BASIC ASSESSMENT REPORT

FOR THE

## UPGRADE OF THE MAHLASHANA ROADS

**IN THE**

## MSINGA LOCAL MUNICIPALITY AREA

**COMPILED ON BEHALF OF**

**MSINGA LOCAL MUNICIPALITY**

**(Tugela Ferry)**

**REFERENCE NO:**

**DC24/0001/2016**

**KZN EIA/0000252/2016**

BY

GBS ENVIRONMENTAL CONSULTING

Peter Ruddle

Postnet Suite #138

Private Bag X8

Elarduspark 0047

Email: info@gbsenviro.co.za

**APRIL 2016**

For submission to KZN Dept. of Economic Development, Tourism and Environmental Affairs

# BASIC ASSESSMENT REPORT CONTENTS

ACRONYMS........................................................................................................................................................................ 3

1. PROJECT TITLE............................................................................................................................................................... 4
2. DISTRICT MUNICIPALITY.............................................................................................................................................. 4
3. BACKGROUND INFORMATION OF PROJECT........................................................................................................ 4
   1. DETAILS OF THE PROJECT APPLICANT, EAP, SPECIALIST(S), LANDOWNER(S), LOCAL

MUNICIPALITY TRIBAL AUTHORITY.......................................................................................................................... 4

* + 1. APPLICANT........................................................................................................................................................................ 4
    2. ENVIRONMENTAL ASSESSMENT PRACTITIONER............................................................................................... 4
    3. SPECIALIST(S).................................................................................................................................................................. 5
    4. OWNER/PERSON IN CONTROL OF LAND................................................................................................................ 5
    5. LOCAL MUNICIPALITY................................................................................................................................................... 5

1. PROJECT INFORMATION.............................................................................................................................................. 6
   1. DETAILED DESCRIPTION OF THE PROJECT.......................................................................................................... 6
   2. LISTED ACTIVITY DESCRIPTION................................................................................................................................. 7
   3. PROPERTY DISCRIPTION.............................................................................................................................................. 8

4.3.1 ACTIVITY POSITION........................................................................................................................................................ 8

4.3.2 PROPERTY DETAILS AND SIZE.................................................................................................................................. 8

4.4 SITE DESCRIPTION......................................................................................................................................................... 9

4.4.1 GRADIENT......................................................................................................................................................................... 9

4.4.2 LOCATION IN LANDSCAPE.......................................................................................................................................... 9

4.4.3 GROUNDWATER, SOIL & GEOLOGICAL INFORMATION.................................................................................... 9

4.4.4 GROUNDCOVER.............................................................................................................................................................. 10

4.5 LAND IN USE CHARACTER WITHIN 500M............................................................................................................... 11

4.6 CULTURAL/HISTORICAL FEATURES........................................................................................................................ 12

5. ACTIVITY MOTIVATION.................................................................................................................................................. 12

5.1 SOCIO-ECONOMIC VALUE........................................................................................................................................... 12

5.2 ACTIVITY NEEDS, DESIREBILITIES AND BENEFITS............................................................................................ 13

5.3 APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES........................................................................ 14

6. ACTIVITY MANAGEMENT............................................................................................................................................. 16

6.1 WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT............................................................................ 16

6.1.1 SOLID WASTE.................................................................................................................................................................. 16

6.1.2 LIQUED EFFLUENT........................................................................................................................................................ 16

6.1.3 EMMISSIONS.................................................................................................................................................................... 16

6.1.4 GENERATION OF NOISE............................................................................................................................................... 16

6.1.5 WATER USE & SOURCE................................................................................................................................................ 16

6.2 ENERGY EFFICIENCY: DESIGN MEASURES & ALTERNATE ENERGY SOURCES..................................... 17

6.2.1 DESIGN MEASURES....................................................................................................................................................... 17

6.2.2 ALTERNATE ENERGY SOURCE.................................................................................................................................. 17

7. PUBLIC PARTICIPATION............................................................................................................................................... 17

7.1 ADVERTISEMENT............................................................................................................................................................ 17

7.2 DISTRICT/LOCAL AUTHORITY PARTICIPATION.................................................................................................... 17

7.3 STAKEHOLDER PARTICIPATION.............................................................................................................................. 17

8. IMPACT ASSESSMENT.................................................................................................................................................. 18

8.1 ISSUES RAISED BY I&AP’s.......................................................................................................................................... 18

8.2 POTENTIAL IMPACTS THAT MAY RESULT FROM THE PLANNING & DESIGN PHASE............................. 18

8.2.1 PREFFERED SITE............................................................................................................................................................ 18

8.2.2 MITIGATION MEASURES FOR THE POTENTIAL IMPACTS................................................................................. 19

8.2.3 PROCESS, TECHNOLOGY, LAYOUT OR OTHER ALTERNATIVES................................................................... 19

8.3 POTENTIAL IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE...................................... 20

8.3.1 PREFFERED SITE ......................................................................................................................................................... 20

8.3.2 MITIGATION MEASURES FOR THE POTENTIAL IMPACTS................................................................................. 22

8.3.3 PROCESS, TECHNOLOGY, LAYOUT OR OTHER ALTERNATIVES................................................................... 26

8.4 POTENTIAL IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE......................................... 27

8.4.1 PREFFERED SITE............................................................................................................................................................ 27

8.4.2 MITIGATION MEASURES FOR THE POTENTIAL IMPACTS................................................................................ 28

8.4.3 PROCESS, TECHNOLOGY, LAYOUT OR OTHER ALTERNATIVES.................................................................. 29

8.5 POTENTIAL IMPACTS THAT MAY RESULT FROM THE DECOMMISIONING PHASE................................. 30

8.5.1 PREFFERED SITE............................................................................................................................................................ 30

8.5.2 MITIGATION MEASURES FOR THE POTENTIAL IMPACTS................................................................................. 32

8.5.3 PROCESS, TECHNOLOGY, LAYOUT OR OTHER ALTERNATIVES................................................................... 32

8.6 PROPOSED MONITORING AND AUDITING.............................................................................................................. 32

9 ENVIRONMENTAL MANAGEMENT............................................................................................................................. 34

9.1 ALTERNATIVE SITE 1 (IF ANY).................................................................................................................................... 34

10. RECOMENDATIONS BY EAP........................................................................................................................................ 35

APPENDICES...................................................................................................................................................................... 36

# ACRONYMS

**BAR** Basic Assessment Report

**DEDTEA** Department of Economic Development, Tourism and Environmental Affairs

**DEA** Department of Environmental Affairs

**DoT** KwaZulu-Natal Department of Transport

**DWAS** Department of Water Affairs & Sanitation

**ECO** Environmental Control Officer

**EIA** Environmental Impact Assessment

**EMPr** Environmental Management Programme

**I&AP** Interested and Affected Parties

**IEM** Integrated Environmental Management

**RE** Resident Engineer

**RRTF** Rural Roads Transport Forum

# BASIC ASSESSMENT REPORT

Submitted in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and regulation 6 (1) and 16 (1) of the Environmental Impact Assessment (EIA) Regulations, 2014 (Government Notice No. R 982, 04 December 2014).

|  |  |
| --- | --- |
| **DEDTEA (For official use only)** | |
| EIA File Reference Number: | DC24/0001/2016 |
| NEAS Reference Number: |  |
| Waste Management Licence Number: |  |
| Date Received: |  |

**DEPARTMENTAL REFERENCE NUMBER(S)**

|  |  |
| --- | --- |
| File reference number (EIA): |  |
| File reference number (Waste Management Licence): |  |

