KZN Agriculture, Environmental Affairs & Rural Development

***umNyango: ezoLimo ezeMvelo nokuThuthukiswa***

***kweMiphakathi yaseMakhaya***

ISIFUNDAZWE SAKWAZULU-NATALI

|  |  |
| --- | --- |
|  | (For official use only) |
| File Reference Number: | DC/ |
| NEAS Reference Number: | KZN/EIA/ |
| Date Received: |  |

**Basic Assessment Report**

**in terms of the**

**Environmental Impact Assessment Regulations, 2010**

**promulgated in terms of the**

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

**Kindly note that:**

1. This **basic assessment report** meets the requirements of the EIA Regulations, 2010 and is meant to streamline applications. This report is the format prescribed by the KZN Department of Agriculture, Environmental Affairs and Rural Development. Please make sure that this is the latest version.
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with text.
3. Where required, place a cross in the box you select.
4. An incomplete report will be returned to the applicant for revision.
5. The use of “not applicable” in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it will result in the rejection of the application as provided for in the regulations.
6. No faxed or e-mailed reports will be accepted.
7. The report must be compiled by an independent environmental assessment practitioner (“EAP”).
8. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
9. The KZN Department of Agriculture, Environmental Affairs and Rural Development may require that for specified types of activities in defined situations only parts of this report need to be completed.
10. The EAP must submit this basic assessment report for comment to all relevant State departments that administer a law relating to a matter affecting the environment. This provision is in accordance with Section 24 O (2) of the National Environmental Management Act 1998 (Act 107 of 1998) and such comments must be submitted within 40 days of such a request.
11. **Please note that this report must be handed in or posted to the District Office of the KZN Department of Agriculture, Environmental Affairs and Rural Development to which the application has been allocated (please refer to the details provided in the letter of acknowledgement for this application).**

Section A: DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER and specialists

1. **name and contact details of environmental assessment practitioner (EAP)**

Name and contact details of the EAP who prepared this report:

|  |  |
| --- | --- |
| Business name of EAP: | Icebo Environnemental Consultants |
| Physical address: | 2 Jan Smut avenue, Hillcrest , 3610 |
| Postal address: | P.O Box 474729, Greyville, 4023 |
| Postal code: | 4000 | **Cell:** | 0793073282 |
| Telephone: | 0793073282 | **Fax:** | 0865498430 |
| E-mail: | shangen@iceboenviro.co.za  |  |  |

1. **NAMEs and expertise OF REpresentatives of the EAP**

Names and details of the expertise of each representative of the EAP involved in the preparation of this report:

|  |  |  |  |
| --- | --- | --- | --- |
| Name of representative of the EAP | Education qualifications | Professional affiliations | Experience at environmental assessments (yrs) |
| Nomcebo Shange | BSc Honours, BSc | IAIA | 8 yrs |

1. **NAMEs and expertise OF specialists**

Names and details of the expertise of each specialist that has contributed to this report:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name of specialist | Education qualifications | Field of expertise | Section/ s contributed to in this basic assessment report  | Title of specialist report/ s as attached in Appendix D  |
|  |  |  |  |  |
|  |  |  |  |  |

Section B: Activity information

1. **PROJECT TITLE**

Describe the project title as provided on the application form for environmental authorization:

|  |
| --- |
| Proposed upgrade and construction of Mandawe access roads within Ingwe Local Municipality |

1. **PROJECT DESCRIPTION**

Provide a detailed description of the project:

|  |
| --- |
| Ingwe Local Municipality proposes to upgrade and construct Mandawe (2.8 km long) access road in order to provide easy access to the villages. So they can be able to cross the available stream and be able to access the other side of the village i.e. particularly children travelling to school. The road passes a very shallow stream. A low level concrete drift is proposed over this stream. The project calls for the construction of a Type 7B Local or By-Road approximately. The proposed scope of works consists of: The proposed road upgrade will include the following**Road Formation** The proposed construction will consist of a Type 7B Local or By- Road Department of Transport Standard (SD 0212) with a 3.0m wide carriageway and minimum 7.0m road formation. A 4% camber will be maintained for most of the road length. **Gravel Wearing Course** The gravel wearing course will comprise a 150mm thick minimum G7 Type Material compacted to minimum 93% Mod AASHTO Density. **Surface Drainage** Surface drainage will consist of meadow and V-drains. Where permissible, mitre drains will be constructed to discharge surface runoff away from the road edge. Mitre drains will be constructed to The Department of Transport’s SD0604 Standard. **Cross Drainage** The minimum pipe size will be a 600mm diameter 100D Spigot and socket type with collar and 450mm diameter 100D at accesses to properties with the associated inlet and outlet structures. All pipes will be installed as per the SD 0401 details and inlet and outlet structures constructed to SD 0405 and SD 0406 standard details respectively.  |

1. **Activity DESCRIPTION**

Describe each listed activity in Listing Notice 1 (GNR 544, 18 June2010) or Listing Notice 3 (GNR 546, 18June 2010) which is being applied for as per the project description:

|  |
| --- |
| In terms of Government Notice R544, 18 June 2010 of the National Environmental Management Act (No 107 of 1998), the following listed activities are applicable and requires approval from the Department of Agriculture, Environmental Affairs and Rural Development in terms of Listing Notice 1 of 2010 of NEMA:Activity No.11 of R544:The construction of: 1. canal
2. channels
3. bridges
4. (iv)dams
5. weirs
6. bulk storm water outlet structure
7. marinas
8. jetties exceeding 50 square metres in size
9. (ix) slipways exceeding 50 square metres in size; or
10. building exceeding 50 square metres in size; or infrastructure or structure covering
11. 50 square metres or more

Where such construction occurs with a watercourse or within 32 meters of a watercourse, measured form the edge of watercourse, excluding where such construction will occur behind the development setback line |

1. **FEASIBLE AND REASONABLE ALTERNATIVES**

 ***“alternatives”***, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

(a) the property on which or location where it is proposed to undertake the activity;

(b) the type of activity to be undertaken;

(c) the design or layout of the activity;

(d) the technology to be used in the activity;

(e) the operational aspects of the activity; and

(f) the option of not implementing the activity.

Describe alternatives that are considered in this report. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Sections B 5 – 15 below should be completed for each alternative.

