

Basic Assessment Report



edtea

Department :
Economic Development, Tourism and
Environmental Affairs

PROVINCE OF KWAZULU-NATAL

(For official use only)

EIA File Reference Number:
NEAS Reference Number:
Waste Management Licence Number:
(if applicable)
Date Received:

DC/
KZN/EIA/

BASIC ASSESSMENT REPORT

Submitted in terms of the Environmental Impact Assessment Regulations, 2010 promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998)

This template may be used for the following applications:

- Environmental Authorization subject to basic assessment for an activity that is listed in Listing Notices 1 or 3, 2010 (Government Notices No. R 544 or No. R 546 dated 18 June 2010); or
- Waste Management Licence for an activity that is listed in terms of section 20(b) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) for which a basic assessment process as stipulated in the EIA Regulations must be conducted as part of the application (refer to the schedule of waste management activities in Category A of Government Notice No. 718 dated 03 July 2009).

Kindly note that:

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

"Leading the attainment of inclusive growth for job creation and economic sustenance"

DEPARTMENTAL REFERENCE NUMBER(S)

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

SECTION A: DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER AND SPECIALISTS

1. NAME AND CONTACT DETAILS OF ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

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

Business name of EAP:	Kerry Seppings Environmental Management Specialists cc (KSEMS)		
Physical address:	4 Woodville Lane, Off Hawkstone Avenue, Summerveld, Assagay		
Postal address:	P. O. Box 396, Gillitts		
Postal code:	3603	Cell:	079 520 1583
Telephone:	031 769 1578	Fax:	086 535 5281
E-mail:	KSEMS@ksems.co.za		

2. NAMES AND EXPERTISE OF REPRESENTATIVES OF THE EAP

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

Name of representative of the EAP	Education qualifications	Professional affiliations	Experience at environmental assessments (years)
Kerry Stanton	MSc Cum laude BSc (Hons) MSc	- EAPSA Certified, - Certified Professional Natural Scientist (400167/12), - Certified GCX Carbon Footprint Analyst (Level 1)	18
Colin Holmes	MSc Cum laude BSc (Hons)	- Certified Professional Natural Scientist (400384/14), - SETA Accredited Carbon Footprint Analyst	3
Patricia Nathaniel	BSc Honours (Environmental Management)	-	4

3. NAMES AND EXPERTISE OF SPECIALISTS

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

Name of specialist	Education qualifications	Field of expertise	Section/ s contributed to in this basic assessment report	Title of specialist report/ s as attached in Appendix D
Colin Holmes	Detailed CV available upon	Wetland and Freshwater	Section C	Freshwater Habitat

Basic Assessment Report

	request	Habitat Assessment		Impact Assessment: Proposed Little Tugela and Klein Boesmans River Bridges Upgrades, Okhahlamba and Imbabazane Local Municipalities, uThukela District Municipality
Frans Prins	Detailed CV available upon request	Heritage Assessment	Section C	Cultural Heritage Impact Assessment Of The Proposed Mathamo Bridge, Located Near Estcourt-Injasuti, Imbabazane Local Municipality, Kwazulu-Natal.
Gavin Anderson	Detailed CV available upon request	Heritage Assessment	Section C	Heritage Survey Of The Proposed Injisuthi Bridge Upgrade, Kwazulu-Natal

SECTION B: ACTIVITY INFORMATION

1. PROJECT TITLE

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

The proposed construction of the Klein Boesmans (Mathamo) and Little Tugela (Injisuthi) Bridges and associated stormwater infrastructure within the Imbabazane Local Municipality.

2. PROJECT DESCRIPTION

Provide a detailed description of the project:

The KwaZulu-Natal (KZNDOT) propose to upgrade the Klein Boesmans bridge (commonly known as Mathamo Bridge to the local community members) along District Road D69 within the Imbabazane Local and Uthukela District Municipalities. The proposed bridge structure will be constructed across the Little Bushman's (Klein Boesmans) River and will be approximately 23 metres in length and 11.8 metres wide. A detour road will be constructed before the existing structure is demolished. Upon completion the new bridge will have two way traffic and a pedestrian walkway on both sides. The need for a new bridge at this location arises from the DoTs initiative to upgrade the existing low level bridge. The existing low level bridge is not able to convey a 10-year flood discharge without overflowing onto the roadway.

The KZNDOT also propose to upgrade the Little Tugela Bridge (commonly known as the Injisuthi Bridge to the local community members) along District Road D214 within the Imbabazane Local and Uthukela District Municipalities. The proposed bridge structure will be constructed across the Little Tugela River and will be approximately 57 metres in length and 10.96 metres wide. The new bridge will be situated approximately 6 metres downstream from the existing bridge which will not be demolished but reserved for pedestrians. The bridge will be accompanied by a 500m realignment of District Road D214 on either side of the new bridge. The need for a new bridge at this location arises from the KZNDOTs initiative to upgrade the existing one lane bridge to dual lane bridge. This initiative was necessitated by the community outcry after numerous car accidents one of which resulted in fatalities.

3. ACTIVITY DESCRIPTION

Describe each listed activity in Listing Notice 1 (GNR 544, 18 June 2010), Listing Notice 3 (GNR 546, 18 June 2010) or Category A of GN 718, 3 July 2009 (Waste Management Activities) which is being applied for as per the project description:

Indicate the number and date of the relevant notice:

Activity No (s) (in terms of the relevant or notice) :

Describe each listed activity as per the project description (and not as per wording of the relevant Government Notice)¹:

<p>Government Notice No. 983 of 8th December 2014</p>	<p>Activity 12 of Listing Notice 1: The development of: (xii) infrastructure or structures with a physical footprint of 100 square metres or more;</p> <p>Where such development occurs (c) if no development setback exists, within 32 metres of a watercourse measured from</p>	<p>The Klein Boesmans and Little Tugela Bridges traverses the Little Bushman's and Little Tugela Rivers respectively.</p>
--	---	---

¹ Please note that this description should not be a repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description, i.e. describe the components of the desired development

Basic Assessment Report

<p>Government Notice No. 983 of 8th December 2014</p>	<p>the edge of a watercourse.</p> <p>Activity 19 of Listing Notice 1:</p> <p>The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from-</p> <p>(i) a watercourse;</p> <p>excluding where such infilling, depositing, dredging, excavation, removal or moving-</p> <p>(a) will occur behind a development setback;</p> <p>(b) is for maintenance purposes undertaken in accordance with a maintenance management plan; or</p> <p>(c) falls within the ambit of activity 21 in this Notice, in which case that activity applies.</p>	<p>It is possible that there will be potential infilling of more than 5m³ in the Little Tugela and Little Bushman's Rivers during the proposed development as stormwater infrastructure will be constructed and upgraded.</p>
---	---	--

4. FEASIBLE AND REASONABLE ALTERNATIVES

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

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

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

Preferred Alternative (S1): Klein Boesmans River Bridge

The proposed bridge structure will be constructed across the Klein Boesmans River and will be approximately 23 metres in length and 11.8 metres wide. The new bridge will replace an existing structure which will be demolished once the new bridge is constructed. A detour road will be constructed before the existing structure is demolished. Upon completion the new bridge will have two way traffic and a pedestrian walkway on both sides.

Basic Assessment Report

Preferred Alternative (S1): Little Tugela River Bridge

The proposed bridge structure will be constructed across the Little Tugela River and will be approximately 57 metres in length and 10.96 metres wide. The new bridge will be situated approximately 6 metres downstream from the existing bridge which will not be demolished but reserved for pedestrians. Upon completion the new bridge will have two way traffic and a pedestrian walkway on the upstream side of the bridge. The Little Tugela River Bridge will be accompanied by a 500m road realignment on either side of the bridge.

No-Go Alternative:

The no go alternative i.e. not constructing Klein Boesmans and Little Tugela River Bridges would result in potential injuries and fatalities to those who make use of the bridge on a daily basis. The existing state of the bridges is poor and thus requires immediate improvement. The continued use of the bridges in its present state will result in continued deterioration and increase the possibility of complete failure of the structures.