## 1. PROJECT TITLE:

|  |
| --- |
| Mahlashana Roads Upgrade |

## 2. DISTRICT MUNICIPALITY:

|  |
| --- |
| Umzinyathi |

3. BACKGROUND INFORMATION OF PROJECT:

## 3.1 DETAILS OF THE PROJECT APPLICANT, EAP, SPECIALIST(S), LANDOWNER(S), LOCAL MUNICIPALITY & TRIBAL AUTHORITY:

## 3.1.1 APPLICANT

|  |  |
| --- | --- |
| Applicant Trading Name | Msinga Local Municipality (Mr Fanozi Bethuel Sithole) |
| Contact Person | Mr Senzo Sokhela |
| Telephone Number | 033 493-0761 |
| Facsimile Number | 033 493-0766 |
| E-mail Address | Senzo.sokhela@msinga.org.za |
| Physical Address | Msinga Municipal Offices, Ithala Building, R33 Tugela Ferry |
| Postal Address | P.O. Box 329, Tugela Ferry 3010 |

## 3.1.2 ENVIRONMENTAL ASSESSMENT PRACTITIONER:

|  |  |
| --- | --- |
| Business Name | GBS Environmental Consulting |
| Contact Person | Peter Ruddle |
| Telephone Number | 083 604 0723 |
| Facsimile Number | 086 575 7605 |
| E-mail Address | gbsenviro@lantic.net |
| Physical Address | 551 View Street, Rietvalleirand 0181 |
| Postal Address | Postnet Suite #138, Private Bag X8, Elanduspark, 0047 |
| Qualification | National Diploma in Nature Conservation and Management |
| Experience (Years) | 9 |
| Professional Affiliations | IAIA |

## 3.1.3 SPECIALIST:

|  |  |
| --- | --- |
| Trading Name | G & A Heritage |
| Contact Person | Stephan Gaigher |
| Telephone Number | 015 516-1561 |
| Facsimile Number | n/a |
| E-mail Address | Stephan@gaheritage.co.za |
| Physical Address | 38A Vorster Str, Louis Trichardt, 0920 |
| Postal Address | P. O. Box 522, Louis Trichardt, 0920 |
| Qualification | BA Hon Archaeology UP |
| Expertise | Archaeologist |
| Contributions in this report | Heritage Report |
| Title of specialist report (as in Appendices) | Phase 1 Heritage Impact Assessment Report  Mahlashana Road Upgrade Project, near Pomeroy, Kwa Zulu Natal Province |

## 3.1.4 OWNER/PERSON IN CONTROL OF LAND:

|  |  |
| --- | --- |
| Tribal authority | Mr. Ernest Shabalala (Qamu Tribal Authority) |
| Contact Person | Mr. Ernest Shabalala |
| Telephone Number | 082 740-3391 |
| Facsimile Number | n/a |
| E-mail Address | n/a |
| Physical Address | Elandskraal |
| Postal Address | P.O. Box 191, Pomeroy 3020 |

## 3.1.5 LOCAL MUNICIPALITY:

|  |  |
| --- | --- |
| Municipality | Msinga |
| Contact Person | Mr. S.L. Sokhela |
| Telephone Number | 033 493-0761 |
| Facsimile Number | 033 493-0766 |
| E-mail Address | Senzo.sokhela@msinga.org.za |
| Physical Address | Msinga Municipal Offices, Ithala Building, R33 Tugela Ferry |
| Postal Address | P.O. Box 329, Tugela Ferry 3010 |

# 4. PROJECT INFORMATION:

## 4.1 DETAILED DESCRIPTION OF THE PROJECT:

|  |
| --- |
| The project includes the upgrading of two sections of road known as the Mahlashana Road, in the Mahlaba area between Elandskraal and Pomeroy, in northern KwaZulu-Natal. The tracks will be upgraded to a Type 7a Local Road Standard.  The roads to be upgraded total 6.3kms in length and divided into two sections. Section 1 is 5.1km long and Section 2 is 1.2km in length.  The current site determination was made by the following facts: LOCATION  * The route location has been selected as a tracks already exist and are the most moderate available route in terms of gradients with no excessively long, steep slopes. * The track was developed to allow access to the majority of the homesteads and developments in the area, therefore the upgrade should follow the existing route. * The existing route is the only one used by the community and will cause least disturbance.  LAND  * The request to upgrade the road originated from within the community and their support structures, the Tribal Authority and the RRTF. The Tribal Authority, who has granted consent for the proposed road to be constructed, administrates the land. Local roads are a vital link between communities and the formal road network and function primarily as collector roads to the formal road network, servicing community facilities along the way. * By following the existing track for the majority of the distance, very little land, currently used for agricultural crops or grazing for domestic stock, will be lost. * No land needs to be expropriated and minimal (if any) compensation paid out to the homeowners affected by the realignment of the road, as they were the people who requested the road upgrade. This makes the project financially viable.  GOVERNMENT SUPPORT  * The proposed road enjoys the support of all government structures, from the provincial level down to the District and Local Municipalities.  ROAD ACCESS  * The proposed road will connect to other roads already in service and maintained by the DoT. These roads are constructed according to the Department of Transport safety standards and traffic requirements, thus making motoring much safer for the road users. * The current access track is of poor quality. Some sections of the track also act as a pathway for local community members and livestock. * Local roads also provide access from district or main roads as well as infrastructure such as schools, clinics, community facilities and settlements that were previously isolated from each other and from rural towns.  ENGINEERING REQUIREMENTS  * + The route that has been selected is the most moderate available site in terms of gradients, therefore minimising the potential erosion from runoff.   + The route is not technically difficult and no restrictions exist such as major steepness or any other factors related to the existing site.  SOCIO-ECONOMIC  * + Many of the direct, indirect and accumulative impacts discussed in this report will have a positive impact of significance on the local community.   + The development of the road will provide good access and the introduction of further services and development opportunities in the area. This includes agricultural development, housing and associated infrastructure. In general, the road will not impact on society in any significant way beyond the immediate area served by the road.   + There are numerous homesteads in the area, whose residents have very limited access to state services and service providers (police, ambulance, clinics, etc.) that struggle to maintain service delivery in the area as a direct result of the poor condition of the access track.   + The transportation of goods to these outlying rural areas will greatly improve to the general wellbeing, upliftment and living standards of the local community. Items such as gas, fuel and groceries for household use will be more readily available, due to improved access to the region. This could also encourage informal businesses and retail outlets (Spaza shops), as well as other private services to develop in the region.   + Improving the road will facilitate the provision of services such as, Eskom electrical reticulation, health services, social services including pension payments, as well as community policing. |

|  |
| --- |
| **APPENDIX A: The facility illustration(s)** |

## 4.2 LISTED ACTIVITY DESCRIPTION:

|  |
| --- |
| Notice: R983 - 4 December 2014:  Activity Number: 12(iii)(a) The development of- (xii) infrastructure of structures with a physical footprint of 100 square metres or more; where such development occurs - (a) within a watercourse  Notice: R983 - 4 December 2014:  Activity Number: 19(i) The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from-  (i) a watercourse;  Notice: R983 - 4 December 2014:  Activity Number: 24 The development of-  (ii) a road with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres. |

## 4.3 PROPERTY DESCRIPTION:

## 4.3.1 ACTIVITY POSITION:

**SECTION 1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Geographical  Co-ordinates | Latitude | | | Longitude | | |
| Degrees | Minutes | Seconds | Degrees | Minutes | Seconds |
| **Preferred Site** |  | | | | | |
| Start point of activity | S28° | 33' | 27.2" | E30° | 35' | 27.2" |
| End point of activity | S28° | 32' | 31.9" | E30° | 38' | 07.8" |

**SECTION 2**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Geographical  Co-ordinates | Latitude | | | Longitude | | |
| Degrees | Minutes | Seconds | Degrees | Minutes | Seconds |
| **Preferred Site** |  | | | | | |
| Start point of activity | S28° | 32' | 55.0" | E30° | 37' | 10.5" |
| End point of activity | S28° | 32' | 22.9" | E30° | 37' | 06.9" |

