recommended by the best practice guidelines for design flood estimation in municipal areas in South Africa, the upper 90% rainfall values were considered.

Duration	Return Period (Years)						
	2	**5**	**10**	**20**	**50**	**100**	**200**
1hr	35.304	48.072	57.488	67.24	81.164	92.512	104.64
12hr	63.792	86.88	103.872	121.492	146.664	167.188	189.096
16hr	66.656	90.772	108.552	126.956	153.24	174.7	197.584
20hr	68.964	93.924	112.304	131.356	158.552	180.752	204.44
24hr	70.916	96.568	115.468	135.072	163.032	185.848	210.208

***Table 8** - Design Rainfall Depths.*

4.7.4. Climate Change Mitigation

The following implementation strategies will be used to minimize and eventually prevent the effects of climate change on the construction of Rethuseng Special School:

4.7.4.1. Water Supply Source

A sustainable and reliable water supply is critical for the operation of Rethuseng Special School. Based on the field investigation conducted by Muteo Consulting Engineers on 11 March 2025, stakeholder interviews, and review of the site context, the following water supply options were evaluated. Enquiries with the Capricorn District Municipality, the local Water Services Authority (WSA), have confirmed that the district does not supply water directly to institutions such as schools, clinics, or churches. These responsibilities fall under the

jurisdiction of the relevant sector departments, in this case, the Department of Public Works, Roads and Infrastructure, in collaboration with the Department of Education.

4.7.4.2. Existing Water Supply Infrastructure

The existing water supply infrastructure in the area comprises elevated steel storage tanks and communal standpipes, as shown in **Figure 10** below. The water source is reported to be a series of boreholes; however, these could not be accessed during the site visit. Although the system is operational, it has been reported to be insufficient in meeting the current daily water demand of the village. As a result, it was concluded that connecting the proposed Rethuseng Special School to the existing network may not offer a sustainable long-term water supply solution. A detailed water balance assessment will be carried out during Stage 2 (Preliminary Design) of the project to investigate and evaluate viable alternative supply options.

Figure 10: Existing Water Supply Infrastructure in the Mamehlabe Village

4.7.4.3. Existing Water Supply Infrastructure

Hydrogeological assessments conducted in similar rural areas of Limpopo suggest that boreholes can yield between 0.5 and 2.5 L/s (DWAF, 2006). Based on these findings, groundwater presents the most sustainable long-term water supply solution for the proposed Rethuseng Special School. It is recommended that multiple boreholes be developed, each equipped with submersible pumps, and connected to a reticulated system supplying elevated steel storage tanks. This approach is less susceptible to seasonal fluctuations and, with appropriate filtration and chlorination, can provide water of acceptable quality for school use. Geohydrological investigations were conducted were conducted on the site by Naledzi Waterworks on 08 August 2025. Three boreholes were drilled and the geohydrological results of the boreholes are as summarized in table 1 below.

4.8. Heritage and Paleontological Sensitivity

This section has been summarised from:

HIA Desktop Study for the Proposed Construction of Rethuseng Special School (Mudzunga Consulting & ICT (Pty) /October 2025). Refer to **Appendix E-2** for further detailed information.

4.8.1 Heritage

It should be mentioned that because the proposed development region has been severely altered and degraded by human activity over several years, no projected heritage or paleontological features are expected to exist onsite. Furthermore, no infrastructure or formalized buildings older than 60 years will require demolition, therefore LIHRA permits are not required for excavations, damage, or destruction.

4.9. Geotechnical

This section has been summarised from:

Specialist Name	Project Name	Report Year	Report Location
Mobu GeoServices	Geotechnical Report for Rethuseng Special School	August 2025	**Appendix E-7**

4.9.1 Ground Subsidence

Subsidence occurs in areas with large underground cavities typically resulting from large scale shallow to very shallow mining and from dolomite/limestone dissolution. It may also appear where thick deposits of unconsolidated material exists. From the desktop studies and results of the site investigation, there are no signs of previous subsidence and no underground mining activities occurring around the site.

4.9.2 Sinkhole Formation

Similar to subsidence, sinkhole formation occurs in areas with very large to extremely large underground cavities resulting from poorly designed shallow underground activities. Dissolution of dolomites or limestones over millions of years, may lead to cavity formations which later manifest as sinkholes. The available 1:250 000 2328 PIETERSBURG geological map shows that the site is not underlain by dolomite bedrock. The probability of sinkholes development is remote.

4.9.3 Seismic Hazard

Seismic activity can be defined by type, frequency and size of earthquakes that happen over a period in certain areas. In South Africa, areas of seismic activity are determined from the seismic hazard map and hazard zones. Based on seismic hazard maps, the Peak Ground Acceleration (PGA) value in this area is estimated to be

0.10g, indicating a low probability of significant ground shaking is predicted for the site and surrounding areas.

4.9.4. Landslides and Mudslides

The probability of landslides and mudslides occurring within this area is remote. This is primarily due to the low relief of the area.

4.9.5. Rock Falls and Rock Slides

The probability of the occurrence of rockfalls and rockslides is low due to the low relief and shallow gradient

4.9.6. Regional Geology

A review of the 1:250 000 Geological Map 2328 PIETERSBERG indicates that the site is underlain by lithologies of the Hout River Gneiss (Rhr) comprising leucocratic migmatite and gneiss, grey and pink hornblende-biotite gneiss, grey biotite gneiss, minor muscovite-bearing granite, pegmatite and gneiss. An extract of the geological map is shown in **Figure 11.**

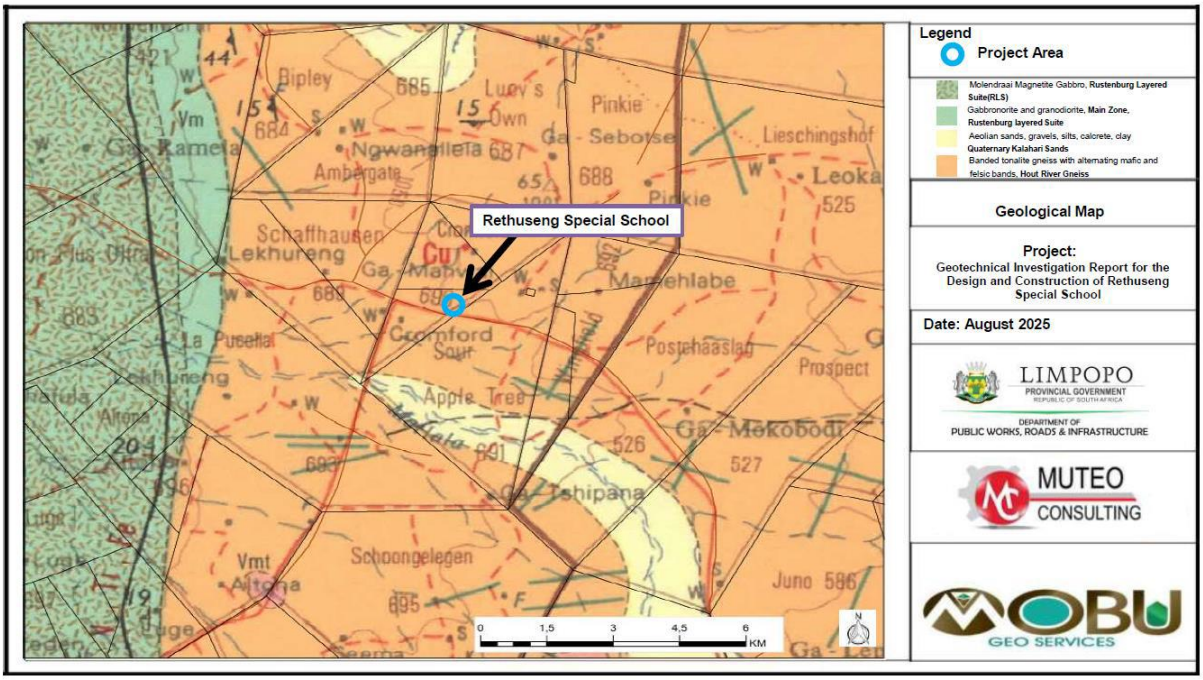


Figure 11: An extract of the geological map 2328 Pietersburg

4.9.7. Ground Water Seepage

No groundwater seepage was intersected in any of the excavated test pits. However, ferricrete nodules was noted within the residual granite which indicates that a seasonally fluctuating groundwater with perched groundwater conditions is anticipated especially during or after the wet season. It is advised that precautionary measures be implemented to counteract any potential groundwater activity. Groundwater activity is anticipated to be elevated after periods of rainfall.

4.9.8. Geotechnical Assessment

The purpose of this section is to evaluate the likely geotechnical properties of the project area against the typical geotechnical constrains for development as identified by Partridge et al (1993). Only those constrains identified as likely to affect development are evaluated in more detail below. A summary of site conditions compared to typical geotechnical constrains for development is shown in Table 9 below:

Table 9: Geotechnical classification for the site (Partridge et al. 1993).

CONSTRAINT		Most Favourable (1)	Intermediate (2)	Favourable (3)
A	Collapsible Soil	Any collapsible horizon or consecutive horizons totalling a depth of less than 750mm in thickness.	Any collapsible horizon or consecutive horizons with a depth of more than 750 mm in thickness.	A least favourable* situation for this constraint does not occur.
B	Seepage	Permanent or perched water table more than 1,5m below ground surface	Permanent or perched water table less than 1,5m below ground surface.	Swamps and marshes
C	Active Soil	Low soil-heave potential predicted*	Moderate soil heave potential predicted.	High soil heave potential predicted
D	Highly Compressible	Low soil compressibility expected *	Moderate soil compressibility expected	High soil compressibility expected
E	Erodibility of soil	Low	Intermediate	High
F	Difficulty of excavation to 1.5m depth	Scattered or occasional boulders less than 10% of the total volume	Rock or hardpan pedocretes between 10 and 40% of the total volume	Rock or hardpan pedocretes more than 40% of the total volume.
G	Undermined ground-Not undermined	Undermining at a depth greater than 100m below surface	Old undermined areas to a depth of 100m below surface where stope closure has ceased	Mining within less than 100m of surface or where extraction mining total has taken place.
H	Instability in areas of soluble rock Not underlain by dolomite	Possibly unstable	Probably unstable	Known sinkholes and dolines
I	Steep slopes	Between 2 and 6 degrees (all regions)	Slopes between 6 and 18 degrees and less than 2 degrees (Natal and Western Cape). Slopes between 6 and 12 degrees and less than 2 degrees	More than 18 degrees (Natal and Western Cape) More than 12 degrees (all other regions)
J	Areas of unstable natural slope	Low risk	Intermediate risk	High risk (especially in areas subject to seismic activity)

K	Areas subject to seismic activity	10% probability of an event less than 100 cm/s² within 50 years	Mining-induced seismic activity more than 100cm/s²	Natural seismic activity more than 100 cm/s²
L	Areas subject to flooding	A "most favourable" situation for this constraint does not occur.	Areas adjacent to a known drainage channel or floodplain with slope less than 1%	Areas within a known drainage channel or floodplain.

5. Project Description

5.1. Current Site Conditions.

Currently, the study area is **16.5** Ha of Transformed Habitat, where anthropogenic activities have either eliminated or drastically altered the plant cover. The agricultural activities, livestock grazing, firewood collection by the surrounding areas make up the observed transformed habitat. There is 4 hectares of vegetative grassland habitat in the remaining portions of the research area.

5.1.1 Project Settings

The Limpopo Department of Public Works, Roads & Infrastructure (LDPWR&I) as Implementing Agent has appointed IDC Architects as Architects and Team Leaders as part of a multi-disciplinary professional team, for the Design and Construction monitoring of Rethuseng Special School located in the Capricorn DM in Limpopo.

At present not enough facilities for education are being constructed compared to the increasing new numbers of learners on the existing Rethuseng Special School located on the temporary structures (See **Figure 12** below) within the Mamehlabe Village. The current school located in within the rural Mamahlabe community do not have the normal facilities of flushing and clean ablutions, safety while at the learning institutions, availability to internet communication facilities, lighting and the worst food. Because of the above, there is a need to have a construction of the Rethuseng Special school in a more permanent conducive facility in a ideal location, which is what this project seek to achieve.

Figure 12: Existing Rethuseng Special School (current temporary facility)

5.1.2. Project Definition

The definition of the project is to develop by means of design, construct and hand-over an excellent facility for the sole purpose of specialized education. This will be in the form of academic and vocational education, sport, arts, and general development. The facility with dormitories and staff accommodation for all learners, teachers will also be accessible to the public by means of public and private transport. It must be a cornerstone in the community that will develop the leaders of the future.

5.1.3. Project Objectives

The client brief is set out in high level below:

- Design a modern special needs school facility to accommodate no less than 366 learners.
- All learners are to be accommodated on campus in dormitory style rooms with shared ablution facilities
- The school curricular shall cover Grades RA, RB and 1 to 7
- The facility must comply with all current and envisaged future norms and standards and regulations.
- Kitchen and dining facilities shall cater for no less than 366 learners

- All facilities, equipment spatial requirements must be provided to cater for current national and international teaching methods.
- The category of disabilities to be catered for shall be:-
    - *Mild/Moderate & Severe/Profound (Physical/Mental Disability)*
    - *Down Syndrome*
    - *Cerebral Palsy*
    - *Autism Disorder*
    - *Hard of Hearing/Deaf*
    - *Epilepsy*
    - *Partially Sighted*
    - *Blind*

5.2. Proposed Development

The proposed construction of Rethuseng Special School is proposed on Remaining Extent of Farm Cromford 690-LR, Blouberg Local Municipality, Capricorn District Municipality, Limpopo (T0LR00000000069000002; **S: 23°33'11.82", E: 28°57'23.19"**) which is owned by the Bakone Ba Matlala a Thaba Tribe. Furthermore, the approximate extent of the study area is 15 ha of which 10 ha will be utilised as developable areas with the remaining 5 ha set aside as open space areas for future development. The objective of the project is to design and construct a school suitable for 330 boarding learners, maximum of 58 boarding staff and 53 daily staff on site. The site will be graded and grassed, and the parking area will be hard surfaced.

The water supply will be from multiple new boreholes that would be drilled in and around site to supplement the water supply. It was recommended that multiple boreholes be developed, each equipped with submersible pumps, and connected to a reticulated system supplying elevated steel storage tanks. This approach is less susceptible to seasonal fluctuations and, with appropriate filtration and chlorination, can provide water of acceptable quality for school use.

The construction of Rethuseng Special School will include the construction of the following:

- boys & girl's dormitories,
- staff residence,
- class rooms,
- laundry,
- medical building,
- assembly hall,
- vocational room,
- care takers rooms,

- parking bays,
- arts and craft centre,
- ablutions,
- dining hall,
- wood and metal centre
- as well as two sports fields.

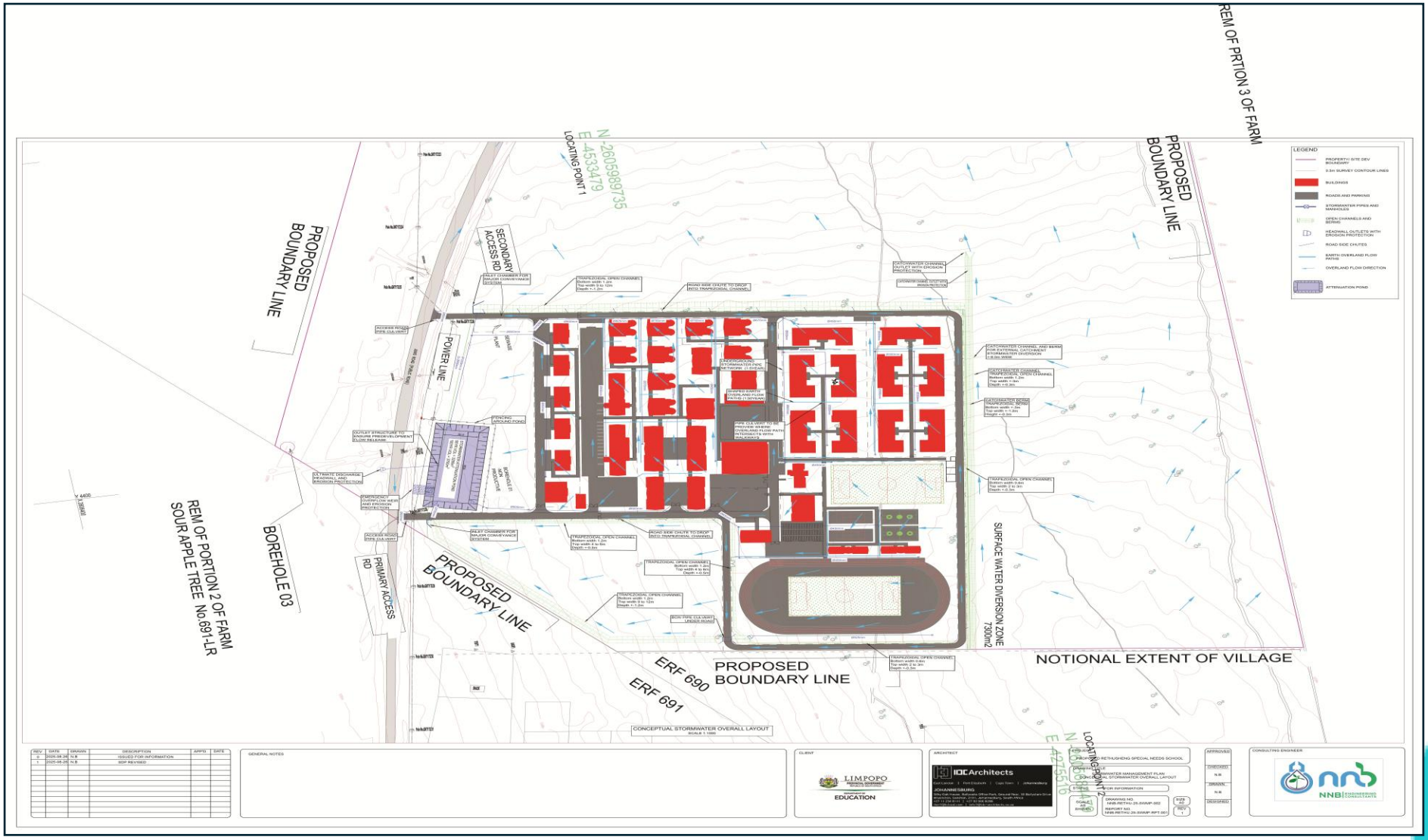


Figure 13: Site Development Layout

5.3. Drilling of Boreholes

This section has been summarised from:

Specialist Name	**Project Name**	**Report Year**	**Report Location**
Naledzi Waterworks	**Geohydrological report for the proposed Rethuseng sns School at Mamehlabe village, Polokwane Local Municipality, in Limpopo Province.**	**September 2025**	**Appendix E-5**

The geohydrological report for the proposed Rethuseng Special School was done by Naledzi Waterworks, The scope of work completed as part of this investigation is detailed hereafter:

- Desktop study of, and collation of information pertaining to, the geohydrology of the area;
- Assessment of DWS-mapped structures in proximity to the site, in accordance with the regional geological map;
- Groundwater source development (drilling, pump testing, water sampling, and quality analysis);
- Preparation of a technical report detailing the results of the desktop study and risk assessment, including future utilization recommendations.

5.4. Drilling of New Boreholes

Three boreholes were drilled from August 23 to 26, 2025. Different Lithologies were encountered during the drilling process, including silty topsoil and coarse-grained biotite gneiss. Water strikes were encountered at 30, 60, and 90 m deep in boreholes 1 and 2. Drilled **borehole 1** was stopped at 120 m, while **borehole 2** was stopped at 100 m deep. The newly drilled borehole locality is shown in Figure 14 below.

Figure 14: New drilled boreholes within the proposed site

5.5. Pump testing

The test pumping includes:

- Multi-rate step Test of 4 x 60-minute steps at sequentially higher rates until pump suction is achieved.
- Recovery of the Step Test.
- Constant Discharge Test of 6 hours to 48 hours.
- Recovery of the Constant Discharge Test until at least 95% recovery.

A Step Test consists of pumping a borehole at different rates for one hour per step until the maximum rate the borehole can deliver. The water level is constantly monitored and noted during each step. This indicates the possible yield the borehole can sustain for a Constant Discharge Test. A step test also shows the aquifer's potential in the immediate area around the borehole. The Constant Discharge Test involves pumping a borehole at a specific rate for 6 to 48 hours, followed by a sudden switch-off of the pump after the pump cycle. A recovery test is conducted immediately afterwards. The Constant Discharge Curves were analysed.

5.5.1. Pump testing results for BH 1

Three-step tests were conducted at various rates of 0.52 l/s, 1.02 l/s, and 1.52 l/s, reaching a final drawdown of 72.04 mbgl in 2 hours and 7 minutes. The constant discharge test was conducted at a rate of 0.50 l/s for 12 hours. The recovery from the continuous discharge test was good, reaching 99% after 12 hours of pumping.

5.5.2. Pump testing results for BH 2

Two-step tests were conducted at various rates of 0.72 l/s and 1.00 l/s, achieving a final drawdown of 62.70 mbgl in 1 hour and 15 minutes. The constant discharge test was conducted at a rate of 0.50 l/s for 12 hours. The recovery of the continuous discharge test was good at 97 % within 90 minutes after 12 hours of pumping.

Borehole Number	Constant Discharge (CD) Rate		Static Water Level (mbgl)	Borehole Depth (m)	Comments
	l/s for 12 hrs/day	in m^3/d			
BH 1	0.5	21.6	17.61	100	Moderate yield
BH 2	0.5	21.6	8.17	120	Moderate yield

Table 10: Pump Testing Results

5.6. Bulk Services

This section has been summarised from:

Specialist Name	Project Name	Report Year	Report Location
Naledzi Waterworks	**Bulk services feasibility report**	August 2025	**Appendix E-9**

5.6.1. Water Supply

A sustainable and reliable water supply is critical for the operation of Rethuseng Special School. Based on the field investigation conducted on 11 March 2025, stakeholder interviews, and review of the site context, the following water supply options were evaluated. Enquiries with the Capricorn District Municipality, the local Water Services Authority (WSA), have confirmed that the district does not supply water directly to institutions such as schools, clinics, or churches. These responsibilities fall under the jurisdiction of the relevant sector departments, in this case, the Department of Public Works, Roads and Infrastructure, in collaboration with the Department of Education.