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

5. ACTIVITY POSITION

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

Alternative:	Latitude (S):			Longitude (E):		
Alternative S1 ² (preferred or only site alternative)	0	'	"	0	'	"
Alternative S2 (if any)	0	'	"	0	'	"
Alternative S3 (if any)	0	'	"	0	'	"

In the case of linear activities:

Alternative:	Latitude (S):			Longitude (E):		
Alternative S1 (preferred or only route alternative)						
• Klein Boesmans Bridge	29 ^o	04'	20.10"	29 ^o	44'	40.40"
• Little Tugela Bridge	28 ^o	56'	23.29"	29 ^o	34'	41.23"

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

6. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:	Size of the activity:
Alternative A1 ³ (preferred activity alternative)	m ²
Alternative A2 (if any)	m ²
Alternative A3 (if any)	m ²

² "Alternative S.." refer to site alternatives.

³ "Alternative A.." refer to activity, process, technology or other alternatives.

Basic Assessment Report

or, for linear activities:

Alternative: Alternative A1 (Klein Boesmans)	Length of the bridge: <div style="border: 1px solid black; padding: 2px; width: fit-content;">23 metres</div>
---	--

Alternative: Alternative A1 (Little Tugela)	Length of the bridge: <div style="border: 1px solid black; padding: 2px; width: fit-content;">57 metres</div>
--	--

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur): Alternative: Alternative A1 (Klein Boesmans) Alternative A2 (if any) Alternative A3 (if any)	Size of the site/servitude: <div style="border: 1px solid black; padding: 2px; width: fit-content;">271.4m²</div> <div style="border: 1px solid black; padding: 2px; width: fit-content;">m²</div> <div style="border: 1px solid black; padding: 2px; width: fit-content;">m²</div>
---	---

Alternative: Alternative A1 (Little Tugela) Alternative A2 (if any) Alternative A3 (if any)	Size of the site/servitude: <div style="border: 1px solid black; padding: 2px; width: fit-content;">624.72m²</div> <div style="border: 1px solid black; padding: 2px; width: fit-content;">m²</div> <div style="border: 1px solid black; padding: 2px; width: fit-content;">m²</div>
--	--

7. SITE ACCESS

Does ready access to the site exist?	<table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <td style="width: 50%; text-align: center;">YES</td> <td style="width: 50%; text-align: center;">NO</td> </tr> <tr> <td colspan="2" style="text-align: center; height: 20px;">m</td> </tr> </table>	YES	NO	m	
YES	NO				
m					
If NO, what is the distance over which a new access road will be built					
Describe the type of access road planned:					

The proposed Klein Boesmans and Little Tugela bridge sites are situated along District Roads D69 and D214 respectively.

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.

8. SITE OR ROUTE PLAN

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

The site or route plans must indicate the following:

- 8.1. the scale of the plan which must be at least a scale of 1:500;
- 8.2. the property boundaries and numbers/ erf/ farm numbers of all adjoining properties of the site;
- 8.3. the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 8.4. the exact position of each element of the application as well as any other structures on the site;
- 8.5. the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 8.6. walls and fencing including details of the height and construction material;
- 8.7. servitudes indicating the purpose of the servitude;

Basic Assessment Report

- 8.8. sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
- rivers, streams, drainage lines or wetlands;
 - the 1:100 year flood line (where available or where it is required by DWA);
 - ridges;
 - cultural and historical features;
 - areas with indigenous vegetation including protected plant species (even if it is degraded or infested with alien species);
- 8.9. for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 8.10. the positions from where photographs of the site were taken.

9. 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.

10. FACILITY ILLUSTRATION

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

11. ACTIVITY MOTIVATION

Socio-economic value of the activity-[Little Tugela](#)

What is the expected capital value of the activity on completion?	R18 200 000.00
What is the expected yearly income that will be generated by or as a result of the activity?	N/A
Will the activity contribute to service infrastructure?	YES NO
Is the activity a public amenity?	YES NO
How many new employment opportunities will be created in the development phase of the activity?	80
What is the expected value of the employment opportunities during the development phase?	R 5 049 696.00
What percentage of this will accrue to previously disadvantaged individuals?	100%
How many permanent new employment opportunities will be created during the operational phase of the activity?	None

Basic Assessment Report

Socio-economic value of the activity-Klein Boesmans

What is the expected capital value of the activity on completion?	R11 491 855.49
What is the expected yearly income that will be generated by or as a result of the activity?	N/A
Will the activity contribute to service infrastructure?	YES NO
Is the activity a public amenity?	YES NO
How many new employment opportunities will be created in the development phase of the activity?	60
What is the expected value of the employment opportunities during the development phase?	R 2 527 056.00
What percentage of this will accrue to previously disadvantaged individuals?	100%
How many permanent new employment opportunities will be created during the operational phase of the activity?	None

11.1. Need and desirability of the activity

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

The proposed bridges is part of the KZNDOT's initiative to improve public amenities which pose a safety hazard to the surrounding communities, both the Little Tugela and Klein Boesmans River Bridges are in need of and upgrade or replacement. The existing structures consists of broken handrails, and uneven surfaces which could result in injury and fatality to those who make use of it.

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

The proposed development will have the following benefits for society in general:

- The new bridge structures will provide a permanent, safe link over the Little Tugela and Little Bushman's Rivers.
- Both new bridge structures will allow for two way traffic and pedestrian walkways in comparison to the one way existing structures.
- The reduced risk of injury and fatality to those who use the bridges.
- The Klein Boesmans River Bridge will be replaced with a higher level bridge to withstand a 10-year flood discharge.

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

As above.

12. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

Title of legislation, policy or guideline:	Administering authority:	Date:
National Environmental Management Act	All organs of State.	1998
Environment Conservation Act	DEA / EDTEA	1989
National Water Act	DWA	1998
National Water Resources Strategy	DWA	2004
Occupational Health and Safety Act	DOL	1993
Hazardous Chemical Substance regulations	DOL	1995
Environmental Regulations for Workplaces	Department of Labour	1987
General Administrative Regulations	Department of Labour	2003
Construction Regulations	DOL	2003
National Environmental Management: Air Quality Act	DEA / EDTEA	2004
National Environmental Management: Waste Act	DEA / EDTEA	2008
National Standards (SANS)	SABS	2003

13. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

13.1. Solid waste management

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

YES	NO
----------------	----

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

+ 3m ³

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

Waste will be temporarily stored on site in designated waste skips / bins and then removed by an appropriate waste contractor to an approved landfill site. This will be managed through the EMPr.

Where will the construction solid waste be disposed of? (provide details of landfill site)

Solid waste will be removed when appropriate levels of waste have accumulated at the on-site waste storage facility within the construction site camp. This waste will be disposed of at the nearest registered landfill.

Will the activity produce solid waste during its operational phase?

YES	NO
-----	---------------

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

N/A

How will the solid waste be disposed of? (provide details of landfill site)

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine the further requirements of the application.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

YES	NO
-----	---------------

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

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

YES	NO
-----	---------------

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

13.2. 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 ³

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

Yes	NO
-----	---------------

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

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

YES	NO
-----	---------------

If yes, provide the particulars of the facility:

Facility name:			
Contact person:			
Postal address:			
Postal code:			
Telephone:	Cell:		
E-mail:	Fax:		

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

No wastewater is expected to be produced from the construction phase and no wastewater will be produced during the operational phase.

Basic Assessment Report

13.3. Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

YES	NO
YES	NO

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

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

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

Dust will be produced during the construction phase as well as emissions from construction vehicles accessing the site. These emissions will be comprised primarily of CO² and will be of a low concentration. Dust abatement measures if required will be implemented throughout construction activities and this will be controlled by an EMP.

13.4. Generation of noise

Will the activity generate noise?

YES	NO
YES	NO

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

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

If no, describe the noise in terms of type and level:

The proposed activity will generate noise during the construction phase from construction vehicles and equipment. It is not expected that noise levels during construction will exceed 85dBa. Noise suppressors should be used on machinery on site. Workers will be trained regarding noise on site and construction hours will be kept to working hours (07h00 to 17h00). Work should not continue on weekends, after hours or public holidays.

14. WATER USE

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

municipal	water board	groundwater	river, stream, dam or lake	other	the activity will not use water
----------------------	-------------	-------------	----------------------------	-------	---------------------------------

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month: litres

Does the activity require a water use permit from the Department of Water Affairs? ~~YES~~ NO

If YES, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this report.