1. **Activity POSITION**

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. List alternative sites were applicable.

|  |  |  |
| --- | --- | --- |
| **Alternative:** | **Latitude (S):** | **Longitude (E):** |
| Alternative S1[[1]](#footnote-1) (preferred or only site alternative) | o | ‘ | “ | o | ‘ | “ |
| Alternative S2 (if any) | o | ‘ | “ | o | ‘ | “ |
| Alternative S3 (if any) | o | ‘ | “ | o | ‘ | “ |

**In the case of linear activities:**

|  |  |  |
| --- | --- | --- |
| **Alternative:** | **Latitude (S):** | **Longitude (E):** |
| Alternative S1 (preferred or only route alternative) |  |  |  |  |  |  |
| * Starting point of the activity
 | 29o | 52’  | 01.80’’ | 29 o | 59’ | 94.90’’ |
| * Middle point of the activity
 |  |  |  |  |  |  |
| * End point of the activity
 | 29o | 51’‘ | 52.30’’ | 30 o | 00’ | 42.30’‘ |
| Alternative S2 (if any) |  |  | “ |  |  | “ |
| * Starting point of the activity
 | o | ‘ | “ | o | ‘ | “ |
| * Middle point of the activity
 | o | ‘ | “ | o | ‘ | “ |
| * End point of the activity
 | o | ‘ | “ | o | ‘ | “ |
| Alternative S3 (if any) |  |  | “ |  |  | “ |
| * Starting point of the activity
 | o | ‘ | “ | o | ‘ | “ |
| * Middle point of the activity
 | o | ‘ | “ | o | ‘ | “ |
| * End point of the activity
 | o | ‘ | “ | o | ‘ | “ |

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 500m along the route for each alternative alignment.

1. **Physical size of the activity**

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

|  |  |  |
| --- | --- | --- |
| **Alternative:** |  | **Size of the activity:** |
| Alternative A1[[2]](#footnote-2) (preferred activity alternative) |  | m2 |
| Alternative A2 (if any) |  | m2 |
| Alternative A3 (if any) |  | m2 |

or, for linear activities:

|  |  |  |
| --- | --- | --- |
| **Alternative:** |  | **Length of the activity:** |
| Alternative A1 (preferred activity alternative) |  | 2.8 km  |
| Alternative A2 (if any) |  | m |
| Alternative A3 (if any) |  | m |

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

|  |  |  |
| --- | --- | --- |
| **Alternative:** |  | **Size of the site/servitude:** |
| Alternative A1 (preferred activity alternative) |  | 2.8km (long) X 5 m(wide)  |
| Alternative A2 (if any) |  | m2 |
| Alternative A3 (if any) |  | m2 |

1. **Site Access**

|  |  |  |
| --- | --- | --- |
| Does ready access to the site exist?  | YES | NO |
| If NO, what is the distance over which a new access road will be built  | m |
| Describe the type of access road planned: |  |  |
|  |

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

1. SITE OR ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this report.

The site or route plans must indicate the following:

* 1. the scale of the plan which must be at least a scale of 1:500;
	2. the property boundaries and numbers/ erf/ farm numbers of all adjoining properties of the site;
	3. the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
	4. the exact position of each element of the application as well as any other structures on the site;
	5. the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
	6. walls and fencing including details of the height and construction material;
	7. servitudes indicating the purpose of the servitude;
	8. sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
	+ rivers, streams, drainage lines or wetlands;
	+ the 1:100 year flood line (where available or where it is required by DWA);
	+ ridges;
	+ cultural and historical features;
	+ areas with indigenous vegetation including protected plant species (even if it is degraded or infested with alien species);
	1. for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
	2. the positions from where photographs of the site were taken.
1. **Site PHOTOGRAPHS**

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report**.** It must be supplemented with additional photographs of relevant features on the site, if applicable.

1. **FACILITY ILLUSTRATION**

A detailed illustration of the facility must be provided at a scale of 1:200 and attached to this report as Appendix C. The illustrations must be to scale and must represent a realistic image of the planned activity/ies.

1. **ACTIVITY MOTIVATION**
	1. **Socio-economic value of the activity**

|  |  |
| --- | --- |
| What is the expected capital value of the activity on completion? | R 1 300 000.00 (excl VAT) |
| What is the expected yearly income that will be generated by or as a result of the activity? | R |
| Will the activity contribute to service infrastructure? | YES | NO |
| Is the activity a public amenity? | YES | NO |
| How many new employment opportunities will be created in the development phase of the activity? | ±10 |
| What is the expected value of the employment opportunities during the development phase? | ± R300 000 |
| What percentage of this will accrue to previously disadvantaged individuals? | 30% |
| How many permanent new employment opportunities will be created during the operational phase of the activity? | 0 |
| What is the expected current value of the employment opportunities during the first 10 years? | 0 |
| What percentage of this will accrue to previously disadvantaged individuals? | 0 |

* 1. **Need and desirability of the activity**

Motivate and explain the need and desirability of the activity (including demand for the activity):

|  |
| --- |
| The main objective of this project is to provide efficient access between the communities of Mandawe within Ingwe LM as majority of the community reside on the other side of the Mandawe road. The road has been degraded by weather condition, and during rainy season it becomes very difficult to travel along the road, especially crossing the streams. At times the streams can be over flowing making it difficult to travel by foot or by vehicle. It is seen as an important need for the infrastructure to be upgraded to avoid further deterioration of the road and flooding. Therefore the urgency and the need of the road to be upgraded are seen as vital to the community and the local people. The upgrade and rehabilitation of the roads will provide easy access and efficient transportation to the local people of Mandawe, and thus service delivery will be possible to the communities. Without the project, the existing road will continue to be the main transportation corridors in project areas. Road conditions will continue to deteriorate because of the absence culverts and poor road conditions. Traffic congestion is likely to increase and the people living in the project area will suffer from degraded transportation access. |

Indicate any benefits that the activity will have for society in general:

Easy accessibility to different area of the community, school children and vehicles will be able to cross the streams even during rainy seasons

Indicate any benefits that the activity will have for the local communities where the activity will be located:

 Easy accessibility to different area of the community, school children and vehicles will be able to cross the streams even during rainy seasons.

1. **Applicable legislation, policies and/or guidelines**

List all legislation, policies and/or guidelines of any sphere of government that are relevant to the application as contemplated in the EIA regulations, if applicable:

|  |  |  |
| --- | --- | --- |
| Title of legislation, policy or guideline: | Administering authority: | Date: |
| 2010 EIA Regulations under NEMA | National & Provincial | June 2010 |
| Constitution of the Republic of South Africa (108 of 1966) | National, Provincial and Local Government | 1996 |
| National Environmental Management Act (No 107 of 1998 (as amended)) | National and Provincial | 1998 |
| National Water Act (No 36 of 1998) and regulations | Department of Water Affairs and Forestry | 1998 |
| National Environmental Management: Air Quality Act (No 39 of 2004) | Department of Environmental Affairs and Tourism  | 2004 |
| Conservation of Agricultural Resources Act (Act No. 43 of 1983) | Department of Agriculture | 1983 |
| The National Heritage Resources Act (Act No. 25 of 1999) | AMAFA | 1999 |
| National Building Regulation and Standards Act  | National & Provincial | 103 of 1977 |
| Hazardous Substance Act | National & Provincial | 15 of 1973 |
| National Environmental Management: Biodiversity Act | National & Provincial | 10 of 2004 |

