

# BASIC ASSESSMENT REPORT

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## environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

(For official use only)

**File Reference Number:**

**Application Number:**

**Date Received:**


Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

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### Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **08 December 2014**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily 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 typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. 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 may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. 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.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

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14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included in the electronic copy of the report submitted to the competent authority.

**SECTION A: ACTIVITY INFORMATION**

Has a specialist been consulted to assist with the completion of this section? YES ██████████  
 If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

**1. PROJECT DESCRIPTION**

**a) Describe the project associated with the listed activities applied for**

The South African National Roads Agency SOC Limited (SANRAL) proposes to improve (re-align, rehabilitate and upgrade) Section 3 from KM 50.00 to KM 57.20 on National Route 11 (N11), KwaZulu-Natal.

Nemai Consulting has been appointed to undertake the environmental assessment for the proposed Capacity and Safety Improvements on National Road 11 of the N11 Bypass. The project is situated on National Route 11 within the municipal boundaries of Newcastle Local Municipality in the Province of Kwazulu - Natal.

The proposed project is aimed at providing mitigation measures against the risk of accidents without compromising mobility or accessibility along the route. Due to concerns over safety along this section of N11, it was deemed necessary that a portion be realigned to improve the current operating conditions. A section of the N11 will be realigned with the new road interchanges at Ladysmith Drive (Allen Street) and Albert Wessels Drive.

For this proposal 3 alternatives have been considered, these include:

- Preferred Alternative A1 – (also referred to as Alternative 4 in the specialist reports) - This alternative is much straighter and includes two interchanges (Albert Wessels and Ladysmith Drive) and one overpass (Madadeni Drive).
- Alternative A2 – (also referred to as Alternative 1 in specialist reports) - This alternative is straighter than the existing layout but it still follows a circuitous route and it does not meet 120km/h design speed. It includes two interchanges (Albert Wessels and Madadeni Drive).
- No Go Alternative A3 - (also referred to as Alternative 0 in specialist reports) - This alternative refers to the existing layout that makes a dangerous curve or turn to the west to join with Ladysmith Drive on the southern end of the N11 or on the Ladysmith side of the N11 before straightening out at the Madadeni off-ramp towards Volksrust.

**b) Provide a detailed description of the listed activities associated with the project as applied for**

Listed activity as described in GN 734, 735 and 736	Description of project activity
GN R.983 (Item 12 (xii) (a)(c): The development of infrastructure with a physical footprint of 100 square metres or more: within a watercourse or within 32 metres of a watercourse	The road will cross a watercourse several times and will run within 32 metres of a watercourse at several places along its route

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GN R.983 (Item 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 from a watercourse	The section of road crosses and runs close to a watercourse. Construction activities could take place in the watercourse
GN R.983 (Item 21): Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the MPRD Act, 2002 (Act No. 28 of 2002) including associated infrastructure, structures and earthworks directly related to the extraction of a mineral resource, including activities for which an exemption has been issued in terms of section 106 of the MPRD Act.	Three borrow pits will be used to source material for the improvement of a section of the N11 road
GN R.983 (Item 24 (ii)): The development of- a road with a reserve wider than 13,5 meters or where no reserve exists where the road is wider than 8 meters	The road reserve is wider than 13, 5 meters; parts of the section of the road may not fall within the urban edge of Newcastle
GN R.983 (Item 56 (i)): The widening of a road by more than 6 meters or the lengthening of a road by more than 1 kilometre where the road reserve is wider than 13,5 meters	The proposed improvement of the section of road will be widened by more than 6 metres as well as lengthened by more than 1 kilometre; parts of the section of the road may not fall within the urban edge of Newcastle
GN 985 (Item 12 (b) (v)) the clearance of an area of 300 square metres or more of indigenous vegetation	A section of the road that is to be improved falls within a biodiversity area where indigenous vegetation may be found
GN 985 (Item 18 (d) (viii)) The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre	The section of road to be improved will be widened by more than 4 m and lengthened by more than 1 km with a small section of the road falling within a CBA

## 2. 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 application as required by Appendix 1 (3)(h), Regulation 2014. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) 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.

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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.

The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

**a) Site alternatives**

<b>Alternative 1 (preferred alternative)</b>		
Description	Lat (DDMMSS)	Long (DDMMSS)
<b>Alternative 2</b>		
Description	Lat (DDMMSS)	Long (DDMMSS)
<b>Alternative 3</b>		
Description	Lat (DDMMSS)	Long (DDMMSS)

In the case of linear activities:

<b>Alternative:</b>	<b>Latitude (S):</b>	<b>Longitude (E):</b>
Alternative S1 (preferred)		
• Starting point of the activity		
• Middle/Additional point of the activity		
• End point of the activity		
Alternative S2 (if any)		
• Starting point of the activity		
• Middle/Additional point of the activity		
• End point of the activity		
Alternative S3 (if any)		
• Starting point of the activity		
• Middle/Additional point of the activity		
• End point of the activity		

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment. Please see list of coordinates of route alternatives attached as Appendix J

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A of this form.

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b) Lay-out alternatives

Alternative 1 (preferred alternative)			
Description		Lat (DDMMSS)	Long (DDMMSS)
	Alternative 2		
Description		Lat (DDMMSS)	Long (DDMMSS)
	Alternative 3		
Description		Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

Alternative 1 (preferred alternative)	
	Alternative 2
	Alternative 3

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)	
	Alternative 2
	Alternative 3

e) No-go alternative

'No-go alternative' refers to the proposed development not taking place hence the road will remain in current state. Traffic and safety issues will continue to be a problem.

Paragraphs 3 – 13 below should be completed for each alternative.

3. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:

Alternative A1<sup>1</sup> (preferred activity alternative)

Size of the activity:

m<sup>2</sup>

<sup>1</sup> "Alternative A.." refer to activity, process, technology or other alternatives.

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Alternative A2 (if any)  
Alternative A3 (if any)

m <sup>2</sup>
m <sup>2</sup>

or, for linear activities:

**Alternative:**

Alternative A1 (preferred activity alternative)  
Alternative A2 (if any)  
Alternative A3 (if any)

**Length of the activity:**

6700 m
6700 m
6700 m

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

**Alternative:**

Alternative A1 (preferred activity alternative)  
Alternative A2 (if any)  
Alternative A3 (if any)

**Size of the site/servitude:**

62 m
62 m
62 m

### 4. SITE ACCESS

Does ready access to the site exist?

If NO, what is the distance over which a new access road will be built

YES	
	m

Describe the type of access road planned:

Ready access to the site exists from the existing N11 Newcastle freeway and other secondary roads. The proposed upgrade of Section 3 from KM 50.00 to KM 57.20 will take place on the existing N11 Newcastle freeway. The existing freeway will be used during construction

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.

### 5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s);
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;

- a legend; and
- locality GPS co-ordinates (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 and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

### **6. LAYOUT/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 document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

### **7. SENSITIVITY MAP**

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWS);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

### **8. 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.



**9. FACILITY ILLUSTRATION**







A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

**10. ACTIVITY MOTIVATION**

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

<b>1. Is the activity permitted in terms of the property's existing land use rights?</b>	YES		Please explain
Availability of land allows a road reserve that accommodates the six-lane stage with divided carriageway hence the improvement of the section under review is permitted within the land use rights			
<b>2. Will the activity be in line with the following?</b>			
<b>(a) Provincial Spatial Development Framework (PSDF)</b>	YES		Please explain
Newcastle has been identified as provincial Secondary Node & an urban centre with good existing economic development and potential for growth and services to the regional economy. Key strategic interventions include priority spending on infrastructure upgrades & promotion of effective & efficient public transportation systems			
<b>(b) Urban edge / Edge of Built environment for the area</b>	YES		Please explain
The improvement of the section of the N11 Bypass falls within the urban edge where there is existing road infrastructure as well as existing residential and industrial areas and the proposed development will feed into the key strategies as listed above			
<b>(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).</b>	YES		Please explain
In terms of road infrastructure, 91% of all roads in Newcastle are in a poor state. In an attempt to address this, the municipality has intensified their roads programs which addresses primary and secondary roads			
<b>(d) Approved Structure Plan of the Municipality</b>	YES	NO	Please explain
This is a SANRAL initiative hence there is no specific municipal structure plan regarding this project. The project is justified by the national road network requiring improved capacity in the area.			
<b>(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)</b>	YES		Please explain
The area where the proposed improvement will take place is already disturbed and takes place within an urban built environment			
<b>(f) Any other Plans (e.g. Guide Plan)</b>		NO	Please explain
This is a SANRAL initiative. There are no other plans applicable to the project			