This proposed activity may require a Water Use License Application (WULA) as deemed necessary by the Department of Water and Sanitation as there are two bridges located across watercourses and within 500m from the edge of a wetland. The piers and abutments may be considered as structures that will impede or divert the flow of water within the watercourses.

15. ENERGY EFFICIENCY

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

There are no measures being undertaken other than ensuring the energy consumption of equipment (through proper maintenance) is as efficient as possible in order to lower operating costs.

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

Basic Assessment Report

The activity involves the construction of a bridge and upgrading of an existing road. Machinery and vehicles that will be used during the construction will utilize diesel and petrol. There are no feasible alternative energy sources other than these two fuel types to run these machines and vehicles. The bridge and associated road are passive structures which does not utilize any energy during the operational phase.

SECTION C: SITE/ AREA/ PROPERTY DESCRIPTION

Important notes:

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

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

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

1. GRADIENT OF THE SITES

Indicate the general gradient of the site.

Alternative S1:

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

2. LOCATION IN LANDSCAPE

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

Alternative S1 (preferred site):

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

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Has a specialist been consulted for the completion of this section?

YES	NO
-----	---------------

If YES, please complete the following:

Name of the specialist:	N/A		
Qualification(s) of the specialist:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	-
Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?	YES	NO	
If YES, specify and explain:			
Are there any special or sensitive habitats or other natural features present on any of the alternative sites?	YES	NO	

Basic Assessment Report

If YES, specify and explain:

Are any further specialist studies recommended by the specialist?	YES	NO
If YES, specify:		
If YES, is such a report(s) attached in <u>Appendix D</u> ?	YES	NO

Signature of specialist: _____ Date: _____

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

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

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

4. GROUND COVER

Has a specialist been consulted for the completion of this section? ~~YES~~ NO

If YES, please complete the following:

Name of the specialist:	Colin Holmes		
Qualification(s) of the specialist:	BSc (Hons) – Environmental Science MSc – Applied Environmental Science Pr.Sci.Nat.		
Postal address:	P.O. Box 396; Gillitts		
Postal code:	3603		
Telephone:	031 769 1578	Cell:	072 291 2313
E-mail:	colin@ksems.co.za	Fax:	086 535 5281
Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?	YES	NO	

Basic Assessment Report

If YES, specify and explain: N/A

Are there any special or sensitive habitats or other natural features present on any of the alternative sites? ~~YES~~ NO

If YES, specify and explain: The proposed bridges traverse the Klein Boesmans and Little Tugela Rivers. There are also wetlands within 500m from the proposed project sites.

Are any further specialist studies recommended by the specialist? YES ~~NO~~

If YES, specify: N/A

If YES, is such a report(s) attached in Appendix D? YES NO

Signature of specialist: _____ Date: _____

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

Natural veld - good condition ^E	Natural veld with scattered aliens ^E	Natural veld with heavy infestation^E	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

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

Summary of the Wetland Specialist Report

The freshwater habitats (wetland and/or riparian) within a 500 metre radius of the proposed bridge and road upgrades were identified. The infield site assessment phase confirmed the location and extent of these systems, subsequent screening provided an indication of which of these systems may potentially be impacted upon by the proposed bridges and roads.

Water resources within a 500m radius of the Little Tugela and Klein Boesmans Bridges and their associated risk rating

WATER RESOURCE – HGM	WATER RESOURCE TYPE	RISK RATING	NEED FOR FURTHER ASSESSMENT
Little Tugela			
Rip-LT/01	Perennial C Channel	High	Yes
CVB-LT/01	Channelled valley-bottom	Low	No
Seep- LT/Tributary	Seep	Very Low	No
Seep- LT/01	Seep	Very Low	No
Seep- LT/02	Seep	Low - Moderate	Yes
Seep- LT/03	Seep	Very Low	No
Seep- LT/04			No
Seep- LT/05			No
Seep- LT/06	Seep	Low	No
Seep- LT/07	Seep	Very Low	No
Seep- LT/08	Seep	Low	No

Basic Assessment Report

BP- LT/Ex	Borrow Pit Excavation	Very Low	No
Klein Boesmans			
Rip-KB/01	Perennial C Channel	High	Yes
Seep-KB/01	Seep	Very Low	No
Seep-KB/02	Seep	Low	No
Seep-KB/03	Seep	Very Low	No
Seep-KB/04	Seep	Very Low	No
CVB-KB/01	Channelled Valley-bottom	High	Yes

Rip-LT/01, Seep-LT/02, Rip-KB/01 and CVB-KB/01 were delineated and classification confirmed. Due to the impact the bridge and road upgrades are potentially going to have on these water resources, there is a need for these systems to be assessed utilising an appropriate assessment tool.

Present Ecological State (PES)

The PES of Rip-LT/01, Seep-LT/02, Rip-KB/01 and CVB-KB/01 were assessed. The two riparian systems are categorised as Moderately Modified ('C' category system), indicating that the loss of natural habitat, biota and basic ecosystem functions is minimal. The present ecological state (PES) of the Seep-LT/02 wetland system is defined as moderately modified represented by an overall 'C' category for the WET-Health assessment. The present ecological state (PES) of the CVB-KB/01 wetland system is defined as largely modified represented by an overall 'D' category for the WET-Health assessment.

Wetland Functional Importance (Goods and Services)

The overall goods and services provided by the Seep-LT/02 were assessed as being moderate to moderately-low with the only indirect regulating and supporting service to be rated moderately-high being that of erosion control. Nitrate removal is assessed as being moderately-high in terms of the supply (effectiveness) of the system however decreased due to the lower demand (opportunity). In terms of indirect regulating and supporting services provided by the CVB-KB/01, sediment trapping, streamflow regulation, phosphate trapping and nitrate removal were assessed as being of moderate importance. Direct benefits included the provision of water for human use that was assessed as being of moderate importance.

Ecological Importance and Sensitivity (EIS)

The Little Tugela river/riparian unit was assessed as being of Moderate (C class) EIS, driven largely by the provision of a diversity of habitats and the provision of a migratory corridor. The Klein Boesmans riparian unit was assessed as being High (B class) EIS, driven largely by the presence of rare/endangered species, provision of a diversity of habitats and the provision of a migratory corridor. The Seep-LT/02 and CVB-KB/01 wetland systems were assessed as having an overall moderate importance this was driven by the higher functional/hydrological importance of both systems

Impacts and Mitigation

The types of impacts on freshwater habitats can be categorised into three (3) broad categories, namely direct, indirect and cumulative impacts. Direct impacts are associated with disturbances occurring within the system such as canalisation, infilling, removal of vegetation, infrastructure development. Indirect impacts include disturbances outside the system, such as increased surface water and sediment, loss of recharge area, changes in local drainage patterns. Cumulative impacts include disturbances resulting from combined direct and/or indirect impacts to the system over time. These cumulative impacts take into account existing anthropogenic impacts and combined impact of these existing impacts and potential impacts associated with the proposed developments.

Basic Assessment Report

The construction of the road and bridges must take into account the risk to the surrounding environment and must be planned, designed and implemented in a sustainable manner ensuring further disturbance is avoided or, where they cannot be altogether avoided, appropriate mitigative measures be applied in the form of reactive practical actions that minimises or reduces in situ impacts. The impacts associated with the Little Tugela and Klein Boesmans developments are assessed as being moderate however may be potentially decreased to Low with the implementation of effective mitigative measures. All of the above impacts are considered to be easily mitigated provide the mitigative measures and monitoring plan within this report are implemented and adhered to during the construction and operational phase of the bridge and road developments.

There is the need for a Water Use License according to Section 21 of the National Water Act No. 36 of 1998. No protected/threatened species of flora/fauna were observed and there is no immediate need for relevant permits to remove/relocate any aquatic species.