5.6.2. Groundwater Abstraction

Hydrogeological assessments conducted in similar rural areas of Limpopo suggest that boreholes can yield between 0.5 and 2.5 L/s (DWAF, 2006). Based on these findings, groundwater presents the most sustainable long-term water supply solution for the proposed Rethuseng Special School. It is recommended that multiple boreholes be developed, each equipped with submersible pumps, and connected to a reticulated system supplying elevated steel storage tanks. This approach is less susceptible to seasonal fluctuations and, with appropriate filtration and chlorination, can provide water of acceptable quality for school use.

Geohydrological investigations were conducted were conducted on the site by Naledzi Waterworks on 08 August 2025. Three boreholes were drilled and the geohydrological results of the boreholes are as summarized in table 1 below. Detailed geohydrological results of the boreholes can be located under

***Annexure 1**: Prelim Geohydrological Report*

Table 11: Boreholes testing summary of geohydrological findings

Borehole No.	Coordinates	Yield (l/s)	Duty cycle (hours)	Daily abstraction (kl/day)	Borehole depth (m)
BH1	-23.55531 28.95703	0.5	12hrs	21.5	100
BH2	-23.55684 28.95663	0.5	12hrs	21.5	120
BH3	-23.55685 28.95663	Dry	-	-	-
TOTAL		1		43	

Figure 15: Boreholes Mapping

5.7. Electricity Supply

This section has been summarised from:

Specialist Name	Project Name	Report Year	Report Location
Med-Tech Engineers	Rethuseng Primary Special School	September 2025	**Appendix E-10**

	Electrical Concept and Viability Report		

5.7.1. Electricity Scope

The electrical infrastructure strategy considers multiple supply scenarios:

- A new Eskom Medium Voltage (MV) grid connection,
- Diesel standby generator systems, and
- A hybrid solar photovoltaic (PV) system with battery energy storage.

The preferred solution will be selected based on lifecycle cost, operational reliability, sustainability, and alignment with educational and operational requirements specific to a special needs school. The electrical design scope accommodates:

- Smart school infrastructure (e.g., digital teaching tools, networked devices),
- General and emergency lighting,
- Small power and structured cabling for data, and
- Resilient power backup systems for critical loads.

The existing power infrastructure in the surrounding area comprises an overhead MV distribution network connected to several mini substations, all fed from the local Eskom main substation. Coordination with Eskom is underway, and a Notified Maximum Demand (NMD) of 1 MVA has been provisionally applied for. This value is subject to refinement during the detailed load estimation phase.

Emergency Lighting Provision of emergency lighting systems to ensure adequate illumination in case of power failure, in compliance with safety regulations and standards.

Diesel Generators Specification and design of standby diesel generators to provide backup power for critical loads, ensuring continuous operation in the event of grid failure.

Renewable Energy - Solar PV System Design of a solar photovoltaic (PV) system, including integration with battery storage for hybrid operation. This renewable energy solution will aim to reduce dependency on the grid, enhance energy security, and improve sustainability.

Sleeves, Cable Ways, and Containment Systems Design of cable containment systems, including sleeves, cable trays, and conduits, ensuring proper protection and management of electrical cables throughout the site.

The new site for Rethuseng Special School is well-suited for the integration of modern, efficient, and sustainable energy systems, ensuring a robust and long-term energy solution. After evaluating various energy

configurations, the **Hybrid Solar PV + Battery + Generator** option has emerged as the most balanced choice. This configuration not only provides reliable power but also offers a high degree of energy resilience. Additionally, the inclusion of solar carport structures enhances the sustainability of the facility while providing visibility and promoting renewable energy awareness within the school grounds.

The successful electrification of the Rethuseng School is, however, contingent on infrastructure upgrades currently underway at the nearby Gilead and Chloe substations. Although these upgrades present a temporary challenge, they hold a positive outlook for future capacity availability. Close coordination with Eskom is essential to ensure that the electrical supply is aligned with the project timeline and operational needs.

5.8. Sanitation discharge and treatment

The recommended sanitation system for the facility is as follows:

- Use **conservancy tanks** during the initial phase.
- Plan for phased upgrade to a **DEWATS-based system** to cater for future student population and reduce long-term operational costs.
- Toilets to be low-flush and universally accessible, meeting the needs of all learners, including those with disabilities.

5.7.2. Stormwater

Stormwater management strategies for flood control measures, managing stormwater within the proposed development, and reduction in post development runoff flows will be implemented to ensure appropriate stormwater disposal. The stormwater management plan recommendations are as follows:

- Stormwater discharge points to be provided with erosion control in the form of headwalls, gabion baskets and mattresses.
- Stormwater runoff is proposed to ultimately discharge across Juno Road as predevelopment flow with a headwall and erosion protection to reduce flow velocities.
- Minor and major stormwater systems should cater for the 5-year and 50-year design flood, respectively.
- The stormwater management system comprises of stormwater pipes, roads, overland flow paths and open channels discharging into an attenuation pond (dry type), indicated on Drawing No. NNB-RETHU-25-SWMP-001 and 002.
- Minor stormwater systems consist of underground pipe networks, and the major system consists of open channel flow.
- External stormwater catchment diversion with use of a catchwater channel and berm is proposed to divert runoff away from the site for the 100-year return period, mitigating the risk overland runoff flooding the site.

- The outlet orifices of the attenuation pond are to be appropriately sized for the 5yr, 50yr and 100yr return periods such that predevelopment flow conditions are met.
- Stormwater discharge points to be provided with erosion control in the form of headwalls, gabion baskets and mattresses.
- Stormwater runoff is proposed to ultimately discharge across Juno Road as predevelopment flow with a headwall and erosion protection to reduce flow velocities.

5.7.3 Flood Mitigation

The 100-year flood map generated from online data suggests that the proposed site is at low risk of inundation from adjacent watercourses. However, the accuracy and confidence of this assessment is deemed very low due to the elevation discrepancies and coarse resolution of the online data, which fails to adequately define the watercourse channels and floodplain areas, resulting in unrealistic flood map delineation. Given the limitations of the online data, the results of this desktop floodline assessment are deemed inconclusive. To ensure a reliable and high-confidence conclusion to the Floodline assessment, it is highly recommended that a detailed survey be conducted for the study area and watercourses.

5.7.4 Solid Waste Management

Daily school operations will generate a mixture of domestic, medical, and maintenance waste. Regular waste removal will be coordinated with Capricorn DM Environmental Services. For medical waste (from the school clinic), a separate agreement with a licensed hazardous waste contractor will be arranged.

5.8. Vehicular Traffic Impact

This section has been summarised from:

Specialist Name	Project Name	Report Year	Report Location
TransData Consult	Traffic Impact Assessment Report for the Proposed Rethuseng Special School to be located on Part of Portion 2 of Farm Cromford 690-LR,	September 2025	**Appendix E-6**

The proposed Rethuseng Special School aims to cater to learners with special educational needs, including physical disabilities, learning difficulties or sensory impairments. This Traffic Impact Assessment (TIA) evaluates the potential impact of the proposed development on the existing road network and recommends any necessary improvements to accommodate future traffic demand.

Key Findings

Trip Generation & Distribution: Based on COTO TMH17 trip rates, the development is expected to generate significant traffic volumes. The proposed school development will generate the following additional vehicle trips per hour:

- Weekday morning peak hour trips:
  - Inbound traffic: 141 trips
  - Outbound traffic: 141 trips
- Weekday afternoon peak hour trips:
  - Inbound traffic: 50 trips
  - Outbound traffic: 50 trips
- Midday peak hour trips:
  - Inbound traffic: 52 trips
  - Outbound traffic: 64 trips
- **Trip Reductions**: No trip reduction was applied to this development's trips.
- **Critical Intersections:** Tuesday classified traffic counts were conducted at the following three critical intersections that act as main feeders in and out of the study area:
  - Juno Road / Unnamed Road (D3429)
  - Juno Road / Sadoma Road
  - Sadoma Road / Lekhureng Road
- **Capacity Analysis:** The capacity analysis evaluated these key intersections under three traffic scenarios for current base year (2025), projected (2030), projected (2030) and development traffic conditions. Currently, all intersections operate within acceptable levels of service (LOS) and volume-to-capacity (v/c) ratios. Projections indicate that by 2030, the intersections will continue to function efficiently without delays. Furthermore, when traffic generated by the proposed school is included, no significant delays are expected. Therefore, no road improvements are required, as the development does not substantially impact intersection performance under the assessed projected (2030) and development traffic scenario.

Conclusion and recommendation: This traffic study analysed the impact of a proposed Rethuseng Special School development that is expected to accommodate up to 322 boarding students, maximum of 58 boarding staff and 53 daily staff on site. It is anticipated that the proposed development may generate maximum of 141 for both inbound and outbound trips, during the weekday morning peak hour, 50 for both inbound and outbound trips, during the weekday afternoon peak hour, as well as 52 and 64 inbound and outbound trips, respectively during Midday peak hour. No trip reduction was applied to this development's trips.

The report recommended the creation of a partial intersection (Left-in/Left-out/Right-in only) on Juno Road (D19) to serve as a primary access. Three internal priority stop-controlled accesses will be provided from the internal road to serve the proposed Rethuseng Special School development. The partial intersection will be located approximately 540 m from Sadoma Road and 1.06 km from Unnamed Road (D3429).

The capacity analysis included three scenarios namely, base year (2025), horizon year (2030) traffic with and without the development. The intersections were analysed based on the existing geometry and control. The analysis indicated that all the intersections operate under an acceptable level of service for all three scenarios. The developer will have to provide public transport lay-by at the development access point (along Juno Road). Pedestrian crossing facilities (tactile paving and ramps) will be provided at the access, and the developer should construct pedestrian walkways on the development site boundary (along Juno Road) and within the development site to accommodate non-motorised transport users.

A total of 54 parking bays should be provided on the development site as per the Blouberg Local Municipality Land Use Scheme 2022 parking requirements for place of education land-use. It is recommended that the refuse trucks do not enter the development site, since the dustbins used by the development, will be put outside the access gate.

This report recommends the following:

The developer:

- To construct the proposed development access (along Juno Road) as outlined in Section 6 of this traffic study;
- The developer provides public transport lay-bys, pedestrian walkways and pedestrian crossing facilities as outlined in Section 10 of this report and in consultation with relevant departments of Blouberg Local Municipality; and
- This Traffic Impact Assessment (TIA) in support of the proposed Rethuseng Special School to be located on Part of Portion 2 of Farm Cromford 690-LR, Blouberg Local Municipality, Limpopo Province be approved.

6. Project Need and Desirability

This chapter explains why the proposed Rethuseng Special school construction is necessary and desirable in compliance with Item 3(1)(f) in Appendix 1 of GN 326.

The foundation of the need and desirability is the sustainability principle, which is outlined in the Constitution and NEMA and is supported by several programs and policies, such as the National Development Plan 2030. One strategy to ensure sustainable development that is, development that is both ecologically sustainable and socially and economically justified and the concurrent fulfilment of the triple bottom line is to address the need and desirability of a development.

In order to evaluate the need and desirability of a development involving NEMA listed activities, Department of Forestry, Fisheries and Environment (DFFE) released a Guideline on Need and Desirability that includes best practice guidelines. According to Section 24 of the Constitution, which calls for the promotion of "justifiable economic and social development" and the protection of "ecological sustainable development and use of natural resources," the guideline lays out a set of considerations that should be made when evaluating the necessity and desirability of a proposed development.

6.1. Social Needs and benefits

At present, there is hardly any decent special school located within the vast array of villages in and around Mamehlabe Villlage except for the dilapidated existing Rethuseng Special School. The existing Rethuseng Special School does not have enough facilities for education. The new proposed school is being constructed compared to the increasing new numbers of learners on the existing Rethuseng Special School located on the temporary structures (See **Figure 16** below) within the Mamehlabe Village. The current school located in within the rural Mamahlabe community do not have the normal facilities of flushing and clean ablutions, safety while at the learning institutions, availability to internet communication facilities, lighting and the worst food. Because of the above, there is a need to have a construction of the Rethuseng Special school in a more permanent conducive facility in a ideal location, which is what this project seek to achieve.

In the general area of Ga-Matlala and many vast villages surrounding the proposed project, special needs schools are hard to find and access due to a severe shortage of facilities, particularly in rural areas, coupled with inadequate infrastructure, a lack of specialist support staff, transportation issues, and barriers to accessing information on available schools. While a policy for inclusive education exists, its implementation has been challenging, leading to many children with disabilities being denied the appropriate education and support they require

6.1.1. Challenges in finding and accessing special schools

- **Limited Number of Schools:** There is a significant shortage of special needs schools, especially in rural areas, leaving many children without appropriate educational placements.
- **Infrastructure Deficiencies:** Many schools, both public and private, lack the basic infrastructure necessary to accommodate learners with physical disabilities, such as ramps, elevators, and accessible restrooms (The proposed Rethuseng Special School addresses this).
- **Lack of Expert and Psychosocial Support:** There is a scarcity of adequately trained educators and specialists, including speech therapists and occupational therapists, who can provide the necessary tailored support for children with special needs.
- **Scholar Transport Issues:** Children with disabilities often face long distances to reach the nearest school, and there is a lack of safe and affordable transportation, which can be a significant barrier.

- **Challenges with Enrolment Criteria:** The criteria used for enrolling learners with special needs have been a point of contention, further limiting access to schools
- **Misconceptions and Social Exclusion:** Negative attitudes and widespread misconceptions about disability can foster environments of social exclusion and bullying, making it difficult for children with special needs to thrive.

6.2. Economic Needs and Benefits

The community at large stands to gain economically from the projected construction of Rethuseng Special School. First and foremost, the project will boost the local economy by giving locals work opportunities during the building phase. Additionally, more kids from other nearby locations may attend the upgraded school, increasing the demand for regional products and services. This will boost the community's economic development and generate additional job possibilities. Additionally, kids will benefit from a better, safer learning environment at the renovated school, which will improve their academic performance and future employment opportunities for learners with special needs.

Since the economic profile of the area is influenced by more qualified and educated individuals, this will help not only the individual students but also the community. Taxi and bus industry owners in the region will also profit from the proposed construction since it will raise attract many commuters.

6.3. Economic Needs and Benefits

In order to effectively reduce the proposed developments' overall environmental impact, the project will integrate a sustainable approach into its design. This will include installing energy-efficient lighting, such as light-emitting diodes (LED) on all buildings, solar PV power, and water conservation measures, such as rainwater harvesting stand-alone tanks. The local municipality will guarantee that it will be responsible for collecting all rubbish in the future. All things considered, the project's necessity and appeal for environmental advantages are in line with the worldwide objective of attaining sustainable development and lessening the effects of climate change, even if only little.

7. Policy and Legislation

7.1. Water Management

The Department of Water and Sanitation (DWS) seeks to execute regulations that will promote equitable access to water and the utilization of water resources since the National Water Act, 1998 (Act No. 36 of 1998) (NWA) acknowledges that water is a finite resource that belongs to all people.

In this regard, all activities that are listed under Section 21 of the NWA require application for a Water Use Licence (WUL) to the DWS.

Activities listed under Section 21 are:

a) "Taking water from a water resource.
b) Storing water.
c) *Impeding or diverting the flow of water in a watercourse.*
d) Engaging in a stream flow reduction activity contemplated in Section 36.
e) Engaging in a controlled activity identified in Section 37(1) or declared under Section 38(1).
f) *Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit.*
g) Disposing of waste in a manner which may detrimentally impact on a water resource.
h) *Disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process.*
i) Altering the bed, banks, course or characteristics of a watercourse.
j) *Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people.*
k) Using water for recreational purposes."

7.2. South African Constitution

The Constitution of the Republic of South Africa Act 108 of 1996 is the supreme law of the land. In terms of environmental management, the Constitution provides the overarching framework for sustainable development, including the protection of natural resources while promoting economic and social development.

The environmental clause in Section 24 of the Constitution provides that:

"Everyone has the right –

a) *To an environment which is not harmful to their health or wellbeing.*
b) *To have the environment protected for the benefit of present and future generations through reasonable legislation and other measures that:*

i.Prevent pollution and ecological degradation.

ii.Promotes conservation; and

iii.Secure ecologically sustainable development and the

7.3. Environmental Management

The National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) provides for co-operative governance by establishing decision-making principles on matters affecting the environment including:

- Cradle to grave responsibility.
- Integrated environmental management.
- Involvement of stakeholders in decision-making.
- Polluter pays principle.
- Precautionary principle.
- Sustainable development.

The enforcing authority for NEMA is the Department of Forestry, Fisheries and the Environment (DFFE) and the provincial environmental authorities (for this application, EDTEA is the competent authority).

NEMA provides for the management and protection of environmental resources through inter alia the imposition of Environmental Authorisation requirements.

The EIA Regulations, 2014 (as amended), promulgated in terms of NEMA, consist of the following:

- Government Notice (GN) 326, which specifies the EIA procedures to be followed.
- GN 327, which provides Listing Notice 1 – activities that require a BA process.
- GN 324, which provides Listing Notice 3 – activities in identified geographical areas that require a BA process.

The construction of Rethuseng Special School will trigger two (2) listed activities - one (1) GN 327 and one (1) GN 324. The applicable Listed Activities are detailed in **Table 12.**

Table 12: NEMA EIA Listed Activities

No.	Activity description	Applicability to proposed project
	NEMA EIA Listing Notice 1 (GN 327) – BA process required	
27	The clearance of an area of 1 ha or more, but less than 20 ha of indigenous vegetation, except where such clearance of indigenous vegetation is required for- (i) the undertaking of linear activity; or (i) maintenance purposes undertaken in accordance with a maintenance management plan	BioAssets conducted a Biodiversity Specialist Verification to confirm whether the vegetation on site was considered indigenous, the findings of their assessment confirmed the site comprises of the following: • 16.5 ha of Transformed Habitat The Central Bushveld vegetation of the savannah biome was found to

		be degraded and species poor but supports indigenous vegetation. This listed activity is applicable as more than 1 ha of indigenous vegetation will be cleared for the site development.
	NEMA EIA Listing Notice 3 (GN 324) – BA process required	
12	The clearance of an area of more than 300m^2 or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan	This listed activity is applicable as the site will be cleared of more than 300m2 of indigenous vegetation and is located within the Central Bushveld.

7.4. Heritage Management

In terms of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA). The proposed development has been identified as triggering Section 38 of the National Heritage Resources Act (NHRA) in terms of *"Any person who intends to undertake a development categorised a C) any development or other activity that will change the character of the site, exceeding 5000m^2 in extent."*

The Heritage specialist has been appointed to undertake a desktop assessment and provide a specialist opinion (Refer **to Section 10.4**).

This section has been summarised from:

Specialist Name	Project Name	Report Year	Report Location
Mudzunga Consulting & ICT (Pty)	Heritage Impact Assessment for the construction of Rethuseng Special School	October 2025	**Appendix E-2**

7.4. Other Legislation

The list of all other laws, rules, and/or directives from pertinent branches of government that are not thought to be pertinent to this application is as follows:

- Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983) (CARA).
- Environmental Conservation Act, 1989 (Act No. 73 of 1989) (ECA).
- Limpopo Environmental Management Act, 2003 (Act No. 7 of 2003).
- National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEM: AQA).
- National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEM: BA).
- National Environmental Management: Protected Areas, 2003 (Act No. 57 of 2003).
- National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM: WA).

- National Forests Act, 1998 (Act No. 84 of 1998).

8. Project Alternatives

An essential component of the EIA process is the consideration of alternatives. The NEMA EIA regulations, 2014 (GN 326, as amended), define "alternatives" as:

"*In relation to a proposed activity, means different means of meeting 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."

Therefore, Ourbiosphere's function is to offer a framework for wise decision-making grounded in sustainable development principles. The following sections describe possible alternatives that were taken into consideration for the proposed development.

8.1 Design or Layout Alternatives

Two (2) site development layouts were considered. It was to upgrade the present temporary structure **(Alternative 2)** on the existing Rethuseng Special School site. The idea would have been to change the whole current school design and layout and introduce missing amenities and class rooms. This was found not to be feasible because the existing site is astronomically small in extent and will not be able to accommodate all the necessary required amenities (refer to figure 100 below) as they will be cramped up and still will not all fit in.

This alternative was found not to be feasible because it would not allow all the necessary facilities and amenities to be provided. Also, the number of learners that are accepted was still not going to increase because of the cramped up. For it would lead to Overcrowded classrooms that in itself has a detrimental effect on both students and teachers. This would also further lead to many unwanted problems such as Poor Building or Environmental Conditions, health and safety risks and fire risks just to name a few.