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<p><b>3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?</b></p>	<p>YES</p>		<p>Please explain</p>
<p>The IDP states that one of its development strategies is spatial integration &amp; environmental sustainability with particular focus on developing systems and procedures for effective land use &amp; environmental management. The improvement of the N11 will unlock adjacent land for development.</p>			
<p><b>4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)</b></p>	<p>YES</p>		<p>Please explain</p>
<p>The existing alignment of the N11 poses risks to the community in terms of safety, accidents and traffic congestion. The straightening of the section of road as well as grade separation will result in increased road safety. In addition, a traffic study showed that a single carriageway and at-grade intersections place an impedence on any substantial future economic growth of the highly developable areas between Madadeni Road and Ladysmith Drive</p>			
<p><b>5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</b></p>	<p>YES</p>		<p>Please explain</p>
<p>No services are required for the project.</p>			
<p><b>6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</b></p>	<p>YES</p>		<p>Please explain</p>
<p>The development will be undertaken by SANRAL. It is anticipated that the project will indirectly contribute to municipality's infrastructure plans &amp; programs</p>			
<p><b>7. Is this project part of a national programme to address an issue of national concern or importance?</b></p>		<p>NO</p>	<p>Please explain</p>
<p>The project does not form part of any national programme</p>			
<p><b>8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)</b></p>	<p>YES</p>		<p>Please explain</p>
<p>The improvement forms part of the N11 hence parts of the road are already impacted by the N11 and the rest of the section is situated in undeveloped open veld that is disturbed by informal roads and previous quarrying activities</p>			

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<b>9. Is the development the best practicable environmental option for this land/site?</b>	YES		Please explain
<p>Much of the improvement will take place on the N11 apart from the section which is to be straightened; the new section of the road will run parallel to a stream which will be crossed a number of times therefore a water use licence will be applied for &amp; all conditions of the WUL will be adhered to; it should be noted that the watercourse is already disturbed by existing roads, houses, bridges and railway line.</p> <p>Development pressure is mounting but there is currently available land that still allows a road reserve that accommodates a possible six-lane stage with divided carriageways in future</p>			
<b>10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?</b>	YES		Please explain
<p>Certain indirect local economic benefits, such as provision of access to a service node, or unlocking a new precinct for development, can be expected to be realized by improvement of the network; The straightening of the road and improvement of the various interchanges will result in less accidents and less traffic congestion.</p> <p>The actual improvement of the road will take up to 2 years to complete that will result in negative impacts including 'stop &amp; go' systems, construction noise, etc., however the benefits of an improved highway will be permanent.</p>			
<b>11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?</b>	YES	NO	Please explain
<p>The road improvement is a SANRAL initiative and SANRAL is not planning to undertake further similar projects in the area hence the development will not be setting a precedent</p>			
<b>12. Will any person's rights be negatively affected by the proposed activity/ies?</b>	YES		Please explain
<p>Zinyathi Lodge will no longer be able to operate as the road improvement will impact the lodge directly. SANRAL will compensate the owners in full for the ending of their business;</p> <p>The service station at the southern end of the section of road (Ladysmith direction) to be improved will no longer have direct access for south bound traffic; it should be noted that access to national roads are given conditionally by SANRAL hence changes to access will not be compensated and the service station will continue to function with altered access conditions</p>			
<b>13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?</b>		NO	Please explain
<p>The N11 falls within the urban edge hence it will not be compromised</p>			
<b>14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?</b>		NO	Please explain
<p>Not applicable</p>			
<b>15. What will the benefits be to society in general and to the local communities?</b>	Please explain		
<ul style="list-style-type: none"> <li>• The realignment of the N11 to a by-pass and grade separation of the cross roads provides the required mobility along the national route. The design speed will be improved from 60km/h to 120km/h. User costs are accordingly reduced;</li> <li>• The improved network will enhance road safety with resultant reduction in road accidents</li> </ul>			

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<b>16. Any other need and desirability considerations related to the proposed activity?</b>	Please explain
<ul style="list-style-type: none"> <li>The existing network places a limit on adjacent land development as operating conditions on the network will reach capacity in the medium term. The improved network provides additional transportation capacity allowing new economic development along the corridor. Apart from many residential units that will be served along the south-easterly extension of Ladysmith Drive, the improved network unlocks over 100 000 Gross Leasable Area of commercial development. The resultant net economic product over the analysis period is estimated at over R800 million</li> </ul>	
<b>17. How does the project fit into the National Development Plan for 2030?</b>	Please explain
<p>Providing improved road infrastructure that enables people to take advantage of opportunities around the country; poverty alleviation by employing local people where possible; the improved network provides additional transportation capacity allowing new economic development along the corridor</p>	
<b>18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.</b>	
<p>A Basic Assessment has been undertaken for the project and the road alignment alternatives that addresses the actual and potential impacts on the environment and provides mitigation measures.</p> <p>The Basic Assessment process included several specialist studies (heritage, biodiversity, wetland, economic etc.) hence a holistic approach was adopted that assessed all aspects that make up the environment. In addition, a public participation process was followed that alerted Interested &amp; Affected Parties about the project as well as giving them an opportunity to comment on the Basic Assessment Report and Environmental Management Program for the project.</p>	
<b>19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.</b>	
<p>Integrated environmental management has been addressed in order to ensure that the project is sustainable. Specialist studies have been undertaken that assessed potential impacts on heritage, wetlands and biodiversity aspects of the affected environment. The specialist studies assessed the potential impacts on the environment and provided mitigation measures where impacts were identified to reduce, minimise or avoid such impacts.</p> <p>In addition, a comprehensive public participation process has been undertaken including meetings with affected parties, site notices placed at strategic positions through the project area, advertising of the project and providing the public opportunity to comment on the BAR and EMPr.</p> <p>The EMPr contains measures that must be adhered to during the construction and operational phases of the project including the safety and health of workers and adjacent communities, conservation of watercourses and sensitive vegetation as well as the preservation of heritage sites (if any), etc.</p>	

### 11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

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<b>Title of legislation, policy or guideline</b>	<b>Applicability to the project</b>	<b>Administering authority</b>	<b>Date</b>
Constitution of the Republic of South Africa (No. 108 of 1996)	Project falling within the boundaries of the Republic of South Africa.	Republic of South Africa.	18 December 1996
National Environmental Management Act (No. 107 of 1998)	Management of the environment in the project area. The proposed project triggers activities that require environmental authorization.	Department of Environmental Affairs	27 November 1998
National Water Act (No. 36 of 1998)	Water bodies in the study area.	Department of Water and Sanitation	26 August 1998
National Environmental Management Air Quality Act (No. 39 of 2004)	Possible emissions and dust caused during construction phase.	Department of Environmental Affairs	24 February 2005
National Environmental Management: Biodiversity Act, 2004 (No. 10 of 2004)	Road traversing sensitive areas e.g. water courses.	Department of Environmental Affairs	07 June 2004
Occupational Health & Safety Act (No. 85 of 1993) and relevant Regulations	Occupational Health & Safety related matters to be considered, identified and managed during both the construction as well as operational phases.	Department of Health	23 June 1993
National Heritage Resources Act (No. 25 of 1999)  KwaZulu-Natal Heritage Act (Act No. 4 of 2008)	The possibility of finding heritage resources in the project area.	Amafa aKwaZulu Natali	28 April 1999
Government Notice No. R. 983 and 985	Identifying the various Listed Activities triggered by the proposed project and the Basic Assessment Process to be followed.	Department of Environmental Affairs	18 June 2010

### 12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

#### a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

If YES, what estimated quantity will be produced per month?

YES	
10 000m <sup>3</sup>	

How will the construction solid waste be disposed of (describe)?

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All construction waste will be collected, sorted and disposed of at a suitably licensed disposal facility via skip trucks.

Mitigation measures for waste management included in the Environmental Management Programme (EMPr) attached as Appendix G to this Report

Where will the construction solid waste be disposed of (describe)?

Construction solid waste will be disposed of at a formal municipal solid waste disposal facility. All solid waste will either be channelled into the existing municipal solid waste system or be disposed of in an effective manner by registered chemical waste companies. Spoil material (i.e. excess soil) will be used as backfill or will be disposed of at a licensed disposal site.