5. LAND USE CHARACTER OF SURROUNDING AREA

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

Land use character	YES	NO	Description
Natural area	YES	NO	The existing bridge structures are situated across the Little Bushman's and Little Tugela Rivers, in addition there are wetlands within 500m from the proposed project sites.
Low density residential	YES	NO	
Medium density residential	YES	NO	
High density residential	YES	NO	
Informal residential	YES	NO	The sites are located within the rural areas of the Imbabazane Local Municipality. There are scattered informal dwellings and formal houses on either side of the bridges. The new bridges will have a positive impact on the neighbouring communities as there will be a safe link across the Little Bushman and Little Tugela Rivers.
Retail commercial & warehousing	YES	NO	
Light industrial	YES	NO	
Medium industrial	YES	NO	
Heavy industrial	YES	NO	
Power station	YES	NO	
Office/consulting room	YES	NO	
Military or police base/station/compound	YES	NO	
Spoil heap or slimes dam	YES	NO	
Quarry, sand or borrow pit	YES	NO	
Dam or reservoir	YES	NO	
Hospital/medical centre	YES	NO	The Little Tugela Bridge is situated approximately 150m away from the Injisuthi Clinic. The new bridge structure will benefit those who use the bridge daily to access the clinic.
School/ creche	YES	NO	
Tertiary education facility	YES	NO	

Basic Assessment Report

Church	YES	NO	
Old age home	YES	NO	
Sewage treatment plant	YES	NO	
Train station or shunting yard	YES	NO	
Railway line	YES	NO	
Major road (4 lanes or more)	YES	NO	
Airport	YES	NO	
Harbour	YES	NO	
Sport facilities	YES	NO	There is a sports field within 500m from the Little Tugela River Bridge. The proposed development will have no impact on the sports field.
Golf course	YES	NO	
Polo fields	YES	NO	
Filling station	YES	NO	
Landfill or waste treatment site	YES	NO	
Plantation	YES	NO	
Agriculture	YES	NO	
River, stream or wetland	YES	NO	The new bridge structures will be situated over the Little Bushman's and Little Tugela Rivers. The construction phase of the bridges will have a negative impact on the surrounding waterbodies however the impacts are expected to be minimal.
Nature conservation area	YES	NO	
Mountain, hill or ridge	YES	NO	The site is surrounded by undulating low hills which will not be impacted upon by the proposed development.
Museum	YES	NO	
Historical building	YES	NO	
Protected Area	YES	NO	
Graveyard	YES	NO	
Archaeological site	YES	NO	<p>The field survey for the Little Tugela River Bridge was undertaken in August 2014. Two heritage sites were noted: Gourton Bridge and the Gerit Maritz Soolaer Monument.</p> <p>The Gourton (Little Tugela) Bridge is a single lane bridge over the Little Tugela River. The Gourton Bridge was initially built in 1893, and later rebuilt in 1913. The bridge is still in use, however the railings have been damaged.</p> <p>The bridge is automatically protected by the KZNHA as it is older than 60 years. A permit will be required to damage and/or alter the bridge. The monument should not be affected by the bridge upgrade. It is currently 35m from the road, and 73m from the bridge. A 20m buffer should be placed around the monument. It is highly unlikely that artefacts related to Soolaer will be found in the bridge footprint, and thus no mitigation will be required for the rest of the monument.</p>

Basic Assessment Report

Other land uses (describe)	YES	NO	
----------------------------	-----	---------------	--

6. CULTURAL/ HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or within 20m of the site?

YES	NO
----------------	----

If YES, contact a specialist recommended by AMAFA to conduct a heritage impact assessment. The heritage impact assessment must be attached as an appendix to this report.

Briefly explain the recommendations of the specialist:

The field survey for the Little Tugela Bridge was undertaken in August 2014. Two heritage sites were noted: Gourton Bridge and the Gerit Maritz Soolaer Monument. The bridge may be rebuilt, however the existing structures should be incorporated with the new structures. The monument should not be affected by the new bridge. A palaeontologist will be required if the construction impacts on the bedrock.

During the field investigation at the Klein Boesmans Bridge site, there were two sites identified as having heritage significance i.e. The Klein Boesmans Bridge Rock Art Site and the Old Drift situated adjacent to the bridge. The specialist recommends that the Old Drift should not be damaged in any way during the demolishing of the existing bridge and the construction of the new one. It should be retained as a heritage feature.

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

YES	NO
-----	---------------

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

YES	NO
-----	---------------

If YES, please submit the necessary application to AMAFA and attach proof thereof to this report.

SECTION D: PUBLIC PARTICIPATION

Summary of the Public Participation Process for the proposed Klein Boesmans and Little Tugela Bridges

The application has been advertised in the Escort and Midlands Times (local) and Isolezwe (regional) Newspapers on the 22nd and the 29th May 2015 respectively. Signboards have been placed along in close proximity to the site. A meeting was held with the ward councillor for the Klein Boesmans site on the 20th of May 2015. The following authorities and interest groups were also notified: Department of Water and Sanitation (DWS), Ezemvelo KZN Wildlife, Department of Agriculture, Forestry and Fisheries, Imbabazane and uThukela municipalities.

1. ADVERTISEMENT

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

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
 - (i) the site where the activity to which the application relates is or is to be undertaken; and

Basic Assessment Report

- (b) (ii) any alternative site mentioned in the application;
giving written notice to—
 - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
 - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
 - (v) the local and district municipality which has jurisdiction in the area;
 - (vi) any organ of state having jurisdiction in respect of any aspect of the activity (as identified in the application form for the environmental authorization of this project);
and
 - (vii) any other party as required by the competent authority;
- (c) placing an advertisement in—
 - (i) one local newspaper; or
 - (ii) any official Gazette that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official Gazette referred to in subregulation 54(c)(ii); and
- (e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
 - (i) illiteracy;
 - (ii) disability; or
 - (iii) any other disadvantage.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation; and
- (b) state—
 - (i) that an application for environmental authorization has been submitted to the KZN Department of Economic Development, Tourism & Environmental Affairs in terms of the EIA Regulations, 2010;(ii)
 - (iii) a brief project description that includes the nature and location of the activity to which the application relates;
 - (iv) where further information on the application can be obtained; and
 - (iv) the manner in which and the person to whom representations in respect of the application may be made.

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

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

Basic Assessment Report

Advertisements and notices must make provision for all alternatives.

4. DETERMINATION OF APPROPRIATE PROCESS

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

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

5. COMMENTS AND RESPONSE REPORT

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

6. PARTICIPATION BY DISTRICT, LOCAL AND TRADITIONAL AUTHORITIES

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

Has any comment been received from the district municipality?

YES NO

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

Has any comment been received from the local municipality?

YES NO

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

Has any comment been received from a traditional authority?

YES NO

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

7. CONSULTATION WITH OTHER STAKEHOLDERS

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

Has any comment been received from stakeholders?

YES NO

Basic Assessment Report

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

SECTION E: IMPACT ASSESSMENT

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

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

No comments have been received from I&APs. Any comments received on the Draft BAR will be included in Appendix E of the Final BAR.

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

No comments have been received from I&APs. Any comments received on the Draft BAR will be included in Appendix E of the Final BAR.

2. 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

2.1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN PHASE

Non-compliance with Legislative Requirements

During the planning and design phase of the proposed development, compliance with environmental requirements is carefully considered and integrated into the design and location of the proposed bridges to avoid non-compliance and delays in the Basic Assessment Process. Foreseen issues are planned for and dealt with at this phase and contingency plans are developed for unforeseen impacts and delays during the course of the project.

Notification of the Proposed Development to all I&AP

At this phase all I&APs must be identified at the planning phase and must be informed of all changes and phases throughout the Basic Assessment process. Impacts to timelines may be experienced if this procedure isn't carried out efficiently and thoroughly. In general, processes such as the Basic Assessment process are delayed due to insufficient notification of the development and the inadequate information presented in public information documents. Notification is imperative to carry out a Basic Assessment process successfully.

Impacts that may arise from the Bridge Design

The construction phase may result in impacts to the surrounding watercourses, the bridge should therefore be designed to minimise these impacts.

Involvement of Specialists

The need for specialist studies must be identified during the planning phase of the development as the environmental authorisation must include these studies in order for the competent authority to make an informed decision. If a study is not included then the Basic Assessment process is delayed until such time that all necessary studies are completed.