## 4.3.2 PROPERTY DETAILS AND SIZE

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Erf Name and No. | Klip River 4665 | | | | | | | | | | | | | | | | | | | | | |
| 1:50 000 Map Details | 2830DA Collessie | | | | | | | | | | | | | | | | | | | | | |
| Size of Activity | 126 000 m 2 | | | | | | | | | | | | | | | | | | | | | |
| Length of the activity | 6,300m | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | | | | | | | | | | | | | | | | | | | |
| Site Access | YES | | | | | | | | | | | ~~NO~~ | | | | | | | | | | |
| Is there access to the site? If No, what is the distance over which a new access road will be built; | Access is available from the P 365 | | | | | | | | | | |  | | | | | | | | | | |
|  |  | | | | | | | | | | | | | | | | | | | | | |
| Nearest Town | Elandkraal | | | | | | | | | | | | | | | | | | | | | |
| SG Ref. Number | N | O | G | T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 4 | 6 | 6 | 5 | 0 | 0 | 0 | 0 | 0 | |
|  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  | |
| Directions to Project | Take the P365 from Elandskraal towards Pomeroy. Drive for 14.4kms and the first section of road starts on your left. | | | | | | | | | | | | | | | | | | | | | |

|  |
| --- |
| **APPENDIX B: Maps and Site plan(s)** |

## 4.4 SITE DESCRIPTION:

## 4.4.1 GRADIENT:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Preferred Site | Flat  X | 1:50-1:20  X | 1:20-1:15  X | 1:15-1:10  X | 1:10-1:7.5 | 1:7.5-1:5 | Steeper than 1:5 |

## 4.4.2 LOCATION IN LANDSCAPE:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Preferred Site | Ridge  Line | Plateau | Mountain / Hill slope  X | Closed Valley | Open Valley  X | Plain | Undulating | Dune |

|  |
| --- |
| **APPENDIX C: Site Photographs** |

## 4.4.3 GROUNDWATER, SOIL & GEOLOGICAL INFORMATION:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Has a specialist been appointed for this section | | | | | ~~YES~~ | | NO |
| If yes, give details of specialist: | | | | | | | |
| Name |  | | | | | | |
| Qualifications |  | | | | | | |
| Address |  | | | | | | |
| Telephone |  | | Fax |  | | | |
| Email |  | | Cell |  | | | |
| Any Rare, Endangered or Red Data Species | | | | | ~~YES~~ | | NO |
| If yes, specify |  | | | | | | |
| Any sensitive habitats or natural features | | | | | ~~YES~~ | | NO |
| If yes, specify |  | | | | | | |
| Any further specialist studies required | | | | | ~~YES~~ | | NO |
| If yes, attached | | | | | ~~YES~~ | | NO |
|  | | | | | | | |
| Specialist Signature | |  | | | Date |  | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Is the site located on: | | | | | | |
|  | **Preferred Site** | | Alternative 1 | | Alternative 2 | |
| Shallow Water Table (>1.5m) | ~~YES~~ | NO | YES | NO | YES | NO |
| Dolomite, sinkholes or doline areas | ~~YES~~ | NO | YES | NO | YES | NO |
| Seasonally wet soils | ~~YES~~ | NO | YES | NO | YES | NO |
| Unstable rocky slopes or steep slopes with loose soils | YES | ~~NO~~ | YES | NO | YES | NO |
| Dispersive soils | ~~YES~~ | NO | YES | NO | YES | NO |
| Soils with high clay content | ~~YES~~ | NO | YES | NO | YES | NO |
| Unstable soil/geological feature | YES | ~~NO~~ | YES | NO | YES | NO |
| Erosion sensitive | YES | ~~NO~~ | YES | NO | YES | NO |

## 4.4.4 GROUNDCOVER:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Has a specialist been appointed for this section | | | | | | | ~~YES~~ | NO |
| If yes, details of specialist: | | | | | | | | |
| Name |  | | | | | | | |
| Qualifications |  | | | | | | | |
| Address |  | | | | | | | |
| Telephone |  | | | Fax |  | | | |
| Email |  | | | Cell |  | | | |
| Any Rare, Endangered or Red Data Species | | | | | | | ~~YES~~ | NO |
| If yes, specify |  | | | | | | | |
| Any sensitive habitats or natural features | | | | | | | ~~YES~~ | NO |
| If yes, specify |  | | | | | | | |
| Any further specialist studies required | | | | | | | ~~YES~~ | NO |
| If yes, attached | | | | | | | ~~YES~~ | NO |
| Location land type: Communal land | | | | | | | | |
| Specialist Signature | |  | Date | | |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Natural Veld in good condition | Natural veld with scattered alien infestation  X | Natural veld with heavy alien infestation | Predominantly alien infestation | Gardens  X |
| Sports field | Cultivated land  X | Paved surface | Building and structures | Bare soil |

## 4.5 LAND USE CHARACTER WITH IN 500 M:

|  |  |  |  |
| --- | --- | --- | --- |
| **Land Use character** | **YES** | **NO** | **Description** |
| Natural area | YES |  | Limited impact as this is the upgrading of an existing track |
| Low density residential |  | NO |  |
| Medium density residential |  | NO |  |
| High density residential |  | NO |  |
| Informal residential | YES |  | Scattered villages |
| Retail & commercial |  | NO |  |
| Light industrial |  | NO |  |
| Medium industrial |  | NO |  |
| Heavy industrial |  | NO |  |
| Power station |  | NO |  |
| Offices |  | NO |  |
| Military/Police area |  | NO |  |
| Slime dams and spoil heaps |  | NO |  |
| Quarry, sand or borrow pit |  | NO |  |
| Dam, reservoir |  | NO |  |
| River, stream or wetland | YES |  | Mgunjane River |
| Medical facility |  | NO |  |
| Education facility |  | NO |  |
| Religious facility |  | NO |  |
| Retirement facility |  | NO |  |
| Sewage treatment plant |  | NO |  |
| Railway yard / Line |  | NO |  |
| Major road |  | NO |  |
| Airport |  | NO |  |
| Harbour |  | NO |  |
| Sport facility |  | NO |  |
| Golf course |  | NO |  |
| Equestrian facility |  | NO |  |
| Filling station |  | NO |  |
| Landfill/waste treatment site |  | NO |  |
| Plantation |  | NO |  |
| Natural forest |  | NO |  |
| Agriculture | YES |  | Limited impact as the area is used for grazing. |
| Conservation / Protected area |  | NO |  |
| Mountain, hill, ridge |  | NO |  |
| Museum |  | NO |  |
| Historical building |  | NO |  |
| Graveyard |  | NO | Scattered graves outside 20m road reserve |
| Archaeological site |  | NO |  |
| Other land use (describe) |  | NO |  |

## 4.6 CULTURAL/HISTORICAL FEATURES:

|  |  |  |
| --- | --- | --- |
| Are there any cultural, heritages or historically significant elements present? | | No |
| If YES, has a specialist been appointed | | Yes |
| Recommendations by Specialist | Heritage Impact Assessment: No historical sites of any significance were noted. The principal issue is the presence of graves, none of which were within 20m of the proposed road. | |

|  |  |
| --- | --- |
| Will any structures older than 60 years be affected | No |
| If YES, has a permit been applied for | No |

|  |
| --- |
| **APPENDIX D: Specialist Report(s)** |

# 5. ACTIVITY MOTIVATION

## 5.1 SOCIO-ECONOMIC VALUE:

|  |  |  |
| --- | --- | --- |
| Capital value on completion | R 7 765 569.53 | |
| Yearly income on completion | R 0.00 | |
| Contribution to service infrastructure | YES | ~~NO~~ |
| The activity is a public amenity? | YES | ~~NO~~ |
| Number of new employment opportunities created in the development phase | 30 | |
| Value of new employment opportunities in the development phase | R 514 800.00 | |
| Number of permanent new employment opportunities during the operational phase | Approx. 2 | |
| What is the expected current value of the employment opportunities in the first 10 years? | R 400 000.00 | |
| What percentage will accrue to previously disadvantaged individuals? | 100% | |