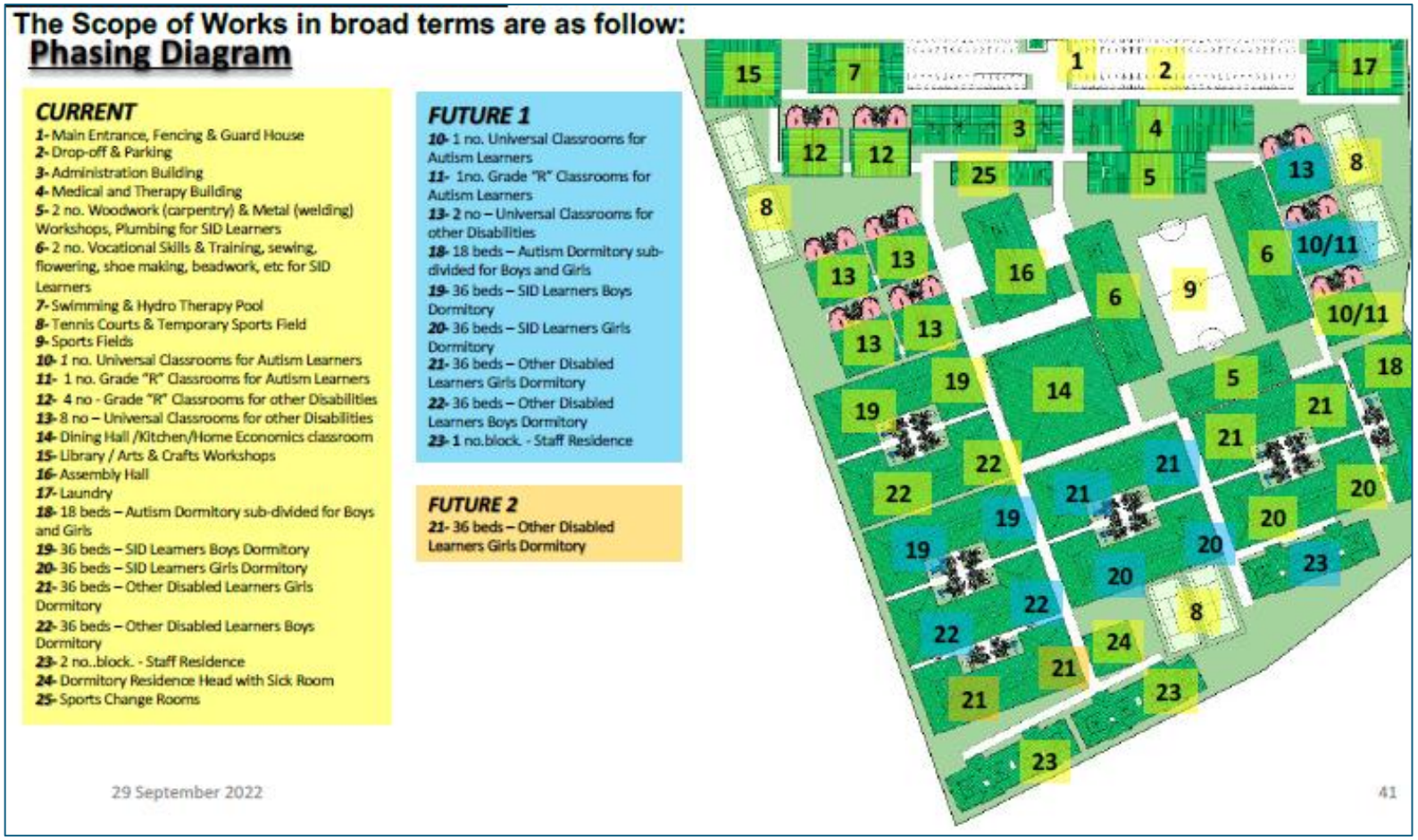


Figure 16: Showing the Design or Layout Alternatives of Rethuseng Special School

8.2 Property / Site Location Alternatives

Based on the necessary of a Special School I the area, the Matlala a Thaba Tribal Authority has offered the Limpopo Department of Public Works, Roads and Infrastructure a portion of land (Site) on the western boundary of the existing Mamehlabe Village **(Alternative 1)**, The proposed site for the construction of Rethuseng Special School site location is situated along Juno Road, within the Capricorn District Municipality, Limpopo Province. The geographical coordinates of the site are **23°33'11.82"S, 28°57'23.19"E).** This site location is 16.5 ha and will be able to accommodate all the necessary buildings and related required amenities for learners with special needs.

Furthermore, the approximate extent of the study area 0f 16.5 ha of which 10 ha will be utilised as developable areas with the remaining .65 ha set aside as open space areas for future development. The objective of the project is to design and construct a school suitable for 330 boarding learners, maximum of 58 boarding staff and 53 daily staff on site. The site will be graded and grassed, and the parking area will be hard surfaced.

The water supply will be from multiple new boreholes that would be drilled in and around site to supplement the water supply. It was recommended that multiple boreholes be developed, each equipped with submersible pumps, and connected to a reticulated system supplying elevated steel storage tanks. This approach is less susceptible to seasonal fluctuations and, with appropriate filtration and chlorination, can provide water of acceptable quality for school use.

The construction of Rethuseng Special School on this site location will be able to cater for all the following:

- boys & girl's dormitories,
- staff residence,
- class rooms,
- laundry,
- medical building,
- assembly hall,
- vocational room,
- care takers rooms,
- parking bays,
- arts and craft centre,
- ablutions,
- dining hall,
- wood and metal centre
- as well as two sports fields.

8.3 Type of Activity Alternatives

There were no activity alternatives that were applicable to the proposed construction of Rethuseng Special School.

8.4 Technology Alternatives

LDPWR&I has considered technology alternatives such as rainwater harvesting (Steel Tanks) and energy efficiency measures i.e., The new site for Rethuseng Special School is well-suited for the integration of modern, efficient, and sustainable energy systems, ensuring a robust and long-term energy solution. After evaluating various energy configurations, the **Hybrid Solar PV + Battery + Generator** option has emerged as the most balanced choice. This configuration not only provides reliable power but also offers a high degree of energy resilience. Additionally, the inclusion of solar carport structures enhances the sustainability of the facility while providing visibility and promoting renewable energy awareness within the school grounds.

8.5 Operation Alternatives

There were no operational alternatives for the proposed construction of Rethuseng Special School.

8.6 No-go Alternatives

The no-go alternative implies that the status quo remains, and the proposed Rethuseng Special School will not be developed. status quo remains remaining means:

- fewer learners with special needs will continue to remain enrolled in the existing school with dire consequences of lack of resources.
- the school will continue to turn down many leaners with special needs in the area due to little space available.
- many leaners with special neds will remain staying at home without formal education.
- **Continuation of Insufficient Resources**: There's a general shortage of adaptive teaching and learning resources, as well as limited multidisciplinary support services available to students.
- **Continuation of Transportation Costs**: Students may not be able to afford transport to reach schools, especially those with disabilities who may require specialized transport services.
- **Continuation of Social Stigma**: Negative attitudes, social stigma, and fears of potential discrimination against children with disabilities persist, making it difficult for these children to feel included and for families to seek support.
- **Exclusion:** This stigma and discrimination contribute to widespread exclusion, where children are not always included in enrolment decisions, undermining their right to education.

In line with the principles of sustainable development, this is not considered to be desirable from an economic and social perspective.

8.7 Preferred Option/Alternative

The site development option **(Alternative A1)**, as outlined in **Section 8.2**, was the only option evaluated in the effects ranking **Section 13** due to its selection as the preferred alternative based on the evidence presented above.

9. Public Participation

Public participation is the cornerstone of the Environmental Impact Assessment process. The principles of the National Environmental Management Act (NEMA) govern most aspects of EIAs, including public participation. These include the ongoing provision of sufficient information (in a transparent manner) to Interested and Affected Parties (I&APs).

During the Public Participation Process (PPP), input from the proponent, technical experts, government authorities and the public will be gathered to result in a better understanding of the project for all involved, and more informed decision-making throughout the process.

The key objective of public participation is to provide I&APs with an opportunity to provide comment and input in the planning phase of the project. Issues of concern and suggestions raised by I&APs will be addressed and responded to as required in the Draft Basic Assessment Report.

I&APs were also given the opportunity to comment on the findings of Basic Assessment Report and findings of the Specialist studies during the specified comment periods. I&APs were be provided with a 30-day comment period in which to raise issues and / or concerns in response to the Background Information Document.

A Draft Basic Assessment Report (DBAR) is hereby compiled and is available for public comment for a period of 30 days from date of issue.

Public input is facilitated by public engagement, which accomplishes the following goals:

- Cause costly delays later.
- Creates trust and partnership.
- Facilitates negotiated outcomes.
- Maximises positive effects.
- Minimises negative effects.
- Prevent the project continuing.
- Provides an indication of issues, which may:
- Result in enhanced and shared benefits.

In compliance with Chapter 6 of the EIA Regulations, 2014 (as amended), the PPP has been implemented. The following subsections provide specifics on the procedure that was used.

9.1. Identification of Interested and Affected Parties

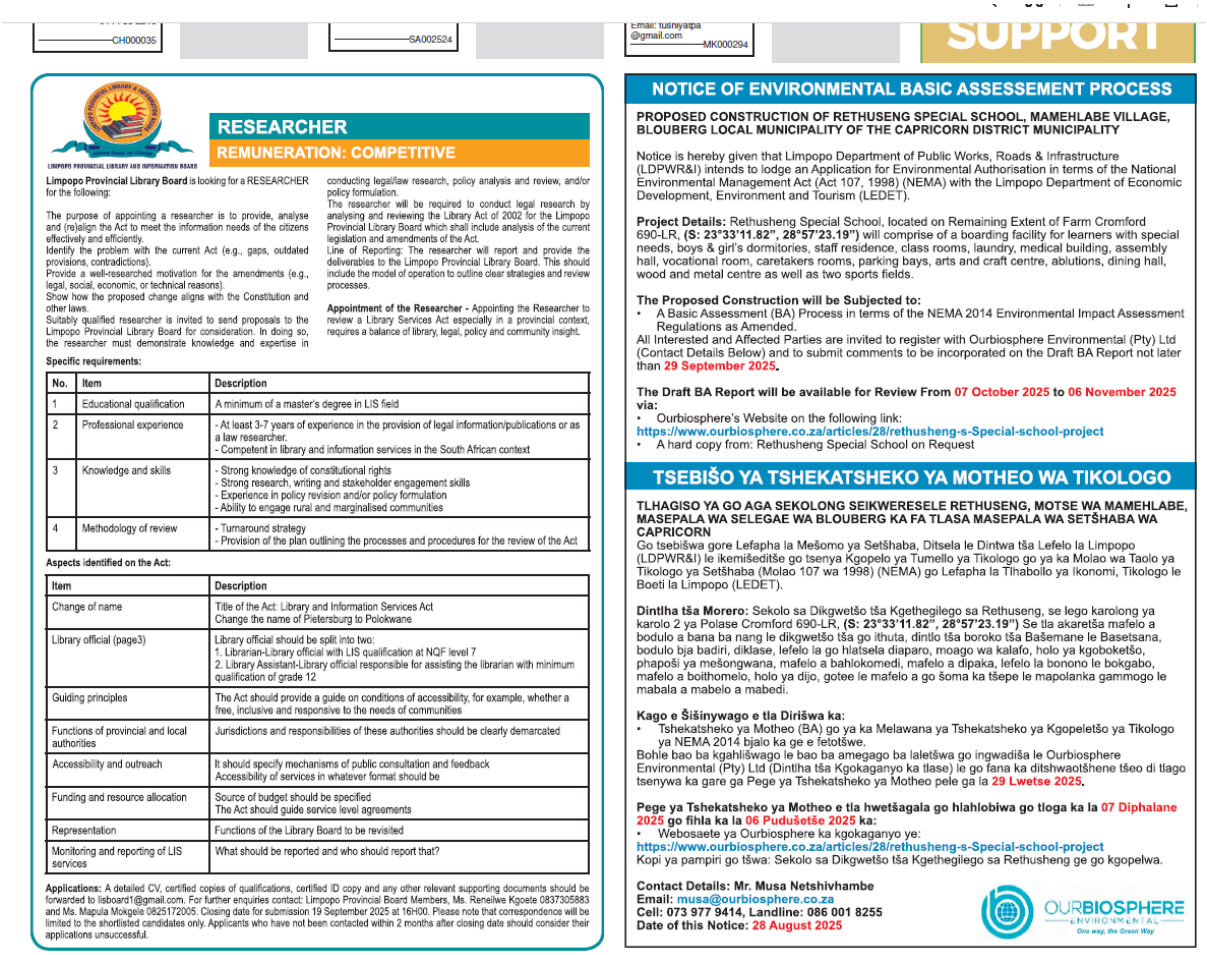
The creation of an extensive I&AP Database marked the beginning of the project's PPP (see **Appendix F-1**). The following are included in the I&AP database:

- Competent Authority (LEDET).
- Regulatory Authorities (DWS, LIHRA).
- Bakone Ba-Matlala a Thaba Tibal Authority
- Blouberg Local Municipality; Amajuba District Municipality.
- Local Ward Councillor (Ward 22).
- Adjacent Landowners and Residents.

9.2. Project Announcement

9.2.1 Advertisement

On August 28, 2025, an advertising in both English and Sepedi was published in the Polokwane Observer (an extract is shown on **Figure 17** below). In order to address the concerns and issues of the public, the advertisement sought to educate the local population about the proposed construction of Rethuseng Special School. This was done to guarantee that all possible I&APs would be given the chance to register for the project and provide feedback on the suggested development. **Appendix F-3** is a full copy of the final advertisement as it was published in the Newcastle Express.



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SUPPORT

RESEARCHER

REMUNERATION: COMPETITIVE

LIMPOPO PROVINCIAL LIBRARY AND INFORMATION BOARD

Limpopo Provincial Library Board is looking for a RESEARCHER for the following:

The purpose of appointing a researcher is to provide, analyse and (re)align the Act to meet the information needs of the citizens effectively and efficiently.
Identify the problem with the current Act (e.g., gaps, outdated provisions, contradictions).
Provide a well-researched motivation for the amendments (e.g., legal, social, economic, or technical reasons).
Show how the proposed change aligns with the Constitution and other laws.
Suitably qualified researcher is invited to send proposals to the Limpopo Provincial Library Board for consideration. In doing so, the researcher must demonstrate knowledge and expertise in conducting legal/law research, policy analysis and review, and/or policy formulation.
The researcher will be required to conduct legal research by analysing and reviewing the Library Act of 2002 for the Limpopo Provincial Library Board which shall include analysis of the current legislation and amendments of the Act.
Line of Reporting: The researcher will report and provide the deliverables to the Limpopo Provincial Library Board. This should include the model of operation to outline clear strategies and review processes.

Appointment of the Researcher - Appointing the Researcher to review a Library Services Act especially in a provincial context, requires a balance of library, legal, policy and community insight.

Specific requirements:

No.	Item	Description
1	Educational qualification	A minimum of a master's degree in LIS field
2	Professional experience	- At least 3-7 years of experience in the provision of legal information/publications or as a law researcher. - Competent in library and information services in the South African context
3	Knowledge and skills	- Strong knowledge of constitutional rights - Strong research, writing and stakeholder engagement skills - Experience in policy revision and/or policy formulation - Ability to engage rural and marginalised communities
4	Methodology of review	- Turnaround strategy - Provision of the plan outlining the processes and procedures for the review of the Act

Aspects identified on the Act:

Item	Description
Change of name	Title of the Act: Library and Information Services Act Change the name of Pietersburg to Polokwane
Library official (page3)	Library official should be split into two: 1. Librarian-Library official with LIS qualification at NQF level 7 2. Library Assistant-Library official responsible for assisting the librarian with minimum qualification of grade 12
Guiding principles	The Act should provide a guide on conditions of accessibility, for example, whether a free, inclusive and responsive to the needs of communities
Functions of provincial and local authorities	Jurisdictions and responsibilities of these authorities should be clearly demarcated
Accessibility and outreach	It should specify mechanisms of public consultation and feedback Accessibility of services in whatever format should be
Funding and resource allocation	Source of budget should be specified The Act should guide service level agreements
Representation	Functions of the Library Board to be revisited
Monitoring and reporting of LIS services	What should be reported and who should report that?

Applications: A detailed CV, certified copies of qualifications, certified ID copy and any other relevant supporting documents should be forwarded to lisboard1@gmail.com. For further enquiries contact: Limpopo Provincial Board Members, Ms. Reneilwe Kgoete 0837305883 and Ms. Mapula Mokgele 0825172005. Closing date for submission 19 September 2025 at 16H00. Please note that correspondence will be limited to the shortlisted candidates only. Applicants who have not been contacted within 2 months after closing date should consider their applications unsuccessful.

NOTICE OF ENVIRONMENTAL BASIC ASSESSEMENT PROCESS

PROPOSED CONSTRUCTION OF RETHUSENG SPECIAL SCHOOL, MAMEHLABE VILLAGE, BLOUBERG LOCAL MUNICIPALITY OF THE CAPRICORN DISTRICT MUNICIPALITY

Notice is hereby given that Limpopo Department of Public Works, Roads & Infrastructure (LDPWR&I) intends to lodge an Application for Environmental Authorisation in terms of the National Environmental Management Act (Act 107, 1998) (NEMA) with the Limpopo Department of Economic Development, Environment and Tourism (LEDET).

Project Details: Rethusheng Special School, located on Remaining Extent of Farm Cromford 690-LR, **(S: 23°33'11.82", 28°57'23.19")** will comprise of a boarding facility for learners with special needs, boys & girl's dormitories, staff residence, class rooms, laundry, medical building, assembly hall, vocational room, caretakers rooms, parking bays, arts and craft centre, ablutions, dining hall, wood and metal centre as well as two sports fields.

The Proposed Construction will be Subjected to:
- A Basic Assessment (BA) Process in terms of the NEMA 2014 Environmental Impact Assessment Regulations as Amended.

All Interested and Affected Parties are invited to register with Ourbiosphere Environmental (Pty) Ltd (Contact Details Below) and to submit comments to be incorporated on the Draft BA Report not later than **29 September 2025.**

The Draft BA Report will be available for Review From 07 October 2025 to 06 November 2025 via:
- Ourbiosphere's Website on the following link:
https://www.ourbiosphere.co.za/articles/28/rethusheng-s-Special-school-project
- A hard copy from: Rethusheng Special School on Request

TSEBIŠO YA TSHEKATSHEKO YA MOTHEO WA TIKOLOGO

TLHAGISO YA GO AGA SEKOLONG SEIKWERESELE RETHUSENG, MOTSE WA MAMEHLABE, MASEPALA WA SELEGAE WA BLOUBERG KA FA TLASA MASEPALA WA SETŠHABA WA CAPRICORN

Go tsebišwa gore Lefapha la Mešomo ya Setšhaba, Ditsela le Dintwa tša Lefelo la Limpopo (LDPWR&I) le ikemišeditše go tsenya Kgopelo ya Tumello ya Tikologo go ya ka Molao wa Taolo ya Tikologo ya Setšhaba (Molao 107 wa 1998) (NEMA) go Lefapha la Tlhabollo ya Ikonomi, Tikologo le Boeti la Limpopo (LEDET).

Dintlha tša Morero: Sekolo sa Dikgwetšo tša Kgethegilego sa Rethuseng, se lego karolong ya karolo 2 ya Polase Cromford 690-LR, **(S: 23°33'11.82", 28°57'23.19")** Se tla akaretša mafelo a bodulo a bana ba nang le dikgwetšo tša go ithuta, dintlo tša boroko tša Bašemane le Basetsana, bodulo bja badiri, diklase, lefelo la go hlatsela diaparo, moago wa kalafo, holo ya kgoboketšo, phaposi ya mešongwana, mafelo a bahlokomedi, mafelo a dipaka, lefelo la bonono le bokgabo, mafelo a boithomelo, holo ya dijo, gotee le mafelo a go šoma ka tšepe le mapolanka gammogo le mabala a mabelo a mabedi.

Kago e Šišinywago e tla Diriša ka:
- Tshekatsheko ya Motheo (BA) go ya ka Melawana ya Tshekatsheko ya Kgopeletšo ya Tikologo ya NEMA 2014 bjalo ka ge e fetotšwe.

Bohle bao ba kgahlišwago le bao ba amegago ba laletšwa go ingwadiša le Ourbiosphere Environmental (Pty) Ltd (Dintlha tša Kgokaganyo ka tlase) le go fana ka ditshwaotšhene tšeo di tlago tsenywa ka gare ga Pege ya Tshekatsheko ya Motheo pele ga la **29 Lwetse 2025.**

Pege ya Tshekatsheko ya Motheo e tla hwetšagala go hlahlobiwa go tloga ka la 07 Diphalane 2025 go fihla ka la 06 Pudušetše 2025 ka:
- Webosaete ya Ourbiosphere ka kgokaganyo ye:
https://www.ourbiosphere.co.za/articles/28/rethusheng-s-Special-school-project

Kopi ya pampiri go tšwa: Sekolo sa Dikgwetšo tša Kgethegilego sa Rethusheng ge go kgopelwa.

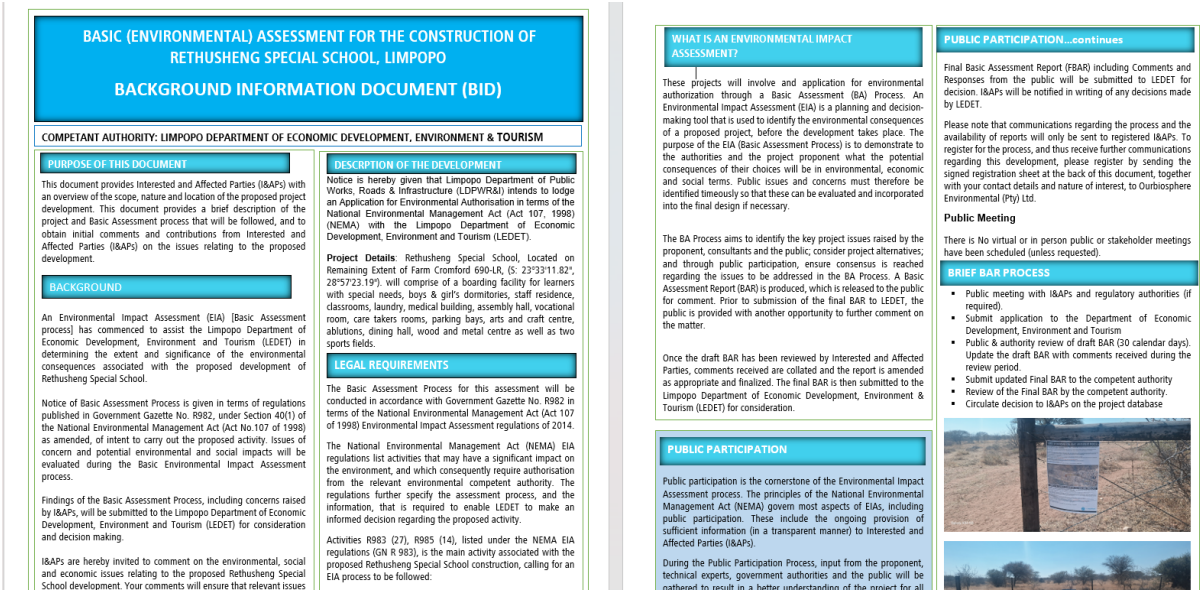
Contact Details: Mr. Musa Netshivhambe
Email: musa@ourbiosphere.co.za
Cell: 073 977 9414, Landline: 086 001 8255
Date of this Notice: 28 August 2025

OURBIOSPHERE ENVIRONMENTAL One way, the Green Way

Figure 18: Showing the true newspaper copy as advertised on Polokwane Observer on 28 August 2025

9.2.2 Background Information Document

On August 28, 2025), printed copies of the Background Information Document (BID), of which (an extract is displayed below as **Figure 19**), were given to the I&APs in person. The BID was prepared and made available electronically. An executive summary of the BA Report and an explanation of the BA procedure to be followed were supplied by the BID. Informing I&APs about the project and giving them a chance to comment on the Draft BA Report were the goals of the BID. Together with the signed register attesting to receipt, a copy of the BID is given in **Appendix F-4**.