Basic Assessment Report

2.2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

a. Site alternatives

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

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
SOIL										
Destabilisation and erosion of stockpiled materials	Direct	Local	Construction phase (short-term)	Yes – can be managed.	No	Medium	High	<p>Due to construction activities, soil in and around the proposed site can become eroded, degraded, compacted and destabilised.</p> <p>As a general principle, contractors must limit vegetation clearing to the workable corridor/site. The contractor must stabilise cleared areas to prevent and control erosion and/or sedimentation of the watercourses. Only vegetation that needs to be removed to accommodate the proposed bridges must be removed in a phased and controlled manner.</p>	Low	Low

“Leading the attainment of inclusive growth for job creation and economic sustenance”

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								<p>A site specific EMP has been designed to manage construction activities and is attached under Appendix F.</p> <p>Stockpiles must not be located within 50 metres of any rivers, wetlands and/or riparian channels or within the 1:100 year flood lines. The furthest threshold must be adhered to. They should not be placed in vegetated areas that will not be cleared. Erosion control measures including silt fences, low soil berms and/or shutter boards must be put in place around the stockpiles to limit sediment runoff from stockpiles.</p>		
The onsite erosion of exposed soil before rehabilitation is completed.	Direct	Local	Construction phase (short-term)	Yes – can be managed	No	Medium	High	The duration of exposed soil must be kept to a minimum and rehabilitation must be initiated as soon as construction is completed.	Low	Low

“Leading the attainment of inclusive growth for job creation and economic sustenance”

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								The contractor must stabilise cleared areas to prevent and control erosion and / or sedimentation of the river. Only vegetation that needs to be removed for the construction of the bridges, should be removed in a phased and controlled manner.		
Increased potential for erosion along the Klein Boesmans and Little Tugela River banks resulting in the sedimentation of the river.	Indirect	Local	Construction phase (short-term)	Yes – can be managed	No	Medium	High	Erosion and sedimentation impacts are likely to arise as a result of catchment transformation and flow modification activities/impacts during construction: 1. Clearing and exposure of bare soils within and upslope of the freshwater habitats and the destabilisation of bed and banks. 2. Flow diversion during the establishment of the bridge piers. The necessary precautions will need to	Low	Low

“Leading the attainment of inclusive growth for job creation and economic sustenance”

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								<p>be taken to prevent erosion which should include the implementation of sandbags / silt fencing as a temporary measure until rehabilitation can occur. During construction, guidelines set out by the ECO will be followed to ensure no potential impacts occur. This must be controlled by the EMPr.</p> <p>It is recommended that construction within the river systems take place in the winter/dry months to reduce erosion and sedimentation risks during the construction phase.</p> <p>Stormwater and erosion control measures must be implemented during the construction phase to ensure that erosion and sedimentation impacts to the wetland, riparian and in-stream habitats are</p>		

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								minimised and avoided.		
Soil Contamination	Direct	Local	Construction phase (short-term)	Yes-prevented and managed	No	Medium	High	<p>Soil contamination during the construction phase occurs as a result of accidental spills or leaks and mixing of cement on permeable surfaces, resulting in product seeping into the ground and potentially moving into the soil and groundwater.</p> <p>Mixing of cement will be done on an impervious surface and away from areas where run-off can enter into stormwater drainage lines or streams to prevent contamination.</p> <p>In addition construction vehicles and machinery must be well maintained at all times to prevent seepage of oil and fuel into the soil. Drip tray must be used where necessary.</p> <p>Construction must be</p>	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								<p>monitored by an independent ECO who must monitor compliance with the construction EMPr.</p> <p>The proper storage and handling of hazardous substances (e.g. Fuel, oil, cement, bitumen, paint, etc.) needs to be administered. Storage containers must be regularly inspected so as to prevent leaks and all hazardous storage must take place in a bunded area or within drip trays to prevent soil/water contamination.</p>		
STORMWATER										
Poor storm water management during construction	Indirect	Local	Construction phase (short term)	Yes	No	Medium	High	Stormwater control must be implemented during construction; however this is a temporary impact of the proposal. A drainage system must be established for the construction camp. Contaminated storm	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								<p>water must not be allowed to enter the Klein Boesmans and Little Tugela rivers. This will be controlled by the EMPr.</p> <p>Clearing activities must only be undertaken during agreed working times and permitted weather conditions. If heavy rains are expected, clearing activities should be put on hold. In this regard, the contractor must be aware of weather forecasts.</p> <p>Sediment barriers (e.g. silt fences, sandbags, hay bales, earthen filter berms, retaining walls and check dams) must be established along the entire length of the sensitive zone (e.g. buffer zone edge or watercourse edge where no buffers) to capture sediment before entering the freshwater habitat buffer zones. Sediment barriers should</p>		

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								<p>be regularly maintained and cleared so as to ensure effective drainage.</p> <p>The wetland specialist made the following recommendations:</p> <p>All potential stormwater contaminants must be banded in the site camp to prevent run-off into the surrounding environment. A drainage system must be established for the construction camp. The drainage system must be regularly checked to ensure an unobstructed water flow. Establish cut off drains and berms to reduce stormwater flow through the construction site. The contractor must prepare a Stormwater Control Plan (which may form part of the construction method statement) to ensure that all construction activities do not cause, or</p>		

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								<p>precipitate, soil erosion sediment which may result in sediment input into the surrounding environment. The designated responsible person on site, as indicated in the stormwater control plan (usually the contractor/ECO) must ensure that no construction work takes place before the stormwater control measures are in place and must include post-construction/operational phase stormwater requirements.</p> <p>The drainage plan must ensure no downstream erosion occurs through increased stormwater inputs and that the stormwater system has sufficient capacity for water inputs and drainage. The use of soft engineering (grassed</p>		

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								swales) instead of hardening gutters should be used where possible.		
FLORA										
Risk of alien invasive encroachment into disturbed areas.	Direct	Local	Construction phase (short-term)	Yes	No	Medium	High	<p>The proposed bridges may require the removal of vegetation. Despite the high level of alien vegetation at the proposed site, the spread of alien plant species on site must be inhibited by monitoring. In addition the correct removal and disposal of alien plant species must be followed. Rehabilitation of disturbed areas must commence as soon as construction activities are completed in those areas. All activities will be managed by an EMPr.</p> <p>All alien invasive vegetation that has colonised the construction site must be removed, preferably by uprooting. The contractor should</p>	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								<p>consult the ECO regarding the method of removal.</p> <p>All bare surfaces across the construction site must be checked for alien invasive plants at the end of every month and alien plants removed by hand pulling/uprooting and adequately disposed.</p> <p>Herbicides should be utilised where hand pulling/uprooting is not possible. Only herbicides which have been certified safe for use in wetlands by independent testing authority to be used.</p> <p>The wetland specialist made the following recommendations:</p> <p>Care must be taken to avoid the introduction of alien plant species to the site. Alien vegetation re-growth must be controlled</p>		

“Leading the attainment of inclusive growth for job creation and economic sustenance”

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								<p>throughout the entire site during the construction and rehabilitation periods.</p> <p>All exposed surfaces within the construction site must be checked for alien invasive plant species on a monthly basis and any identified alien species must be removed by hand pulling/uprooting and appropriately disposed of. Herbicides should only be utilised where manually removing is not possible. Herbicides utilised are restricted to products which have been certified safe for use in wetland and riparian areas by an independent testing authority. The ECO must be consulted before the purchase of any herbicide.</p>		
Damage and removal of existing vegetation.	Direct	Local	Construction phase (short-term)	Yes	No	Low	High	Workers must be educated / trained on minimizing damage to vegetation during	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								<p>construction. Only vegetation that must be removed for the construction of the bridges should be removed and the footprint must be kept to a minimum. Rehabilitation of disturbed areas must be undertaken with locally indigenous species upon completion of construction activities. This must be controlled through the EMPr.</p> <p>Prior to the stripping, infilling, excavation and re-shaping of the wetland/aquatic habitat within the development footprint/corridor, indigenous emergent vegetation within the development footprint should be relocated to a temporary holding area for use in the rehabilitation. Such vegetation should be removed in-situ (with</p>		

“Leading the attainment of inclusive growth for job creation and economic sustenance”