Safe disposal certificates to be obtained and kept on site for the duration of the construction phase

Will the activity produce solid waste during its operational phase?

NO

If YES, what estimated quantity will be produced per month?

How will the solid waste be disposed of (describe)?

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

Where will the solid waste be disposed of 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 whether it is necessary to change to an application for scoping and EIA.*

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?

NO

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?

NO

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

### b) 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?

m<sup>3</sup>

Will the activity produce any effluent that will be treated and/or disposed of on site?

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.*

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Will the activity produce effluent that will be treated and/or disposed of at another facility?

	NO
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If YES, provide the particulars of the facility:

**Facility name:**

**Contact**

**person:**

**Postal**

**address:**

**Postal code:**

**Telephone:**

**E-mail:**

**Cell:**

**Fax:**

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

### c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

YES	
	NO

If YES, is it controlled by any legislation of any sphere of government?

If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the emissions in terms of type and concentration:

Short-term dust emissions are expected during the construction phase of the project. A crusher will operate at the borrow pit area which generates dust. The predominant wind direction is north-west. Downwind from the site are low density industrial areas (rail yard, air field) but no residential areas

Mitigation measures are included in the Environmental Management Programme (EMPr)

### d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

	NO
--	----

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

### e) Generation of noise

Will the activity generate noise?

YES	
	NO

If YES, is it controlled by any legislation of any sphere of government?

Describe the noise in terms of type and level:

---

## BASIC ASSESSMENT REPORT

An increase in noise levels is expected during the construction phase due to the movement of construction vehicles and operation of machinery.

During the operational phase, noise levels from by-passing traffic and its effect on the adjacent neighbourhoods may be reduced because of the straighter alignment of the Bypass and improved intersections.

Mitigation measures are included in the Environmental Management Programme (EMPr)

### 13. WATER USE

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

Municipal

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:

1000 m<sup>3</sup>  
(1e+6litres)

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

YES

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

**A WULA is currently being compiled and will be submitted to the Department of Water and Sanitation with the final BAR**

### 14. ENERGY EFFICIENCY

Describe the design measures, if any, which have been taken to ensure that the activity is energy efficient:

Conventional road construction methods will be used. The activity is plant intensive and does not lend itself to the use of renewable or alternative energy sources.

No energy sources are required for the operational phase thus no sources have been considered

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

Conventional road construction methods will be used. The activity is plant intensive and does not lend itself to the use of renewable or alternative energy sources



## SECTION B: 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 B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A):

- Paragraphs 1 - 6 below must be completed for each alternative.

- Has a specialist been consulted to assist with the completion of this section?  **NO**  
 If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

**Property description/physical address:**

<b>Province</b>	KwaZulu-Natal
<b>District Municipality</b>	Amajuba District Municipality
<b>Local Municipality</b>	Newcastle Local Municipality
<b>Ward Number(s)</b>	20
<b>Farm name and number</b>	Erf 14934 Erf 3345 Erf 1304 Erf 13748
<b>Portion number</b>	Remainder; 1; 9, 13, 15, 36
<b>SG Code</b>	<b>See Appendix J-5</b>

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

**Current land-use zoning as per local municipality IDP/records:**

Agriculture; Industrial; Primary Mobility Route - Road Reserve (see <b>Appendix J-4</b> )
---

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required?  **NO**

**1. GRADIENT OF THE SITE**

Indicate the general gradient of the site.

**Alternative S1:**

Flat	
------	--

**Alternative S2 (if any):**

Flat	
------	--

**Alternative S3 (if any):**

Flat	
------	--

**2. LOCATION IN LANDSCAPE**

Indicate the landform(s) that best describes the site:

- |                                 |  |                   |   |                                  |  |
|---------------------------------|--|-------------------|---|----------------------------------|--|
| 2.1 Ridgeline                   |  | 2.4 Closed valley |   | 2.7 Undulating plain / low hills |  |
| 2.2 Plateau                     |  | 2.5 Open valley   |   | 2.8 Dune                         |  |
| 2.3 Side slope of hill/mountain |  | 2.6 Plain         | X | 2.9 Seafront                     |  |
| 2.10 At sea                     |  |                   |   |                                  |  |

**3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE**

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

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

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.

## BASIC ASSESSMENT REPORT

### 4. GROUNDCOVER

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

	Natural veld with scattered aliens <sup>E</sup>	Natural veld with heavy alien infestation <sup>E</sup>	
		Paved surface	Building or other structure

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.

### 5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River		NO	
Non-Perennial River	YES		
Permanent Wetland	YES		
Seasonal Wetland	YES		
Artificial Wetland		NO	
Estuarine / Lagoonal wetland		NO	

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

The wetlands associated with the proposed development area represent channelled valley-bottom wetlands and seep zones, mostly connected to the watercourse

### 6. LAND USE CHARACTER OF SURROUNDING AREA

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

Natural area	Dam or reservoir	
Low density residential		Filling station <sup>H</sup>
Medium density residential		
Retail commercial & warehousing		River, stream or wetland
Light industrial		
Medium industrial <sup>AN</sup>		

## BASIC ASSESSMENT REPORT

	Railway line <sup>N</sup>	
		Graveyard
		Archaeological site
Quarry, sand or borrow pit		

If any of the boxes marked with an "N" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

The railway line runs parallel to the section of the road to be upgraded; the closest section of the road to be upgraded is approx. 150 metres from the railway line; the section to be upgraded does not cross the railway line therefore the proposed development will not impact on the railway line

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

The upgrade of the section of the N11 Bypass will not directly impact on any industries; indirect impacts may include: 'stop and go' systems that affect the flow of traffic at times; increased noise and dust levels, etc.

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

The filling station at the southern end of the section of road to be improved will no longer have direct access for south bound traffic; it should be noted that access to national roads are given conditionally by SANRAL hence changes to access will not be compensated and the service station will continue to function with altered access conditions

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES	
Core area of a protected area?		NO
Buffer area of a protected area?		NO
Planned expansion area of an existing protected area?		NO
Existing offset area associated with a previous Environmental Authorisation?		NO
Buffer area of the SKA?		NO

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

### 7. 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 paleontological sites, on or close (within 20m) to the site? If YES, explain:	YES
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## BASIC ASSESSMENT REPORT

The heritage impact assessment identified two unmarked graves and a Later Iron Age Stone circle within / close to the footprint of the some of the alternative routes. It was therefore recommended that the developers avoid Alternative Layouts A2 and A3 and rather consider Alternative A1;

It is not recommended that the graves and Iron Age Stone circle are moved. However, if it is decided that they need to be moved, then the developers must undertake a Phase 2 heritage impact assessment in order to investigate the possibility of grave exhumation and translocation and removal of circle as well as obtaining the necessary permits from AMAFA before this is done as well as

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

See above

Will any building or structure older than 60 years be affected in any way?

NO

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

NO

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

### 8. SOCIO-ECONOMIC CHARACTER

#### a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

37.4%

Economic profile of local municipality:

According to the IDP (2012-2017) (2013/2014 review), the 2011 census data estimates the total population of the NLM to 363 236 people. This marks a net population increase of 0.87% per annum between 2001 and 2011. It is noted that between 1996 and 2001, population increased by 2.93% per annum. This means that although the population continues to increase, rate of growth is declining

There is an almost equal share of skilled and semi/unskilled persons within Newcastle, consisting 44% and 43% of those employed in the formal economy, respectively. Only 13% of those employed in the formal economy are classified as highly skilled.