1. **Waste, effluent, emission and noise management**
	1. **Solid waste management**

|  |  |  |
| --- | --- | --- |
| Will the activity produce solid construction waste during the construction/initiation phase? | YES | NO |
| If yes, what estimated quantity will be produced per month? | <10m3 |
| How will the construction solid waste be disposed of? (describe) |  |  |
| Solid waste will be removed from site by a registered waste removal company to be disposed at a relevant registered landfill site.The rubble will be disposed off by a registered waste company from site to a garden and rubble refuse site registered |
| Where will the construction solid waste be disposed of? (provide details of landfill site) |  |  |
| Solid waste will be removed from site by a registered waste removal company and disposed at a relevant registered landfill site. |
| Will the activity produce solid waste during its operational phase? | YES | NO |
| If yes, what estimated quantity will be produced per month? | m3 |
| How will the solid waste be disposed of? (provide details of landfill site) |  |
|  |
| Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)? |
|  |
| If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine the further requirements of the application. |
| Can any part of the solid waste be classified as hazardous in terms of the relevant legislation? | YES | NO |
| **If yes, contact the KZN Department of Agriculture, Environmental Affairs and Rural Development to obtain clarity regarding the process requirements for your application**.  |
| Is the activity that is being applied for a solid waste handling or treatment facility? | YES | NO |
| **If yes, contact the KZN Department of Agriculture, Environmental Affairs and Rural Development to obtain clarity regarding the process requirements for your application.** |

* 1. **Liquid effluent**

|  |  |  |
| --- | --- | --- |
| Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system? | YES | NO |
| If yes, what estimated quantity will be produced per month? | m3 |
| Will the activity produce any effluent that will be treated and/or disposed of on site? | Yes | NO |
| **If yes, contact the KZN Department of Agriculture, Environmental Affairs and Rural Development to obtain clarity regarding the process requirements for your application.** |
| Will the activity produce effluent that will be treated and/or disposed of at another facility? | YES | NO |
| If yes, provide the particulars of the facility: |  |  |
| Facility name: |  |
| Contact person: |  |
| Postal address: |  |
| Postal code: |  |
| Telephone: |  | Cell: |  |
| E-mail: |  | Fax: |  |
| Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any: |
|  |

* 1. **Emissions into the atmosphere**

|  |  |  |
| --- | --- | --- |
| Will the activity release emissions into the atmosphere? | YES | NO |
| If yes, is it controlled by any legislation of any sphere of government? | YES | NO |
| **If yes, contact the KZN Department of Agriculture, Environmental Affairs and Rural Development to obtain clarity regarding the process requirements for your application.** |  |  |
| If no, describe the emissions in terms of type and concentration: |  |  |
| During the construction phase, it is expected that there will be short term dust and fuel emissions from vehicles and machinery. However the dust and fuel emissions will be of medium to short term and have an impact on the immediate surrounding rural areas. Where appropriate dust suppression measures will be implemented to reduce the impacts i.e. usage of truck water sprayers along the road when truck are coming in and out of the site to reduce dust, set speed limit to the truck around the site etc. It is recommended that construction vehicles be serviced (not from site) and kept in good mechanical condition.  |

* 1. **Generation of noise**

|  |  |  |
| --- | --- | --- |
| Will the activity generate noise? | YES | NO |
| If yes, is it controlled by any legislation of any sphere of government? | YES | NO |
| If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.  |  |  |
| If no, describe the noise in terms of type and level: |  |  |
| Noise generation will be forthcoming as a result of the construction phase. Noise will be limited to working hours (7.00am to 17.00) and would comprise of excavators and other machinery. Noise should approximate 10dB to 20dB maximum.  |

1. **WATER USE**

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| municipal | water board | groundwater | river, stream, dam or lake | other | the activity will not use water |
|  |
| If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month: | litres |
| Does the activity require a water use permit from the Department of Water Affairs? | YES | NO |
| If YES, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this report. |

1. **ENERGY EFFICIENCY**

|  |
| --- |
| Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient: |
| No activities are anticipated that will lend themselves to design measures for alternative energy sources during the construction or operational phase of the project. |
| Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any: |
| No activities are anticipated that will lend themselves to design measures for alternative energy sources during the construction or operational phase of the project. |

Section C: SITE/ area/ PROPERTY description

**Important notes:**

* For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

|  |  |
| --- | --- |
| Section C Copy No. (e.g. A):  |  |

**NOTE: NO SITE ALTERNATIVES. ONLY PREFERRED SITE.AS THE PROPSOED SITE IS INTERCONNECTED TO THE EXISITNG GRAVEL ROAD, AND THE PREFERED SITE IS CURRENTLY USED AS ACCESS WAY BY ALL THE COMMUNITY.**

* Subsections 1 - 6 below must be completed for each alternative.
1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Flat | 1:50 – 1:20 | 1:20 – 1:15 | 1:15 – 1:10 | 1:10 – 1:7,5 | 1:7,5 – 1:5 | Steeper than 1:5 |

Alternative S2 (if any):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Flat | 1:50 – 1:20 | 1:20 – 1:15 | 1:15 – 1:10 | 1:10 – 1:7,5 | 1:7,5 – 1:5 | Steeper than 1:5 |

Alternative S3 (if any):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Flat | 1:50 – 1:20 | 1:20 – 1:15 | 1:15 – 1:10 | 1:10 – 1:7,5 | 1:7,5 – 1:5 | Steeper than 1:5 |

1. **location in landscape**

Indicate the landform(s) that best describes the site **(Please cross the appropriate box)**.

Alternative S1 (preferred site):

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ridgeline | Plateau | Side slope of hill/mountain | Closed valley | Open valley | Plain | Undulating plain/low hills | Dune | Sea-front |

Alternative S2 (if any):

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ridgeline | Plateau | Side slope of hill/mountain | Closed valley | Open valley | Plain | Undulating plain/low hills | Dune | Sea- front |

Alternative S3 (if any):

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ridgeline | Plateau | Side slope of hill/mountain | Closed valley | Open valley | Plain | Undulating plain/low hills | Dune | Sea-front |

1. **GroundwateR, Soil and Geological stability of the site**

|  |  |  |
| --- | --- | --- |
| Has a specialist been consulted for the completion of this section? | YES | NO |
| If YES, please complete the following: |
| Name of the specialist: |  |
| Qualification(s) of the specialist: |  |
| Postal address: |  |
| Postal code: |  |
| Telephone: |  | Cell: |  |
| E-mail: |  | Fax: |  |
| Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites? | YES | NO |
| If YES, specify and explain: |  |
| Are there any special or sensitive habitats or other natural features present on any of the alternative sites? | YES | NO |
| If YES, specify and explain: |  |
| Are any further specialist studies recommended by the specialist? | YES | NO |
| If YES, specify: |  |
| If YES, is such a report(s) attached in Appendix D? | YES | NO |
|  |  |  |  |
| Signature of specialist: |  | Date: |  |