## 5.2 ACTIVITY NEEDS, DESIRABILITIES AND BENEFITS:

|  |
| --- |
| The request to upgrade the road originated from within the community and their support structures, the Tribal Authority. Local roads are a vital link between communities and the formal road network and function primarily as collector roads to the formal road network, servicing community facilities along the way.  Local roads also provide access from District or Main Roads to infrastructure such as schools, clinics, community facilities and settlements that have previously been isolated from each other and from rural centres.  The present access track is of poor quality which is not accessible in wet weather and must be driven very carefully to prevent any damage being caused to the vehicles using the road.  The development of the road will provide good access and the introduction of further services and development opportunities in the area. This includes agricultural development, housing and associated infrastructure.  In general, the road will not have an impact on society in any significant way beyond the immediate area served by the road. There are numerous homesteads in the area, whose residents have very limited access to state services and service providers (police, ambulance, clinics, etc.) that struggle to maintain service delivery in the area as a direct result of poor condition of the access track.    The transportation of goods to these outlying rural areas will greatly improve to the general wellbeing, upliftment and living standards of the local community. Items such as gas, fuel and groceries for household use will be more readily available, due to improved access to the region. This could also encourage informal businesses and retail outlets (Spaza shops), as well as other private services to develop in the region.  Improving the road will facilitate the provision of services such as, Eskom electrical reticulation, health services, social services including pension payments, as well as community policing. |

## 5.3 APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

|  |  |  |
| --- | --- | --- |
| Legislation, Policy or Guideline | Administering authority | Date |
| **1.** Constitution of the Republic of South Africa Act Act No. 108 of 1996  Chapter 2: Bill of Rights  *Inter alia*, Ch 24, Environmental and Ch. 25, Property  **2.** Environment Conservation Act Act No. 73 of 1989  Regulations GN R1182 GG18261 of 5 Sept 1997  As amended by GN R448 GG18783 of 27 March 1998  Regulation 2(c) (Change of land use)  Regulations GN R154 of GG13717 of 10 January 1992 – Noise Control  **3.**  National Environment Management Act Act No. 107 of 1998  **4.** Conservation of Agricultural Resources Act  Act No. 43 of 1983  S.5 (prohibition of spreading weeds)  S12 (Soil conservation works)  S19 (Beacons)  Regulations as promulgated in GNR1048  GG10029 of 25 May 1984 and amended by  GN R2687 GG10029 of 6 December 1985  Regs 1 – 33.,  Specially Regs. 15(1), 16 (1) and 16 (2), declared weeds, 15(2), 16(3), Invader Plants.  **5**  National Water Act  Act No. 36 of 1998  Chapter 16 – Offences and Remedies  Regulations as promulgated in GN704 GG20119  of 4 June 1999  Regulations on Use of Water for Mining and  Related Activities Aimed at the Protection of Water  Resources  **6** Biodiversity Act Act No. 10 of 2004  **7** Animal Protection Act  Act No. 71 of 1962 S2 Offences  **8** Game Theft Act Act no. 105 of 1991  S2 Ownership of Game  S3 Game Theft  **9**  Mineral & Petroleum Resources Development  Act  Act No. 28 of 2002  Establishment and management of borrow pits and  quarries  **10** Mines Health and Safety Act  Act No. 29 of 1996  All aspects of borrow pits and quarries.  **11** Hazardous Substances Act  Act No. 15 of 1973  **12**  Fertilisers, Farm Feeds and Agricultural  Remedies Act  Act No. 36 of 1947  **Selected Provincial Legislation**  **1** KwaZulu Natal Heritage Act  Act No. 10 of 1997  **2** KwaZulu Natal Nature Conservation  Management Act Act No. 9 of 1997 | Constitutional Court  Dept. Environmental Affairs and Tourism  Dept. Environmental Affairs and Tourism  Dept. Environmental Affairs and Tourism  (Dept. Agriculture)  Dept. Water Affairs and Forestry  Dept. Environmental Affairs and Tourism  Dept. Justice  Dept. Justice  Dept. of Minerals and Energy Affairs  Dept. of Minerals and Energy Affairs  Dept. Health and Welfare  Dept. Agriculture  Amafa  KZN Wildlife | 21 April 1999  1 June 1989  27 November 1998  21 April 1983  20 August 1998  27 February 2004  16 June 1962  27 June 1991  10 October 2002  14 June 1996  26 March 1973  3 June 1947  7 January 1998  3 December 1997 |

# 6. ACTIVITY MANAGEMENT

## 6.1 WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT:

## 6.1.1 SOLID WASTE:

|  |  |  |  |
| --- | --- | --- | --- |
| Will the activity produce solid waste during construction/initiation phase | | YES | ~~NO~~ |
| If yes, estimated quantity per month | | 2.25 m3 | |
| Who will dispose of the solid waste? | The contractor will dispose of the solid waste. | | |
| Where will the solid waste be disposed? | Pomeroy landfill site | | |
| Will the activity produce solid waste during operational phase? | | ~~YES~~ | NO |
| If yes, estimated quantity per month | | 0m3 | |
| Will any of the solid waste classified as hazardous waste? | | ~~YES~~ | NO |
| Will the activity be for used for solid waste handling or treatment | | ~~YES~~ | NO |

## 6.1.2 LIQUID EFFLUENT:

|  |  |  |
| --- | --- | --- |
| Will the activity produce liquid effluent (other than normal sewage) | ~~YES~~ | NO |
| If yes, what quantity |  | |

## 6.1.3 EMMISSIONS:

|  |  |  |  |
| --- | --- | --- | --- |
| Will the activity produce emissions into the atmosphere? | | YES | ~~NO~~ |
| If yes, is it controlled by legislation | | ~~YES~~ | NO |
| Describe the type of emissions expected | Dust and exhaust emissions, caused by moving vehicles are likely to occur during the construction phase. | | |

## 6.1.4 GENERATION OF NOISE

|  |  |  |  |
| --- | --- | --- | --- |
| Will the activity generate noise | | YES | ~~NO~~ |
| If yes, is it controlled by legislation | | ~~YES~~ | NO |
| Describe the noise in terms type and level | General construction vehicle noise, as is common at any construction site. The noise levels are unlikely to exceed 75dB (Petrol lawnmower) at any area inhabited by the surrounding community. | | |

## 6.1.5 WATER USE & SOURCE:

|  |  |  |
| --- | --- | --- |
| Where will the water be sourced to be used in the activity? | Local dam or river | |
| What volume of water will be extracted per month for the activity | 120 000 Lts | |
| Does the activity require a water licence | YES | ~~NO~~ |

## 6.2 ENERGY EFFICIENCY: DESIGN MEASURES & ALTERNATE ENERGY SOURCES:

## 6.2.1 DESIGN MEASURES:

|  |
| --- |
| The proposed upgrade is a passive structure that does not use energy on completion of the construction work. This upgraded road will allow the community greater access to the road and each other. Travel time will be reduced and access will be much easier. |

## 6.2.2 ALTERNATE ENERGY SOURCES:

|  |
| --- |
| No alternate energy sources will be used. Vehicles will gain access to travel on the new road. |

# 7. PUBLIC PARTICIPATION:

## 7.1 ADVERTISEMENT:

|  |  |
| --- | --- |
| Was a site notice board placed on site? | Yes |
| Was the proposed activity advertisement in newspaper or a government document | Yes |

## 7.2 DISTRICT/LOCAL AUTHORITY PARTICIPATION:

|  |  |  |
| --- | --- | --- |
| Was comment received from District Municipality? | | No |
| If YES, what was the feedback | Comment was not requested | |

|  |  |  |
| --- | --- | --- |
| Was comment received from Local Municipality | | No |
| If YES, what was the feedback | The Local Municipality are the applicants | |

|  |  |  |
| --- | --- | --- |
| Was comment received from Traditional Authority | | No |
| If YES, what was the feedback | The Traditional Authority requested that this road be upgraded and have been notified as the landowner that the proposed upgrade of the road is to take place. | |