BASIC (ENVIRONMENTAL) ASSESSMENT FOR THE CONSTRUCTION OF RETHUSHENG SPECIAL SCHOOL, LIMPOPO

BACKGROUND INFORMATION DOCUMENT (BID)

COMPETANT AUTHORITY: LIMPOPO DEPARTMENT OF ECONOMIC DEVELOPMENT, ENVIRONMENT & TOURISM

PURPOSE OF THIS DOCUMENT

This document provides Interested and Affected Parties (I&APs) with an overview of the scope, nature and location of the proposed project development. This document provides a brief description of the project and Basic Assessment process that will be followed, and to obtain initial comments and contributions from Interested and Affected Parties (I&APs) on the issues relating to the proposed development.

BACKGROUND

An Environmental Impact Assessment (EIA) [Basic Assessment process] has commenced to assist the Limpopo Department of Economic Development, Environment and Tourism (LEDET) in determining the extent and significance of the environmental consequences associated with the proposed development of Rethusheng Special School.

Notice of Basic Assessment Process is given in terms of regulations published in Government Gazette No. R982, under Section 40(1) of the National Environmental Management Act (Act No.107 of 1998) as amended, of intent to carry out the proposed activity. Issues of concern and potential environmental and social impacts will be evaluated during the Basic Environmental Impact Assessment process.

Findings of the Basic Assessment Process, including concerns raised by I&APs, will be submitted to the Limpopo Department of Economic Development, Environment and Tourism (LEDET) for consideration and decision making.

I&APs are hereby invited to comment on the environmental, social and economic issues relating to the proposed Rethusheng Special School development. Your comments will ensure that relevant issues

DESCRIPTION OF THE DEVELOPMENT

Notice is hereby given that Limpopo Department of Public Works, Roads & Infrastructure (LDPWR&I) intends to lodge an Application for Environmental Authorisation in terms of the National Environmental Management Act (Act 107, 1998) (NEMA) with the Limpopo Department of Economic Development, Environment and Tourism (LEDET).

Project Details: Rethusheng Special School, Located on Remaining Extent of Farm Cromford 690-LR, (S: 23°33'11.82", 28°57'23.19"). will comprise of a boarding facility for learners with special needs, boys & girl's dormitories, staff residence, classrooms, laundry, medical building, assembly hall, vocational room, care takers rooms, parking bays, arts and craft centre, ablutions, dining hall, wood and metal centre as well as two sports fields.

LEGAL REQUIREMENTS

The Basic Assessment Process for this assessment will be conducted in accordance with Government Gazette No. R982 in terms of the National Environmental Management Act (Act 107 of 1998) Environmental Impact Assessment regulations of 2014.

The National Environmental Management Act (NEMA) EIA regulations list activities that may have a significant impact on the environment, and which consequently require authorisation from the relevant environmental competent authority. The regulations further specify the assessment process, and the information, that is required to enable LEDET to make an informed decision regarding the proposed activity.

Activities R983 (27), R985 (14), listed under the NEMA EIA regulations (GN R 983), is the main activity associated with the proposed Rethusheng Special School construction, calling for an EIA process to be followed:

WHAT IS AN ENVIRONMENTAL IMPACT ASSESSMENT?

These projects will involve and application for environmental authorization through a Basic Assessment (BA) Process. An Environmental Impact Assessment (EIA) is a planning and decision-making tool that is used to identify the environmental consequences of a proposed project, before the development takes place. The purpose of the EIA (Basic Assessment Process) is to demonstrate to the authorities and the project proponent what the potential consequences of their choices will be in environmental, economic and social terms. Public issues and concerns must therefore be identified timeously so that these can be evaluated and incorporated into the final design if necessary.

The BA Process aims to identify the key project issues raised by the proponent, consultants and the public; consider project alternatives; and through public participation, ensure consensus is reached regarding the issues to be addressed in the BA Process. A Basic Assessment Report (BAR) is produced, which is released to the public for comment. Prior to submission of the final BAR to LEDET, the public is provided with another opportunity to further comment on the matter.

Once the draft BAR has been reviewed by Interested and Affected Parties, comments received are collated and the report is amended as appropriate and finalized. The final BAR is then submitted to the Limpopo Department of Economic Development, Environment & Tourism (LEDET) for consideration.

PUBLIC PARTICIPATION

Public participation is the cornerstone of the Environmental Impact Assessment process. The principles of the National Environmental Management Act (NEMA) govern most aspects of EIAs, including public participation. These include the ongoing provision of sufficient information (in a transparent manner) to Interested and Affected Parties (I&APs).

During the Public Participation Process, input from the proponent, technical experts, government authorities and the public will be

PUBLIC PARTICIPATION...continues

Final Basic Assessment Report (FBAR) including Comments and Responses from the public will be submitted to LEDET for decision. I&APs will be notified in writing of any decisions made by LEDET.

Please note that communications regarding the process and the availability of reports will only be sent to registered I&APs. To register for the process, and thus receive further communications regarding this development, please register by sending the signed registration sheet at the back of this document, together with your contact details and nature of interest, to Ourbiosphere Environmental (Pty) Ltd.

Public Meeting

There is No virtual or in person public or stakeholder meetings have been scheduled (unless requested).

BRIEF BAR PROCESS

- Public meeting with I&APs and regulatory authorities (if required).
- Submit application to the Department of Economic Development, Environment and Tourism
- Public & authority review of draft BAR (30 calendar days). Update the draft BAR with comments received during the review period.
- Submit updated Final BAR to the competent authority
- Review of the Final BAR by the competent authority.
- Circulate decision to I&APs on the project database

Figure 19: Extract of the Background Information Document

9.2.3. Site Notices

Four A2 size site notices (English and Sepedi) were prepared, laminated and posted on site on August 28, 2025. Two were posted on the site along the Juno Road, one on each corner. The purpose of these site notices *was* to inform potential I&APs of the proposed development and further invite them to register and comment on the project and the Draft BA Report.

These are the places where the site notices will be displayed:

Figure 20: **Site Notice 1**- South West Corner along Juno Road: **23°33'21.05"S, 28°57'23.81"E.**

Figure 21: **Site Notice 2**- North West Corner along Juno Road: **23°33'22.17"S, 28°57'28.97"E.**

Figure 22: **Site Notice 3**- Ditau Tuckshop within Mamehlabe Village: **23°33'08.98"S, 28°58'08.47"E.**

Figure 23: **Site Notice 4**- Local Taxi Rank Gate: **23°33'31.43"S, 28°58'08.47"E.**

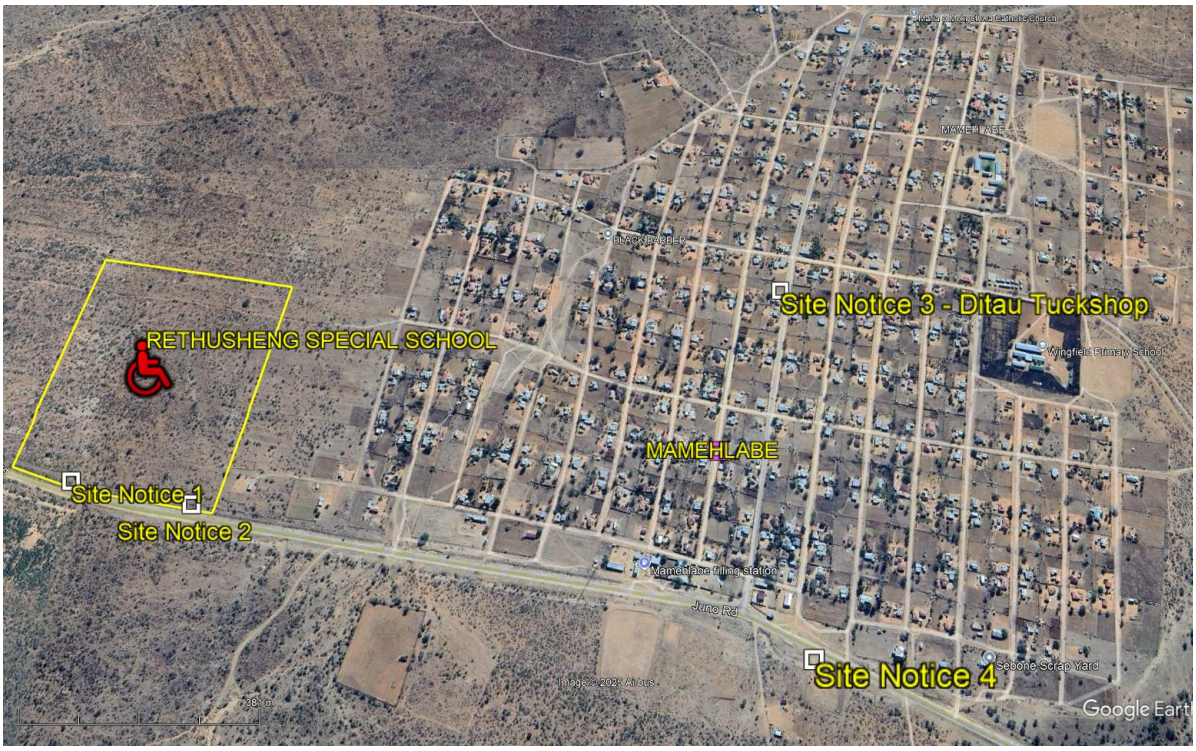


Figure 24: Locations of all site notice

9.2.4. Draft Basic Assessment Report

This Draft BA Report *is now circulated for comment* for a 30-day comment period from the 08 October 2025 to the 06 November 2025.

One hardcopy *is* placed at Bakone Ba-Matlala a Thaba Tribal Authority for public review. An electronic copy of the Draft BA Report *was* made available via Ourbiosphere's website: https://www.ourbiosphere.co.za/articles/28/rethusheng-s-Special-school-project.

9.2.5. Final Basic Assessment Report

All comments received on the Draft BA Report will be incorporated into this Final BA Report which will be submitted to LEDET and made will be available on the Ourbiosphere website for review by commenting authorities and I&APs. All relevant authorities and registered I&APs will be notified of the availability of the Final BA Report. Should any late comments be received after closure of the comment period and submission of the Final BA Report, these will be responded to and a copy of the written comment as well as Ourbiosphere's response, will be submitted to LEDET as well as the commenting I&AP.

9.2.6. Decision Notification

In accordance with section 4(2) of the EIA Regulations, all registered I&APs will be notified in writing within 14 days of the decision date and the appeal process.

9.2.7. I&APs Comments

All of the comments received from I&APs at the time of the submission of the Final BA Report and responses to the comments are provided in **Table 13**. *Copies of written correspondence received are included in* **Appendix F-6**.

Table 13: Comments and Responses table

Date	Commentator	Organisation	Comment	Response
	Comments received during the public participation phase			
28 August 2025	*Mr. R. Tlou Magwai*	*Ward 22 Local Ward Councillor*	*We have been eagerly waiting for this project as the community of Mamehlabe –* ***via Phone Call***	*Your comment is noted. However, construction is not going to be underway yet. We are going to be undertaking a basic assessment process that may take approximately 4 months.*
28 August 2025	*Mrs Veronica Matlala*	*Representative Matlala Tribal Authority*	*It is unbelievable that the school finally is going to be built* ***(In a one-on-one meeting)***	*You clearly can be seen that you are very happy, but nonetheless, it is true, the project is continuing, we have been appointed to undertake a Basic Assessment Process*
			Is the Department not toying with our feelings, because this project is long overdue, it almost started last time, and then it was stopped	*Without necessarily speaking on behalf of the Department – The Department have appointed us at this time with a clear mandate. If the project was not going ahead, they wouldnot appoint us to carry out this exercise at this time*
			When you go to do your studies, because you know	*Input well received, please note that it is a*

			that the world is now dangerous, please all of you make sure that you wear reflectors so that community members will not be scared, because the area is bushy	*standard practice that when we do our studies we put on our reflectors, we will also remind our fellow professionals to do so*
			I am normally at the Creche close to the petrol filling station, cam you please everytime pass by the creche and report so that I know who is on site, in case community members may come having questions	*We are law abiding citizens, we shall ensure that we comply with that request every time we visit the site*
28 August 2025	*Mrs. Nora Matlala*	*Representative Matlala Traditional Authority*	*For such a very long time, we have been waiting for this project. And don't be afraid to do your work, we have already discussed this project with the community and they are well aware of it.* ***(Via Phone Call)***	*Your patience seemingly have paid off. The project construction will beginning only after we will be done with our Basic Assessment Process,*
			How long is your studies going t take	*Normally the basic Assessment Process will take between 4 to 7 months*
			Are you not going to recommend the project to go away?	*No Mam, after our studies, LEDET will look into all the facts submitted and make a decision whether the project is going forward on not based on the findings submitted*
01 September 2025	*Mr. Zama Mzelemu*	*Leads 2 Business*	*Good Afternoon,* *I trust that you are well and in good health.* *I would like to be added as an IAP for the subjected project.* *Have a lovely day.* ***(via Email)***	*Good day Zama* *Your request has been duly noted*
26 September 2025	*Mr Kenneth Teffo*	*Nchedi Protection Services*	*Registering for Security Services at Rethuseng Special School* *Dear Musa Netshivhambe*	

			I am writing to register our company Nchedi Protection Services (PTY) Ltd to teamwork with Ourbiosphere Environmental (PTY) Ltd on the Rethuseng Special School project. *Our company is registered with the Institute of Private Security Industry Regulatory Authority and CIPC.* *Please read our company profile on attachment and see what we could offer you.* *This places the company in a unique position to be able to offer comprehensive services.* *Thank you for giving us the opportunity to register.* *I look forward to hearing your response.* ***(received Via Email)***	

10. Specialist Studies

Seven (8) key specialist studies were identified and undertaken for the proposed project to investigate the potential risks and/or impacts associated with the project on the soil, social, terrestrial, groundwater, heritage and paleontological resources.

- Ecological Impact Specialist
- Geotechnical.
- Social Facilitation
- Floodline
- Geohydrological
- Traffic
- Heritage
- Stormwater

Table 14: Specialist studies

Specialist Investigations	Company	Lead Specialists	Professional Registration
Ecological Impact Specialist	BioAssets	Dr Wynand Vlok	Pr. Sci. Nat
Geotechnical Investigation	Mobu GeoServices	Sello Dipela,	Pr. Eng
		Ruth Ramaboea,	Pr. Sci. Nat
Social Facilitation	Xidzhiva Business Enterprise	Valentine Nkoana	
Desktop Floodline Assessment	NNB Engineering Consultants	N. Beeputh	Pr. Eng
Geohydrological Report	Naledzi Waterworks	F.D Munyai	**Pr.Sci.Nat**
Traffic Impact Assessment Report	TransData Consult	Kaberlama Dodo Kabeya	Pr. Eng
		Bridget Mokgalabone	Pr. Eng
Heritage Impact Assessment	Is Solution	Trust Mlilo	ASAPA
Preliminary Stormwater Impact	NNB Engineering Consultants	Sello Dipela,	Pr. Eng

10.1 Ecological Impact Specialist

10.2 Geotechnical Investigation

This section has been summarised from:

Specialist Name	Project Name	Report Year	Report Location
Mobu GeoServices	Geotechnical Investigation Report for the Proposed Rethuseng Special School to be located on Part of Portion 2 of Farm Cromford 690-LR,	September 2025	**Appendix E-7**

10.2 Objectives

The objectives of this geotechnical investigation were to:

- Determine the geological origin of the material on site and engineering properties of different materials layers on site to provide foundation solutions.
- Comment upon perched and/or permanent water table if encountered within the limits of investigation.
- Assess the suitability of the near surface soils for use as backfill, bedding and/or pavement materials.

- Comment upon the excavatability of the near surface soils and any geotechnical constraints that may impact upon the design and construction of the proposed development (problematic soils, etc.)
- Provide foundation recommendations for the proposed development.

10.3 Scope

The scope of the work involved:

- Desktop analysis of the relevant available information
- Site investigations:
- Excavation of test pits and evaluation of the ground profile
- Sampling on key horizons
- DCP Testing
- Collection of representative samples and execution of laboratory testing
- Interpretation of site information and laboratory test results
- Preparation of an interpretive geotechnical report

10.3.1 Findings

10.3.1.1. Geotechnical Evaluations

Enginering and Characteristics Material: Five (5) disturbed soil samples, considered to be representative of the material on site, were subjected to foundation indicator testing and Mod CBR (as per SANS 3001 test methods). The laboratory testing was conducted by Roadlab, a Civil Engineering Materials Testing Soil Laboratory.

Transported: The transported material classifies as **Silty Clayey SAND**. The clayey SAND (SC) is classifying as low plastic in terms of Plasticity Index. The moisture/density tests result yielded a maximum dry density of 2015kg/m3 Modified AASHTO compaction effort at an optimum moisture content of 9.2%. The CBR results are 11 at a compaction density of 93% and 18 at a compaction density of 95% Modified AASHTO compaction effort, respectively. The grading modulus is 1.40. This material classifies as G8 quality material according to COLTO and G10 according to TRH 14 specifications. Based on the AASHTO classification, this material falls within the A-2 group which rates as "excellent to good" for use as a subgrade. This material is considered not suitable for use as an engineered fill.

Residual Granite: The residual material classifies as **Silty Gravelly SAND** and **Sandy GRAVEL**. **Silty Gravelly SAND.** The silty gravelly SAND is classifying as Non-plastic to slightly plastic in terms of Plasticity Index. The moisture/density tests result yielded a maximum dry density of 2160kg/m3 and 2246kg/m3 Modified AASHTO compaction effort at an optimum moisture content of 7.3% and 6.3%, respectively. The CBR results are ranging between 25 and 51 at a compaction density of 93% and between 34 and 72 at a compaction density

of 95% Modified AASHTO compaction effort, respectively. The grading modulus is ranging between 1.90 and 2.20. This material classifies as G5/G6 quality material according to COLTO and G5/G6 according to TRH 14 specifications. Based on the AASHTO classification, this material falls within the A-1 group which rates as "excellent to good" for use as a subgrade. This material is considered suitable for use as an engineered fill.

Sandy GRAVEL: The sandy gravel exhibits very low plasticity in terms of Plasticity Index. The moisture/density tests result yielded a maximum dry density of 2139kg/m3 Modified AASHTO compaction effort at an optimum moisture content of 8.2%. The CBR results are 41 at a compaction density of 93% and 49 at a compaction density of 95% Modified AASHTO compaction effort, respectively. The grading modulus is 2.40. This material classifies as G5 quality material according to both COLTO and TRH 14 specifications. Based on the AASHTO classification, this material falls within the A-1 group which rates as "excellent to good" for use as a subgrade. This material is considered suitable for use as an engineered fill.

Weathered Granite Bedrock: The weathered granite bedrock classifies as Sandy GRAVEL. This material is non-plastic. The moisture/density tests result yielded a maximum dry density of 2155kg/m3 Modified AASHTO compaction effort at an optimum moisture content of 5.3%. The CBR results are 38 at a compaction density of 93% and 44 at a compaction density of 95% Modified AASHTO compaction effort, respectively. The grading modulus is 2.5. This material classifies as G6 quality material according to both COLTO and TRH 14 specifications. Based on the AASHTO classification, this material falls within the A-1 group which rates as "excellent to good" for use as a subgrade. This material is considered suitable for use as an engineered fill.

10.3.2. Recommendations

The site is generally underlain by a blanket of compressible and potentially collapsible transported and residual soils, which is underlain by weathered bedrock occurring locally at shallow depth.

10.3.2.1 Geotechnical Zonation

In terms of the NHBRC guidelines, the site can be classified as Site Class R - C. The estimated total settlement for site Class C is less than 5mm. Site Class R denoted area underlain by shallow bedrock. In this instance, it represents the weathered bedrock encountered below the site.

10.3.2.2 Foundations

Strip foundations are recommended for the development, and the followings guidelines are applicable:

- The strip foundations shall have a minimum width of 600mm and be founded on the bedrock.
- Excavate the transported and residual soils onto the bedrock.
- The base of the excavation is to be cleaned, and a 100mm concrete blinding to be placed.
- Strip foundations, 600mm wide should be constructed adopting an allowable bearing pressure of 500kPa on the bedrock.

- In areas where the bedrock is deeper than 0.6m, rip and recompact activity should be exercised i.e. excavate through to the bedrock, recompact from the bedrock to a depth of 0.6m using excavated materials in layers not exceeding 150mm. Foundations can be placed on the engineered fill adopting an allowable bearing capacity of 200kPa.

10.3.2.3 Surface Beds

It is recommended that the subgrade beneath surface beds or floor slabs be ripped to a minimum depth of 300mm and recompacted to 93% Mod AASHTO density using the G6/G7 quality material based on COLTO specifications. It is recommended that an approved damp proof membrane be used beneath the floor slabs.

10.3.2.4. Excavation Classification

Based on the test pit data, the site is classified as suitable for soft excavation to a depth of approximately 1.05 m below the existing ground level, in accordance with the SANS 1200DA classification. This assessment is based on the use of similar equipment to that employed during the investigation (i.e., manual excavation using picks and shovels). Excavation to greater depths is considered feasible with the use of mechanized equipment with higher excavation capacity.

10.3.2.5. Surface Drainage and Groundwater Management

The most important factor in the stable development of the site is the control and removal of both surface and groundwater from the site. Hardened areas, such as roof areas, paved surfaces and parking lots contribute to the surface runoff. The following is therefore recommended:

- Stormwater should be collected and piped preferably off site. If this is not feasible, all stormwaters should be led well down slope of all structures and building terraces to discharge in a carefully controlled fashion by means of surface spreaders/headwalls to Engineer's detail.
- Profiling of the ground should be implemented for the minimization of water ingress into the soil around the foundations; and
- A concrete splash apron should be constructed around the perimeter of the buildings. This will prevent ingress of surface water close to the foundations, thereby affecting the moisture content of the founding soils.
- All stormwaters should be led to discharge in a controlled manner away from the site.

10.3.2.6. Construction Material

The residual granite soils encountered on site generally classifies as G5/G6 quality material according to COLTO specifications. This material is considered suitable for use as engineered fill. The transported soils encountered on site classifies as G8 quality material according to COLTO specifications. This material is not

considered suitable for use as engineered fill. This material was encountered from surface to an approximate depth of 0.75m bgl.

10.3.2.7 Earthworks

Earthwork activities will need to be carried out strictly in accordance with the current SANS 1200 guidelines to ensure safe working procedures and maintain stability of the site. Placement of fill layers should be undertaken in layers not exceeding 150mm thick. When placed loose and compacted using suitable compaction plant to achieve 93% of Modified AASHTO maximum dry density. If natural ground slopes are steeper than 9 degrees, the fill must be benched into the slope. Terraces should be graded to direct water away from the fill edges, and small earth bunds should be constructed along the crests of fills, to prevent overtopping and erosion of fill embankment slopes.