Is the site(s) located on any of the following (cross the appropriate boxes)?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Alternative S1: |  | Alternative S2 (if any): |  | Alternative S3 (if any): |
| Shallow water table (less than 1.5m deep) | YES | NO |  | YES | NO |  | YES | NO |
| Dolomite, sinkhole or doline areas | YES | NO |  | YES | NO |  | YES | NO |
| Seasonally wet soils (often close to water bodies) | YES | NO |  | YES | NO |  | YES | NO |
| Unstable rocky slopes or steep slopes with loose soil | YES | NO |  | YES | NO |  | YES | NO |
| Dispersive soils (soils that dissolve in water) | YES | NO |  | YES | NO |  | YES | NO |
| Soils with high clay content (clay fraction more than 40%) | YES | NO |  | YES | NO |  | YES | NO |
| Any other unstable soil or geological feature | YES | NO |  | YES | NO |  | YES | NO |
| An area sensitive to erosion | YES | NO |  | YES | NO |  | YES | NO |

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

1. **Groundcover**

|  |  |  |
| --- | --- | --- |
| Has a specialist been consulted for the completion of this section? | YES | NO |
| If YES, please complete the following: |
| Name of the specialist: |  |
| Qualification(s) of the specialist: |  |
| Postal address: |  |
| Postal code: |  |
| Telephone: |  | Cell: |  |
| E-mail: |   | Fax: |  |
| Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites? | YES | NO |
| If YES, specify and explain: |  |
| Are there any special or sensitive habitats or other natural features present on any of the alternative sites? | YES | NO |
| If YES, specify and explain: |  |
| Are any further specialist studies recommended by the specialist? | YES | NO |
| If YES, specify: |  |
| If YES, is such a report(s) attached in Appendix D?  | YES | NO |
|  |  |  |  |
| Signature of specialist: |  | Date: |  |

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Natural veld - good conditionE | Natural veld with scattered aliensE | Natural veld with heavy alien infestationE | Veld dominated by alien speciesE | Gardens  |
| Sport field | Cultivated land | Paved surface | Building or other structure | Bare soil |

If any of the boxes marked with an “E “is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.

1. **Land use character of surrounding area**

Cross the land uses and/or prominent features that currently occur within a 500m radius of the site and give a description of how this influences the application or may be impacted upon by the application:

|  |  |  |  |
| --- | --- | --- | --- |
| Land use character |  |  | Description |
| Natural area | YES | NO | Valley, running stream, with little vegetation surrounding the area |
| Low density residential | YES | NO |  |
| Medium density residential | YES | NO |  |
| High density residential | YES | NO |  |
| Informal residential | YES | NO | It is mainly rural housing |
| Retail commercial & warehousing | YES | NO |  |
| Light industrial | YES | NO |  |
| Medium industrial | YES | NO |  |
| Heavy industrial | YES | NO |  |
| Power station | YES | NO |  |
| Office/consulting room | YES | NO |  |
| Military or police base/station/compound | YES | NO |  |
| Spoil heap or slimes dam | YES | NO |  |
| Quarry, sand or borrow pit | YES | NO |  |
| Dam or reservoir | YES | NO |  |
| Hospital/medical centre | YES | NO |  |
| School/ creche | YES | NO | There is a school and a creche |
| Tertiary education facility | YES | NO |  |
| Church | YES | NO |  |
| Old age home | YES | NO |  |
| Sewage treatment plant | YES | NO |  |
| Train station or shunting yard | YES | NO |  |
| Railway line | YES | NO |  |
| Major road (4 lanes or more) | YES | NO |  |
| Airport | YES | NO |  |
| Harbour | YES | NO |  |
| Sport facilities | YES | NO |  |
| Golf course | YES | NO |  |
| Polo fields  | YES | NO |  |
| Filling station | YES | NO |  |
| Landfill or waste treatment site | YES | NO |  |
| Plantation | YES | NO |  |
| Agriculture | YES | NO |  |
| River, stream or wetland | YES | NO | stream running underneath the proposed pipelines to be installed  |
| Nature conservation area | YES | NO |  |
| Mountain, hill or ridge | YES | NO |  |
| Museum | YES | NO |  |
| Historical building | YES | NO |  |
| Protected Area | YES | NO |  |
| Graveyard | YES | NO | There are household graveyards within the area |
| Archaeological site | YES | NO |  |
| Other land uses (describe) | YES | NO |  |

1. Cultural/ Historical Features

|  |  |  |
| --- | --- | --- |
| Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or within 20m of the site? | YES | NO |
| If YES, contact a specialist recommended by AMAFA to conduct a heritage impact assessment. The heritage impact assessment must be attached as an appendix to this report.  |
| Briefly explain the recommendations of the specialist: |  |
| Will any building or structure older than 60 years be affected in any way? | YES | NO |
| Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)? | YES | NO |
| If YES, please submit the necessary application to AMAFA and attach proof thereof to this report. |

Section D: public participation

1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

(a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—

(i) the site where the activity to which the application relates is or is to be undertaken; and

 (ii) any alternative site mentioned in the application;

(b) giving written notice to—

(i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;

(ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;

(iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;

(iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;

 (v) the local and district municipality which has jurisdiction in the area;

(vi) any organ of state having jurisdiction in respect of any aspect of the activity (as identified in the application form for the environmental authorization of this project); and

(vii) any other party as required by the competent authority;

(c) placing an advertisement in—

 (i) one local newspaper; or

(ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;

(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and

(e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—

(i) illiteracy;

(ii) disability; or

(iii) any other disadvantage.

1. **Content of advertisements and notices**

A notice board, advertisement or notices must:

(a) indicate the details of the application which is subjected to public participation; and

(b) state—

(i) that an application for environmental authorization has been submitted to the KZN Department of Agriculture, Environmental Affairs and Rural Development in terms of the EIA Regulations, 2010;(ii)

(iii) a brief project description that includes the nature and location of the activity to which the application relates;

(iv) where further information on the application can be obtained; and

1. the manner in which and the person to whom representations in respect of the application may be made.
2. **Placement of advertisements and notices**

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

1. Determination of appropriate process

The EAP must ensure that the public participation process is according to that prescribed in regulation 54 of the EIA Regulations, 2010, but may deviate from the requirements of subregulation 54(2) in the manner agreed by the KZN Department of Agriculture, Environmental Affairs and Rural Development as appropriate for this application. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate.

Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

1. Comments and response report

The practitioner must record all comments and respond to each comment of the public before this application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations (regulation 57 in the EIA Regulations, 2010) and be attached as Appendix E to this report.