## 7.3 STAKEHOLDER PARTICIPATION:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Stakeholder** | **YES** | **NO** | **Contact name** | **Address** |
| Amafa | X |  | Ms W Tshabalala | P.O. Box 2685, Pietermaritzburg 3201 |
| Department of Agriculture, Forestry and Fisheries |  | X |  |  |
| Department of Cooperative Governance and Traditional Affairs |  | X |  |  |
| Department of Health |  | X |  |  |
| Department of Human Settlements |  | X |  |  |
| Department of Transport | X |  | Mr R Ryan | P/Bag X9043 Pietermaritzburg 3200 |
| Department of Water Affairs & Sanitation | X |  | Mr S. Govender | P.O. Box 1018, Durban 4000 |
| Ezemvelo KZN Wildlife | X |  | Mr. D. Weiners | P.O. Box 13053, Cascades 3202 |

|  |
| --- |
| **APPENDIX E: Stakeholders Comments and Responses Report** |

# 8. IMPACT ASSESSMENT

## 8.1 ISSUES RAISED BY I&AP

|  |  |
| --- | --- |
| List the main issues raised by the I&AP | No concerns have been raised by the local community, other than the lack of formal access to the site and how urgently the road is required. |
| Response from EAP to all issues raised | All responses from the EAP will be contained in Appendix E along with an Executive Summary. |

|  |
| --- |
| **APPENDIX F: Proof of Advertising Information and I&AP Comments** |

## 8.2 POTENTIAL IMPACTS THAT MAY RESULT FROM THE PLANNING & DESIGN PHASE

## 8.2.1 PREFERRED SITE

|  |
| --- |
| **DIRECT IMPACTS:**  There are no direct impacts associated with the planning and design phase. The route chosen will have minimal impact on the environment.  **INDIRECT IMPACTS:**  The access created would result in a substantial improvement in living standards and life in general, with regards to access to the school and social services to the affected community.  **CUMULATIVE IMPACTS:**  No impacts are expected, the status quo along the proposed road will remain, however having the road in the region, would improve all weather access for the residents, improve governments service delivery and improve the business potential of the area. |

## 8.2.2 MITIGATION MEASURES FOR THE POTENTIAL IMPACTS:

|  |
| --- |
| * The Contractor must sign that he has received and understands the EMPr. * The Contractor must ensure compliance with the conditions in the Authorisation. * The road route must be demarcated. * A system of record keeping must be implemented. This would include records of compliance / non-compliance with conditions of the Authorisation of the building materials (especially sand and crushed stone) and environmental incidents that must be kept and be made available to DEDTEA on request. * Confirm suitable sites for the construction camp (batching equipment, etc) and storage areas for the materials. * All the construction equipment must be stored at the storage area and all associated oil changes must take place in this area. No servicing of plant or vehicles to take place at this site. * An Environmental Control Officer (ECO) must be appointed. * Unskilled labourers should be employed from the local community. * Environmental awareness training for all staff, concerning the prevention of accidental spillage of hazardous chemicals, oil; pollution of water resources (both; surface and groundwater), air pollution and litter control. * The project manager shall ensure that the training and the capabilities of the Contractor’s staff are adequate to carry out the designated tasks. * Staff operating mechanical equipment and plant, shall be adequately trained and sensitised to any potential environmental impacts and hazards associated with their tasks. * A complaints and stakeholders feedback system must be set up to address any complaints from the neighbouring properties and other stakeholders who may be affected by the proposed construction activities. * The Contractor will need to plan for the supply of water for the road construction and staff at the construction camp. * Photographic records of the road construction must be regularly updated. |

## 8.2.3 PROCESS, TECHNOLOGY, LAYOUT OR OTHER ALTERNATIVES

|  |
| --- |
| **DIRECT IMPACTS:**   * There are no technological or alternative projects that could fulfil the goals of the proposed upgrade.   **INDIRECT IMPACTS:**   * None expected.   **CUMULATIVE IMPACTS:**   * None expected |

## 8.3 POTENTIAL IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

## 8.3.1 PREFERRED SITE

|  |
| --- |
| DIRECT IMPACTS:  * Construction will have the greatest impact on the environment of all the phases of the proposed upgrade. * Generally, roads are constructed along the path of least disturbance, often following century old natural game trails or cattle paths, which inevitably is the route easiest to travel between two points. This is the case for the route in question.   **Water Quality**   * The construction of culverts will not impact on the water quality in the area.   **Oil and Diesel Spillages**   * Heavy vehicles will inevitably leave behind traces of the lubricants and fuel used to operate them. These include diesel, oil, hydraulic fluid and other similar products. These products pollute the soil and cause plants that are directly contaminated by these fuels spillages to die. Large quantity (over 200 litres) diesel spills could affect the quality of the ground water if no remedial action is taken. * The presence of diesel and oil on the site are dangers that could threaten the water quality and require management as set out in the EMPr. The most efficient method of road construction where large quantities of earth need to be moved and compacted is with heavy machinery and other mechanised techniques. This method is substantially faster than any manual technique.   **Dust and Sediment**   * Vehicles travelling at high speed on unpaved road surfaces tend to disperse any surface particles and debris. This dust can also be sucked into the turbulent wake created behind the moving vehicles and affect people living in homesteads near the road. The dust will be carried some distance away from the road, varying according to wind speed, direction and other climatic factors, such as temperature and precipitation moisture levels. * During construction, the deck of the road can begin to create dust as a result of the crushing of the substrate. This causes nuisance related impacts (such as damage and discoloration of washing, dust on food, the body and hair) that are potentially significant, especially where houses are located close to the route. The dust will carry some distance away from the road, varying according to wind speed, direction and other climatic factors, such as temperature and precipitation moisture levels. * Dust deposits can be blown into the air by wind from the vehicle movement, especially when wind speed prevents the dust from settling close to the source. Dust pick-up by wind is usually only significant at wind speeds above 5 metres per second (10 knots), but vehicle re-entrainment can occur under any conditions. * Sediment is the result of dust that enters the environment in rainfall runoff. This is difficult to prevent, as it is a natural occurrence that has been exacerbated by human activity and the construction of the road.   **Traffic and Access**   * Slow moving construction vehicles can cause traffic congestion on public roads. * Drivers of these vehicles must be very careful to avoid any collisions with children walking to school along these roads, especially during the peak period when the children are on their way to and from school.   **Soil and Geology**   * Spillage of fuel or oil leaks from construction vehicles may result in the contamination of soil and groundwater. * Care should be taken not to contaminate topsoil in cases of negligent fuel storage and cement mixing. * Stormwater runoff may cause erosion of topsoil and the siltation of watercourses, if not controlled.   **Air Quality**   * Short-term negative impacts on air quality will occur from heavy equipment, dust and exhaust fumes during the construction phase.  INDIRECT IMPACTS:  * Indirect impacts include disturbance of the soil along the route, storm-water management and unsafe quarrying practises associated with borrow pits.   **Construction Traffic**   * The delivery of construction equipment and materials poses safety problems for other road users and pedestrians if not strictly controlled. * Property and roads can be damaged if construction vehicles take routes that are not adequate for heavy vehicle usage.   **Access and Security**   * Only construction staff must be permitted on site as uncontrolled entry by guests may lead to safety concerns.   **Change in Landuse**   * The change of land use from communal grazing land is significant from an undeveloped, untransformed area characterised by natural vegetation to a road.   **Spread of Alien Plants**   * The removal of indigenous vegetation and increase in human traffic would create additional opportunities for the spread of invasive plants and noxious weeds.  CUMULATIVE IMPACTS: **Water Resource Issues**   * Water used for the construction and activities such as damping down may lead to extra demands on the finite water resources of the particular water source used by the contractor.   **Water, Soils and Air**   * The pollution of water, soils and air resulting from separate small events / sources could have additive effects on the ecosystem.   **Waste Management**   * The creation of extra waste may result in extra impacts on the registered landfill site used by the contractor. |