The primary sectors of the economy contribute 2% to total employment within Newcastle, with agriculture contributing 1.3% (800 people) and mining 0.7% (426 people). The average annual growth rate of employment within the agriculture and mining sectors has declined by 16% and 7.5% per annum since 2000 respectively. The manufacturing sector contributes 17.9% to total employment (11,453 people) within the municipality, and has also experienced negative growth with an average annual decline in employment of 5.2% since 2000

## BASIC ASSESSMENT REPORT

Level of education:

According to the IDP (2012-2017) (2013/2014 review), the education profile of the population shows significant improvement since 2001. The number of people who do not have any formal education declined from 13% in 2001 down to 7.8% in 2011. This was coupled by a substantial increase in the number of people with secondary education (Matric) from 25.8% to 32.8% during the same period. However, there is a low representation of people with higher education as the category has recorded a decrease from 8.2% in 2001 to 4.4% in 2011. This phenomenon could be attributed to the general lack of tertiary institutions and employment opportunities in the area. It limits the ability of the area to attract and keep highly qualified people

### b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R543 million
What is the expected yearly income that will be generated by or as a result of the activity?	R6 million
Will the activity contribute to service infrastructure?	YES
Is the activity a public amenity?	YES
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	Estimated 56 - 113
What is the expected value of the employment opportunities during the development and construction phase?	±R50 million
What percentage of this will accrue to previously disadvantaged individuals?	82%
How many permanent new employment opportunities will be created during the operational phase of the activity?	30
What is the expected current value of the employment opportunities during the first 10 years?	R20 million
What percentage of this will accrue to previously disadvantaged individuals?	80%

## 9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgis.sanbi.org> or [BGIShelp@sanbi.org](mailto:BGIShelp@sanbi.org). Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

a) **Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)**

<b>Systematic Biodiversity Planning Category</b>	<b>If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan</b>
--	---

**BASIC ASSESSMENT REPORT**

Critical Biodiversity Area (CBA)		A small section on the southern (Ladysmith) side of the proposed route falls within the Biodiversity Priority Area 3 (Critical Biodiversity Areas: Optimal), which are areas that are the most optimal solution to meet the required biodiversity conservation targets while avoiding high cost areas as much as possible (Category driven primarily by process)

**b) Indicate and describe the habitat condition on site**

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	20%	Grasslands and riparian areas
Near Natural (includes areas with low to moderate level of alien invasive plants)	%	
Degraded (includes areas heavily invaded by alien plants)	30%	Eucalyptus and Black wattles invading the riparian areas
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	50%	Roads and roads servitude dominate the study areas

**c) Complete the table to indicate:**

- (i) the type of vegetation, including its ecosystem status, present on the site; and
- (ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems			
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)		Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)	Estuary		Coastline
			YES		NO

- d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)



Two vegetation types were recorded on site - KwaZulu-Natal Highland Thornveld and Northern KwaZulu-Natal Moist Grassland vegetation units

### 1.1 KwaZulu-Natal Highland Thornveld Grassland

The KwaZulu-Natal Highland Thornveld Grassland vegetation type falls within the Grassland Biome and occurs in a series of several patches in the central-northern regions of KwaZulu-Natal where it occurs in both dry valleys and moist upland between the altitudes of 920 and 1440 m. The vegetation is characterized by hilly, undulating topography and broad valleys supporting tall tussock grassland usually dominated by *Hyparrhenia hirta*, with occasional woodlands with scattered *Acacias* such as *A. sieberiana*, *A. karroo*, and *A. nilotica* (Mucina & Rutherford, 2006).

#### Conservation Status

It is formally classified as a **Least Concerned** and about 2% in statutory conservation areas such as Spioenkop, Weenen, Ntinini, Wagendrift, Moor Park and Tugela nature reserves and more than 16% has been transformed for cultivation, urbanisation and dam construction. Threats to this vegetation type include alien species such as *Opuntia*, *Eucalyptus*, *Populus*, *Acacia* and *Melia* species, as well as bush encroachment (Mucina & Rutherford, 2006).

### 1.2 Northern KwaZulu-Natal Moist Grassland

The Northern KwaZulu-Natal Moist Grassland is found in the Northern and northwestern regions of the KwaZulu-Natal Province, where it forms a discontinuous rim around the upper Thukela Basin and is situated almost entirely within the catchment of the Thukela River. It lies between the drier Gs 6 KwaZulu-Natal Highland Thornveld and the moist upland vegetation of mainly Gs 3 Low Escarpment Moist Grassland to the north and Gs 10 Drakensberg Foothill Moist Grassland to the west.

The most extensive areas are in the vicinity of Winterton, Bergville, Fort Mistake, Dannhauser, Dundee, and north of Ladysmith and west of Newcastle. At higher altitudes this unit is usually surrounded by Gs 3 Low Escarpment Moist Grassland in the north and Gs 10 Drakensberg Foothill Moist Grassland in the west and south. At lower altitudes Gs 6 KwaZulu-Natal Highland Thornveld and SVs 2 Thukela Thornveld usually occur to the east. The vegetation is characterised by hilly and rolling landscapes supporting tall tussock grassland usually dominated by *Themeda triandra* and *Hyparrhenia hirta*. Open *Acacia sieberiana* var. *woodii* savannoid woodlands encroach up the valleys, usually on disturbed (strongly eroded) sites (Mucina & Rutherford, 2006).

#### Conservation Status

Northern KwaZulu-Natal Moist Grassland is listed as Vulnerable with a national conservation target of 24%. Only about 2% is statutorily conserved in the uKhahlamba Drakensberg Park as well as in the Chelmsford, Spioenkop, Moor Park, Wagendrift, and Ncandu Nature Reserves. More than a quarter has already been transformed either for cultivation, plantations and urban sprawl or by building of dams (Chelmsford, Driel, Kilburn, Mtoti, Wagendrift, Windsor and Woodstock). Alien *Acacia dealbata*, *Rubus*, *Eucalyptus* and *Populus* are invasive in places. Bush encroachment is also common

No Red Data listed plant species were recorded. Only one species of conservation importance (Orange Listed plant), namely *Hypoxis hemerocallidea* (African potato) which is listed as **Declining**, was observed during the field surveys

## SECTION C: PUBLIC PARTICIPATION

### 1. ADVERTISEMENT AND NOTICE

<b>Publication name</b>	Newcastle Advertiser	
<b>Date published</b>	27 March 2015	
<b>Site notice position</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Date placed</b>	Proof will be included in Final BAR	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

### 2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733

<b>Title, Name and Surname</b>	<b>Affiliation/ key stakeholder status</b>	<b>Contact details (tel number or e-mail address)</b>
Peter Du Toit	Landowner	<a href="mailto:pdutoit@dcd.co.za">pdutoit@dcd.co.za</a>
Theresa Du Toit	Landowner	<a href="mailto:theresa.dutoit@newcastle.gov.za">theresa.dutoit@newcastle.gov.za</a>
Kobus Dippenaar	Landowner	<a href="mailto:oscar@crazyweb.co.za">oscar@crazyweb.co.za</a>
Vic Correia	Landowner	<a href="mailto:correia@telkomsa.net">correia@telkomsa.net</a>
George Heyneke	Landowner	<a href="mailto:george@nida.co.za">george@nida.co.za</a>
Seedat Ismail Dawood	Landowner	<a href="mailto:seedatbrokers@telkomsa.net">seedatbrokers@telkomsa.net</a>
Pieter Du Toit	Landowner	0825 494 5700
Perry Langa	Landowner	083 755 8807
Reay Shan	Landowner	0828034252
T Hurther	Landowner	0829555882
Zinyathi Lodge	Landowner	<a href="mailto:zinyathilodge@gmail.com">zinyathilodge@gmail.com</a>
Blue Ridge Guest house	Landowner	<a href="mailto:blue_ridge_quest_farm@yebo.co.za">blue_ridge_quest_farm@yebo.co.za</a> ; <a href="mailto:blueridgequestfarm@yebo.co.za">blueridgequestfarm@yebo.co.za</a>
Cas	Landowner	<a href="mailto:cas@alsgroup.co.za">cas@alsgroup.co.za</a>
Firoza	Landowner	<a href="mailto:firoza@mapautoparts.co.za">firoza@mapautoparts.co.za</a>
Goolam Surtie	Landowner	<a href="mailto:ghsurtie@gmail.com">ghsurtie@gmail.com</a>

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

## BASIC ASSESSMENT REPORT

### 3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
At time of release of the Draft BAR no comments have been received apart from two people wanting to be registered as I&APs	Included on I&AP database