1. PARTICIPATION BY DISTRICT, LOCAL AND TRADITIONAL AUTHORITIES

District, local and traditional authorities (where applicable) are all key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of this application and provided with an opportunity to comment.

|  |  |  |
| --- | --- | --- |
| Has any comment been received from the district municipality? | YES | NO |
| If “YES”, briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application): |
|  |

|  |  |  |
| --- | --- | --- |
| Has any comment been received from the local municipality? | YES | NO |
| If “YES”, briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application): |
| They are the client in this matter |

|  |  |  |
| --- | --- | --- |
| Has any comment been received from a traditional authority? | YES | NO |
| If “YES”, briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application): |
| Comments were received from the public meeting, see minutes attached in appendix E |

1. **CONSULTATION WITH OTHER STAKEHOLDERS**

Any stakeholder that has a direct interest in the site or property, such as servitude holders and service providers, should be informed of the application and be provided with the opportunity to comment.

|  |  |  |
| --- | --- | --- |
| Has any comment been received from stakeholders? | YES | NO |
| If “YES”, briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application): |
| See attached comments in appendix E |

Section E: Impact Assessment

The assessment of impacts must adhere to the requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. **Issues raised by interested and affected parties**

List the main issues raised by interested and affected parties.

|  |
| --- |
| Issues raised are captured in appendix E  |

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached as Appendix E to this report):

|  |
| --- |
| Issues raised are captured in appendix E  |

1. **Impacts that may result fRom the planning and design, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE phaseS AS WELL AS PROPOSED MANAGEMENT OF identified IMPACTS AND PROPOSED mitigation measures**
	1. **Impacts that may result fRom the planning and design phase**
2. **Site alternatives**

List the potential impacts associated with site alternatives that are likely to occur during the planning and design phase:

|  |
| --- |
| **Alternative S1 (preferred alternative)** |
| ***Direct impacts:**** Prevention of future erosion due to extreme storm events;
* Improved safety of the community
* Improved access to residence, schools and clinics;
* Efficient service provision
* Design that is inadequate and not accurate
* Design of the structure that could be damaged by floods
* Allow efficient movement of traffic and residents
* Efficient service provision
* Positive impact-installation of gabion structures at the bank of the streams to minimise further erosion***.***

***Indirect impacts:**** Decreasing safety risks for community and school children;
* Decreasing risk of future damage to the service infrastructure;
* increase safety risks for community e.g. poor road surfaces;
* Provision of labour opportunities;
* Decreasing risk of future degradation of roads and accumulative impacts to the surrounding structures;
* Decreasing safety risks for community e.g. poor road surfaces;

***Cumulative impacts:**** Allowing accessibility through appropriate placement of infrastructure and choice of engineering options;
* Prevention of long term continued erosion and its resultant negative impacts on the socio-economy of Ingwe Local Municipality;
* Provision of ongoing labour opportunities
 |
| **Alternative S2 (if any)** |
| ***Direct impacts:****Not applicable****Indirect impacts:***Not applicable***Cumulative impacts:***Not applicable |
| **No-go alternative (compulsory)** |
| ***Direct impacts:**** Ongoing erosion and degradation of roads;
* Inefficient service delivery
* Further impacts to road due to extreme weather events
* Poor service delivery
* Outrange of the community to the local councillors and to the municipality
* Taxis unable to deliver passages to their households
* Limited access to the village of Mandawe.
* Increased stream damage, vegetation destruction as a result of increased in stream flow capacity.

***Indirect impacts:**** Liability for accidents as a result of inadequate storm water pipelines;
* Community outrage due to poor state of facilities.

***Cumulative impacts:**** Long term continued road erosion, degradation and its resultant negative impacts;
 |

Indicate mitigation measures to manage the potential impacts listed above:

|  |  |
| --- | --- |
| **Alternative S1** | **Alternative S2** |
| * Evaluate designs and provide recommendations to limit & reduce potential negative environmental, social and economic impacts associated with the proposed activities.
* Assessment of run-off requirements / drainage patterns and adequate provision / design of road material.
* Provide lay-out options to mitigate potential negative impacts on fauna & flora.
 | Not applicable |

1. **Process, technology, layout or other alternatives**

List the impacts associated with any process, technology, layout or other alternatives that are likely to occur during the planning and design phase (please list impacts associated with each alternative separately):

|  |
| --- |
| **Alternative A1 (preferred alternative)** |
| ***Direct impacts:**** Limiting potential negative environmental impacts.
* Positive: Preferred lay-out will ensure safety of the community and prevention of ongoing erosion through appropriate placement of infrastructure and choice of engineering
* Negative: inappropriate storm water pipelines installation.
* Negative: poor quality of the storm water pipelines material which could be damaged by floods.
* Negative: inappropriate compaction of wearing course material on the roads.
* Negative: poor quality of the gravel material which could be damaged by floods.

***Indirect impacts:**** Decreasing safety risks for community;
* It will reduce the use of heavy equipment, improving energy efficiency during construction activities;
* Overflow of water causing further damages to the roads;
* Ecological degradation; and
* Reduction of future flooding.

***Cumulative impacts:**** Prevention of ongoing erosion through appropriate placement of storm water pipelines and efec inet wearing course material on the road;
* Prevention of long term continued erosion and its resultant negative impacts on the socio-economy.
* Increased socio-economic benefits for communities, including reduced safety risks to the public; and
* Area being susceptible to erosion.
 |
| **Alternative A2 (if any)** |
| ***Direct impacts:******Indirect impacts:******Cumulative impacts:*** |

|  |
| --- |
| **No-go alternative (compulsory)** |
| ***Direct impacts:**** Ongoing erosion and degradation of surrounding areas;
* Lack of service delivery
* Increase in community inaccessibility
* Damage to existing gravel roads

***Indirect impacts:**** Future flooding impacts from uncontrolled floods and discharge with possible damage to surrounding environment ;
* Community outrage due to poor state of facilities.

***Cumulative impacts:**** Negative socio-economic impacts due to loss of facilities and lives of the communities.
 |

Indicate mitigation measures to manage the potential impacts listed above:

|  |  |
| --- | --- |
| **Alternative A1:** | **Alternative A2:** |
| * Evaluate designs and provide recommendations to limit & reduce potential negative environmental, social and economic impacts associated with the proposed activities.
 |  |

* 1. **Impacts that may result fRom the CONSTRUCTION phase**
	2. **Site alternatives**

List the potential impacts associated with site alternatives that are likely to occur during the construction phase:

|  |
| --- |
| **Alternative S1 (preferred site)** |
| ***Direct impacts:***The following impacts may arise from the construction phase:* Generation of noise and limited air pollution from construction vehicles;
* Generation of building rubble / redundant material (waste);
* Surface water: during this period there may be an increase in run-off and erosion caused as a result construction processes.
* Vegetation clearance
* Generation of excavated material (soil);
* Resource consumption (fuel, energy);
* Spillage of hydrocarbons and pollution to immediate and surrounding area / environment;ie stream, soil and vegetation
* Dust generation;
* Vegetation clearing (protected as well as alien species);
* Increased risk to public (including school children) from construction activities and vehicles;
* Improved safety and provision of public services.

***Indirect impacts:**** Reduced public safety risk from damaged infrastructure;
* Soil erosion
* Increased strain on natural resources (landfill site land usage, energy consumption);
* Insignificant impacts on air quality due to emissions from vehicles and noise from construction;
* Contamination of the stream with hazardous substances

***Cumulative impacts:**** Reduced risk of further damage and degradation to infrastructure and environment;
* Increase in uncontrolled run-off and erosion from sites.
* Community and the public getting infections and illness form the hazardous waste disposed in the streams
 |
| **Alternative S2 (if any)** |
| ***Direct impacts:******Indirect impacts:******Cumulative impacts:*** |
| **No-go alternative (compulsory)** |
| ***Direct impacts:**** Ongoing erosion and degradation of surrounding areas;
* Community outrage due to poor state of facilities.