## 8.3.2 MITIGATION MEASURES FOR THE POTENTIAL IMPACTS:

|  |
| --- |
| This aspect is addressed more fully in the EMPr appended to this Basic Assessment Report.  **Construction Traffic and Access**   * Construction routes must be clearly defined and construction vehicles must not deviate from the route. * Planning of site delivery hours must be scheduled to avoid weekends, evenings insofar as possible. * Servicing of vehicles must be done off-site. * A site speed limit of 20km/h must not be exceeded at the actual construction site location.   **Construction**   * Only designated areas must be used for the storage of construction materials, soil stockpiles, machinery and other equipment. * Specific areas must be designated for cement batching plants. Sufficient drainage for these plants must be in place to ensure that the soil does not become contaminated. * The construction site must be kept clear of litter at all times. * Food preparation areas should not be allowed on the site. Food should be prepared off-site and brought to the construction workers at meal times. * No servicing or washing of vehicles may occur on site. * All spillages, including any at the construction camp need to be cleaned up immediately and disposed of at a hazardous waste site. * A spill kit will be kept at the site for use in accidental spillages. At least one person will be trained in the use of the spill kit. * Staff and labourers requiring accommodation must be housed in the construction camp.     **Soil and Geology**  **i) Fuel Storage**   * Diesel and oil will be stored in minimum quantities at the site. * Fuel and material must be stored away from any soil stockpiles. * Topsoil and subsoil must be protected from contamination. * Contaminated soil must be contained and disposed of off-site at a licensed landfill site.   **ii) Earthworks**   * All earthworks, especially borrow pits must be adequately controlled and managed. * Any excavations must be clearly marked and demarcated.   **Groundwater**   * Water usage, land use, waste management and any onsite sanitation associated with the proposed new development must be designed and managed so as not to impact, insofar as possible negatively on the groundwater resources on the site. * Facilities for the collection and disposal of waste on the site should occur in sealed surfaces, which would ensure that there is no waste or contaminated water from the waste entering the soil profile. * Infrastructure associated with sewage (such as underground piping) should be adequately designed to ensure that there is no underground leakage, which may pollute the soil and groundwater.   **Hydrological and Stormwater**   * The site must be managed in order to prevent the pollution of drains, downstream watercourses or groundwater, due to suspended solids, silt or chemical pollutants. * Promote a water saving mindset with the construction workers in order to ensure less water wastage. * New stormwater constructions must be developed strictly according to the engineer’s specifications in order to ensure efficiency.   **Air Quality (Dust Control)**   * The retention of vegetation where possible will reduce dust levels. Maintaining some form of vegetation close to the road is also a feasible method of reducing pickup dust. This includes grass and shrubs, but should not include trees that funnel wind into a particular location and thus intensify the pickup effect and impact of dust downwind. * Wheel washing and damping down of un-surfaced and un-vegetated areas will reduce dust levels. Water saving must be taken into account. * Excavations and other clearing activities must only be done during agreed working times and permitting weather conditions to avoid drifting sand and dust into unwanted areas. * The maintenance of the road surface is important to ensure that the deck is compacted and sealed as well as possible. At especially sensitive points along the route, such as those where homes are close to the road, vehicle speeds must be kept to acceptable levels, even if this requires the construction of speed humps or other passive traffic calming structures.   **Noise**   * As construction workers operate in a very noisy environment, it must be insured that their working conditions, safety gear and clothing, comply with the requirements of the Occupational Health and Safety Act. Where necessary ear protection and goggles should be worn. * Ambient noise levels should not exceed within reason the acceptable standards for a road construction site. * Noisy operations should be combined so that that they occur concurrently at the same time when possible. * Loitering from construction workers will not be tolerated. Noise from workers in general must be strictly controlled at work and after hours at the construction camp.   **Flora**  **i) Existing Vegetation**   * The existing indigenous vegetation must be retained where possible. The infrastructure associated with the proposed road development must be designed so that as many trees are retained as possible. * Materials should not be delivered to the site prematurely, which could result in additional areas being cleared or affected. * No vegetation must be used for firewood. * The construction site office, camp, workshop and laydown areas must be clearly demarcated and no encroachment must occur beyond the demarcated areas. * All impacted areas must be rehabilitated with indigenous plants.   **ii) Exotic Vegetation**   * All exotic vegetation should be removed from the site and replaced with indigenous flora. * Alien vegetation on the site will need to be controlled in terms of Government notice R1048. * The Contractor should be responsible for implementing a programme of weed control (particularly in areas where the soil has been disturbed); and grassing any remaining stockpiles to prevent weed invasion.     **iii) Herbicides**   * The application of herbicides shall be according to the set specifications and under supervision of a person qualified to handle these chemicals. The possibility of leaching into the surrounding environment shall be properly investigated and only environmentally friendly herbicides shall be used.   **Fauna**   * The capture, hunting or snaring of any animal on site, should be strictly prohibited. Anyone found engaged in this activity should be disciplined and / or prosecuted. * The Contractor as well as his construction workers must be sympathetic towards any fauna present on site. * Any problem animals noted in the vicinity of the site must be reported to the ECO if they become a problem.   **Employment**   * Training of labour must benefit individuals beyond completion of the project. * Labour to be sourced from the local community where possible. * The Contractor must ensure that all staff working on the proposed project must be in possession of a South African Identity Document or valid work permit.   **Waste Management**   * Care should be taken not to dump waste indiscriminately as this could have a negative impact on the ecosystem and may lead to poisoning or injury to humans and animals.   **i) Construction Waste (Rubble)**   * Rubble must not be dumped on site but must be placed within a skip bin or designated area for regular removal. * All rubble must be taken off site for recycling or donated to the local community. Unwanted rubble must be disposed of at an approved registered site.   **ii) Litter Management**   * Refuse bins must be placed at strategic positions to ensure that litter does not accumulate within the construction camp. These should be kept covered (and made animal / dog proof) and arrangements made for them to be collected regularly from the site. * A housekeeping team should be appointed to regularly maintain the litter situation on the site. * Waste disposal will need to take place in terms of Section 20 of the Environmental Conservation Act. * Littering by the employees of the Contractor shall not be allowed under any circumstances. The ECO shall monitor the neatness of the construction site. * No litter may be burnt on site.   **Construction Equipment Safety**   * All equipment used for the construction, including drills, TLB’s and other plant must be in good working order with up to date maintenance records.   **Security**   * The construction camp and storage site should be fenced for the duration of the construction phase. * Labour should be transported to and from the site to discourage loitering in adjacent areas and the possible increase in crime or disturbance.   **Sanitation**   * Chemical toilets must be made available for the staff working at the site and staying at the construction camp. A minimum of one toilet per twenty staff members must be provided. * “Grey Water” from the showers at the construction camp must be piped into a French drain during the construction phase.   **Social Environment**   * All contact with affected parties shall be courteous at all times. The rights of the affected parties shall be respected at all times.   **Visual Impact**   * The site shall be kept visually and aesthetically pleasing, especially in and around the construction camp. The ECO shall regularly inspect the site to ensure that it is neat and clean. |

## 8.3.3 PROCESS, TECHNOLOGY, LAYOUT OR OTHER ALTERNATIVES

## 

|  |
| --- |
| **DIRECT IMPACTS:**   * There will be no technological or activity related alternatives as a result of the construction phase of the project.   **INDIRECT IMPACTS:**   * None expected.   **CUMULATIVE IMPACTS:**   * None expected. |