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								<p>sods-locally common grass species are recommended for rehabilitation purposes).</p> <p>If re-vegetation of exposed surfaces cannot be established immediately due to phasing issues, rows of silt fences and sandbags of vegetation must be established along the contours at regular intervals to slow runoff and capture eroded soil.</p> <p>Immediately after the topsoil is reinstated and the wetland areas stabilised, the disturbed wetland and marginal riparian areas must be re-vegetated using the emergent vegetation rescued from the development footprint.</p>		
FAUNA										
Hunting / Fishing by construction	Direct	Local	Construction phase (short-term)	Yes	No	Low	High	Impacts of working within and in the vicinity of the freshwater habitats are	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
workers.								<p>the increased occurrence of the hunting and killing of fauna disturbed and flushed during the construction activities.</p> <p>Hunting, poaching or fishing is prohibited during construction. Guidelines set out by the ECO must be followed to ensure no potential impacts occur and workers will be instructed that hunting and fishing is a non-compliance of the authorized activity. This must be controlled through the EMPr.</p> <p>All fauna encountered during hand clearing must be rescued and relocated to suitable intact wetland habitat.</p>		
SENSITIVE ENVIRONMENTAL AREAS										
Little Tugela and Little Bushman's Riverine Area										
Degradation and contamination	Direct	Local	Construction phase (short-term)	Yes	No	High	High	Site workers will be trained in avoiding impacts in areas of	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
of the Little Tugela and Klein Boesmans River and surrounding environment by cement and other hazardous materials.								<p>potential concern (e.g. steep river banks, floodplains). Designated concrete mixing areas and storage areas for any hazardous materials must be assigned; cement mixing is not permitted in any area where runoff can enter rivers. This must be strictly controlled through the site specific EMP.</p> <p>The wetland specialist made the following recommendations:</p> <p>Cut and fill must be avoided where possible during the set-up of the construction camp. The utilisation of the heavily disturbed areas from the borrow pit activities (Little Tugela) and from the construction of the D69 Road (Klein Boesmans) should be encouraged.</p> <p>The formalisation of the detour route must not</p>		

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								<p>result in further infilling into the channelled valley-bottom system as there is an existing culvert and this should be utilised as the crossing point (Klein Boesmans).</p> <p>The upgrade of the D214 Road associated with the Little Tugela River Bridge must not impact on the Seep-LT/02 wetland as there is a sufficient buffer between the existing road and wetland boundary to prevent any impacts on the system.</p> <p>The demarcated wetlands and riparian systems must be protected from erosion and direct or indirect spills of pollutants, e.g. sediment, refuse, sewage, cement, oils, fuels, chemicals, wastewater etc.</p> <p>Hazardous material storage areas must not be</p>		

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								within 50 m of any watercourse or within the 1:100 year floodline. The furthest threshold must be adhered to. Hazardous storage areas to be hard surfaced and bunded with an impermeable liner to protect groundwater quality and undercover. The bunded a catch pit must have at least 110% the storage capacity of the total stored quantity.		
Damage to river banks during excavation.	Direct	Local	Construction phase (short-term)	Yes	No	High	High	The necessary precautions will need to be taken to prevent erosion which should include the implementation of sandbags / silt fencing as a temporary measure until rehabilitation occurs. During construction, guidelines set out by the ECO must be followed to ensure no potential impacts occur. This must be strictly controlled by the EMPr.	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								<p>Topsoil must be redistributed across the banks/wetland in parallel to implementation of bank stabilisation and erosion protection.</p> <p>Care shall be taken not to mix the topsoil with the subsoil during re-shaping operations.</p> <p>All river banks must be protected with a biodegradable geofabric such as Biojute® or other products produced by Kaytech and Maccaferri.</p> <p>Temporary measures to prevent soil loss on the banks must be implemented and may include rows of sand bags/silt fences and silt fences at the water's edge.</p> <p>The bed and banks should be re-shaped to reflect the morphology of the bed and banks upstream and</p>		

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								downstream of the existing causeway.		
Modification of the river flow and riverine dynamics of the area.	Indirect	Local (potential to become regional if it affects stream flow dynamics further down the watercourse)	Construction phase (short-term)	Yes	No	High	High	<p>Erosion and sedimentation impacts are likely to arise as a result of two catchment transformation and flow modification activities/impacts during construction:</p> <ol style="list-style-type: none"> 1. Clearing and exposure of bare soils within and upslope of the freshwater habitats and the destabilisation of bed and banks. 2. Flow diversion during the establishment of the bridge piers. <p>If the piers are to be located within the in-stream areas, flow will need to be diverted around the pier construction zones through the establishment of temporary coffer dams/bunds. Such flow diversion could result in bed and bank erosion as</p>	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								flow is concentrated through certain portions of the main channel. If erosion does take place, eroded sediment is also likely to be deposited in lower energy environments downstream and contribute to further in-stream habitat smothering and burial, and impacts to aquatic fauna.		
Endangered Ecosystem Vegetation										
The removal of 'endangered' and/or 'critically endangered' species.	Direct	Local	Construction phase (short-term)	Yes	No	High	High	During a desktop study by the EAP and wetland specialist, it was noted that the proposed sites are not located within an endangered or critically endangered vegetation type. During a site visit by the EAP and wetland specialist, no species of concern were identified within the project development footprint. In addition, the area is already substantially transformed by human	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								habitation, subsistence and small-scale farming, and the regular burning and clearing of the existing road verges. Therefore, biodiversity has already been affected by habitat loss and alteration and is unlikely to be further impacted.		
Cultural and Heritage Sites										
Potential disturbance to heritage resources during the construction phase.	Direct	Local	Construction phase	Yes	No	Medium	High	<p>The field survey for the Little Tugela River Bridge was undertaken in August 2014. Two heritage sites were noted: Gourton Bridge and the Gerit Maritz Sooilaer Monument.</p> <p>The Gourton (Little Tugela) Bridge is a single lane bridge over the Little Tugela River. The Gourton Bridge was initially built in 1893, and later rebuilt in 1913. The bridge is still in use, however the railings have been damaged.</p>	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								<p>The bridge is automatically protected by the KZNHA as it is older than 60 years. A permit will be required to damage and/or alter the bridge. The monument should not be affected by the bridge upgrade. It is currently 35m from the road, and 73m from the bridge. A 20m buffer should be placed around the monument. It is highly unlikely that artefacts related to Soilaer will be found in the bridge footprint, and thus no mitigation will be required for the rest of the monument.</p> <p>The site visit for the Klein Boesmans River Bridge revealed that There are a number of heritage, and potential heritage features which fall within the immediate area of the proposed construction that will be impacted, and</p>		

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								<p>great care should be taken that no damage comes to these sites. Mitigation measures (suggested in the text of the heritage report in Appendix D) should be put into place to ensure no harm comes to these sites. These sites include: The Mathamo Bridge, Rock Art Site and the Old Drift situated adjacent to the Mathamo Bridge.</p> <p>Great care should also be taken to ensure that construction work does not impact upon the residential and operation areas of the adjacent communities since these areas will have various heritage and cultural features within their domestic areas, and upon the landscape that will be damaged by careless construction.</p> <p>Upon identification of a</p>		

“Leading the attainment of inclusive growth for job creation and economic sustenance”