Acceptance and process density control testing of placed fill material should be undertaken at regular intervals during fill construction as part of process and acceptance quality assurance monitoring. Cut and fill slopes in soils should be formed to batters not exceeding 26° and to a height not greater than 2 metres where retaining walls are not provided. Engineered fill slopes should be over constructed and thereafter trimmed back to the required position. All excavations must be inspected daily by a competent person, and records must be kept. It remains the responsibility of the Contractor/Developer to comply with the current requirements of the Occupational Health and Safety Act.

10.3.2.8 Construction Monitoring

It is recommended that all excavations and foundations be inspected by a competent person prior to placing any concrete and regular checks on the quality and compaction of the backfill to the terraces should be made. A construction design report compiled by the competent person must be submitted to all relevant authorities.

10.4 Conclusion

This report contains the results of the geotechnical investigation carried out for the construction of Rethuseng Special School in Mamehlabe, Blouberg Local Municipality, Capricorn District, Limpopo Province. The site is underlain by transported soils overlying residual granite, with weathered granite bedrock occurring locally at shallow depth. Transported horizons comprise silty sandy gravel / gravelly silty sand, while the residual profile is predominantly quartzitic gravelly sand to sandy gravel. The transported soils generally classify as G8 according to COLTO specifications and are not suitable as engineered fill, whereas the residual granite soils classify as G5–G6 and are suitable for engineered fill. Where transported soils predominate, imported selected material will be required to achieve consistent layerworks quality. Stormwater should be collected and either piped off-site or led to controlled discharge points well downslope of structures; provide profiling to falls and concrete splash aprons to prevent ingress adjacent to foundations. Soft excavation conditions (SANS 1200DA) are anticipated to depths of approximately 1.05 m below existing ground level; deeper excavation is feasible using mechanised plant of higher capacity.

10.3 Social Facilitation Study (Phase 1)

This section has been summarised from:

Specialist Name	Project Name	Report Year	Report Location
Xidzhiva Business Enterprise	Social Facilitation Report (Phase 1) for the Proposed Rethuseng Special School to be located on Part of Portion 2 of Farm Cromford 690-LR,	September 2025	**Appendix E-3**

10.3.1 Scope of work

According to the Terms of Reference the scope will entail three phases which are:

- Pre-planning and planning with all key stakeholders,
- Implementation and Monitoring of the whole project and the Closing out of the project.
- The main role of Social Facilitation services is to provide a coordinated community,
- stakeholders' engagement activities which facilitate and ensure the creation of a conducive environment for the project thereby **minimising** potential project disruptions and **managing** socio-political and socio-economic dynamics.
- The report that follows hereafter responds to each phase alongside the identified outputs / deliverables as well as the milestones achieved during phase 1,

10.3.2 Phase 1: Planning & Community mobilization.

10.3.2.1. Community Profile

Rethuseng SNS is to be located within the Mamehlabe village led by Headwoman Matlala under the Matlala Tribal Authority. Mamehlabe is one of the five villages under the Blouberg municipality ward 22. The furthest village from Mamehlabe is about 15km. Mamehlabe has an estimated population of 13 763 with 619 households. Although the community is characterised by high levels of alcohol abuse, levels of crime and violence are reported to be the lowest in comparison to the other four villages. Alcohol abuse is a red flag for this project in particular on the aspect of local labour force not reporting for duty soon after pay days. The majority of residents rely on social grants whilst others rely on short term and long-term jobs and self-initiated economic activities. Whilst the dominant political party is the ANC, there are other parties such as the EFF, DA and others. The community has a development forum with various portfolios such as Water, Electricity, Community Policing Forum, Education and Health.

10.3.2.2. Stakeholder management plan

Various sessions were conducted to solicit information on existing internal, external, direct and indirect stakeholders. The primary source of information was the Mamehlabe traditional council, ward councillor and ordinary members of the community. A designated stakeholder, the Rethuseng Special School has been consulted to formally introduce the construction project. Further engagements with other stakeholders are

envisaged during the planning phase. In anticipation of potential emergence of new stakeholders triggered by socio-economic interests, the stakeholder register will remain work in progress and will therefore be updated as the need arise.

Table1: *Stakeholders register & communication plan*

Stakeholder	Interest High/ Medium/ Low	Influence/ Power High/Medium/Low	Required information	Communication
Internal				
1. Mamehlabe Traditional Council	High	High	Full project details	Monthly progress meetings
2. PSC	High	High	Full project details	Monthly progress meetings
3. Rethuseng Special School Management Team	High	Medium	Full project details	Monthly progress meetings
4. LDPWR&I	High	High	Project implementation progress	Monthly progress reporting
5. DoE – Provincial District, circuit	High	High	Full project details	Monthly progress meetings
6. Blouberg municipality	High	High	Full project details	Monthly progress meetings
External				
Community Policing Forum	Medium	Medium	Project implementation process	Quarterly
Balemirui	Medium	Medium	Project implementation process	Quarterly
Traditional Councils	High	Medium	Full project details	Quarterly
Members of the community	High	High	Employment opportunities	Monthly & quarterly
Local SMMEs	High	High	Local outsourcing opportunities	Throughout the project lifespan
Church community	Low	Low	Project details	Quarterly
Mamehlabe Business & Development Forum	High	High	Project implementation process	Quarterly

10.3.2.3. Public Participation

Active public participation is at the heart of community development project success. The project initiation phase requires robust engagements with the broader populace of the area where the project is located. These meetings were preceded by round table engagements with various local stakeholders to introduce the project, whilst establishing and enlisting existing stakeholders. One community / public participation meeting was held on the 17th of August where the following objectives were achieved:

i. An outline of the project protocol (IA, Client, PA, PSP, PSC & CLO) was made in order for the community to understand how the project is going to be managed.
ii. The community resolved that unskilled job opportunities shall not be restricted to Mamehlabe village but shall be open to all residents of Ward 22.
iii. That database of illegible unskilled labour force shall be created in each of the village. The database frame shall be based on the EPWP demographic requirements; i.e Females, Youth & Males.
iv. PSC selection guide was shared and the meeting resolved that members of the community should instead volunteer themselves.
v. Four members volunteered themselves to the PSC and were endorsed by the congregated community members.
vi. A community readiness charter was discussed and agreed to that the Social Facilitator will consolidate for the Traditional Council and Ward councillor to sign off (unsigned copy attached).

10.3.2.4. Project Steering Committee

S/N	Institution	Surname	Names	PSC Position	Contact
1	Community member	Mabatha	Lisbeth	Member	064 631 1126
2	Community member	Phago	Jacob	Chairperson	072 144 8908
3	Community member	Ramaoka	Alfred	Member	060 709 3057
4	Community member	Mpaneng	Salome	Member	
5	Blouberg Municipality	Magwai	Tlou	Ward Councillor	076 468 3581
6	Mamehlabe Traditional Council	Matlala	Norah	Secretary	084 677 6424
7	Mamehlabe Traditional Council	Matlala	Veronica	Contact person member	076 634 5473
8	Rethuseng Special School	The school is yet to identify one SGB parent one SGB teacher components in due course			

Training needs assessment was conducted in preparation for the induction workshop. The induction workshop will be planned and conducted in phases preferably towards the beginning of the next calendar year of 2026.

10.3.2.5. Conclusion

The activities covered during this phase were mainly to initiate community institutionalization processes through contact engagement meetings and workshops. The phase is essentially preparatory to ensure community understanding of and readiness for project support. The phase is not conclusive but an ongoing process. In view of various project predecessors that are still outstanding, some of the social facilitation activities and milestones such as the recruitment of the CLO, labour recruitment planning etc. will be halted whilst others such as PSC induction and development of important frameworks (communication, community participation etc) will be done in phases in order to ensure alignment and interfacing.

10.4 Desktop Floodline Impact Study

This section has been summarised from:

Specialist Name	Project Name	Report Year	Report Location
NNB Engineering Consultants	Desktop Floodline Assessment for the Proposed Rethuseng Special School to be located on Part of Portion 2 of Farm Cromford 690-LR,	August 2025	**Appendix E-4**

10.4.1. Scope

The scope of this study is to conduct a hydrological and hydraulic analysis of the study area to determine the floodlines and evaluate flood risks that may impact the proposed development.

The following portions of watercourses were identified and forms part of the scope of this report.

Watercourse 1 – A small non-perennial Tributary which eventually connect to a large tributary of the Okayamatlala River.

Watercourse 2 – A small non-perennial Tributary which eventually connect to a large tributary of the **Okayamatlala River.** This tributary passes the built-up residential settlement of Mamehlabe.

Watercourse 3 – A large non-perennial Tributary Okayamatlala River.

Watercourse 4 - The non-perennial Nokayamatlala River.

10.4.2 Hydrological assessment

This section provides details of the catchment characteristics and design flood estimation (peak flows) for the identified watercourses as previously mentioned in Section 1.1. The site and identified watercourses are located within the Quaternary Catchment A62E

10.4.3. Climate Change

Studies have shown that climate change is leading to more frequent and intense extreme rainfall events in South Africa. However, currently there are no definitive updated design rainfall figures which account for

climate change. This means that current design rainfall estimates should, to some degree, account for these increased intensities. The GreenBook (an online planning support tool) was utilised to inform the selection of design rainfall data for the purposes of climate change considerations in this stormwater management plan. The Blouberg Municipality in Limpopo was selected to extract related climate change data projected for the year 2050.

About the GreenBook: "The GreenBook is an online planning support tool that provides quantitative scientific evidence on the likely impacts that climate change and urbanisation will have on South Africa's cities and towns, as well as presenting a number of adaptation actions that can be implemented by local government to support climate resilient development. The GreenBook was co-funded by the CSIR and the International Development Research Centre (IDRC), over the past three years, between 2016 and 2019. The CSIR has partnered with the National Disaster Management Centre (NDMC) and co-developed this product with universities, government departments, NGOs and other peer groups".

10.4.4 Climate Change Impacts

Blouberg Local Municipality average rainfall is expected to experience increases of 56mm. Furthermore, as depicted in **Figure 26**, the extreme rainfall days are expected to increase by +-1.

10.4.5 Climate Change Considerations

Based on the findings above, it is evident that Blouberg Local Municipality is expected to be impacted by climate change. Therefore, to account for climate change in the hydrological analysis of this Floodline assessment, the upper 90% design rainfall data was adopted as recommended by "A best practice guideline for design flood estimation in municipal areas in South Africa, July 2023."

Furthermore, the selection of peak flows calculated from the various methods should done with the above information taken into consideration.

10.4.6 Rainfall Data

The 2012 rainfall records from the "Design Rainfall and Flood Estimation in South Africa" by Prof Jeff Smithers from The University of Natal (Pietermaritzburg) were considered in this study (The RLMA&SI method). The below **Table 15** - Rainfall Station Details 2, provides details of the five weather stations applicable to the catchments assessed.

Station Name:	**Cromford**	**Chloe**	**Vulcans (hosp)**	**Swerwerskraal**	**Vaalpenskraal**	**Salem**
SAWS Number	0676783_W	0677099_W	677188_W	0676705_W	0676523_W	0676363_W
Latitude (S)	23° 32'	23° 38'	23° 38'	23° 44'	23° 42'	23° 32'

Longitude (E)	28° 57'	29° 04'	29° 07'	28° 54'	28° 48'	28° 42'
MAP (mm)	445	434	418	474	506	419
Record (years)	45	51	49	52	43	45
Altitude (m)	1057	1141	1176	1066	1104	929

The **Table 16** below indicates the average adopted design rainfall depths for different Return Intervals, extracted from the gridded rainfall dataset taken at 1 minute grid intervals within the catchment boundary.

As discussed in the previous section, the impact of climate change on rainfall within the Blouberg Local Municipal is noted to increase annual rainfall and extreme rainfall days by the year 2050. Therefore, as recommended by the best practice guidelines for design flood estimation in municipal areas in South Africa, the upper 90% rainfall values were considered.

Duration	**Return Period (Years)**						
	2	**5**	**10**	**20**	**50**	**100**	**200**
1hr	35.304	48.072	57.488	67.24	81.164	92.512	104.64
12hr	63.792	86.88	103.872	121.492	146.664	167.188	189.096
16hr	66.656	90.772	108.552	126.956	153.24	174.7	197.584
20hr	68.964	93.924	112.304	131.356	158.552	180.752	204.44
24hr	70.916	96.568	115.468	135.072	163.032	185.848	210.208

Table 16 - *Design Rainfall Depths.*

10.4.7. Catchment land use

The estimated land cover for the study catchment was derived from the South African National Land Cover (SANLC 2020) dataset, provided by the Department of Forestry, Fisheries and the Environment. The area of interest was divided into four sub-basins, for which the findings are tabulated with the corresponding maps for reference.

Figure 26: Land Use Characteristics: Sub Basin 1

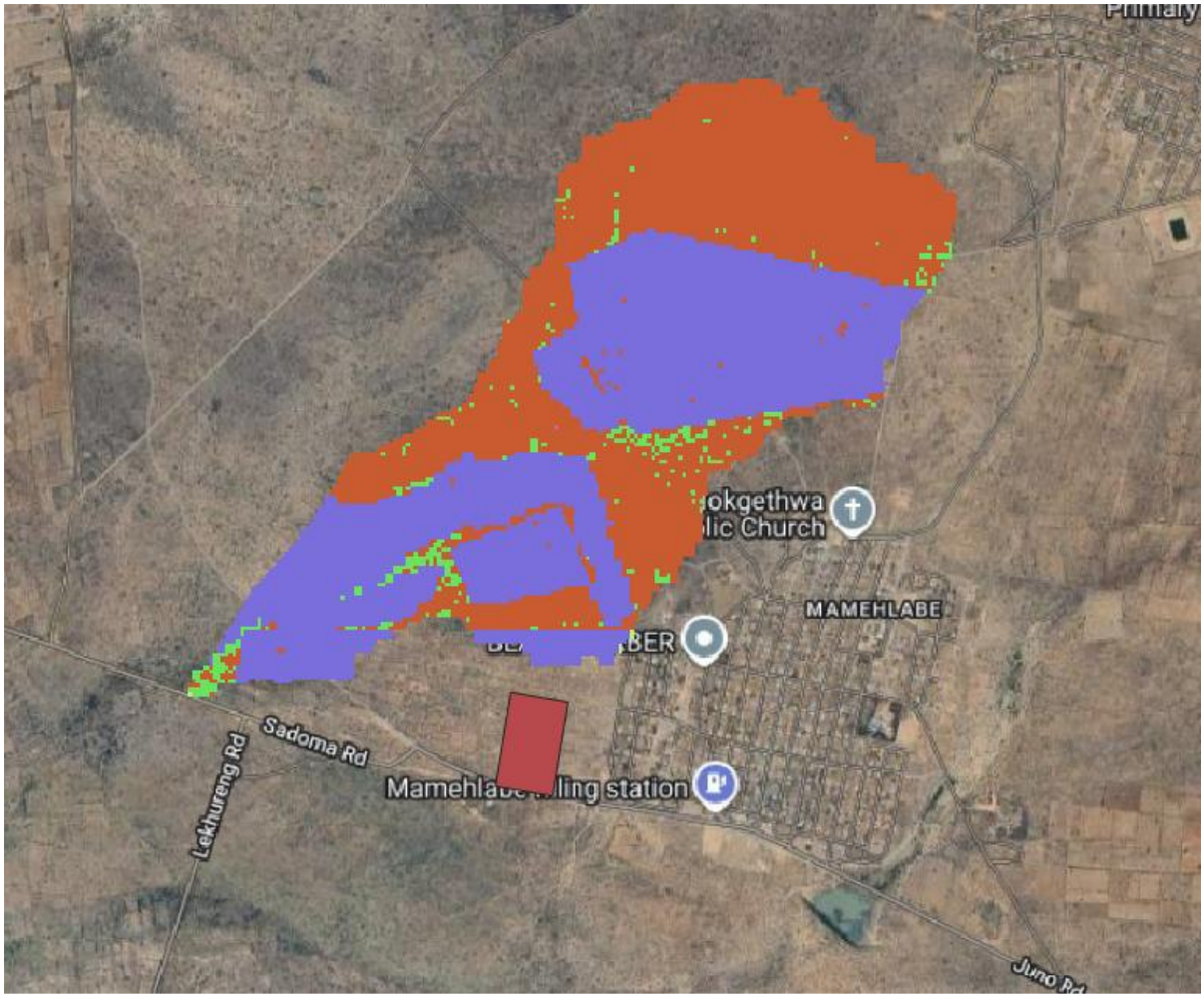


Figure 26: Land Use Characteristics: Sub Basin 1

Land Use	Area (km²)	% of Total
Forested Land	2.0775	46.98
Grassland	0.1347	3.05
Cultivated Land	2.2073	49.92
Water Bodies	0.0004	0.01
Built up	0.0018	0.04

Table 17 - *Land Use Sub Basin 1*

The predominant land use for Sub-basin 1 is forested land, followed by cultivated areas and grasslands. The area of interest is predominantly classified as rural (99.95%), with minimal built-up or urban infrastructure (0.04%).

10.4.8. Catchment slope

A slope analysis of the catchment was conducted for each Sub Basin for which the findings are tabulated with the corresponding maps for reference. It is noted that the catchment predominately comprises of slopes ranging from 10%-30% and therefore can be classified as a predominantly hilly catchment.

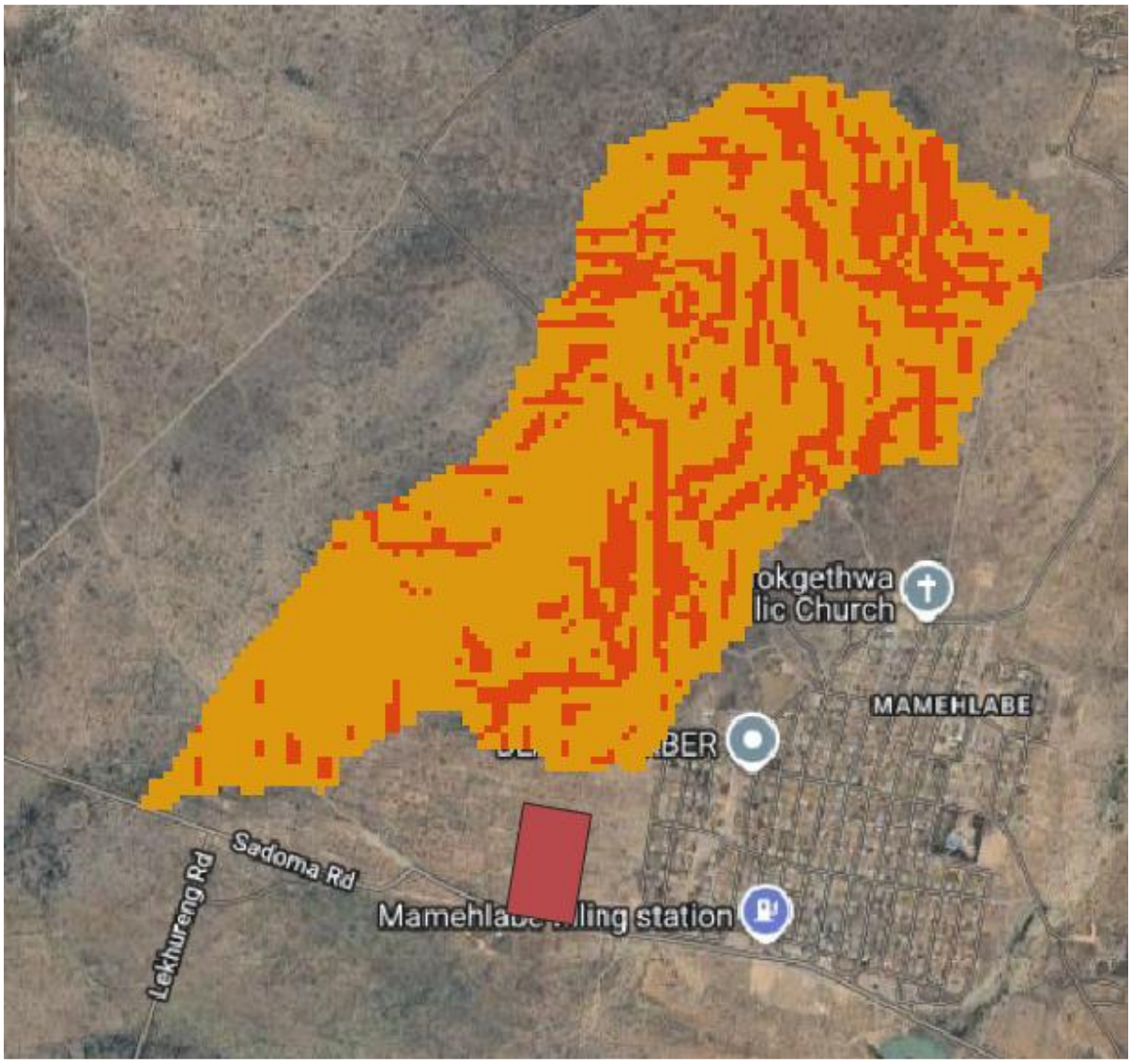


Figure 27: Sub Basin 1

Surface Slope Classification	Range	Actual
Vleis and Pans	0%-3%	74.3%
Flat Areas	3%-10%	25.7%
Hilly	10%-30%	0.0%
Steep Areas	>30%	0.0%

		00.0%

Table 18 - Slope Classification Sub Basin 1

10.4.9. Summary of catchment characteristics

The summary of catchment characteristics that were adopted for the peak flow calculations, are shown **Table 19** - Catchment Characteristics summary below: Detailed descriptions of the characteristics can be found in the calculation sheets of Appendix-A of the Main Report.