**MITIGATION MEASURES FOR THE POTENTIAL IMPACTS:**

|  |
| --- |
| * Any temporary road routes (along the proposed road upgrade) need to be delineated before construction commences. * The location of this temporary road route must be selected based on causing as little disturbance to the indigenous vegetation as possible. * The temporary road must be maintained for the duration of the road construction phase. * Construction in general must be completed as soon as possible. * All construction must be sensitive to the natural vegetation. * Appropriate erosion and stormwater management must be installed along the temporary road route and around the construction site. * Vegetation disturbance must be kept to a minimum throughout the construction phase. * Rehabilitation must take place directly after construction and only indigenous species from the local area must be planted. |

## 8.4 POTENTIAL IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

## 8.4.1 PREFERRED SITE

|  |
| --- |
| DIRECT IMPACTS: **Visual Impacts**   * Waste and an increase of litter from irresponsible road users will become an unsightly visual impact.   **Waste**   * A lack of management with regards to solid waste collection along the roads could lead to surface water contamination, and may attract problem animals, such as stray dogs, to the site, which become a potential hazard to vehicles using this road.   **Noise**   * Noise from vehicles using the new access road may disturb receptors living near the road.   **Energy**   * During the operational phase of the proposed project, more vehicles are likely to use the improved road thus increasing the demand on the country’s oil reserves.   **Socio-Economic**   * The road would increase the potential for residents to improve their business potential both locally and give them better access to outside markets.   **Mud and Dust**   * Vehicles travelling on unpaved surfaces tend to disperse any surface particles and other debris. Particles are lifted and dropped from rolling wheels and the road surface is exposed to strong air currents due to turbulent shear between the wheels and the surface. Dust particles are also sucked into the turbulent wake created behind the moving vehicles. The loads carried by vehicles are a potential source of dust, either through wind entrainment or spillages. Mud and dust carryout from unpaved surfaces is another potential problem. * After use, the deck of the road can begin to create dust as a result of the crushing of the substrate. This causes nuisance related impacts (such as damage and discoloration of washing, dust on food, the body and hair) that are potentially significant, especially where houses are located close to the route. The dust will carry some distance away from the road, varying according to wind speed, direction and other climatic factors, such as temperature and precipitation moisture levels. * Dust deposits can be blown into the air by wind of by vehicle movement, especially when wind speed prevents the dust from settling close to the source. Dust pick-up by wind is usually only significant at wind speeds above 5 metres per second (10 knots), but vehicle re-entrainment can occur under any conditions.   **Erosion**   * Sediment is the result of dust that enters the environment in rainfall runoff. This is difficult to prevent, as it is a natural occurrence that has been exacerbated by human activity. The best method of control is to prevent the build-up of sediment, as removal of sediment from the runoff water requires that the water be allowed to stand and the sediment particles settle, or that water be allowed to pass through a filter such as a wetland. This is an expensive and land intensive option that requires significant inputs and expense.  INDIRECT IMPACTS: **Stormwater**   * Hardened surfaces, as opposed to undeveloped areas of natural vegetation, will lead to an increase in runoff, which in turn may potentially lead to increased soil erosion in the region.     **Knowledge and Skills Transfer**   * Skills training provided by the Contractor to people employed from the local communities in the area during the construction of the road could be used to start a potential business of some sort. This would be associated with a positive impact.  CUMULATIVE IMPACTS: **Change in Landuse**   * The portion of the property used for the project would increase the overall road footprint of the country that has been transformed from indigenous vegetation and potential grazing land.   **Traffic**   * Traffic accessing the area will increase the traffic volumes on the local roads and increase the maintenance requirements by the DoT.   **Service Provision**   * In the event of the road being constructed, the authorities will be pressurised into providing electricity, water, telephone services, better policing of the area, emergency facilities and other services. This in turn will cause further cumulative impacts on the capacity of this service provider’s infrastructure to provide these services. |

## 8.4.2 MITIGATION MEASURES FOR THE POTENTIAL IMPACTS:

|  |
| --- |
| **General Maintenance**   * The maintenance of the road surface is important to ensure that the deck is compacted and sealed as well as possible. At sensitive points along the route, especially those where homes are close to the road, vehicle speeds must be kept to acceptable levels.   **Traffic and Access**   * Regular maintenance of the road must take place and adequate signage to indicate routes and directions to places of interest and importance must be implemented.   **Soils and Geology**   * Correct drainage of the road should be ensured with regular maintenance teams cleaning out and repairing all culverts and any other infrastructure. * Ensure that vegetation protection over the soil in landscaped areas is maintained during the operating phase to avoid erosion. Maintaining some form of vegetation close to the road is also a feasible method of reducing dust from vehicles drifting towards homesteads.   **Groundwater and Surface Water Pollution**   * Stormwater runoff from the road should be carefully managed to ensure that excessive deposits of silt do not occur. * All drains should clear of all litter and other possible pollutants, as well as maintained and repaired where necessary.   **Waste Management**   * Solid waste alongside the road should be collected on a regularly basis by the DoT.   **Alien Plant Control**   * An exotic plant removal programme should be implemented by DoT to regularly control the encroachment of alien invasive species. |

## 8.4.3 PROCESS, TECHNOLOGY, LAYOUT OR OTHER ALTERNATIVES

|  |
| --- |
| **DIRECT IMPACTS:**   * Ongoing maintenance of the road. * Erosion control must be properly monitored.   **INDIRECT IMPACTS:**   * None   **CUMULATIVE IMPACTS:**   * Any erosion occurring may result in increased sedimentation of the catchments and rivers. |

## MITIGATION MEASURES FOR THE POTENTIAL IMPACTS:

|  |
| --- |
| * The access road must be regularly checked and maintained when required. * The road must be checked for signs of erosion and corrective action must be taken if necessary. |

## 8.5 POTENTIAL IMPACTS THAT MAY RESULT FROM THE DECOMMISIONING PHASE

## 8.5.1 PREFERRED SITE

|  |
| --- |
| **DIRECT IMPACTS:**   * The principal activity associated with the decommissioning of the road will be the significant adverse impact of the local community, not having access to their residences, agricultural lands and future development in the area.   **Infrastructure**   * All permanent structures must be removed from the site. Removals should be phased so that rehabilitation can begin and soil surfaces are not exposed for too long. All rubble must be removed to a licensed waste disposal facility.   **Road**   * The road must be rehabilitated once the decommissioning phase is complete. Ripping and seeding using only indigenous vegetation should be implemented to rehabilitate decommissioned roads. * All issues identified in the construction traffic and access impact table should be of relevance during the decommissioning phase.   **Noise Pollution**   * The demolition of cement infrastructure could create significant noise impacts for nearby receptors. * Noise-related mitigation measures for the construction phase of the development apply to the decommissioning phase.   **Soil Pollution**   * Infrastructure removal must be phased in order to reduce soil exposure and the risk of erosion. Rehabilitation should begin as soon as the building rubble is removed to ensure that soil is stabilised as soon as possible. * Any fuel required on site must be stored in a bunded area with walls high enough to contain 110% of the total volume of the hazardous material on site. Care must be taken not to contaminate soils on site. * A full rehabilitation plan needs to be compiled in order for the soils to be adequately rehabilitated to their original state.   **Solid Waste Pollution**   * Skip bins must be placed on site during the decommissioning phase to accommodate rubble and other waste. As with the construction and operating phases, separation and recycling (or donated to the local community) of waste must be made a priority. * All waste must be removed to a registered landfill site.   **Air Pollution**   * Dust created during the demolition of any cement infrastructure could potentially adversely affect nearby housing. This potential issue must be managed through the damping down of exposed areas. * The rehabilitation of the site must be made a priority in order to avoid dust becoming an issue in the surrounding areas.   **Fauna & Flora**   * Care must be taken during the decommissioning phase to take into account and not disturb any flora that may have re-inhabited the area since the inception of the road. * No fauna must be harmed through the process.   **Flora**   * The process should be carried out as quickly as possible to ensure that the disturbance of flora is kept to a minimum. * Indigenous vegetation must be utilised for the rehabilitation of the site. Vegetation similar to that of the surrounding areas should be used. * A full rehabilitation plan is recommended in this regard to ensure that the site is returned to its original state. * Any exotic species must be removed immediately during the rehabilitation process.   **Social Impacts**   * Anyone employed to work on this road must be given sufficient notification of the closure of the road in order for him or her to search for alternative employment. All employees must be compensated accordingly. * Construction workers involved in the decommissioning phase must be briefed on the dangers of the area.   **Visual Impact**   * All evidence of the road must be removed so that all possible visible impacts are removed. * The rehabilitation of the area should aim to return the footprint to as natural a state as possible to keep the area in line with the visual character and sense of place in the area.   **INDIRECT IMPACTS:**   * The loss of access would force the community to open an alternative route to the area, resulting in environmental disturbance that is uncontrolled and unplanned, with no mitigating measures in place to reduce the impacts associated with such access.   **CUMULATIVE IMPACTS:**   * This will also negatively affect all business enterprises in the nearby rural towns that rely on people from the outlying regions for their support and ultimately their financial well-being. |