### 4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

### 5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
KZN DEDTEA	Poovey Moodley	034 315 3936		<a href="mailto:Poovey.moodley@kzndae.gov.za">Poovey.moodley@kzndae.gov.za</a>	
AMAFA	B.Pawandiwa	033 394 6543		<a href="mailto:bernadetp@amafapmb.co.za">bernadetp@amafapmb.co.za</a>	PO Box 2685 Pietermaritzburg 3200
Department of Transport	R Ryan	033 355 8607	033 394 8856	<a href="mailto:roy.ryan@kzntransport.gov.za">roy.ryan@kzntransport.gov.za</a>	P/Bag x9043, PMB, 3200
KZN Wildlife	D Weiners	033 845 1000;	033 845 1001	<a href="mailto:wienersd@kznwildlife.com">wienersd@kznwildlife.com</a>	P.O. Box 13053, Cascades, PMB 3202
Department of Water & Sanitation	C Moonsamy	031-336 2718		<a href="mailto:moonsamyc@dwa.gov.za">moonsamyc@dwa.gov.za</a>	P.O.Box 1018, Durban, 4000
Department of Mineral Resources	H. Mthembu	031-335 9612		<a href="mailto:Hlengiwe.mthembu@dmr.gov.za">Hlengiwe.mthembu@dmr.gov.za</a>	3 <sup>rd</sup> Floor, Durban Bay House, 333 Anton Lembede Street, Durban
Department of Agricultural, Forestry & Fisheries	W Rudzani	033 343 8031	033 343 8278	<a href="mailto:wisemanr@nda.agric.co.za">wisemanr@nda.agric.co.za</a>	P.O. Box 9029, PMB, 3200

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4. **PROOF TO BE INCLUDED IN FINAL BAR**

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

**6. CONSULTATION WITH OTHER STAKEHOLDERS**

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

**SECTION D: IMPACT ASSESSMENT**

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 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. 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**

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

<b>Activity</b>	<b>Impact summary</b>	<b>Significance</b>	<b>Proposed mitigation</b>
<b>Alternative 1 (preferred alternative)</b>			
<u>Watercourses and wetlands</u>	<p><b>Direct impacts:</b></p> <ol style="list-style-type: none"> <li>1. Possibility of oil spillages from construction vehicles and equipment on site entering the watercourse.</li> <li>2. The clearing of vegetation where required will result in exposed soil surfaces which may be prone to erosion, creation of dust and increase in sedimentation of watercourses.</li> <li>3. Dumping / placing of soil, cement, etc., in close proximity to the watercourse.</li> <li>4. Possible increase in sedimentation in rivers and watercourses due to construction activities.</li> <li>5. Damage / destruction and alteration to aquatic habitats and vegetation.</li> <li>6. Alteration of flow of watercourses.</li> </ol>	<ol style="list-style-type: none"> <li>1. Residual impacts after mitigation.</li> <li>2. Residual impacts after mitigation.</li> <li>3. Residual impacts after mitigation.</li> <li>4. Residual impacts after mitigation.</li> <li>5. Residual impacts after mitigation.</li> <li>6. Residual impacts after mitigation.</li> </ol>	<ol style="list-style-type: none"> <li>1. Drip trays must be placed under all machinery to prevent oil spillages on soil.</li> <li>2. Soil erosion control measures including the use of barricading around the site and sand bags must be used to reduce erosion and sedimentation of watercourses.</li> <li>3. Site must be demarcated with shade cloth to prevent sedimentation from entering watercourses and reducing dust as a nuisance factor especially during windy days.</li> <li>4. Construction activities must not lead to altered hydrology in the system and stream connectivity must be maintained. In this regard, no alteration of the bed characteristics leading to upstream ponding and downstream erosion or loss of flow must take place.</li> <li>5. Construction through the wetland area, as well as the associated wetland rehabilitation, must take place</li> </ol>

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<p>in the dry season and be completed before the first rains of spring.</p> <p>6. The width of the area within the wetland where construction activities take place must be limited to eight meters. All areas beyond this must be cordoned off with danger tape for the duration of the construction period.</p> <p>7. The crossing of the watercourse must take place at the narrowest point in the wetland and must take place as close as possible to a perpendicular angle to the direction of flow.</p> <p>8. All digging within the temporary, seasonal and permanent zones of the wetland must only be undertaken by hand.</p> <p>9. Ensure that all activities impacting on water resources are managed according to the relevant DWS Licensing regulations.</p> <p>10. Restrict construction to the drier winter months, to avoid sedimentation of wetland features in the vicinity of the proposed development.</p> <p>11. No storage of building materials, equipment or topsoil must be allowed within the edge of the 32m buffer zone as a protection factor to wetland areas.</p> <p>12. Structures that allow for diffuse flow across the width of the wetland area are recommended over single culvert structures which induce erosion of the watercourse on the outfall side.</p> <p>13. Construction vehicles must be limited to using</p>

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<p>single access roads.</p> <p>14. The construction footprint is to be limited to as small an area as practical and indiscriminate destruction of habitat must be avoided.</p> <p>15. Silt traps and silt fencing must be utilised in areas with steep slopes during the pre-construction and construction phases of the proposed development activities to abate any potential impacts from smothering of wetland habitat emanating from runoff from the site.</p> <p>16. Stormwater outfalls to be designed to minimise the risks of erosion.</p> <p>17. Adequate toilet facilities must be provided for construction crews and informal ablutions within the area must be prohibited in order to conserve the ecological integrity of the wetland habitats and avoid contamination of the watercourses.</p> <p>18. Exotic vegetation must be removed during the construction phase.</p>
	<p><b>Indirect impacts:</b> None identified</p>		
	<p><b>Cumulative impacts:</b> None identified</p>		
Traffic	<p><b>Direct impacts:</b></p> <p>1. The construction phase is likely to generate additional traffic in the immediate area in terms of construction vehicles and vehicles delivering materials to the site.</p> <p>2. Traffic delays due to diversions caused by construction activities.</p> <p>3. Temporary road closures during construction</p>	<p>1. Residual impacts after mitigation.</p> <p>2. Residual impacts after mitigation.</p> <p>3. Residual impacts after mitigation.</p>	<p>1. Flagmen must be used during construction period to direct traffic</p>

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Activity	Impact summary	Significance	Proposed mitigation
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Soil</b>	<b>Direct impacts:</b> 1. Loss of topsoil due to the construction of the road.  2. Construction activities resulting in soil erosion.	1. Residual impact after mitigation 2. Residual impacts after mitigation	1. All soils compacted as a result of construction activities falling outside of the linear development must be ripped and profiled. 2. Alien & invasive vegetation control must take place throughout rehabilitation and operational phases to avoid loss of floral habitat. 3. All areas of disturbed and compacted soils need to be ripped and re-profiled. Reseeding with indigenous grasses must be implemented in all affected areas. Re-vegetate all disturbed wetland areas with indigenous wetland species. 4. After construction, the longitudinal and cross sectional profile of the system must be returned to the natural conditions to ensure that no alteration of drainage patterns and no ponding or erosion occurs. 5. Monitoring of the system for erosion and incision must take place.
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Air quality</b>	<b>Direct impacts:</b> 1. Increase in dust and fuel emissions from construction vehicles.	1. Residual impacts after mitigation.	1. Vehicles transporting soil must be covered to reduce the amount of dust be



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Activity	Impact summary	Significance	Proposed mitigation
	2. Dust will be created by the use of a crusher at the borrow pit site.	2. Residual impacts after mitigation.	blown around 2 Soil must be dampened regularly to reduce dust in the area. 3 Crushers at borrow pits not to be used on windy days.
<b>Noise</b>	<b>Direct impacts:</b> 1. Noise associated with construction activities (e.g. vehicle movement, building, generators).	1. Residual impacts after mitigation	1. Construction activities generating output levels of 85 dB or more must be confined to normal working hours.
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Aesthetics</b>	<b>Direct impacts:</b> 1. Littering and illegal dumping on site may result in an alteration of the visual character of the site.	1. Residual impacts after mitigation	1 Demarcated construction servitude must be screened off with appropriate material such as shade cloth.
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Safety and Security</b>	<b>Direct impacts:</b> 1. Possibility of increased crime due to the influx of people seeking construction jobs because of the re-alignment of the road.	Residual impacts after mitigation	1 Demarcated construction servitude must be fenced off. 2 Proper supervision of employees at all times. Employees to be clearly identifiable.
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Waste</b>	<b>Direct impacts:</b> 1. Use of veld and watercourse for ablution purposes. 2. Land, air and water pollution through poor waste management practises (litter).	Residual impacts after mitigation	1 Sufficient ablution facilities to be provided at the construction camp. Ablution facilities must be in a neat and tidy condition at all times. 2 Ablution facilities must be outside the 32m buffer zone of the watercourse. 3 Waste skips to be