***Indirect impacts:**** Liability for accidents as a result of unsafe infrastructure and inadequate services;
* Lack of infrastructure.
* Inefficient service delivery
* Increase in unsafety of the community

***Cumulative impacts:**** Long term continued erosion and its resultant negative impacts;
* Negative socio-economic impacts due to continued loss of infrastructure, repeated maintenance and negative aesthetic impacts;
* Vulnerable communities being at risk of potential flooding
* Vegetation loss
 |

Indicate mitigation measures to manage the potential impacts listed above:

|  |
| --- |
| **Alternative S1**  |
| * Management of vehicles on sites; to ensure that no spillages or leakages occur within the site, ensure that speed limits are adhere to by all vehicles to minimise dust on site
* Management of stock piles on sites; ensure that stockpiles are not disposed to windy areas, and there should be covered when bad whether conditions are experienced
* Limit noise generation to day time operations;
* Limit dust generation. Consider dust suppression should excessive dust result in complaints;
* All building rubble generated moved to certified landfill site and proof thereof kept on record;
* Manage runoff from sites through storm water controls and diversion away from construction site;
* Re-use as much as possible of existing infrastructure to reduce demolished volumes,
* Minimize usage of natural resources by preventing wastage;
* Minimize the clearance of vegetation to avoid exposure of soil;
* Utilise indigenous vegetation for landscaping purposes;
* Ensure training of construction staff on EMPr;
* Monitor compliance with EMPr.
* Provide proper warning signage to make people aware of the activities within designated areas;
* Employees should record and report any spillages to the responsible person;
* Access to storage areas on site must be restricted to authorized employees only;
* Contractors will be held liable for any environmental damages caused by spillages.

***Safety:**** Ensure the appointment of a Safety Officer to continuously monitor the safety conditions during construction.
* All construction staff must have the appropriate PPE.
* The construction staff handling chemicals or hazardous materials must be trained in the use of the substances and the environmental, health and safety consequences of incidents.
* Report and record any environmental, health and safety incidents to the responsible person.

**Soils:** * Strip topsoil prior to any construction activities.
* Reuse topsoil to rehabilitate disturbed areas.
* Topsoil must be kept separate from overburden and must not be used for road construction purposes or maintenance or access roads.
* Minimise the clearance of vegetation to avoid exposure of soil.
* Protect areas susceptible to erosion with mulch or a suitable alternative.
* Implement the appropriate topsoil and stormwater runoff control management measures as per the EMPr to prevent the loss of topsoil.
* Topsoil should only be exposed for minimal periods of time and adequately stockpiled to prevent the topsoil loss and runoff.
* Any materials that may hamper re-growth of vegetation must be removed prior to rehabilitation and disposed of at and appropriate site.

**Fauna and Flora*** No cutting down of indigenous vegetation because it encourages wildlife to reside in the area.
* All site disturbances must be limited to the areas where structure will be constructed.
* Large excavations for the contractor laydown area, storage areas or waste areas are not permitted.
* Ensure that contractors and staff are well managed and adhere to the mitigation and management measures.
* Weeds and alien vegetation should be removed and prevented from spreading.
* No cutting down of trees for firewood
* Training of contractors on environmental awareness and the importance of flora and fauna.

**Surface Water:*** Water for domestic consumption will be provided at or near the contractor laydown area and from a licensed water source. There is nearby tap that is used by the local people for consumption of domestic water which will also be used for domestic consumption
* Ensure the establishment of stormwater diversion berms around the contractor laydown area and other potential contaminated areas (e.g. diesel storage tanks or refuelling station).
* All contaminated standing water should be immediately removed and treated or disposed of appropriately.
* All incidents must be reported to the responsible site officer as soon as it occurs.
* Ensure no solid waste or contaminated water is disposed of in the stream

**Noise*** All construction activities should be undertaken according to daylight working hours between the hours of 07:00 – 17:00 on weekdays and 7:30 – 13:00 on Saturdays.
* No construction activities may be undertaken on Sunday.
* All earth moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability.
* Employees must have the appropriate Personal Protective Equipment (PPE) as indicated in the Draft EMP.
* A complaints register must be made available and should any complaints be received, these should be logged in the complaints register and reported to the responsible person on site.
* All operations should meet the noise standard requirements of the Occupational Health and Safety Act (Act No 85 of 1993).

**Air Quality*** To reduce the liberation of dust it is recommended that water be sprayed on access roads, transported material.
* There should be strict speed limits on dusty roads to prevent the liberation of dust into the atmosphere.
* Adequate communication and education of personnel of the need to mitigate against dust.

**Spillage and Incident*** All hazardous substances must be stored on an impervious surface in a designated bunded area, able to contain 110% of the total volume of materials stored at any given time.
* The integrity of the impervious surface and bunded area must be inspected regularly and any maintenance work conducted must be recorded in a maintenance report.
* Provide proper warning signage to make people aware of the activities within designated areas.
* Employees should be provided with absorbent spill kits and disposal containers to handle spillages.
* Train employees and contractors on the correct handling of spillages and precautionary measures that need to be implemented to minimise potential spillages.
* All earth moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability. No repairs may be undertaken beyond the contractor laydown area.
* Employees should record and report any spillages to the responsible person.
* An Emergency Preparedness and Response Plan will be developed and implemented should and incident occur.
* Access to storage areas on site must be restricted to authorised employees only.
* Contractors will be held liable for any environmental damages caused by spillages.

**General Waste:*** General waste disposal bins will be made available for employees to use throughout the project area.
* Where possible waste should be recycled or sold to the community.
* Waste will be temporarily stored on site (less than 90 days) before being disposed off appropriately.
* General waste will be disposed of an approved waste disposal facility.
* Records of all waste being taken off site must be recorded and kept as evidence.
* Evidence of correct disposal must be kept.
* Building rubble will be used, where possible, in construction or buried with the necessary town planning approvals. Where this is not possible, the rubble will be disposed of at an appropriate site.

**Hazardous Waste:*** Hazardous materials will be generated if there are spillages during construction and maintenance periods. This waste should be cleaned up using absorbent material provided in spill kits on site.
* Absorbent materials used to clean up spillages should be disposed of in a separate hazardous waste bin.
* The storage area for hazardous material must be concreted, bunded, covered, labelled and well ventilated.
* Provide employees with appropriate PPE for handling hazardous materials.
* All hazardous waste will be disposed of in a registered hazardous waste disposal facility.
* Records of all waste being taken off site must be recorded and kept as evidence.