CHARACTERISTICS	Sub Basin 1	Sub Basin 2	Sub Basin 3	Sub Basin 4
Area (km²)	4.425	1.6305	53.0645	477.1502
Length of Longest Flow path (km)	5.07141	3.79635	16.99539	56.46091
Distance to Centroid (km)	62.0233	49.0109	121.0072	450.5580
Average Slope of longest flow path (km)	0.01133	0.01229	0.00683	0.00609
Height difference along equal-area slope (m)	62.02	49.01	121.0	450.55
Height difference along 10-85 slope (m)	43.0	34.99	87.05	257.88
Average Basin Slope (%)	0.02531	0.02372	0.02132	0.04608
Tc (h)	1.2995	1.0077	0.032	0.024
Mean Annual Precipitation (mm)	449	449	449	449
SDF Basin No.	2	2	2	2
Kovacs Region (k)	K5(K = 5.0)	K5(K = 5.0)	K5(K = 5.0)	K5(K = 5.0)
Veld Type no.	8	8	8	8

Table 19 - Catchment Characteristics summary

10.4.10 Design flood peak flow estimation

The magnitude of the flood peaks is dependent on the catchment characteristics, rainfall data, land use and developments. The magnitude of flood peaks depends on various factors, including catchment characteristics, rainfall data, land use, and developments. Given the varying catchment areas, the following peak flow calculation methods were evaluated, namely:

Small Catchment (<15km2)

- Rational Method - All Alternatives
- Unit Hydrograph Method
- Standard Design Flood Method
- Midgley & Pitman

- Unit Hydrograph Method.
- Standard Design Flood (SDF) Method.
- Midgley & Pitman Method.

The Rational Method was applied to Sub-basins 1 and 2, as their contributing catchment areas are each less than 15 km^2, making this method appropriate for small catchments. For Sub-basins 3 and 4, which each exceed 15 km^2 in area, the rational method was excluded in the peak flow calculations. The 1:2yr, 1:5yr, 1:10yr, 20yr ,1:50yr & 1:100yr peak flows for the various calculation methods are summarized below per Sub Basin:

10.4.11 Design flood peak flow estimation

As depicted in **Figure 28,** The 100-year flood map generated from online data suggests that the proposed site is at low risk of inundation from adjacent watercourses. However, the accuracy and confidence of this assessment is deemed very low due to the elevation discrepancies and coarse resolution of the online data, which fails to adequately define the watercourse channels and floodplain areas, resulting in unrealistic flood map delineation.

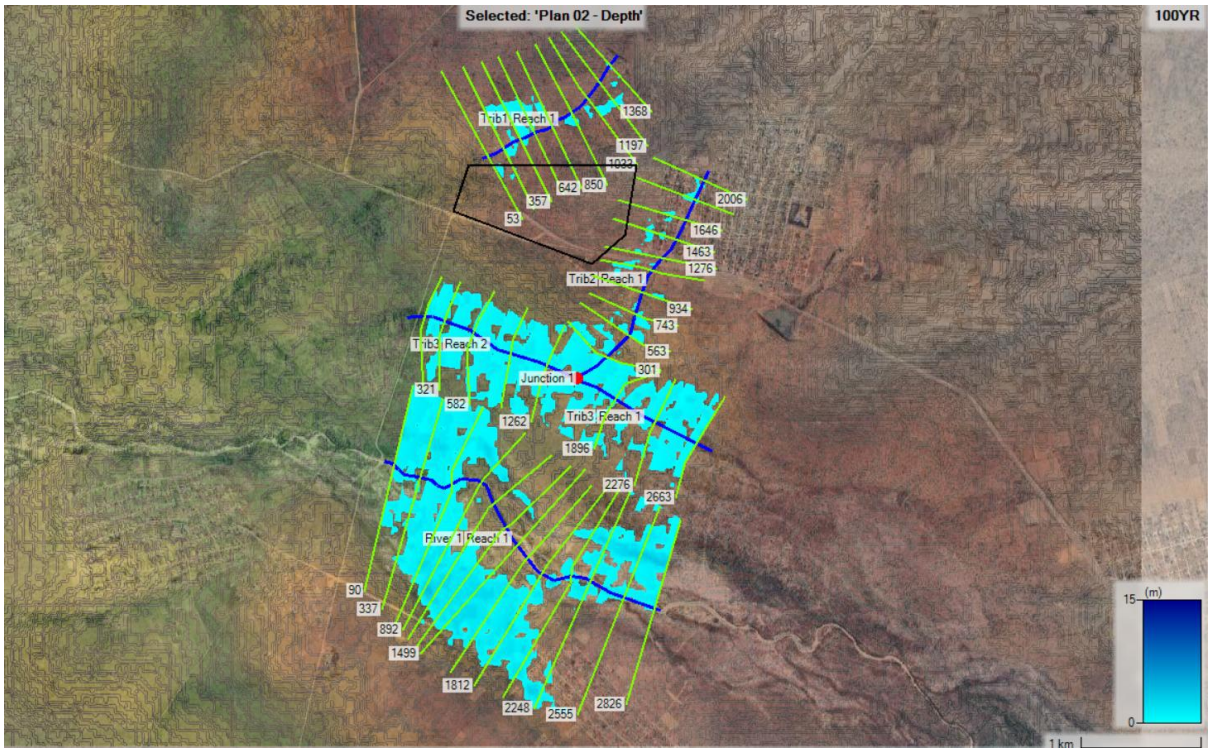


Figure 28 -Resulting *100yr flood map with online data.*

10.4.12 Conclusion and recommendation

Given the limitations of the online data, the results of this desktop floodline assessment are deemed inconclusive. To ensure a reliable and high-confidence conclusion to the floodline assessment, it is highly recommended that a detailed survey be conducted for the study area and watercourses.

10.5 Geohydrological Studies

This section has been summarised from:

Specialist Name	**Project Name**	**Report Year**	**Report Location**
Naledzi Waterworks	Geohydrological Assessment Report for the Proposed Rethuseng Special School to be located on Part of Portion 2 of Farm Cromford 690-LR,	September 2025	**Appendix E-5**

10.5.1. Scope

The scope of work completed as part of this investigation is detailed hereafter:

- Desktop study of, and collation of information pertaining to, the geohydrology of the area;
- Assessment of DWS-mapped structures in proximity to the site, in accordance with the regional geological map;
- Groundwater source development (drilling, pump testing, water sampling, and quality analysis);
- Preparation of a technical report detailing the results of the desktop study and risk assessment, including future utilization recommendations.

10.5.2 Geology

According to the geology of South Africa, the study area is underlined by the Schiel Alkaline Complex, which comprises Syenite, quartz syenite, subordinate hornblende granite, phoscorite, and gabbro. The surrounding rocks within the study are Leucocratic, strongly migmatised biotite gneiss and greyish, weakly migmatised biotite gneiss; minor leucogneiss and dark grey biotite gneiss from Goudplaats-Hout River Gneiss (see **Figure 29** below).

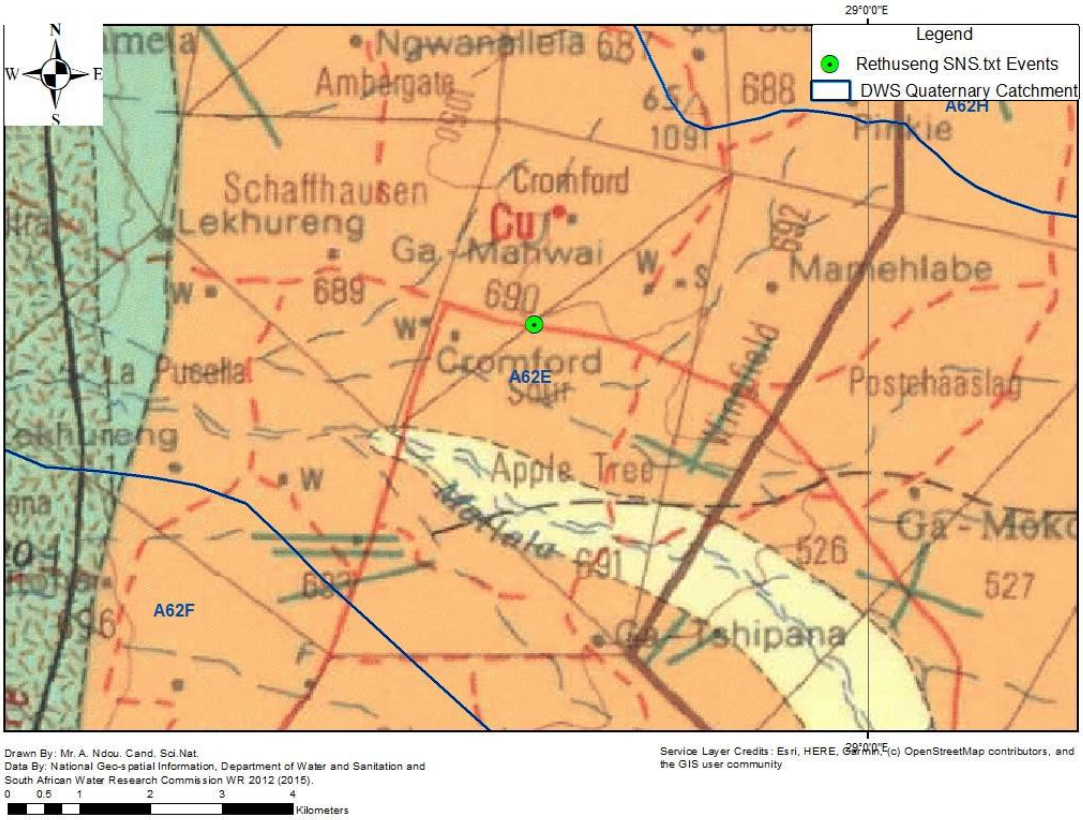


Figure 29: Geological Map of the Study Area

10.5.3 Groundwater Exploration

10.5.3.1 Resistivity Method

Resistivity survey is a geophysical method used to investigate the subsurface conditions. The purpose of a resistivity survey is to determine the subsurface resistivity distribution by making measurements on the ground surface. From these measurements, the true resistivity of the subsurface can be estimated. The profile survey was undertaken perpendicular to the geological structures of the area of interest (see **Figure 30**). Ten- and five-metre intervals were used to record the resistivity of subsurface lithologies.

10.5.3.2 Magnetic Method

A magnetic survey is a geophysical method used to investigate the subsurface conditions. The purpose of a magnetic survey is to investigate subsurface geology based on the anomalies in the Earth's magnetic field resulting from the magnetic properties of the underlying rocks. The magnetic survey was undertaken perpendicular to the geological structures of the area of interest. Ten-meter intervals were used to record the Earth's magnetic field intensity.

Figure 30: Traverse line 1 – 3 and drilling targets

10.5.3.2 Geophysical Survey Results

Table 20: Drilling Targets

Target (T) and Traverse line (T)	Coordinates	Possible water-bearing structures in metres	Maximum borehole depth estimation in metres
T1, T3 (Priority 1)	-23.55684°, 28.95663°	**25 40, 50, 70, 90, 110, 120 m**	**150 m deep**
T3, T1 (Priority 3)	-23.55531°, 28.95703°	**30, 50, 80, 95, 110, 130 m**	**150 m deep**
T2, T2 (Priority 2)	-23.54980°, 28.94692°	**30, 40, 55, 70, 90, 110 m**	**120 m deep**

10.5.3.3 Drilling of new boreholes

Three boreholes were drilled from August 23 to 26, 2025. Different Lithologies were encountered during the drilling process, including silty topsoil and coarse-grained biotite gneiss. Water strikes were encountered at 30, 60, and 90 m deep in boreholes 1 and 2. Drilled **borehole 1** was stopped at 120 m, while **borehole 2** was stopped at 100 m deep. The newly drilled borehole locality is shown in **Figure 10** below.

Figure 31: New drilled boreholes within the proposed site

10.6 Pump Testing

The test pumping includes:

- Multi-rate step Test of 4 x 60-minute steps at sequentially higher rates until pump suction is achieved.
- Recovery of the Step Test.
- Constant Discharge Test of 6 hours to 48 hours.
- Recovery of the Constant Discharge Test until at least 95% recovery.

A Step Test consists of pumping a borehole at different rates for one hour per step until the maximum rate the borehole can deliver. The water level is constantly monitored and noted during each step. This indicates the possible yield the borehole can sustain for a Constant Discharge Test. A step test also shows the aquifer's potential in the immediate area around the borehole. The Constant Discharge Test involves pumping a borehole at a specific rate for 6 to 48 hours, followed by a sudden switch-off of the pump after the pump cycle. A recovery test is conducted immediately afterwards. The Constant Discharge Curves were analysed.

10.6.1. Pump Testing results

Borehole yield testing was conducted on the existing borehole, and the pump testing results are discussed below (See Table 21 and Appendix B).

Pump testing results for BH 1: Three-step tests were conducted at various rates of 0.52 l/s, 1.02 l/s, and 1.52 l/s, reaching a final drawdown of 72.04 mbgl in 2 hours and 7 minutes. The constant discharge test was conducted at a rate of 0.50 l/s for 12 hours. The recovery from the continuous discharge test was good, reaching 99% after 12 hours of pumping.

Pump testing results for BH 2: Two-step tests were conducted at various rates of 0.72 l/s and 1.00 l/s, achieving a final drawdown of 62.70 mbgl in 1 hour and 15 minutes. The constant discharge test was conducted at a rate of 0.50 l/s for 12 hours. The recovery of the continuous discharge test was good, at 97 % within 90 minutes after 12 hours of pumping.

Table 21: Pump Testing Results

Borehole Number	Constant Discharge (CD) Rate		Static Water Level (mbgl)	Borehole Depth (m)	Comments
	l/s for 12 hrs/day	in m^3/d			
BH 1	0.5	21.6	17.61	100	Moderate yield
BH 2	0.5	21.6	8.17	120	Moderate yield

10.6.2. Water quality results

Water samples will be collected and sent to the laboratory for chemical analysis. Water quality results will be presented when they become available from the laboratory.

10.6.3. Conclusion and Recommendations

Based on the findings from the site visit conducted on the 8th of August 2025, the following conclusions can be drawn after accounting for all the various factors and their limitations:

- Naledzi Waterworks was appointed to conduct a groundwater resource development for Rethuseng Primary School.
- A geophysical survey was conducted using resistivity and magnetic methods to understand the subsurface lithologies within the study area.
- The resistivity survey results indicated possible water-bearing structures at various depths below the ground level.
- The potential targets were selected based on the geology and the resistivity results, where high resistivity values indicated hard rocks and low resistivity values indicated soft rocks and weathered zones;
- Three boreholes are drilled, and the logs are presented in section 6.1 above.

10.6 Traffic Impact Assessment

This section has been summarised from:

Specialist Name	Project Name	Report Year	Report Location
Data Consult	Traffic Impact Assessment Report for the Proposed Rethuseng Special School to be located on Part of Portion 2 of Farm Cromford 690-LR,	September 2025	**Appendix E-6**

10.6.1. Project Overview

The proposed Rethuseng Special School aims to cater to learners with special educational needs, including physical disabilities, learning difficulties or sensory impairments. This Traffic Impact Assessment (TIA) evaluates the potential impact of the proposed development on the existing road network and recommends any necessary improvements to accommodate future traffic demand.

10.6.2 Key Findings

Trip Generation & Distribution: Based on COTO TMH17 trip rates, the development is

expected to generate significant traffic volumes. The proposed school development will

generate the following additional vehicle trips per hour:

- Weekday morning peak hour trips:
  - Inbound traffic: 141 trips
  - Outbound traffic: 141 trips
- Weekday afternoon peak hour trips:
  - Inbound traffic: 50 trips
  - Outbound traffic: 50 trips
- Midday peak hour trips:
  - Inbound traffic: 52 trips
  - Outbound traffic: 64 trips
- Trip Reductions: No trip reduction was applied to this development's trips.

- Critical Intersections: Tuesday classified traffic counts were conducted at the following three critical intersections that act as main feeders in and out of the study area:
    - Juno Road / Unnamed Road (D3429)
    - Juno Road / Sadoma Road
    - Sadoma Road / Lekhureng Road

10.6.3. Capacity Analysis

The capacity analysis evaluated these key intersections under three traffic scenarios for current base year (2025), projected (2030), projected (2030) and development traffic conditions. Currently, all intersections operate within acceptable levels of service (LOS) and volume-to-capacity (v/c) ratios. Projections indicate that by 2030, the intersections will continue to function efficiently without delays. Furthermore, when traffic generated by the proposed school is included, no significant delays are expected. Therefore, no road improvements are required, as the development does not substantially impact intersection performance under the assessed projected (2030) and development traffic scenario.

10.6.4. Recommendations

Access on Juno Road (D19): Based on the projected (2030) and development traffic volumes
(Scenario 3) the access configuration is proposed as follows:

- A third leg (Access Road) to be constructed on the northern approach with one inbound and one outbound lane.
- An additional 30m left-turning lane on the western approach
- An additional 30m right-turning lane and a 30m receiving lane on the eastern approach

10.7 Heritage

10.8 Stormwater Management Plan

This section has been summarised from:

Specialist Name	Project Name	Report Year	Report Location
NNB Engineering Consultants	Preliminary Stormwater Management Plan Report for the Proposed Rethuseng Special School to be located on Part of Portion 2 of Farm Cromford 690-LR,	September 2025	**Appendix E-8**

10.8.1 Scope

The purpose of this report is to present stormwater management strategies for flood control measures, managing stormwater within the proposed development, and reduction in post development runoff flows to ensure appropriate stormwater disposal.

11. The Impact Assessment Process

This chapter describes the procedure used to determine the possible hazards and effects of the suggested activities, as well as related structures and infrastructure, on the receiving environment, in compliance with Items 3(1)(h) and (i) in Appendix 1 of GN 326.

The process undertaken to identify and characterise potential impacts is illustrated in Figure **32** below.

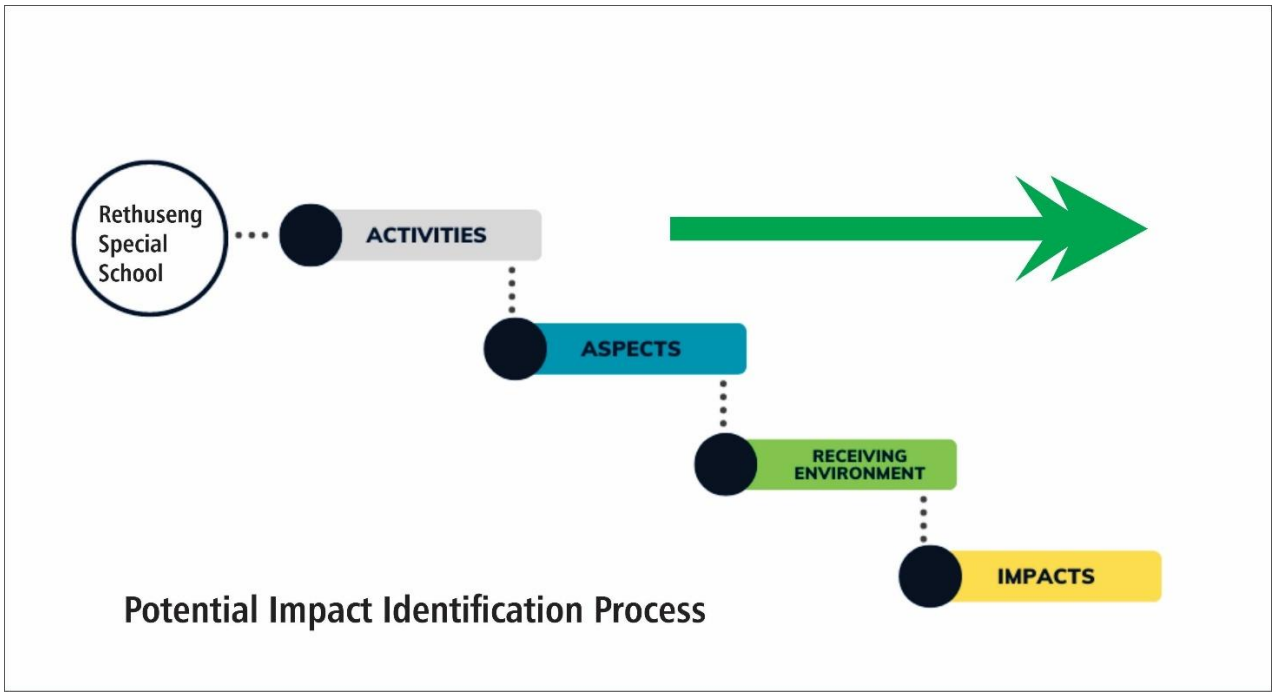


Figure 32: Potential Impact Identification Process

The consecutive steps of the process undertaken to identify and characterise potential impacts are described below.

Step 1: Identify Activities

Identification of the main activities during the construction, operational and decommissioning phases of the proposed development.

Step 2: Identify Aspects

For each identified activity, the associated environmental and social aspects are identified.

Step 3: Characterise the Receiving Environment

The likely sensitivities or vulnerabilities of the receiving environment, as they pertain to the proposed activities and associated infrastructure, are characterised.

Step 4: Identify Potential Impacts

Within the context of the proposed activities and the nature of the receiving environment, impacts and risks identified with implementation of the project are considered in terms of potential significance.

Non-significant Impacts:

The construction of Celani Primary school is located on land that has been subject to anthropogenic degradation which has continually been transformed. Identified aspects considered non-significant (refer to **Table 22**) were not further assessed. Management measures, where relevant, are included in the EMPr.

Potential Impacts:

Where identified aspects were considered potentially significant, specialist studies were undertaken, as required. Identified aspects considered

d significant were assessed further (refer to **Table 22**). A description of the environmental attributes and the process undertaken to identify, assess and rank potential impacts is provided in the appended specialist reports.

Table 23: Process to identify Potentially Significant Impacts

Aspect	Approach	BA Report and EMPr
Non-significant / Managed Impacts		
Traffic	Traffic was taken into consideration during the preliminary design phases. It is anticipated that many learners will be taking taxis and walking to and from school and for the safety of all learners, pedestrians and vehicles the main access to the school will remain at Entrance 1 (corner to Mr26 and Mr28 Street). Entrance 2 (Mr15 Street) was ruled out as it is on an Arterial Road which could make it dangerous for pedestrians and vehicles to access the premises. A marginal increase in traffic can be expected during the construction and operational phase however this should not cause a nuisance provided the conditions provided in the EMPr are adhered to.	**The EMPr includes:** ▪ Traffic management plan for the project must be developed, documented and approved by the site Engineer and Agent. The plan must address accommodation of all traffic on site i.e., site vehicles, delivery vehicles, construction plant and visitors' vehicles. ▪ Traffic routes must be clearly defined, all hazards /form of obstructions must be identified and controlled on the site roads to ensure safety for all intended traffic on site. ▪ Speed to be maintained at 20km inside the site boundary. ▪ Traffic management plan for the site must address all areas of the works and must be constantly reviewed with activities to ensure effectiveness. Road work areas / workstations to apart. ▪ At workstations, traffic must be controlled through installation of signs and provision flagman. ▪ Traffic safety warning signs and speed control signs to be adequately displayed prior workstations on both entrances of the construction site.
Visual	The visual impacts of the construction to Celani Primary School are not expected to have any significant impact on the visual amenity of the area. The construction to Celani Primary School that would not only enhance the visual appeal of the existing school but also improve the visual amenity of the area as a whole.	No mitigation measures are required.
Noise	The project is located in an area that is surrounding by businesses as well as residential homes. Noise levels in the study area are currently generated mostly by vehicular traffic. As the school is already in existence no additional noise is considered after the upgrade of the school, barring from athletic and sports events that may occur from time to time. Noise impact is expected to result during the construction phase from the operation of machinery and equipment, as well as construction vehicle traffic noise. However, the construction of Celani Primary School will be short-lived provided the conditions included in the EMPr are adhered to.	**The EMPr includes:** ▪ Adjacent landowners or tenants must be kept informed of the need and extent of noisy disruptions. ▪ Limited construction activities to normal working hours during weekdays. ▪ Noise levels are to be kept within the legislated limits for the area. Following requirements of the relevant national and local noise control statues.