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Activity	Impact summary	Significance	Proposed mitigation
			provided at the construction camp and on site. Skips to be cleaned weekly, and waste to be disposed of at a registered waste disposal site. 4 Recycling must be done on site to reduce the amount of waste being disposed of at the landfill site.
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Construction camp</b>	<b>Direct impacts:</b> 1. Improper storage of material. 2. Poaching on flora and fauna. 3. Aesthetic impacts to the residents in close proximity to the site, if the site camp is not maintained in a neat and tidy condition. 4. Improper maintenance of ablution facilities could result contamination of soil and impacts on the local flora and fauna.	Residual impacts after mitigation	1 Selection of construction camp must be undertaken in consultation with Environmental Control Officer (ECO) and landowner. 2 The construction site camp must be located outside the 32m buffer zone of the watercourse. 3 Site plan of construction camp to be prepared which must be approved by the ECO. 4 Camp site to be demarcated and screened off. 5 No accommodation to be provided at camp, apart from security. 6 Appropriate storage facilities for fuel, paint, cement bags, and other material with a potential to cause harm to the environment. 7 Ablution facilities must be kept clean and emptied on a regular basis.
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Socio-economic aspects</b>	<b>Direct impacts:</b> 1. Possible increase in job opportunities in the area. 2. The construction will result in	No impact	1. Where possible, jobs should be given to local people 2. Construction-related

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Activity	Impact summary	Significance	Proposed mitigation
	disturbance to residents located adjacent to the road.	after mitigation	damages must be repaired by Contractor.
	<p><b>Indirect impacts:</b></p> <ol style="list-style-type: none"> <li>1. Short term employment in the form of construction work</li> <li>2. Use of local labourers and suppliers, as far as possible.</li> <li>3. Criminal activities associated with construction may increase in the area due to additional number of temporary workers and job seekers in the area.</li> </ol> <p><b>Cumulative impacts:</b> None identified</p>	<ol style="list-style-type: none"> <li>1. No negative impacts.</li> <li>2. No negative impacts.</li> <li>3. Residual impact after mitigation.</li> </ol>	
<b>Destruction of Fauna and Flora</b>	<p><b>Direct impacts:</b></p> <ol style="list-style-type: none"> <li>1. Clearing of site as well as construction activities will disturb the fauna and flora in the area</li> <li>2. Due to the disturbance of the site, infestation of alien plants may increase across the site.</li> <li>3. Vegetation and habitat disturbance due to pollution and littering on site.</li> <li>4. Soil contamination, vegetation loss and vegetation disturbance due to fuel and chemical spills.</li> </ol>	<ol style="list-style-type: none"> <li>1. Residual impacts after mitigation.</li> <li>2. Residual impacts after mitigation.</li> <li>3. Residual impacts after mitigation.</li> <li>4. Residual impacts after mitigation.</li> </ol>	<ol style="list-style-type: none"> <li>1. Removal of vegetation during site preparation and construction must be minimised to reduce erosion. Topsoil will only be removed off areas proposed for road re-alignment, upgrade and rehabilitation. All soils must be stored and managed correctly for rehabilitation.</li> <li>2. Preparation of materials and any construction related activities must take place on the demarcated construction site and not in the adjacent areas.</li> <li>3. Restrict construction of access roads by utilizing existing roads.</li> <li>4. Careful planning of access roads in order to prevent excessive removal of trees and prevent soil erosion.</li> <li>5. Construct proper run off drains to divert runoff water to prevent erosion.</li> <li>6. Rehabilitate all temporary access roads.</li> <li>7. The removal of any plant material from site,</li> </ol>

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Activity	Impact summary	Significance	Proposed mitigation
			<p>including flowers or bulbs is strictly prohibited unless unavoidable / essential for construction purposes.</p> <p>8. A specialist must be used when Red Data species or Orange Listed species are to be moved</p> <p>9. No collection of firewood may be allowed.</p> <p>10. The contractor for vegetation clearing must have the knowledge to be able to identify different species, declared weeds and alien species.</p> <p>11. Level and landscape disturbed topsoil areas to facilitate plant succession;</p> <p>12. Erosion control measures, such as stone packing, brush packing and reseeded, must be used on disturbed areas.</p> <p>13. Employ on site personnel responsible for preventing and controlling potential soil pollution through fuel and oil leaks and spills.</p> <p>14. Have spill kits on site to deal with spills &amp; leakages</p> <p>15. Erect construction camp/s on disturbed areas and level surfaces only.</p> <p>16. Promote environmental awareness of flora and fauna to all personnel.</p> <p>17. After construction, monitoring and control of alien weeds and invaders through hand removal; slashing (annuals) or chemical control (perennials) must be undertaken.</p> <p>18. Employ personnel on site responsible for preventing and controlling of litter.</p> <p>19. Before construction</p>

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Activity	Impact summary	Significance	Proposed mitigation
			<p>starts, construction workers must be educated with regards to littering, ad hoc veld fires, and dumping.</p> <p>20. Any plants accidentally removed outside the proposed servitude must be replaced or rehabilitated.</p> <p>21. Cultivate awareness among personnel to limit excessive &amp; unnecessary dust.</p>
	<p><b>Indirect impacts:</b> Noise and vibration during construction may result in the migration of fauna.</p>		
	<p><b>Cumulative impacts:</b> Noise and vibration during construction may result in the migration of fauna.</p>		
<p><b>Damage, to cultural heritage resources, archaeological and palaeontological sites</b></p>	<p><b>Direct impacts:</b> Possible damage, destruction, removal or alteration to cultural heritage resources by construction activities.</p>	<p>Residual impacts after mitigation</p>	<p>1. All staff involved in the construction phase must be provided with basic training regarding the nature of heritage resources that may be found on site and informed of their obligation to report any items found during the construction process.</p> <p>2. For any chance finds, all work will cease in the area affected and the Contractor will immediately inform the Project Manager. A registered heritage specialist must be called to site for inspection. AMAFA must also be informed of any finding.</p> <p>3. Permits to be obtained from the relevant heritage authority if heritage resources are to be destroyed, altered or removed, etc.</p> <p>4. Under no circumstances may heritage material be destroyed or removed from site without the</p>

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Activity	Impact summary	Significance	Proposed mitigation
			necessary permits. 5. If any remains be found on site that could be human remains, the South African Police Service must also be contacted. 6. The report must be submitted to the relevant heritage authority for comment as per the National Heritage Resources Act
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Soil</b>	<b>Direct impacts:</b> 1. Loss of topsoil due to the construction of the road. 2. Construction activities resulting in soil erosion.	Residual impacts after mitigation.	1. All soils compacted as a result of construction activities falling outside of the development must be ripped and profiled. 2. Special attention must be paid to alien and invasive control within these areas. Alien and invasive vegetation control must take place throughout the rehabilitation and operational phases to prevent loss of floral habitat. 3. All areas of disturbed and compacted soils need to be ripped and re-profiled. Reseeding with indigenous grasses must be implemented in all affected areas. Re-vegetate all disturbed wetland areas with indigenous wetland species. 4. After construction, the longitudinal and cross sectional profile of the system must be returned to the natural conditions to ensure that no alteration of drainage patterns and no ponding or erosion occurs. 5. Monitor of the system for erosion and incision must take place.

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Activity	Impact summary	Significance	Proposed mitigation
<b>Alternative 2</b>			
<b>Watercourses and wetlands</b>	<p><b>Direct impacts:</b></p> <ol style="list-style-type: none"> <li>1. Possibility of oil spillages from construction vehicles and equipment entering watercourse.</li> <li>2. The clearing of vegetation where required will result in exposed soil surfaces which may be prone to erosion, creation of dust and increase in sedimentation of watercourses.</li> <li>3. Dumping / placing of soil, cement etc. in close proximity to the watercourse.</li> <li>4. Possible increase in sedimentation in rivers and watercourses due to construction activities.</li> <li>5. Damage / destruction and alteration to aquatic habitats and vegetation.</li> <li>6. Alteration of flow of watercourse.</li> </ol>	<ol style="list-style-type: none"> <li>1. Residual impacts after mitigation.</li> <li>2. Residual impacts after mitigation.</li> <li>3. Residual impacts after mitigation.</li> <li>4. Residual impacts after mitigation.</li> <li>5. Residual impacts after mitigation.</li> <li>6. Residual impacts after mitigation.</li> </ol>	<ol style="list-style-type: none"> <li>1. Drip trays must be placed under all machinery to prevent oil spillages.</li> <li>2. Soil erosion control measures such as the use of barricading around the site and sand bags must be used to reduce the possibility of erosion.</li> <li>3. During construction, the site must be demarcated with shade cloth to prevent sedimentation from entering watercourses and reducing dust as a nuisance factor especially during windy days.</li> <li>4. Construction activities must not lead to altered hydrology in the system and stream connectivity must be maintained. Altering the bed characteristics that could lead to upstream ponding and downstream erosion or loss of flow must not occur.</li> <li>5. The construction through the wetland area, as well as the associated wetland rehabilitation, must take place in the dry season and be completed before the first rains of spring.</li> <li>6. The width of the area within the wetland where construction activities take place must be limited to eight meters. All areas beyond this must be cordoned off with danger tape for the duration of the construction period.</li> <li>7. The crossing must take place at the narrowest point in the wetland and must take place as close as possible to a perpendicular angle to the direction of flow of the</li> </ol>