## 8.5.2 MITIGATION MEASURES FOR THE POTENTIAL IMPACTS:

|  |
| --- |
| * Construction of an alternative access road/ pathway prior to decommissioning the existing road would be the only way to minimize the disruption of access to the community area. |

## 8.5.3 PROCESS, TECHNOLOGY, LAYOUT OR OTHER ALTERNATIVES

|  |
| --- |
| **DIRECT IMPACTS:**   * If the road is not properly removed and rehabilitated it could cause a number of erosion related problems, possible flooding of homesteads near the road and damage to crop lands. Besides the erosion related problems to the community, it may also cause long-term visual impacts.   **INDIRECT IMPACTS:**   * The associated erosion problems may lead to decreased production from agricultural fields, decreased grazing for domestic stock and lead to villages becoming isolated islands surrounded by dongas.   **CUMULATIVE IMPACTS:**   * The possible erosion and stormwater runoff could negatively impact on the local fauna and flora. |

## MITIGATION MEASURES FOR THE POTENTIAL IMPACTS:

|  |
| --- |
| * Only decommission the road if it is no longer needed or an alternative road has been constructed to replace the original road. |

## 8.6 PROPOSED MONITORING AND AUDITING

|  |
| --- |
| * The contractor must sign that he / she has read and understands the EMPr. * The Environmental Control Officer (ECO) is responsible for the implementation of the EMPr during the construction phase and liaison between the Applicant and the Contractor. The following tasks fall within his / her responsibilities:  1. Be aware of the findings and conclusions of the Environmental Impact Assessment and the conditions stated within the Authorisation. 2. Be familiar with the recommendations and mitigation measures of the EMPr. 3. Conduct monthly audits of the construction site according to the EMPr and Environmental Authorisation. 4. Educate the construction team about the management measures of the EMPr and Environmental Authorisation. 5. Regular liaison with the construction team and the project leader / engineer. 6. Responsible for keeping records of compliance as well as records of all environmental incidents and complaints register. 7. Recommend corrective action for any non-compliance issues as well as good compliance with the EMPr.  * A monitoring programme will be implemented for the duration of the construction phase of the project. This programme will include:   a.) Two weekly audits during the first month where after monthly audits will be conducted by the ECO, which are according to the EMPr and conditions of the Environmental Authorisation. These audits can be conducted randomly and do not require prior arrangement with the project manager.  b.) Compilation of an audit report with a rating of compliance with the EMPr. This report will be submitted to the relevant authorities, the KZN Department of Economic Development, Tourism and Environmental Affairs (DEDTEA).  c.) Proper and continuous liaison between the Applicant, the Contractor and other stakeholders must take place to ensure all parties are properly informed at all times. |

# 9. ENVIRONMENTAL IMPACT STATEMENT

|  |
| --- |
| NEGATIVE POTENTIAL IMPACTS The primary negative potential impacts associated with the proposed development in the construction phase are related to the generation of noise on sensitive receptors, creation of visual impacts, disturbance of the soils and stormwater erosion impacts that may materialise as a result of the construction activities.  The construction phase will result in some disturbance, which will be unavoidable due to the presence of vehicles and the disturbance of the soil in the area. However, the disturbance will be of short duration and the operational phase will have limited environmental impacts.  A number of cumulative negative impacts have been identified in the operational phase of the proposed development, for example the generation of more traffic on the roads. THE POSITIVE IMPACTS The primary positive impacts relate to the generation of a number of jobs. The construction phase will be associated with positive socio-economic impacts in terms of job creation benefiting the local community employed as construction workers during this phase.  By upgrading the existing track to a Type 7a Local Road standard for the improvement of the transportation efficiency of goods, agricultural produce and people in the area will be feasible during the operational phase. This will also provide access to the area for bulk service providers to extend their infrastructure network to provide treated piped water, telephones and electricity to these regions.  This will also help to improve other service providers (e.g. police, education, health, social services, etc) efficiency and reliability to service the area.  A number of mitigation measures to reduce or improve these impacts have been identified and are presented in the tables above.  The existing site will not suffer any adverse environmental impacts or change in the existing land use. The track is presently in a poor state of repair and the upgrading of the track to a type 7a Local Road represents the best possible course of action to ensure that the area does not deteriorate further. Therefore the proposed development is supported from an environmental perspective, as the overall benefit to the environment will be significant compared to what exists at present. |

## 9.1 ALTERNATE SITE 1 (IF ANY)

|  |
| --- |
| * Finding alternative routes would result in the existing impacts remaining and additional impacts being imposed on a new community and receiving environment. * An increase in the size and extent of the road deck will require more material and will result in greater volumes of runoff water. No additional environmental or social benefits would derive from this alternative. * Keeping a narrow deck but surfacing it with asphalt / bitumen would provide an almost maintenance-free road but would involve excessively high financial costs. This option is unlikely to be preferable, as the traffic loads on the road are very low and the specification would not be justified in this rural context. |

## NO-GO ALTERNATIVE

|  |
| --- |
| * The people in the region will not have an all-weather road in the area and this continued lack of access for the community will adversely affect the local resident’s quality of life. State and private sector service delivery will also continue to be hampered. * The track will continue to deteriorate and the erosion will become even more serve. Access will become further hampered and new tracks will be established through presently vegetated areas, creating runoff channels, which will increase the extent of the area lost to erosion. * This ultimately will increase the ecological pressures and sustain the levels of poverty already experienced in the region. |

|  |
| --- |
| **APPENDIX G: Environmental Management Programme (EMPr)** |

10. RECOMMENDATIONS BY EAP

|  |  |
| --- | --- |
| Does the EAP view the information supplied in this report sufficient to make a conclusive decision | Yes |
| If NO, give the reasons why |  |

The EAP recommends that the following conditions, including mitigation measures should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

|  |
| --- |
| The specific conditions to be included in the authorization that may be granted by the competent authority are:   * All mitigation measures and factors as listed in the BAR and Environmental Management Programme (EMPr) must be considered. * The EMPr must be strictly adhered to and implemented during the construction phase of the project. * Recommendations in the Stormwater Management Plan (SWMP) must be implemented. |

|  |
| --- |
| **APPENDIX H: EAP’s CV** |

**APPENDICES**

**Appendix A: Facility Illustration(s)**

(None included in the stakeholders report)

**Appendix B: Maps and Site Plan(s)**

General Location Map

Topographical Map

Orthophoto

**Appendix C: Site Photographs**

**Appendix D: Specialist Reports**

Stormwater Management Plan (Generic) for DWS

Heritage Impact Assessment for Amafa

**Appendix E: Stakeholders Comments and Responses Report**

(None included in the stakeholders report)

**Appendix F: Proof of Advertising Information and I&AP’s Comments**

(None included in the stakeholders report)

**Appendix G: Environmental Management Programme (EMPr)** for DWS & KZNW