**Safety:*** Ensure the appointment of a Safety Officer to continuously monitor the safety conditions during construction.
* All construction staff must have the appropriate PPE.
* The construction staff handling chemicals or hazardous materials must be trained in the use of the substances and the environmental, health and safety consequences of incidents.
* Report and record any environmental, health and safety incidents to the responsible person.
 |

* 1. **Process, technology, layout or other alternatives**

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the construction phase (please list impacts associated with each alternative separately):

|  |
| --- |
| **Alternative A1 (preferred alternative)** |
| ***Direct impacts:**** Public safety during construction period, especially due to increased construction vehicles
* Increase in traffic congestion
* Increased noise and dust
* Stockpile and erosion of soils
* Siltation and slip into lower lying stream
* Pollution emanating from construction
* Back flooding during construction, particularly during high rainfall periods.
* Prevention of ongoing erosion through appropriate placement of infrastructure and choice of engineering options
* Temporary access problems to lower lying properties

***Indirect impacts:**** Public safety during construction period, especially due to increased construction vehicle
* Siltation of stream
* Pollution in the surrounding areas
* Increased safety to all communities in the area.

***Cumulative impacts:**** Increased socio-economic benefits for communities
* Reduced risk of erosion in future through storm events;
 |

|  |
| --- |
| **Alternative A2** |
| ***Direct impacts:******Indirect impacts:******Cumulative impacts:*** |
| **No-go alternative (compulsory)** |
| ***Direct impacts:**** Lack of service infrastructure
* Unsafely of the community

***Indirect impacts:**** Liability for accidents as a result of unsafe infrastructure and inadequate services;
* Community outrage due to poor state of facilities.

***Cumulative impacts:**** Negative socio-economic impacts due to continued lack of infrastructure, repeated maintenance and negative aesthetic impacts;
 |

Indicate mitigation measures to manage the potential impacts listed above:

|  |  |
| --- | --- |
| **Alternative A1:** | **Alternative A2:** |
| * The recommendations and mitigation measures provided in the report and in the Environmental Management Programme should be implemented
* Assess erosion after future storm events to ensure structures and measures still sound;;
* Minimize generation of waste;
* Limit public access to construction sites;
* Maintenance of vehicles by contractors;
* Recycling of waste materials where feasible;
* Bunding of stockpiled material
 |  |

* 1. **Impacts that may result fRom the operational phase**
1. **Site alternatives**

List the potential impacts associated with site alternatives that are likely to occur during the operational phase:

|  |
| --- |
| **Alternative S1 (preferred alternative)** |
| ***Direct impacts:**** Maintenance of the associated structures i.e. pipelines and roads
* Positive impact: Protection of environment and community and public services against future storm events.
* Higher volumes and velocity of flow through channel

***Indirect impacts:**** Increased public safety and well-being.
* Alteration of hydrology within immediate area and stream as a result of increased water volumes and flow rates

***Cumulative impacts:**** Increased socio-economic and environmental benefits;
* Decreased maintenance requirements.
* Increased stormwater flow through established infrastructure resulting in reduced impacts to immediate community but may impact negatively downstream
 |
| **Alternative S2 (if any)** |
| ***Direct impacts:******Indirect impacts:******Cumulative impacts:*** |
| **No-go alternative (compulsory)** |
| ***Direct impacts:**** Negative environmental impacts - erosion;
* Negative visual / aesthetic impacts.

***Indirect impacts:**** Liability for accidents as a result of lack of infrastructure;
* Community outrage due to poor state of infrastructure.
* Reduced access can be affected if the road is not properly maintained

***Cumulative impacts:**** Long term continued erosion and its resultant negative impacts;
* Negative socio-economic impacts;
* Increased financial costs to remedy the negative environmental and social impacts.
* Liabilities of local authority
 |

Indicate mitigation measures to manage the potential impacts listed above:

|  |  |
| --- | --- |
| **Alternative S1** | **Alternative S2** |
| Implement an audit / monitoring programme to ensure that rehabilitation efforts are successful to ensure that risks such as erosion are avoided.The Road should be monitored at least once a year to monitor their operating condition.Implement community awareness programme for improved management of litter;Implement a vegetation control and littering clean-up programme or incorporate requirements within the Municipality budget / responsibilities;Implement an audit / monitoring programme to ensure that rehabilitation efforts are successful to ensure that risks such as erosion are avoided. |  |

1. **Process, technology, layout or other alternatives**

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the operational phase (please list impacts associated with each alternative separately):

|  |
| --- |
| **Alternative A1 (preferred alternative)** |
| ***Direct impacts:**** Natural Resource consumption during maintenance in the area
* Stream contamination
* Vegetation clearance
* Protection of sensitive environment and public infrastructure against future flooding events.

***Indirect impacts:**** soil erosion
* flooding
* pollution

***Cumulative impacts:**** Increase maintenance costs.
* decrease socio-economic and environmental benefits
 |
| **Alternative A2** |
| ***Direct impacts:******Indirect impacts:******Cumulative impacts:*** |
| **No-go alternative (compulsory)** |
| ***Direct impacts:**** Unsafe public amenities and social infrastructure.
* Negative visual / aesthetic impacts.
* Poor social infrastructure.

***Indirect impacts:**** Liability for accidents as a result of lack of infrastructure.
* Community outrage due to poor state of facilities.

***Cumulative impacts:**** Long term continued erosion and its resultant negative impacts on the environment;
* Negative socio-economic impacts ;
* Increased financial costs to remedy the negative environmental and social impacts.
 |

Indicate mitigation measures to manage the potential impacts listed above:

|  |  |
| --- | --- |
| **Alternative A1** | **Alternative A2** |
| Monitoring programme to ensure that rehabilitation efforts are successful to ensure that risks such as erosion and invader plant re-establishment are avoided.`The municipality must ensure that the routine road maintenance is undertaken. |  |

* 1. **Impacts that may result from the decomissioning or closure phase**

**NB: Due to the positive nature of this project, the decommissioning or closure phase is not anticipated.**

1. **Site alternatives**

List the potential impacts associated with site alternatives that are likely to occur during the decommissioning or closure phase:

|  |
| --- |
| **Alternative S1 (preferred alternative)** |
| ***Direct impacts:******Indirect impacts:******Cumulative impacts:*** |
| **Alternative S2** |
| ***Direct impacts:******Indirect impacts:******Cumulative impacts:*** |

|  |
| --- |
| **No-go alternative (compulsory)** |
| ***Direct impacts:******Indirect impacts:******Cumulative impacts:*** |

Indicate mitigation measures to manage the potential impacts listed above:

|  |  |
| --- | --- |
| **Alternative S1** | **Alternative S2** |
|  |  |

* + 1. **Process, technology, layout or other alternatives**

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the decommissioning or closure phase (please list impacts associated with each alternative separately):

|  |
| --- |
| **Alternative A1 (preferred alternative)** |
| ***Direct impacts:******Indirect impacts:******Cumulative impacts:*** |
| **Alternative A2** |
| ***Direct impacts:******Indirect impacts:******Cumulative impacts:*** |
| **No-go alternative (compulsory)** |
| ***Direct impacts:******Indirect impacts:******Cumulative impacts:*** |

Indicate mitigation measures to manage the potential impacts listed above:

|  |  |
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| **Alternative A1** | **Alternative A2** |
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* 1. **Proposed MONITORING and auditing**

For each phase of the project and for each alternative, please indicate how identified impacts and mitigation will be monitored and/or audited.