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Activity	Impact summary	Significance	Proposed mitigation
			<p>system.</p> <p>8. All digging within the temporary, seasonal and permanent zones of the wetland must be undertaken by hand.</p> <p>9. Ensure that all activities impacting on water resources are managed according to the relevant DWS Licensing regulations and on completion of the construction phase, ensure that wetland functions are re-instated.</p> <p>10. Restrict construction to the drier winter months, to avoid sedimentation of wetland features in the vicinity of the proposed development.</p> <p>11. No storage of building materials, equipment or topsoil must be allowed within the edges of the 32m buffer zones in order to protect the wetland areas.</p> <p>12. Structures that allow for diffuse flow across the width of the wetland area are recommended over single culvert structures, which will induce erosion of the watercourse on the outfall side.</p> <p>13. Construction vehicles must be limited to using single access roads.</p> <p>14. The construction footprint is to be limited to as small an area as practical and indiscriminate destruction of habitat must be avoided.</p> <p>15. Silt traps and silt fencing must be utilised in areas with steep slopes during the pre-construction and construction phases of the proposed development activities to abate any potential impacts from smothering of the</p>



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Activity	Impact summary	Significance	Proposed mitigation
			wetland habitat emanating from runoff from the site. 16. Stormwater outfalls to be designed to minimise erosion. 17. Adequate toilet facilities must be provided for construction crews and informal ablutions within the area must be prohibited in order to conserve the ecological integrity of the wetland habitats and avoid further contamination of the watercourses. 18. Exotic vegetation must be removed during the construction phase.
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Traffic</b>	<b>Direct impacts:</b> 1. The construction phase is likely to generate additional traffic in the immediate area in terms of construction vehicles and heavy vehicles delivering materials to the site. 2. Traffic delays due to diversions due to construction activities	Residual impacts after mitigation	Flagmen must be used during construction period to direct traffic
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Air quality</b>	<b>Direct impacts:</b> 1. Increase in dust and fuel emissions from construction vehicles. 2. Dust will be created by the use of a crusher at the borrow pit site.	Residual impacts after mitigation	1 Vehicles transporting soil must be covered to reduce amount of dust blown around 2 Soil must be dampened regularly to reduce dust in the surrounding areas 3 Crusher must not be used on windy days.
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Noise</b>	<b>Direct impacts:</b>		Construction activities

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Activity	Impact summary	Significance	Proposed mitigation
	1. Noise associated with construction activities (e.g. vehicle movement, building, generators).	Residual impacts after mitigation	generating output levels of 85 dB or more must be confined to normal working hours.
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Aesthetics</b>	<b>Direct impacts:</b> Littering and illegal dumping on site may result in an alteration of the visual character of the site	Residual impacts after mitigation	Demarcated construction area must be screened off with appropriate material such as shade cloth where possible
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Safety and Security</b>	<b>Direct impacts:</b> 1. Possibility of increased crime due to the influx of people seeking construction jobs because of the re-alignment of the road.	Residual impacts after mitigation	1 Demarcated construction servitude must be fenced off. 2 Proper supervision of employees at all times. Employees to be clearly identifiable.
	<b>Indirect impacts:</b> 1. Criminal activities associated with construction may increase in the area due to additional number of temporary workers and job seekers in the area.	1. Residual impacts after mitigation	
	<b>Cumulative impacts:</b> None identified		
<b>Waste</b>	<b>Direct impacts:</b> 1. Use of veld and watercourse for ablution purposes. 2. Land, air and water pollution through poor waste management practises (litter).	Residual impacts after mitigation	1 Sufficient ablution facilities to be provided at the construction camp. Ablution facilities to be kept in a neat and tidy condition at all times. 2 Ablution facilities must be outside the 32m buffer zone of the watercourse. 3 Waste skips to be provided at construction camp and on site. Skips to be cleaned weekly, and waste to be disposed of at a registered waste disposal site. 4 Recycling must be done

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Activity	Impact summary	Significance	Proposed mitigation
			on site to reduce the amount of waste being disposed of at the landfill site.
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Construction camp</b>	<b>Direct impacts:</b> 1. Improper storage of material. 2. Possibility of poaching of flora and fauna. 3. Aesthetic impacts to the residents in close proximity to the site, if the site camp is not maintained in a neat and tidy condition. 4. Improper maintenance of ablution facilities could result contamination of soil and impacts on the local flora and fauna	Residual impacts after mitigation	1 Selection of construction camp must be undertaken in consultation with Environmental Control Officer (ECO) and landowner. 2 The construction site camp must be located outside the 32m buffer zone of the watercourse. 3 Site plan of construction camp to be prepared, which must be approved by the ECO. 4 Camp site to be clearly demarcated and screened off. 5 No accommodation to be provided at camp, apart from security. 6 Appropriate storage facilities for fuel, paint, cement bags, and other material with a potential to cause harm to the environment. 7 Ablution facilities must be kept clean and maintained on a regular basis.
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Socio-economic aspects</b>	<b>Direct impacts:</b> 1. Possible positive impact of increase in job opportunities in the area. 2. The construction will result in disturbance to residents adjacent to the road.	Residual impacts after mitigation	Construction-related damages must be repaired by Contractor.
	<b>Indirect impacts:</b> 1. Short term employment in the form of construction work	No negative impacts.	

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Activity	Impact summary	Significance	Proposed mitigation
	<p>(positive impact)</p> <p>2. Use of local labourers and suppliers, as far as possible (positive impact).</p> <p><b>Cumulative impacts:</b> None identified</p>		
<p><b>Destruction of Fauna and Flora</b></p>	<p><b>Direct impacts:</b></p> <p>1. Clearing of site and construction activities will disturb the fauna and flora in the area</p> <p>2. Due to the disturbance of the site, infestation of alien plants may increase across the site.</p> <p>3. Vegetation and habitat disturbance due to pollution and littering on site.</p> <p>4. Soil contamination, vegetation loss and vegetation disturbance due to fuel and chemical spills.</p>	<p>Residual impacts after mitigation</p>	<p>1. Removal of vegetation during construction will be minimised to reduce the erosion potential. Topsoil will only be removed off areas proposed for road re-alignment, upgrade and rehabilitation. All soils must be stored and managed correctly for rehabilitation.</p> <p>2. Preparation of materials and any construction related activities must take place on the demarcated construction site and not in the adjacent areas.</p> <p>3. Restrict construction of access roads by utilizing existing roads.</p> <p>4. Do careful planning of access roads in order to prevent excessive removal of trees to prevent soil erosion.</p> <p>5. Construct proper run off drains to divert runoff water to prevent erosion.</p> <p>6. Rehabilitate all temporary access roads.</p> <p>7. The removal of any plant material from site, including flowers or bulbs is strictly prohibited unless unavoidable and essential for the purposes of construction.</p> <p>8. A specialist must be used when Red Data species or Orange Listed species are to be moved</p> <p>9. No collection of firewood may be allowed.</p> <p>10. The contractor / specialist appointed for</p>

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Activity	Impact summary	Significance	Proposed mitigation
			<p>vegetation clearing must have the knowledge to identify different species, declared weeds and alien species.</p> <p>11. Minimise topsoil disturbance as far as possible.</p> <p>12. Level and landscape disturbed topsoil areas to facilitate plant succession</p> <p>13. Erosion control measures, such as stone packing, brush packing and reseedling, must be included on disturbed areas.</p> <p>14. Employ on site personnel responsible for preventing and controlling potential soil pollution through fuel and oil leaks and spills.</p> <p>15. Make sure construction vehicles do not leak oil and fuel.</p> <p>16. Have equipment on site to deal with soil pollution and littering.</p> <p>17. Erect construction camp/s on previously disturbed areas and on level surfaces only.</p> <p>18. Promote environmental awareness of flora and fauna to all personnel.</p> <p>19. After construction, monitoring and control of alien weeds and invaders through hand removal; slashing (annuals) or chemical control (perennials) must be undertaken.</p> <p>20. Employ personnel on site responsible for preventing and controlling of litter.</p> <p>21. Before construction starts, construction workers must be educated with regards to littering, ad hoc veld fires, and dumping.</p>