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								heritage resource, operations that expose archaeological or historical remains should cease immediately, pending evaluation by the provincial heritage agency.		
WASTE										
Improper storage and disposal of solid waste.	Direct	Local (within construction site)	Construction phase (short-term)	Yes impact can be managed	No	Medium	High	Due to the nature of the activity, waste is anticipated to be minimal. All solid waste generated during the construction process must be placed in a designated waste collection area within the construction camp and must not be allowed to blow around the site, be accessible by animals, or be placed in piles adjacent to the skips / bins. All solid waste must then be disposed of at the nearest licensed landfill and safe disposal certificates must be obtained and kept on site at all times during construction. Separate	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								skips/ bins for the different waste streams must be available on site. The waste containers must be appropriate to the waste type contained therein and where necessary should be lined and covered. This must be managed through the site specific EMPr and monitored by the ECO.		
Littering around the site.	Direct	Local (within construction site)	Construction phase (short-term)	Yes impact can be managed	No	Medium	High	Littering is not permitted on the site and general housekeeping must be enforced. General waste bins must be readily available for litter disposal and general housekeeping. The EMPr must be followed during construction.	Low	Low
Improper disposal of rubble i.e.: burying or neglecting building rubble resulting in direct mechanical	Direct	Local (within construction site)	Construction phase (short-term)	Yes impact can be managed	No	Medium	High	All excess material and rubble must be removed from the site so not to restrict the rehabilitation process. All excess material and rubble must go to an approved designated landfill and a safe disposal certificate	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
damage to surrounding vegetation and untidiness of the site.								must be obtained. All activities must be managed by an EMPr. Site workers will be trained in avoiding such impacts during induction training and regular toolbox talks.		
Lack of toilet facilities resulting in unsanitary conditions.	Direct	Local (within construction site)	Construction phase (short-term)	Yes impact can be managed	No	Medium	High	Adequate chemical toilet facilities must be provided for all staff members as standard construction practice. These toilets must be regularly cleaned by a reputable company and maintained in a clean state. This must be monitored in an EMPr. The digging of pit latrines is not allowed under any circumstances. None of the open areas or the surrounding environment may be used as ablution facilities.	Low	Low
Improper disposal of toilet waste from chemical	Direct	Local (within construction site)	Construction phase (short-term)	Yes impact can be managed	No	Medium	High	Chemical toilets must be placed within the construction camp and not in close proximity to	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
toilets resulting in contamination of the surrounding environment and the Klein Boesmans and Little Tugela Rivers								<p>the rivers. The chemical toilets must be provided by a registered company and all effluent must be regularly disposed of at a licenses facility. Safe disposal certificates must be kept on record.</p> <p>No contaminated runoff or grey water may be discharged from the site camp or site into the surrounding environment. Portable toilets must be situated outside of the 1:100 year floodline of all rivers, tributaries and wetlands. A maintenance plan for the servicing of these toilets must be drawn up and strictly adhered to, to prevent malfunctioning and neglect resulting in environmental contamination.</p>		
Increase waste to landfill site.	Cumulative	Local (potential to become	Construction phase (short-term)	Yes impact can be managed	No	Medium	High	Due to the nature of the activity, waste is anticipated to be minimal.	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
		regional)						Where possible, waste streams will be separated and recycled to limit the amount of waste being added to the landfill site.		
HAZARDOUS CHEMICALS / FUELS										
Risk of spills from construction equipment (oils, fuels, cement etc) contaminating soil and the watercourses.	Direct	Local (within construction site)	Construction phase (short-term)	Yes impact can be managed	No	Medium	High	Any hazardous or dangerous goods utilised during the construction phase must be stored on an impermeable surface that is bunded, fenced, locked and covered. A spill kit must be clearly marked and visible when utilising hazardous or dangerous materials to ensure that all spills are immediately cleaned. Spill kits must be regularly checked and maintained. The EMPr must be followed during construction. Should any spills of hazardous materials occur on the site or in the storage area, the relevant clean-up specialists must be contacted immediately.	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								Materials that absorb fuel & oil, such as Drizit or earth should be placed over the spill. This contaminated material must be uplifted, placed within impermeable container and disposed of at a recognized disposal site.		
NOISE										
Noise generated by construction workers, machinery and construction vehicles disturbing surrounding residents.	Direct	Local (within construction site)	Construction phase (short-term)	Yes impact can be managed	No	Medium	High	Excessive noise must be controlled on site. Workers will be trained regarding noise generation on site and construction hours will be kept to working hours (07h00 to 17h00). The construction activities will be monitored by an ECO who will ensure compliance with the construction EMPr. All precautions must be taken to ensure that noise generation is kept to a minimum. If excessive noise is expected during certain stages of the construction, nearby	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								residents must be notified prior to the event.		
AIR QUALITY										
Emissions generated from construction vehicles	Direct	Local	Construction phase (short-term)	Yes impact can be managed	No	Medium	High	The only emissions that will be generated will be from construction vehicles which will be minimal and is not expected to significantly affect the surrounding communities or the environment.	Low	Low
Dust generated from construction vehicles and other onsite activity	Direct	Local	Construction phase (short-term)	Yes impact can be managed	No	Medium	High	Dust control measures (the use of a water cart / truck) must be used to wet exposed soil and thereby ensure that excessive dust levels are not experienced on site. The dust levels must be kept below the required SANBS standard to ensure minimal impact on the surrounding community and the environment.	High	Low
RESOURCE USE & CONSERVATION										
Sourcing of raw materials i.e.: (gravel, stone,	Direct	Local (potential to become	Construction phase (short-term)	Yes impact can be managed	No	Medium	High	All materials must be obtained from a registered and sustainable source	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
sand, cement and water) from unsustainable sources resulting in illegal sand mining and mining operations causing significant environmental damage.		regional)						and all delivery notes and slips must be made available to the ECO e.g. mined material such as stone must only be obtained from permitted quarries.		
TRAFFIC										
Speeding vehicles resulting in safety issues for surrounding communities	Direct	Local	Construction phase (short-term)	Yes	No	Medium	High	Speeding will be prohibited. Flagmen and other traffic control measures should be implemented if the need arises during the construction phase. An EMPr has been designed to manage construction activities and is attached as Appendix F.	Low	Low
SOCIO-ECONOMIC										
Damage to surrounding neighbours'	Direct	Local	Construction phase (short-term)	Yes	No	Low	High	Surrounding neighbours must be consulted prior to construction to discuss	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
properties i.e.: houses, fence lines, crops, gardens and accesses.								the construction process and potential impacts on nearby properties, as well as opportunities regarding employment. Properties are not expected to be severely impacted on as they are not in close proximity to the site, however, should unplanned impacts occur, the contractor will be responsible for the necessary repairs.		
Positive impact - Potential temporary employment during the construction phase.	Direct	Local	Construction phase (short-term)	Positive impact no mitigation required.	No	Positive impact no mitigation required.	Positive impact no mitigation required.	Positive impact no mitigation required – skilled local community members may be granted employment during the construction phase.	Positive impact no mitigation required.	Positive impact no mitigation required.
Positive impact – improved state of the bridges making it conducive for use by the local community members	Direct	Local	Construction phase (short-term)	Positive impact no mitigation required.	No	Positive impact no mitigation required.	Positive impact no mitigation required.	Positive impact no mitigation required – the bridges will allow for the safe passage of pedestrians and vehicles.	Positive impact no mitigation required.	Positive impact no mitigation required.

“Leading the attainment of inclusive growth for job creation and economic sustenance”

Basic Assessment Report

No-Go Alternative:

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
IMPACTS OF THE NO-GO OPTION										
Continued use of bridges that are in poor condition and continued use may result in total failure of the existing structures.	Direct	Local	Long term	Yes	No	Medium	Low	Cannot be mitigated. Community members would continue to use the existing structures which are in a poor state, the use of the bridges in its existing condition would be a safety risk to all who use it.	High	Medium - High

Basic Assessment Report

2.3. IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

a. Site alternatives

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

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
Catchment transformation and flow modification	Direct	Local	Operational phase (long term)	Yes	No	High	High	Impacts on the Little Tugela and Klein Boesmans Rivers are expected to be minimal. The engineering designs must take into account the potential flow rates for the river to ensure the watercourse is not impacted upon and a maintenance team will be employed to ensure river bank stability and the functionality of the bridges in the long term.	Low	Low
Potential impacts on river bank stability.	Direct	Local	Operational phase (long term)	Yes	No	High	High	The engineering design of the bridge will ensure that the integrity and stability of the river banks are not compromised. Rehabilitation measures will also be implemented upon completion of	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented/r eversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								construction activities which will assist with the riverbank stability.		
Long term structural integrity of the bridges being compromised during a large flood event.	Direct	Local	Operational phase (long term)	Yes	No	Low	Low	The engineering design has taken into account the bridges accordingly to ensure the integrity of the bridge is maintained during floods or other weather events.	Low	Low
Costs of maintenance to the bridges.	Direct	Local	Operational phase (long term)	Yes	No	Low	Low	Regular maintenance of the bridges is required to ensure the structural integrity of the bridges is maintained and any potential damage to the bridges can be mitigated. The cost of maintenance operations must be borne by the applicant.	Medium	Medium
Erosion of surrounding banks due to stormwater	Indirect	Local	Operational phase (long term)	Yes	No	High	High	Stormwater control measures will need to be implemented to ensure water running off the bridges and does not cause erosion to the surrounding environment. Stormwater should be directed to the rivers or	Low	Low

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								<p>surrounding vegetative environment via stormwater channels or pipelines without the possibility of sediment being picked up or structural damage to the river banks occurring.</p> <p>Indigenous vegetation within the site must not be removed or damaged, where possible, during the alien plant control, increasing the probability of indigenous species propagating and preventing the reestablishment of alien species.</p> <p>The stormwater management infrastructure must be designed to ensure the run-off from the newly blacktopped road is not highly concentrated before entering the surrounding environment. The volume and velocity</p>		

“Leading the attainment of inclusive growth for job creation and economic sustenance”

Basic Assessment Report

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								of water must be reduced through discharging the surface flow at regular intervals along the length road into the surrounding environment, preventing erosion. Homesteads and associated driveways must be avoided. Any evidence of erosion from this stormwater system must be rehabilitated and the volume/velocity of the water reduced through further structures such as gabions, renomattresses and/or energy dissipaters at the exit of the stormwater culverts.		