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| **Alternative S1 (preferred site)** |
| **Construction:*** All waste to disposed at a registered landfill ;
* Limit construction activities resulting in noise generation to day time only;
* Optimise re-use of existing infrastructure;
* Limit dust generation and implement dust suppression if required;
* Minimise usage of natural resources through prevention of wastage;
* Demarcate no-go sensitive areas;
* Demarcate construction sites / areas and prevent public access to these sites;
* Monitor complaints, investigate and implement rectifying measures;
* Monitor areas for pollution and degradation. Ensure implementation of identified rectifying measures;
* Compliance of EMPr & environmental authorisation by contractors.

**Operation:*** Reduce waste to landfill by minimizing wastage on site, and sorting & recycling waste generated on site;
* revegetation of indigenous species should be established, and make use of the plant species that specifically do not demand high water volume of water in that specific area.
* Rehabilitation of any damage to sensitive areas, including potential erosion from construction activities or storm water run-off;
* Ensure appropriate annual budgets for maintenance and implement appropriate maintenance;
* Implement a process to capture & address public recommendations, complaints and / or requests.

**Audit:*** EMPr adherence;
* Appoint Environmental Control Officer;
* Compile monthly report.

**Construction:*** All waste to be disposed at a registered landfill.
* Limit construction activities resulting in noise generation to day time only.
* Optimise re-use of existing infrastructure,
* Limit dust generation and implement dust suppression if required.
* Minimise usage of natural resources through prevention of wastage.
* Demarcate no-go sensitive areas.
* Demarcate construction sites / areas and prevent public access to these sites.
* Monitor complaints, investigate and implement rectifying measures.
* Monitor areas for pollution and degradation. Ensure implementation of identified rectifying measures.
* Compliance of EMPr & environmental authorisation by contractors.

**Operation:*** Indigenous low water demand re-vegetation;
* Rehabilitation of any damage to sensitive areas, including potential erosion from construction activities or storm water run-off.
* Ensure appropriate annual budgets for maintenance and implement appropriate maintenance.
* Implement a process to capture & address public recommendations, complaints and / or requests.

**Audit:*** EMPr adherence.
* Appoint Environmental Control Officer.
* Compile monthly report.
 |

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| **Alternative A1 (preferred alternative)** |
| **Construction:*** All waste to be disposed at a registered landfill.
* Limit construction activities resulting in noise generation to day time only.
* Optimise re-use of existing infrastructure,
* Limit dust generation and implement dust suppression if required.
* Minimise usage of natural resources through prevention of wastage.
* Demarcate no-go sensitive areas.
* Demarcate construction sites / areas and prevent public access to these sites.
* Monitor complaints, investigate and implement rectifying measures.
* Monitor areas for pollution and degradation. Ensure implementation of identified rectifying measures.
* Compliance of EMPr & environmental authorisation by contractors.

**Operation:*** Reduce waste to landfill by minimizing wastage on site, and sorting & recycling waste generated on site.
* Rehabilitation of any damage to sensitive areas, including potential erosion from construction activities or storm water run-off.
* Ensure appropriate annual budgets for maintenance and implement appropriate maintenance.
* Implement a process to capture & address public recommendations, complaints and / or requests.

**Audit:*** EMPr adherence.
* Appoint Environmental Control Officer.
* Compile monthly report.
 |

1. **Environmental impact statement**

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

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| **Alternative S1 (preferred site)** |
| The development will have a minimum negative impact on the environment provided sensitive areas are respected and correct building procedures are followed. The primary sensitive area relating to this particular development is the stream along the road. Any work in and around natural water bodies must be considered to be potentially negative and cautionary practices should be employed. The secondary sensitive areas are the soils and the minimal disturbed grass on either side of the stream. The footprint created by construction activities must be kept to a minimum wherever possible so that the soil is not eroded or negatively impacted in any way; Environmental Control Officer must be consulted first. The EMPr must note the soil and the stream as sensitive areas and recommendations made to prevent degradation as well as plans laid out for the control / rehabilitation of potential contamination events should they occur.This area interconnect to the existing gravel roads which make its suitable for road upgrade . Potential negative impacts during the design, construction and operational phase can be mitigated to acceptable, low-risk impacts and potential positive impacts can be optimized trough appropriate mitigation measures as provided within the developed EMPr. |
| **Alternative S2** |
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| **Alternative A1 (preferred alternative)** |
| There are no layout alternatives as the upgrade of road activities will contribute to the improvement in safety and provide access across all parts of the area of Mandawe and allowing easy access across the stream.  |
| **Alternative A2** |
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| **No-go alternative (compulsory)** |
| Failure to upgrade the road will lead to continued unsafety of the community, and lack of service delivery Therefore this will constitute lack of service infrastructure within the Municipality, and thus result in community outrage (as that has already started in the area). |

SECTION F. Recommendation of EAP

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| --- | --- | --- |
| Is the information contained in this report and the documentation attached hereto in the view of the EAPr sufficient to make a decision in respect of this report? | YES | NO |
| If “NO”, please contact the KZN Department of Agriculture, Environmental Affairs and Rural Development regarding the further requirements for your report. |  |  |

If “YES”, please attach the draft EMPr as Appendix F to this report and list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

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| --- |
| * The preferred option is recommended for implementation due to increased benefits, reduced negative consequences from environmental, social and economic perspectives and the fact that it is currently used as an access area by the community;
* The EMPr and conditions thereto should be implemented and adhered to;
* Environmental monitoring to be conducted during construction and incidents recorded and addressed accordingly.
* Waste generated to be separated and re-used or recycled where feasible. Hazardous waste such as oil spillages to be minimized through maintenance of vehicles and use of drip trays. Oil spillage on soil to be bioremediated. General waste to be disposed to a waste disposal site.
* No major catchments requiring full analysis are identified. Where considered essential, especially in minor shallow valley lines, pipe culvert sizes will be increased to 750mm diameter and 900mm diameter where required. A low level concrete drift is proposed over the shallow stream. contamination during construction is possible to occur on the stream. Provision must be made in the Environmental Management Programme to deal with contamination events as well as the mitigation thereof.
* The EMPr and conditions thereto should be adhered to.
* Alien weeds and invader species within vicinity of construction to be removed and indigenous vegetation, where appropriate, to be managed.
* Monitoring re-establishment of alien weeds and invader plants and implement required maintenance.
 |

Section G: Appendixes

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

Appendix E: Comments and responses report

Appendix F: Draft Environmental Management Programme (EMPr)

Appendix G: Other information

1. “Alternative S..” refer to site alternatives. [↑](#footnote-ref-1)
2. “Alternative A..” refer to activity, process, technology or other alternatives. [↑](#footnote-ref-2)