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Activity	Impact summary	Significance	Proposed mitigation
			<p>22. Any plants accidentally removed outside the proposed construction area must be replaced or rehabilitated.</p> <p>23. Cultivate awareness among personnel to limit excessive and unnecessary dust</p>
	<p><b>Indirect impacts:</b> None identified</p> <p><b>Cumulative impacts:</b> Noise and vibration during construction may result in the migration of fauna.</p>	Residual impacts after mitigation	
<p><b>Damage, to cultural heritage resources, archaeological sites and palaeontology sites</b></p>	<p><b>Direct impacts:</b> 1. Possible damage, destruction, removal or alteration to cultural heritage resources by construction activities.</p>	Residual impacts after mitigation	<p>1. All staff involved in the construction phase must be provided with basic training regarding the nature of heritage resources that may be found on site and informed of their obligation to report any items found during the construction process.</p> <p>2. For any chance finds, all work will cease in the area affected and the Contractor will immediately inform the Project Manager. A registered heritage specialist must be called to site for inspection. AMAFA must also be informed of any finding.</p> <p>3. Permits to be obtained from the relevant heritage authority if heritage resources are to be destroyed, altered or removed</p> <p>4. Under no circumstances may heritage material be destroyed or removed from site without the necessary permits.</p> <p>5. If any remains be found on site that are potentially human remains, the South African Police</p>

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Activity	Impact summary	Significance	Proposed mitigation
			Service must be contacted. 6. The report must be submitted to the relevant heritage authority for comment as per the National Heritage Authority Act 25 of 1999.
	<b>Indirect impacts:</b> None identified		
	<b>Cumulative impacts:</b> None identified		
<b>Soil</b>	<b>Direct impacts:</b> 1. Loss of topsoil due to the construction of the road. 2. Construction activities resulting in soil erosion.	Residual impacts after mitigation.	6. All soils compacted as a result of construction activities falling outside of the development must be ripped and profiled. 7. Special attention must be paid to alien and invasive control within these areas. Alien and invasive vegetation control must take place throughout the rehabilitation and operational phases to prevent loss of floral habitat. 8. All areas of disturbed and compacted soils need to be ripped and re-profiled. Reseeding with indigenous grasses must be implemented in all affected areas. Re-vegetate all disturbed wetland areas with indigenous wetland species. 9. After construction, the longitudinal and cross sectional profile of the system must be returned to the natural conditions to ensure that no alteration of drainage patterns and no ponding or erosion occurs. 10. Monitor of the system for erosion and incision must take place.
<b>No-go option</b>			
<b>Safety and Security</b>	<b>Direct impacts:</b> • The proposed development	The area will retain its	

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Activity	Impact summary	Significance	Proposed mitigation
	<p>will not take place and the area will retain its current condition.</p> <ul style="list-style-type: none"> <li>Continued safety concerns due to road being circuitous with the continued risk of accidents.</li> </ul>	current condition.	
	<p><b>Indirect impacts:</b> None identified</p>		
	<p><b>Cumulative impacts:</b></p> <ul style="list-style-type: none"> <li>With no improved infrastructure the economic progress of the area will be slow.</li> <li>As traffic volumes increase, the road may become more congested with associated increase in road accidents</li> </ul>		
	<p><b>Direct impacts:</b></p>		
	<p><b>Indirect impacts:</b></p>		
	<p><b>Cumulative impacts:</b></p>		

A complete impact assessment in terms of Regulation 19(3) of GN 733 must be included as Appendix F.

## 2. 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.

### Alternative A (preferred alternative)

The preferred option refers to the proposal where the alignment of the road is much straighter and includes two interchanges (Albert Wessels and Ladysmith Drive) and one overpass (Madadeni Drive). This alternative is a preferred alternative from a road safety and optimal use perspective during operation.

The existing alignment of the N11 poses risks to the community in terms of safety, accidents and traffic congestion. The straightening of the section of road as well as grade separation will result in increased road safety.

The preferred alternative (Alternative 1) is also expected to provide local economic benefits, such as provision of access to service nodes, or unlocking of new precincts for



development.

From an engineering perspective Layout Alternative 1 (the preferred layout) is preferred from an operational perspective due to the road being much straighter and therefore better in terms of safety and it also addresses traffic movement patterns as well as being the most cost effective layout alternative from all the identified layout alternatives.

It is therefore recommended that Alternative A1 (the preferred alternative) be accepted from a safety perspective as this position of the road will be a reduced risk for accidents due to the road being much straighter.

From an environmental perspective all three layout alternatives will impact on the environment through the proposed realignment, rehabilitation and upgrade activities.

All three layout alternatives have been assessed and mitigation measures have been provided for the identified impacts. All identified impacts can be minimized provided that the proposed mitigation measures provided in this Basic Assessment Report, the Environmental Management Programme (please refer to **Appendix G** attached) and the Flora and Fauna Study (please refer to **Appendix D** attached) are adequately implemented during the construction and operation phases of the project

Specialist studies attached to **Appendix D** have assessed in detail the duration, likelihood, and significance of potential impacts. With regard to the proposed development the potential negative impact will have no long term negative impacts of medium or high significance on the receiving environment, if the mitigation measures and management of the impacts are undertaken.

The main potential impacts associated with the **Preferred Alternative** are:

1. Impacts on aquatic habitats.
2. Increase in sedimentation in the watercourses.
3. Pollution of watercourses.
4. Possible runoff in watercourses.

With the mitigation measures properly implemented these impacts can be minimized. Mitigation measures include the following :

1. Staff must be made aware of the importance and protection of aquatic fauna and flora
2. Buffers must be put in place to reduce the possible impacts of sedimentation and runoff in the watercourses.
3. Soil stockpiles, ablution facilities and the construction site camp must be situated at least 32m away from the watercourse

#### **Alternative B**

The Alternative 2 option refers to a layout that is straighter than the existing layout but it still follows a circuitous route and it does not meet 120km/h design speed. It includes two interchanges (Albert Wessels and Ladysmith Drive). This alternative is still a safety concern during

operation.

The main impacts associated with Alternative 2 are:

- Impacts on aquatic habitats.
- Increase in sedimentation in the watercourses.
- Pollution of watercourses.
- Possible runoff in watercourses.
- Ongoing possibility of accidents.
- Optimal operation and use of road will not be achieved.

With the mitigation measures properly implement these impact can be minimised. Mitigation measures include the following :

- Staff must be made aware of the importance and protection of aquatic fauna and flora
- Buffers must be put in place to reduce the possible impacts or sedimentation and run off in the watercourses.
- Soil stockpiles, ablution facilities and the construction site camp must be situated 32m away from the watercourse

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**No-go alternative (compulsory)/ Alternative 3**

The 'No-Go' alternative means that the proposed development will not take place and the area will retain its status quo. This will mean that the traffic issues and road safety issues will not be addressed and the road network will not meet the requirements of a national road. With no improved infrastructure the economy and progress of the area is likely to slow down and road accidents will continue to occur due to the circuitous layout of the road.

**SECTION E. RECOMMENDATION OF PRACTITIONER**

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES	
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If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

[Redacted]

If "YES", please 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.

- The initial construction of the N11 resulted in the disturbance and transformation of riparian habitat. Mitigation measures for wetlands protection and minimization of impacts have been provided in the Basic Assessment Report and the Environmental Management Programme.
- The applicant must ensure that mitigation measures and controls specified in the EMPr are adhered to.
- The construction of the road must be monitored by an independent ECO who must ensure compliance with the construction EMPr.
- It is recommended that environmental construction audits be conducted on a monthly basis. In addition, a pre-construction audit and post-construction audit (PCA) must be conducted.
- Any construction activities within or close to the watercourse can only take place once a water use licence has been authorised.

Is an EMPr attached?

YES	
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The EMPr must be attached as Appendix G.

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

\_\_\_\_\_  
J. Beater  
NAME OF EAP

\_\_\_\_\_  
SIGNATURE OF EAP

\_\_\_\_\_  
DATE

**SECTION F: APPENDIXES**

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information