Air	Given the nature of the development, the project itself is not expected to generate air quality impacts during the operational phase. During the construction phase dust can be expected however these will be minor impacts and short-lived provided the conditions included in the EMPr are adhered to.	The EMPr includes: ▪ Dust management plan for the project must be developed and implemented for the construction phase. ▪ During high wind and dusty conditions, the use of dust suppression equipment must be considered such as water carts. ▪ Handling if material that has the potential to generate dust must be kept to minimum, such as concrete or cement.
Potential Impacts		
Surface and Groundwater	The Geohydrological Assessment undertaken by Naledzi Waterworks included the following scope of work: ▪ Undertake the Desktop study. ▪ Pump and Yield testing on the existing borehole. ▪ Water Quality Testing.	▪ The outcomes of the Geohydrological Assessment are summarized in **Section 10.1** and the impacts are assessed with mitigation measures provided in Section 13, all mitigation measures have been carried into the EMPr. ▪ The Full Specialist report is included in Appendix D-1 ▪ The outcomes of the freshwater verification assessment are summarized in **Section 10.2** and the impacts are assessed with mitigation measures provided in Section 13, all mitigation measures have been carried into the EMPr. ▪ The Full Specialist report is included in **Appendix D-2.**
Health and safety	Potential health and safety impacts during construction and operational phase have been assessed by the EAP.	Refer to **Section 13.6** for the assessment and mitigation measures. All mitigation measures have been carried into the EMPr.
Biodiversity	The Terrestrial Compliance Statement undertaken by SAS included the following scope of work: ▪ Verify or dispute the outcome of the Screening Tool Assessment for the Animal Species Theme, Plant Species Theme and the Terrestrial Biodiversity Theme. ▪ Determine the environmental impacts that the proposed activities may have on the biodiversity of the study area, if authorised.	▪ The outcomes of the Terrestrial Compliance Statement are summarised in Section 10.3 and the impacts are assessed with mitigation measures provided in Section 13, all mitigation measures have been carried into the EMPr. ▪ The Full Specialist report is included in Appendix E
Socio-economic	The potential socio-economic impacts have been assessed by the EAP and include potential employment opportunities to be created during the construction and operational phases of the upgrade to Rethuseng Special School. Strict measures will need to be put in place to ensure learner safety during construction activities.	▪ Refer to **Section 13.5** for the assessment and mitigation measures. All mitigation measures have been carried into the EMPr.
Heritage	The Heritage Impact Assessment Study was undertaken by Mudzunga Consulting & ICT (Pty) included the following scope of work: ▪ Verify or dispute the outcome of the Screening Tool Assessment for the High Palaeontological Sensitivity.	▪ The outcomes of the Heritage and Paleontological Letter of Exemption are summarised in Section 10.4 and the impacts are assessed with mitigation

		measures provided in Section 13, all mitigation measures have been carried into the EMPr. ▪ The Full Specialist report is included in Appendix D-4.
Waste	The potential waste impacts have been assessed by the EAP and include the management of waste during construction and operational phases.	▪ Refer to Section 13.7 for the assessment and mitigation measures. All mitigation measures have been carried into the EMPr.

12 Impact Assessment Methodology

The technique used to identify and assess the nature, significance, consequences, extent, duration, and probability of probable environmental impacts and risks satisfies Item 3(1)(j) in **Appendix 1** of GN 326 that this chapter contains.

The significance of an impact is defined as a combination of the consequence of the impact occurring and the probability that the impact will occur.

The criteria used to determine impact consequence are presented in **Figure 33**.

Figure 33: Criteria used to determine the Consequence of the Impact

Rating	Definition of Rating	Score
A. Extent *– the area over which the impact will be experienced*		
Local	Confined to project or study area or part thereof (e.g. site)	1
Regional	The region, which may be defined in various ways, e.g. cadastral, catchment, topographic	2
(Inter) national	Nationally or beyond	3
B. Intensity *– the magnitude of the impact in relation to the sensitivity of the receiving environment, taking into account the degree to which the impact may cause irreplaceable loss of resources*		
Low	Site-specific and wider natural and/or social functions and processes are negligibly altered	1
Medium	Site-specific and wider natural and/or social functions and processes continue albeit in a modified way	2
High	Site-specific and wider natural and/or social functions or processes are severely altered	3
C. Duration *– the timeframe over which the impact will be experienced and its reversibility*		
Short-term	Up to 2 years	1
Medium-term	2 to 15 years	2
Long-term	More than 15 years	3

The combined score of these three criteria corresponds to a Consequence Rating in **Figure 34**

Figure 34: Method used to determine the Consequence Score

Combined Score (A+B+C)	3 – 4	5	6	7	8 – 9
Consequence Rating	Very low	Low	Medium	High	Very high

Once the consequence is derived, the probability of the impact occurring is considered, using the probability classifications presented in **Figure 34**

Figure 34: Probability Classification

Probability – the likelihood of the impact occurring	
Improbable	< 40% chance of occurring
Possible	40% - 70% chance of occurring
Probable	> 70% - 90% chance of occurring
Definite	> 90% chance of occurring

The overall **significance** of impacts is determined by considering consequence and probability using the rating system prescribed in **Figure 35**.

Figure 35: Impact significance ratings based on impact probability and consequence

		Consequence				
		Very High	High	Medium	Low	Very Low
Probability	Definite	Very High	High	Medium	Low	Very Low
	Probable	Very High	High	Medium	Low	Very Low
	Possible	High	Medium	Low	Very Low	Insignificant
	Improbable	High	Medium	Low	Very Low	Insignificant

The impact significance rating should be considered by authorities in their decision-making process based on the implications of ratings ascribed in Figure 36.

Figure 36: Impact significance categories and definitions

Impact significance	Definition
Very High	The proposed activity should only be approved under special circumstances.
High	The potential impact will affect the decision regarding the proposed activity/development.
Medium	The potential impact should influence the decision regarding the proposed activity/development.
Low	The potential impact may not have any meaningful influence on the decision regarding the proposed activity/development.
Very Low	The potential impact is very small and should not have any meaningful influence on the decision regarding the proposed activity/development.
Insignificant	The potential impact is negligible and will not have an influence on the decision regarding the proposed activity/development.

In the last step the impacts are considered in terms of their status (positive or negative impact). The prescribed system for considering impacts status is provided in **Figure 37**.

Figure 37: Impact status

Status of impact	
Indication whether the impact is adverse (negative) or beneficial (positive).	+ ve (positive – a 'benefit')
	– ve (negative – a 'cost')

In the report, practical mitigation and optimisation measures are recommended and impacts were rated in the prescribed way both with and without the assumed effective implementation of mitigation and optimisation measures. Mitigation and optimisation measures are either:

- Essential: must be implemented and are non-negotiable.
- Optional: must be shown to have been considered and sound reasons provided by the proponent if not implemented.

Each potential impact is rated in terms of the following:

Reversibility:

To assess the degree to which the potential impact can be managed and /or mitigated, each impact is assessed twice, as follows:

- Firstly, the potential impact is assessed and rated prior to implementing any mitigation and management measures.
- Secondly, the potential impact is assessed and rated after the proposed mitigation and management measures have been implemented.

The purpose of this dual rating of the impact is to enable comparison of the pre- and post- mitigation significance ratings and to calculate the percentage change, which indicates the degree to which the impact may be avoided, managed, mitigated and /or reversed.

Irreplaceable Loss:

In order to assess the degree to which the potential impact could cause irreplaceable Loss of Resources (LoR), one of the following classes (%) is selected based on the specialist's informed decision:

100% - permanent loss

75% - 99% - significant loss

50% - 74% - moderate loss

25% - 49% - minor loss

0% - 24% - limited loss

- The Loss of Resources aspect does not affect the overall significance rating of the impact.

13 Impact Assessment

An evaluation of the major possible advantages and disadvantages for the environment associated with the proposed development is given in this section. Following the identification of a potential problem and/or impact, the activity or developmental element that might cause the impact must be determined. The likelihood that the activity will have an impact can be ascertained by considering the root cause of the problem. After then, the related impact can be evaluated to ascertain its importance and to establish management or mitigation strategies to deal with it.

The assessment of impacts was based on Ourbiosphere's professional judgement, field observations and desk-top analysis and, where conducted, specialist studies. The following specialist investigations were undertaken to inform this chapter:

- Ecological Impact Specialist,
- Geotechnical Investigation.
- Social Facilitation
- Desktop Floodline Assessment
- Geohydrological Report
- Traffic Impact Assessment Report

- Heritage Impact Assessment
- Preliminary Stormwater Impact

The significance of potential impacts that may result from the proposed project is determined to assist decision-makers (typically the LEDET, and other authorities such as the Blouberg Local Municipality, DWS etc., but in some instances, the proponent).

The potential environmental impacts associated with activities during construction are usually short lived and mitigated in an EMPr (refer to **Appendix G** for the *Final* EMPr). Once approved, the EMPr will be implemented on-site and enforced by regular monitoring with submission of audit reports to the LEDET Compliance Department.

13.1 Assessment of the Preferred Option

For the purpose of the assessment of impacts, the construction of Rethuseng Special School (as illustrated in **Figure 38** the preferred option) was assessed. The potential impacts identified for each phase of the proposed development (i.e., construction and operation) are provided in **Table 24.** The potential impacts are discussed in the sub-sections below with the assessment of the impact significance before and after mitigation and management measures. This section concludes with a summary of the desired impact management outcomes, which have been incorporated into the EMPr (refer to **Appendix G**).

Table 24: Potential Impacts Identified for the Preferred Option

Project Phase	Impact
Construction Phase	Biodiversity
	Heritage
	Surface and Groundwater
	Socio-economic
	Health and safety
	Waste management
Operational Phase	Biodiversity
	Surface and Groundwater
	Socio-economic
	Health and safety
	Waste management

13.2 Biodiversity

This section was informed by:

Ecological Impact Specialist Study for Rethuseng Special School (BioAssets/September 2025).

13.2.1 Impact Assessment

The below tables (**Table 25** - **Table 26**) indicate the perceived risks to the floral and faunal ecology associated with all phases of the proposed activities. The table also provides the findings of the impact assessment undertaken with reference to the perceived impacts prior to the implementation of mitigation measures and following the implementation of mitigation measures. Key integrated mitigation measures that are applicable to the proposed project are presented in **Table 25** - **Table 26** and are required to suitably manage and mitigate the ecological impacts that are associated with all phases of the proposed activities.

The mitigated results of the impact assessment have been calculated on the premise that mitigation measures as stipulated in this report are adhered to and implemented. Should such actions not be adhered to, it is highly likely that post-mitigation impact scores will increase.

The impact on floral and fauna habitat diversity can occur during the construction phase through the clearance of vegetation for construction activities outside the site development footprint as well as habitat degradation due to poorly managed edge effects i.e., introduction and/or spread of Alien Invasive Plant (AIP) species with construction vehicles, and potential inadequate design of stormwater management and erosion control. For the transformed habitat the impact significance before and after mitigation has an impact significance ranking of insignificant. For the grassland habitat the impact significance before and after mitigation has an impact significance ranking of very low.

- The assessment area scored a very low Site Ecological Importance (SEI) value and is not viewed as being of any overall conservational significance/value for habitat preservation or continued ecological functionality and -integrity persistence in support of the surrounding ecosystem, broader vegetation type or any faunal and avifaunal habitats (see heading 8.6).
- The preferential water flow path/drainage line and wetland both scored low/marginal Ecological Importance and Sensitivity (EIS) values and are consequently merely viewed as being of very low, if any, overall conservational significance/value for habitat preservation in support of the surrounding ecosystem persistence and the continued ecological functionality and -integrity of the local and quaternary surface water catchment- and drainage area (see heading 8.2.3).
- It is consequently not anticipated that the proposed development would pose any significant risk to achieving and maintaining national and/or provincial conservation- and persistence targets of the area or to the continued ecological functionality and -integrity of the local surrounding landscape.
- It is furthermore also not anticipated that the proposed development would pose any significant risk to- or impact on the faunal or avifaunal communities throughout the local or broader surrounding landscape.

Table 26: Impact on the floral and faunal habitat and diversity for the Construction Phase.

Impact on floral and faunal Habitat and Diversity within the study area:									
	Intensity	**Duration**	**Extent**	**Consequence**	**Probability**	**Significance**	**Status**	**Confidence**	**Irreplaceable Loss**
Transformed Habitat Before Mitigation	*Low*	*Short-term*	*Low*	***Very Low***	**Improbable**	**Insignificant**	**- ve**	**High**	**1-Limited Loss**
	1	*1*	*1*	***3***					
Grassland Habitat Before Mitigation	*Low*	*Short-term*	*Low*	***Very Low***	**Definite**	**Very Low**	**-ve**	**High**	**1 – Limited Loss**
	1	*1*	*1*	***3***					
Essential mitigation measures: ▪ All footprint areas should remain as small as possible, and the boundaries of footprint areas must be clearly defined, and it should be ensured that all activities remain within defined footprint areas. ▪ As part of any envisioned landscaping plans (if any), the recreation of habitat for faunal species such as small lizards, arachnids, small mammals, and birds should be considered. Creation of rock gardens, using dead logs and fallen trees in landscape areas should also be considered, as these will provide areas of niche habitat and refuge for small faunal species. Trees can be planted to provide nesting and roosting sites for avifauna. ▪ Clearing of vegetation should take place in a phased manner. This will allow for any remaining faunal species within the study area to flee and avoid harm. ▪ Control invasive species throughout the life of the project. Specific mention in this regard is made of listed invasive species as per the NEMBA Alien species lists, 2020, in line with the NEMBA Alien and Invasive Species Regulations (2020). All cleared plant material must be disposed of at a licensed waste facility which complies with legal standards, or a garden refuse site. ▪ Edge effects arising from proposed activities, such as soil compaction, erosion and/or stormwater should be adequately managed. ▪ If envisioned, formal landscaped gardens should make use of indigenous species or ornamental alien species that are not listed within the NEMBA Alien Species List (2020). ▪ No dumping of litter, rubble or cleared vegetation on site should be allowed. If construction material is to be discarded, it should be disposed of at an appropriate registered dump site away from the development footprint. No temporary dump sites should be allowed in areas with natural vegetation. ▪ Revegetating temporary-use and lay down areas as soon as reasonably practicable after construction activities are complete. Make use of indigenous and non-invasive species in this regard. ▪ Smaller species that are not as readily able to move out of an area ahead of ground clearing activities such as scorpions and reptiles will be less mobile during rainfall events and cold days (winter). As such should any be observed in the construction site during clearing and construction activities, they are to be carefully and safely moved to an area of similar habitat outside of the disturbance footprint. Construction personnel are to be educated about these species and instructed not to kill them. Smaller scorpion species and harmless reptiles (that are likely present within the study area) should be carefully relocated by a suitably nominated construction person. For larger venomous snakes, a suitably trained specialist, or on-site personnel, should be contacted to carry out the relocation of the species, should it not move off on its own. ▪ Waste disposal containers and bins should be provided during the construction phase for all construction rubble and general waste.									
Transformed Habitat After Mitigation	*Low*	*Short-term*	*Low*	***Very Low***	**Improbable**	**Insignificant**	**- ve**	**High**	**1-Limited Loss**
	1	*1*	*1*	***3***					
Grassland Habitat After Mitigation	*Low*	*Short-term*	*Low*	***Very Low***	**Definite**	**Very Low**	**-ve**	**High**	**1 – Limited Loss**
	1	*1*	*1*	***3***					

The impact on floral and fauna SCC can occur during the construction phase through the clearance of vegetation, which leads to the spread of AIP species within the disturbed areas and can potentially lead to additional loss of SCC diversity from surrounding natural habitat. The overall impact significance ranking of insignificant remains unchanged before and after mitigation provided that the mitigation measures outlined in **Table 27** adhered to.

Table 27: Impact on floral and faunal SCC within the study area for the Construction Phase

Impact on floral and faunal SCC within the study area (area surrounding the school site):									
	Intensity	**Duration**	**Extent**	**Consequence**	**Probability**	**Significance**	**Status**	**Confidence**	**Irreplaceable Loss**
Transformed Habitat Before Mitigation	*Low*	*Short-term*	*Low*	***Very Low***	**Improbable**	**Insignificant**	**- ve**	**High**	**1 - Limited Loss**
	1	*1*	*1*	***3***					
Essential mitigation measures: ▪ Limit impact footprint to what is absolutely necessary. ▪ From a floral perspective, no trigger species or SCC are associated with the study area and a walkdown to mark such species for relocation purposes is not required. ▪ Edge effect control needs to be implemented to prevent further degradation of habitat outside of the proposed disturbance footprint area.									
Transformed Habitat Before Mitigation	*Low*	*Short-term*	*Low*	***Very Low***	**Definite**	**Very Low**	**-ve**	**High**	**1 – Limited Loss**
	1	*1*	*1*	***3***					
	1	*1*	*1*	***3***					
	1	*1*	*1*	***3***					

For the operational phase the impact before mitigation is very low for the impact of floral and faunal habitat diversity within the study area, which could occur due to ineffective rehabilitation, increased risk of fire frequency impacting floral and faunal communities. The impact significant ranking can be reduced from very low to insignificant provided that the mitigation measure outlined in **Table 28** are adhered to.

Table 28: Impact on the floral and faunal habitat and diversity during the Operational Phase

Impact on floral and faunal Habitat and Diversity within the study area:									
	Intensity	**Duration**	**Extent**	**Consequence**	**Probability**	**Significance**	**Status**	**Confidence**	**Irreplaceable Loss**
Study Area Before Mitigation	*Low*	*Medium*	*Low*	***Very Low***	**Probable**	**Very Low**	**- ve**	**High**	**1 - Limited Loss**
	1	*12*	*1*	***4***					
Essential mitigation measures: ▪ No dumping of litter or refuse must be allowed on-site. Appropriate disposal of such material should be at a separate waste facility. ▪ Edge effects arising from the proposed development, such as erosion and AIP species proliferation, which may affect adjacent natural areas, need to be strictly managed. Specific mention in this regard is made of Category 1b AIP species (as listed in the NEMBA Alien species lists, 2020), in line with the NEMBA Alien and Invasive Species Regulations (2020). ▪ Ongoing AIP monitoring and clearing/control should take place throughout the operational phase, and the project perimeters should be regularly checked for AIP establishment to prevent spread into surrounding natural areas. ▪ Alien vegetation that is removed must not be allowed to lay on unprotected ground as seeds might disperse upon it. All cleared plant material to be disposed of at a licensed waste facility, which complies with legal standards. ▪ If any fires break out, they should be extinguished immediately. Fire extinguishers and hoses should be easily accessible through the proposed infrastructure development to allow for quick use in the case of fire. This is of particular importance given that the study area (in which hazardous chemicals are stored, thus resulting in an increase fire risk) is surrounded by grassland and forest habitat (which may catch a light easily).									

▪ As a broader part of the site will be utilised the children of the school must be educated on the potential for scorpions, reptiles and other species occurring in the area. ▪ Children should be educated to leave faunal species alone and inform teachers if they spot potentially dangerous fauna in order for specialists to be called to remove these species and relocate them. ▪ Vehicles should be parked in designated areas and not in areas									
Study Area After Mitigation	*Low*	*Medium-term*	*Low*	***Very Low***	**Possible**	**Insignificant**	**- ve**	**High**	**1 - Limited Loss**
	1	*1*	*1*	***3***					
	1	*2*	*1*	***4***					

The impact on floral and fauna SCC can occur during the operational phase through the clearance of vegetation, which leads to the spread of AIP species within the disturbed areas and can potentially lead to additional loss of SCC diversity from surrounding natural habitat. The overall impact significance ranking of insignificant remains unchanged before and after mitigation provided that the mitigation measures outlined in **Table 29** adhered to.

Table 29: Impact on floral and faunal SCC within the study area for the Operational Phase

Impact on floral and faunal SCC within the study area:									
	Intensity	**Duration**	**Extent**	**Consequence**	**Probability**	**Significance**	**Status**	**Confidence**	**Irreplaceable Loss**
Study Area Before Mitigation	*Low*	*Short-term*	*Low*	***Very Low***	**Probable**	**Very Low**	**- ve**	**High**	**1 - Limited Loss**
	1	*1*	*1*	***3***					
Essential mitigation measures: ▪ Edge effects arising from the proposed development, such as erosion and AIP species proliferation, which may affect adjacent habitat, need to be strictly managed. Specific mention in this regard is made of Category 1b AIP species (as listed in the NEMBA Alien species lists, 2020), in line with the NEMBA Alien and Invasive Species Regulations (2020). ▪ Ongoing AIP plant monitoring and clearing/control should take place throughout the operational phase, and the project perimeters should be regularly checked for AIP establishment to prevent spread into surrounding natural areas.									
Transformed Habitat After Mitigation	*Low*	*Short-term*	*Low*	***Very Low***	**Improbable**	**Insignificant**	**- ve**	**High**	**1 - Limited Loss**
	1	*1*	*1*	***3***					

13.3 Heritage Impact Assessment

This section has been summarised from:

HIA Desktop Study for the Construction of Rethuseng Special School (Mudzunga Consulting & ICT (Pty) /October 2025). Refer to **Appendix E-2** for further detailed information.

13.3.1 Impact Assessment

The overall impact significant ranking for the loss of heritage and paleontological resources is insignificant due to the fact that they are no visible heritage and paleontological resources that were present for >100 years, these resources (if any) are further protected by the implementation of the chance find protocol i.e., if any artefacts and/or fossils are noted then it needs to be reported to the Environmental Control Officer (ECO) who will then inform LIHRA and the Heritage Specialist.

Table 30: Impact on Heritage and Paleontological Resources during the Construction Phase

Impact on Heritage and Paleontological Resources:									
	Intensity	Duration	Extent	Consequence	Probability	Significance	Status	Confidence	Irreplaceable Loss
Construction Scenario	*Low*	*Short-term*	*Low*	***Very Low***	**Improbable**	**Insignificant**	**- ve**	**High**	**1-Limited Loss**
	1	*1*	*1*	***3***					
Essential Mitigation measures: ▪ The chance of heritage or palaeontological sites occurring within the study areas is considered very low. As such mitigation measures are required. However, a Chance Find Protocol will be initiated and needs to form part of the EMPr									
	1	*1*	*1*	***3***					

N.B., *there are no anticipated impacts to Heritage resources during the Operational phase as these risks are only applicable to the construction phase during bulk-earth works/excavations should any Heritage or Paleontological resources be unearthed then the Chance find protocol needs to be implemented, the ECO informed and LIRHA contacted.*

13.4. Surface and Groundwater

This section has been informed by the following specialist studies:

Geohydrological Assessment for the Proposed construction of Rethuseng Special School (Naledzi Waterworks, September 2025). Refer to **Appendix DE-5** for further detailed information. Refer to **Appendix E-5** for further detailed information.

13.4.1 Impact Assessment

The duration of the construction project is estimated to be fifteen (15) months. Following entrainment in surface water discharge from the site, leaks or spills of raw materials used during construction (such as fuel, solvents, paint, and cement) may have an influence on surface and groundwater resources at this time. Because the events will take place at a school, it is crucial to control potentially hazardous materials. Additionally, since the school's borehole is being used and will continue to be used for drinking and washing water, groundwater conservation is crucial. By putting the mitigation strategies indicated in Table 13-7 below into practice, the impact importance rating for the building activities prior to mitigation can be lowered from low to very low.

Table 31: Impact on Surface and Groundwater Resources during the Construction Phase

Impact on Surface and Groundwater resources during the Construction phase									
	Intensity	Duration	Extent	Consequence	Probability	Significance	Status	Confidence	Irreplaceable Loss
Study Area Before Mitigation	*High*	*Short Term*	*Local*	***Low***	***Definite***	***Low***	***- ve***	***High***	***1 – limited loss***
	3	*1*	*1*	***5***					
Essential Mitigation measures: ▪ A register of all hazardous substances stored on site must be maintained. ▪ A spill kit should be kept on site and all site personnel should be trained on how to use it. ▪ A temporary Stormwater Management Plan must be designed and implemented during the construction phase. ▪ A WUL needs to be issued by the Department of Water and Sanitation (DWS) prior to the utilisation of the borehole.									

- Any cement mixed on site must be mixed in water containers or on top of impermeable membranes, and a plan must be put in place to ensure that washing and cleaning of dirty equipment and tools does not result in impacted surface water runoff.
- Any hazardous materials (apart from fuel) must be stored within a lockable store with a sealed floor. Storage and use of hazardous material will be strictly monitored and must adhere to the requirements stipulated on the MSDS.
- Any hydrocarbon or cement powder spills must be disposed of as hazardous waste and not be allowed to enter the surface water runoff.
- Careful design and management of stormwater must take place to ensure that changes in pattern flow and timing of water in the landscape are minimised and kept as near to the pre-development conditions as possible.
- Construction vehicles, refuelling bowsers and any fuel storage and handling areas established on site during the construction work must be fit for purpose and properly designed to limit spills and leaks (or enable the containment of leaks or spills that do occur). These must be regularly inspected for leaks and drip trays are to be placed under trucks to intercept leaks.

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- Good housekeeping practices are to be implemented during the construction phase. Any sources of pollution must immediately be contained, and affected areas remediated upon occurrence. Suitable management procedures should be put in place to contain and appropriately manage any pollution incident.
- Hazardous substances must be stored and handled in accordance with the appropriate legislation and standards, which include the Hazardous Substances Act No. 15 of 1973, the Occupational Health and Safety Act No. 85 of 1993, relevant associated Regulations, and applicable SANS and international standards.
- MSDSs, which contain the necessary information pertaining to a specific hazardous substance, must be present for all hazardous materials stored on the site.
- Should any asbestos containing materials (ACMs) be found when the prefabricated containers are removed, needs to be disposed of in an appropriate manner by a qualified waste service provider.
- Significant spillage events must be reported to the DWS. All significant spills must also be managed in accordance with Section 30 of NEMA.
- Suitable ablutions facilities must be established on site for construction workers, and the design of the ablution facilities must ensure that effluent generated does not impact surface water runoff leaving the site. These ablutions must be cleaned regularly, and waybills placed in the environmental file.
- Vegetation clearing must be undertaken in a phased approach in order to reduce the risk of erosion and downstream flooding.
- Vehicles and machinery are to be checked and maintained on a regular basis.

Study Area After Mitigation	***High***	***Short Term***	***Local***	***Low***	***Possible***	***Very Low***	*- ve*	***High***	***1 – limited loss***
	3	1	1	**5**					

The potential contamination of surface and groundwater resources due to lack of maintenance of ablutions facilities and regular repairs of piping infrastructure, that could lead to bacteriological contamination of the surface and groundwater on site during the operational phase. This can be reduced from a low to very low significance ranking provided that the mitigation measures outlined in **Table 32** are implemented and strictly adhered to for the life of the project.

Table 32: Impact to Surface and Groundwater Resources during the Operational Phase

Impact on Surface and Groundwater resources during the Construction phase									
	Intensity	Duration	Extent	Consequence	Probability	Significance	Status	Confidence	Irreplaceable Loss
Study Area Before Mitigation	*High*	*Short Term*	*Local*	***Low***	***Definite***	***Low***	***- ve***	***High***	***1 – limited loss***
	3	*1*	*1*	***5***					
Essential Mitigation measures: ▪ Regular maintenance and repairs must be undertaken on the ablutions and associated infrastructure as and when required. ▪ The bacteriological content of the borehole water requires treatment as the results showed an acute risk for human consumption and chlorination of the water will be required to ensure that no bacteriological growth takes place. It is therefore also recommended to undertake water quality monitoring of the water on a quarterly basis.									

▪ Monitoring of the groundwater level must be undertaken and if a downward trend of the groundwater level is found (due to droughts or influences of neighbouring groundwater abstraction), mitigation measures, such as re-evaluating the pump yield of duty cycle, can be put in place. ▪ Monitoring of the pump yield - by means of a flow meter - should also be undertaken to ensure that no over pumping takes place and to protect the aquifer from permanent damage. It is recommended to sample the groundwater biannually to monitor the water quality is still fit for human consumption. ▪ The borehole must be sampled and analysed again for bacteria to ensure appropriate treatment prior to equipping the borehole for use. ▪ The hydrological assessment tested the borehole in terms of SANS drinking water standards and not for other contaminants such as volatile organic compounds (VOCs) which could arise in the soils and groundwater due to use of pesticides and other activities that could have been undertaken in the surrounding areas. As such, to ensure that the borehole water is safe for human consumption prior to use water quality monitoring testing for other contaminants should be undertaken. The suite of analysis should be advised by a Hydrologist. ▪ The JoJo tanks, or any aboveground tanks storing water for human use, should be monitored frequently for the presence of toxic bacterial, fungal buildup and physio-chemical changes that could impact the health of water users. The frequency of monitoring and cleaning of the tanks must be determined by the DoPW in consultation with the storage tank manufacturers. ▪ A WUL needs to be issued by the Department of Water and Sanitation (DWS) prior to the utilisation of the borehole.								
Study Area After Mitigation	***High***	***Short Term***	***Local***	***Low***	***Possible***	***Very Low***	*- ve*	***High***	***1 – limited loss***
	3	1	1	**5**					

13.5 Socio-economic

Social Facilitation for the Proposed construction of Rethuseng Special School (Xidzhiva Business Enterprise, September 2025). Refer to **Appendix E-3** for further detailed information. Refer to **Appendix E-3** for further detailed information.

13.5.1 Impact Assessment

The construction phase of the project is scheduled to last approximately fifteen (15) months and in this time approximately 75 skilled and un-skilled labour will be required for construction activities. Local labour will be sourced, where possible, for the construction phase of this project. The overall impact is positive, refer to **Table 33** for the impact ranking.

Table 33: Employment opportunities during the Construction Phase

Impact Employment Opportunities									
	Intensity	Duration	Extent	Consequence	Probability	Significance	Status	Confidence	Irreplaceable Loss
Construction Scenario	*High*	*Short Term*	*Local*	***Low***	***Definite***	***Low***	***+ve***	***High***	***1 – limited loss***
	3	*1*	*1*	***5***					
Mitigation measures: No mitigation measures are proposed.									

Table 34: Employment opportunities during the Operational Phase

Impact Employment Opportunities									
	Intensity	Duration	Extent	Consequence	Probability	Significance	Status	Confidence	Irreplaceable Loss
Construction Scenario	*High*	*Short Term*	*Local*	***Low***	***Definite***	***Low***	***+ve***	***High***	***1 – limited loss***
	3	*1*	*1*	***5***					
Mitigation measures: No mitigation measures are proposed.									

During the operational phase, new jobs will be created which includes both skilled and unskilled labour. The construction of Rethuseng Special School will create employment opportunities and support the economic

growth of the community which was previously scarce. The construction of Rethuseng Special School will positively impact the community due to the learners/pupils having better access to upgrading and enhanced schooling facilities.

13.6 Health and Safety

13.6.1 Impact Assessment

Rethuseng Special School construction may have an impact on health and safety throughout both the building and operation stages. It is necessary to evaluate the health and safety implications both before and during construction workers' work activities in order to prevent injuries from building materials, machinery, or poor ergonomics.

Given that the site is next to a fully operational school, it is imperative that the mitigation measures listed in **Table 35** be closely followed and enforced in order to protect both construction workers and schoolchildren from potential harm. Death and serious injury are seen as extremely serious events that cannot be undone after they have taken place. Before mitigation, the impact importance for the building phase was medium; if the mitigation actions listed below are fully implemented, the impact significance will drop to low.

Table 35: **Health and Safety during the Construction Phase**

Impact 1: Construction phase impacts relating to Health and Safety									
	Intensity	Duration	Extent	Consequence	Probability	Significance	Status	Confidence	Irreplaceable Loss
Construction Scenario Before Mitigation	*High*	*Long Term*	*local*	***High***	***Possible***	***Medium***	***- ve***	***High***	***1 – limited loss***
	3	*3*	*1*	***7***					
Mitigation measures: ▪ A layout plan for the delivery of equipment and loading areas must be developed and implemented. ▪ Appropriate PPE must be worn/used and maintained at all times in designated areas and activities as required. ▪ Chemicals and hazardous substances must be locked away and kept away from children. ▪ Develop a Health and Safety Plan in accordance with the Occupational Health and Safety Act (OSHA). ▪ Flagmen must be stationed at high volume areas to marshal incoming and outgoing traffic. ▪ Onsite security must ensure that no school learner access the active construction site under any circumstances. ▪ Separate entry and exit points for the contractors independent from the school must be implemented to minimise the risk of possible incidents. ▪ The construction and storage areas must be demarcated to control the access of unauthorised persons to the construction areas. ▪ The school must be cordoned off from the construction areas so as to avoid any injuries or worse fatalities due to negligence. ▪ Train all contractors/ employees on the Health and Safety Plan.									
Construction Scenario After Mitigation	*Medium*	*Long Term*	*Local*	***Medium***	***Possible***	***Low***	***- ve***	***High***	***1 – limited loss***
	2	*3*	*1*	***6***					

N.B., Health and Safety Risks were not accessed during the operational phase, as only construction related aspects will be managed by the Appointed Health and Safety Officer during the fifteen (36) month construction phase.

13.7 Waste Management

13.7.1 Impact Assessment

Inadequate waste skips, spills and leaks that are not promptly and thoroughly cleaned up, inadequate employee waste management training, neglected machinery and equipment maintenance, and a failure to separate waste streams are all examples of waste management errors that can happen during the building phase. Prior to mitigation, the impact's significance level was medium; following mitigation, it drops to extremely low.

Table 36: **Waste Management during Construction**

Impact on Waste Management during the Construction Phase									
	Intensity	Duration	Extent	Consequence	Probability	Significance	Status	Confidence	Irreplaceable Loss
Construction Scenario Before Mitigation	*High*	*Medium-term*	*local*	***Medium***	***Probable***	***Medium***	***- ve***	***High***	***1 – limited loss***
	3	*2*	*1*	***6***					
Mitigation measures: ▪ A register of all hazardous substances stored on site must be maintained. ▪ Designated skips must be provided for general and hazardous waste, which must be covered to avoid rainwater entering the skips. ▪ Development of a waste management plan for the construction/decommissioning phase of the project. ▪ The fire pit which was previously used on site must be removed by the contractor and all residual waste must be disposed of appropriately by a reputable service provider. ▪ Waste must be segregated according to waste type (general/hazardous), the skips must be clearly labelled according to waste type.									
Construction Scenario After Mitigation	*High*	*Short - Term*	*Local*	***Low***	***Possible***	***Very Low***	***- ve***	***High***	***1 – limited loss***
	3	*1*	*1*	***5***					

The mismanagement of waste during the operational phase may also occur and relate to the following:

- Incorrect storage and lack of separation of different waste streams.
- Lack of training on waste management to the pupils and staff.
- Service delivery issues within the Local Municipality.

Taking into consideration that Rethuseng Special School will be constructed with new infrastructure and facilities, the overall impact significance rank before mitigation is low and can be reduced to very low provided and that the relevant waste management procedures are implemented and followed accordingly.

Table 37: Waste Management during the Operational Phase

Impact on Waste Management during the Operational phase.									
	Intensity	Duration	Extent	Consequence	Probability	Significance	Status	Confidence	Irreplaceable Loss
Operational Phase Scenario	*High*	*Medium-term*	*local*	***Medium***	***Possible***	***Low***	***- ve***	***High***	***1 – limited loss***
	3	*2*	*1*	***6***					
Mitigation measures:									

▪ A Service Level Agreement (SLA) between the DoE and Blouberg Local Municipality is required to be put in place which specifically addresses the waste management and collection, should the SLA not be achievable then the DoE must make provisions for waste to be collected and disposed of at registered landfill site. ▪ All staff must ensure they are familiar with Rethuseng Special School waste management procedure. ▪ Meetings must be held with DoPW, DoE and the Local Municipality to agree on waste service delivery as matter of urgency. ▪ Waste must be stored in terms of the Norms and Standards for the storage of waste as per the NEM: WA. As a minimum, storage areas must be levelled and hardstanding, skip integrity must be checked and skips must be protected from natural elements. The area must be situated away from learners and access must be restricted to authorised personnel only. ▪ Waste receptacles must be clearly marked and designated for specific waste streams i.e., Paper, Plastic, General, Hazardous etc.								
Future Scenario	*High*	*Short - Term*	*Local*	***Low***	***Possible***	***Very Low***	***- ve***	***High***	***1 – limited loss***
	3	*1*	*1*	***5***					

13.8 Closure

As it is expected that Rethuseng Special School will be operated in the long-term and not be closed in the foreseeable future, impacts relating to closure have not been assessed. Should DoPW/DoE choose to decommission Rethuseng Special School in the future, the legislation applicable at that time should be complied with and the relevant environmental practises implemented.

13.9 Summary of Impacts

The assessment of impacts was based on SRK's professional judgement, field observations and desk-top analysis. The significance of potential impacts that may result from the proposed project, was determined in order to assist decision-makers. **Table 38** provides a summary of the consequence, probability and significance of the potential impacts identified.

Table 38: Summary of Impact Signification Ratings for Celani Primary School

Impact	Mitigation status	Consequence	Probability	Significance	Status	Confidence
	Construction Phase					
Impact on Heritage and Paleontological Resources	Construction Scenario	Very Low	Improbable	Insignificant	Negative	High
Socio-Economic Employment opportunities	Construction Scenario	Low	Definite	Low	Positive	High
Impact on Flora and Faunal Habitat and Diversity	Transformed Habitat Before Mitigation	Very Low	Improbable	Insignificant	Negative	High
	Transformed Habitat after Mitigation	Very Low	Improbable	Insignificant	Negative	High
	Grassland Habitat Before Mitigation	Very Low	Definite	Very Low	Negative	High
	Grassland Habitat after Mitigation	Very Low	Definite	Very Low	Negative	High

Impact on Floral and Faunal within the Study Area	Transformed Habitat Before Mitigation	Very Low	Improbable	Insignificant	Negative	High
	Transformed Habitat after Mitigation	Very Low	Improbable	Insignificant	Negative	High
Impact on Surface Groundwater Resources	Construction Scenario Before Mitigation	Low	Definite	Low	Negative	High
	Construction Scenario After Mitigation	Very Low	Possible	Very Low	Negative	High
Health and Safety	Construction Scenario Before Mitigation	High	Possible	Medium	Negative	High
	Construction Scenario After Mitigation	Medium	Possible	Low	Negative	High
Waste Management	Construction Scenario Before Mitigation	Medium	Probable	Medium	Negative	High
	Construction Scenario After Mitigation	Low	Possible	Very Low	Negative	High
Operational Phase						
Waste Management	Future Scenario	Medium	Possible	Low	Negative	High
	Future Scenario	Low	Possible	Very Low	Negative	High
Impact on Flora and Faunal Habitat and Diversity	Transformed Habitat Before Mitigation	Very Low	Improbable	Insignificant	Negative	High
	Transformed Habitat after Mitigation	Very Low	Improbable	Insignificant	Negative	High
Socio-Economic Employment opportunities	Operational Scenario	Low	Definite	Low	Positive	High
Impact to Surface Groundwater Resources	Current Scenario	Low	Probable	Low	Negative	High
	Future Scenario	Very Low	Probable	Very Low	Negative	High

14 Environmental Management Programme

An EMPr has been prepared for the construction and operational phases of the proposed development, in accordance with the requirements in **Appendix G** of GN 326 and is included in **Appendix G.** The EMPr specifies the methods and procedures for managing the environmental aspects of the proposed development, as informed by the specialist studies and good practice. Monitoring requirements are also stipulated. The EMPr must be implemented (along with the requirements of the Environmental Authorisation)

15 Environmental Impact Statement

This map superimposes the proposed development area onto the surrounding sensitive environmental receptors. According to the sensitivity map the site does not fall within the Critical Biodiversity Areas (CBA) layer. There are also no drainage lines that pass through the site.

In addition, the DFFE screening tool was utilised to determine whether there were any sensitive areas, a report was generated and has been included in **Appendix D-1.** The DFFE screening report identified several specialist studies to be assessed further. It must be noted that the screening tool is a desktop tool used to identify specialist investigations and is indicative only and requires verification via a site visit. **Table 39** below lists the specialist studies identified and comments by the EAP. These comments were discussed and agreed upon with LEDET during the pre-application meeting.

Table 39: NEMA Screening Tool

Specialist Study	EAP Recommendations
Landscape/Visual Impact Assessment	This assessment was not deemed necessary as Rethuseng Special School currently consists of prefabricated classrooms that are well-known to the landowners and businesses in the surrounding area. However, the proposed construction of Rethuseng Special School on the new location would not only enhance the visual appeal of the school but also improve its functionality.
Archaeological and Cultural Heritage Impact Assessment	A HIA was undertaken as part of this study.
Palaeontology Impact Assessment	Considering the project proximity to the existing Mamehlabe Village, Palaeontology Impact Assessment was not deemed necessary
Terrestrial Biodiversity Impact Assessment	Ecological Impact Assessment was undertaken as part of this study with addressed both Floral and Faunal Components.
Aquatic Biodiversity Impact Assessment	A aquatic study was not undertaken on this study as there is stream or water body on site
Socio-Economic Assessment	Socio-Economic Impact was undertaken as part of this study.
Plant Species Assessment	Ecological Impact Assessment was undertaken as part of this study with addressed both Floral and Faunal Components.
Animal Species Assessment	Ecological Impact Assessment was undertaken as part of this study with addressed both Floral and Faunal Components.

Although Ourbiosphere is not an elected entity mandated to make decisions on behalf of society, we hereby provide a qualified opinion. In this regard, Ourbiosphere is of the opinion that the *Draft* BA Report, EMPr and the attached specialist reports comply with the relevant guidelines and contain all the information required in terms of GN 326 to enable LEDET to make informed decision.

The main choice is whether to permit a development that has positive economic effects. In this instance, as long as the EMPr's recommended actions are followed, the possible adverse effects of the proposed renovation to Rethuseng Special School can be controlled to stay within reasonable environmental bounds. The necessity for growth must be assessed in light of the NEMA principles, which include sustainable development, while also accounting for the previously noted beneficial socioeconomic effects and the environmental effects of development. Therefore, from the standpoint of comprehensive sustainability, the no-go option is not supported.

It is recommended that the following conditions are included in the environmental authorisation:

- The conditions of the EMPr (refer to Appendix G) must be implemented and monitored.
- An independent Environmental Control Officer (ECO) should be appointed to provide environmental training to the construction team prior to the commencement of construction.
- As recommended by the Blouberg Municipality "Building plans must be submitted to the SED: Development Planning and Human Settlements for approval prior to construction".

• *A service level agreement between the DoE and Blouberg Local Municipality is required to be put in place which specifically addresses the waste management and collection, should the SLA not be achievable then the DoE must make provisions for waste to be collected and disposed of at registered landfill site.*

• The independent ECO should undertake a pre-construction audit, regular construction audits and a post-construction audit in terms of the EMPr (refer to Appendix G), which must be approved by the relevant Competent Authorities (i.e. LEDET) prior to commencement of construction.

16 Assumptions and Limitations

As is standard practice, the report is based on a number of assumptions and is subject to certain limitations. These are as follows:

- Information provided by IDC Architects and LDPWR&I is assumed to be accurate and correct.
- Ourbiosphere's assessment of the significance of impacts of the proposed development on the affected environment has been based on the assumption that the activities will be confined to those described in Chapter 5. If there are any substantial changes to the project description, impacts may need to be re-assessed.
- It is assumed that the stakeholder engagement process undertaken during the BA process *has identified* all relevant concerns of stakeholders.

• IDC Architects and LDPWR&I will in good faith implement the agreed mitigation measures identified in this report and the attached EMPr. To this end, it is assumed that IDC Architects and LDPWR&I will commit

sufficient resources and employ suitably qualified personnel. Notwithstanding the above, Ourbiosphere is confident that these assumptions and limitations do not compromise the overall findings of the report.

17 References

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APPENDICES