No-Go Alternative:

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
IMPACTS OF THE NO-GO OPTION										
Continued use of bridges that are in poor condition and	Direct	Local	Long term	Yes	No	Medium	Low	Cannot be mitigated. Community members would continue to use the existing structures which	High	Medium - High

"Leading the attainment of inclusive growth for job creation and economic sustenance"

Basic Assessment Report

Nature of Impact (potential)	Direct, Indirect or cumulative	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
continued use may result in total failure of the existing structures.								are in a poor state, the use of the bridges in its existing condition would be a safety risk to all who use it.		

Basic Assessment Report

2.4. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING OR CLOSURE PHASE

a. Site alternatives

The proposed construction of the Klein Boesmans and Little Tugela Rivers will be permanent and as such there will be no decommissioning or closure phase. However, the impacts associated with decommissioning of the existing Klein Boesmans River Bridge are listed below.

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

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
SOIL										
The rubble and steel would need to be removed and disposed of off-site. As a result, there will be a potential increase in the amount of waste sent to the landfill site	Direct	Local	Decommissioning (short-term)	Yes – can be managed.	No	Medium	High	Alternative uses for all waste materials should be sort and recycling should take place where possible. Should no alternative uses for the waste be found, disposal at a licensed landfill must occur.	Low	Low
Potential contamination of the river systems with rubble and waste.	Direct	Local	Decommissioning (short-term)	Yes – can be managed	No	Medium	High	The duration of exposed soil must be kept to a minimum and rehabilitation must be initiated as soon as decommissioning is completed. The contractor must stabilise cleared areas to prevent and	Low	Low

“Leading the attainment of inclusive growth for job creation and economic sustenance”

Basic Assessment Report

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
								control erosion and / or sedimentation. Any vegetation that requires removal during the decommissioning phase must be done so in a phased manner that does not damage other vegetation unnecessarily.		
Negative impact on riparian areas.	Indirect	Local	Decommissioning (short-term)	Yes – can be managed	No	Medium	High	Disruption of water flow and drainage at the bridge and downstream of it will be minimal as there will be no modification of the river bed. Erosion on the river banks must be controlled and prevented.	Low	Low
Decommissioning activities causing erosion especially along the river banks.	Direct	Local	Decommissioning (short-term)	Yes	No	Low	High	The river banks will need to be rehabilitated and re-vegetated preventing any possible erosion once decommissioning is complete.	Low	Low
Construction rubble / waste entering the river could lead to increased sedimentation and impact on water	Indirect	Local	Decommissioning (short-term)	Yes	No	Low	High	Control measures must be implemented during decommissioning and care should be taken to prevent any rubble or other waste material entering the rivers.	Low	Low

“Leading the attainment of inclusive growth for job creation and economic sustenance”

Basic Assessment Report

Nature of Impact (potential)	Direct or Indirect	Extent of Impact	Duration of Impact	Can impact be prevented/reversed or managed?	Will irreplaceable resources be lost?	Probability before mitigation	Mitigatory Potential	Mitigation measure	Probability after mitigation	Significance after mitigation
quality of the rivers.										
Increase waste to landfill site.	Cumulative	Local (potential to become regional)	Decommissioning (short-term)	Yes impact can be managed	No	Medium	High	Waste streams will be separated and recycled where possible to limit amount of waste added to the landfill site.	Low	Low

Basic Assessment Report

2.5. PROPOSED MONITORING AND AUDITING

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

Alternative A1 and S1 (preferred site)

Construction phase: It is recommended that monitoring be done through monthly environmental construction audits ensuring compliance with an Environmental Management Programme (EMPr). An independent ECO must be appointed to undertake this monitoring process.

Operation phase: The applicant must ensure inspections and scheduled maintenance of infrastructure. A post construction audit must be undertaken by the ECO to ensure the EMPr requirements have been met.

Assumptions, Uncertainties and Gaps In Knowledge [Regulation 22 (2) (m)]

There are no uncertainties or gaps in the information provided and the EAP is confident that sufficient information has been provided to allow an assessment of the proposal.

3. ENVIRONMENTAL IMPACT STATEMENT

Environmental impact statement with a reasoned opinion as to whether the activity should be authorised or not be authorized; [Regulation 22 (2) (n)]

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.

It is the opinion of the EAP that the application submitted for the proposed bridges (Alternative S1 and A1) be approved. This alternative would result in minor environmental and social impact as minimal vegetation will require removal for the construction of the bridges at this point. Both bridges are currently in a poor state and continued use of the bridge pose a safety risk to those who use it, continued use of the bridges may also result in complete failure of the existing structures and may cause injury and fatality.

Preferred Alternative (S1): Klein Boesmans Bridge

The proposed bridge structure will be constructed across the Little Bushman's (Klein Boesmans) River and will be approximately 23 metres in length and 11.8 metres wide. The new bridge will replace an existing structure which will be demolished once the new bridge is constructed. A detour road will be constructed before the existing structure is demolished. Upon completion the new bridge will have two way traffic and a pedestrian walkway on both sides.

Preferred Alternative (S1): Little Tugela Bridge

The proposed bridge structure will be constructed across the Little Tugela River and will be approximately 57 metres in length and 10.96 metres wide. The new bridge will be situated approximately 6 metres downstream from the existing bridge which will not be demolished but reserved for pedestrians. Upon completion the new bridge will have two way traffic and a pedestrian walkway on the upstream side of the bridge.

Basic Assessment Report

No-Go Alternative:

The no go alternative i.e. not constructing Klein Boesmans and Little Tugela Bridges would result in potential injuries and fatalities to those who make use of the bridge on a daily basis. The existing state of the bridges is poor and thus requires immediate improvement. The continued use of the bridges in its present state will result in continued deterioration and increase the possibility of complete failure of the structures.

SECTION F. RECOMMENDATION OF EAP

Is the information contained in this report and the documentation attached hereto in the view of the EAPr sufficient to make a decision in respect of this report?

YES	NO
X	

If "NO", please contact the KZN Department of Agriculture & Environmental Affairs regarding the further requirements for your report. [N/A](#)

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

1. It is recommended that alternative A1 and S1 (i.e. construction of the Little Tugela and Klein Boesmans Bridges) be accepted from environmental and social perspective.
2. The applicant must ensure that mitigation measures and controls specified in the EMPr are adhered to. The construction of the bridges must be monitored by an independent ECO who should ensure compliance with the construction EMPr. Please see the EMPr attached as Appendix F for further details on management of the site during construction.
3. 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.
4. The contractor and his staff must attend an environmental awareness training course, presented by the site engineer or a suitably qualified EO from the engineers / contractors, prior to construction commencing. The environmental awareness training course should cover the following key aspects: (a) basic awareness and understanding of key environmental features of the work site and the surrounding environment, (b) understanding the importance of, and reasons why, the environment must be protected, (c) ways to minimize environmental impacts, and (d) requirements of the Environmental Authorisation and EMPr. The EAP must be on hand to aid with any environmentally-based questions.
5. Construction activities must comply with designated working hours and surrounding residents must be informed prior to commencement of construction activities.
6. Emergency contact numbers must be placed at each construction site.
7. Adequate chemical toilet facilities must be provided for all staff members as standard construction practice. The chemical toilets must be from a registered company and all sewage must be disposed of at an appropriate facility. Safe disposal certificates must be kept on record.
8. Existing infrastructure (i.e. electricity lines, water pipelines) must be identified prior to construction.
9. As there are no formal stormwater drainage facilities on site, the contractor must prepare a Stormwater Control Plan / Method Statement to ensure that all construction methods adopted on site do not cause, or precipitate, soil erosion. The designated responsible person on site, as indicated in the Stormwater Control Plan (usually the contractor) should ensure that no construction work takes place before the stormwater control measures are in place. The Stormwater Control Plan must be approved by the ECO prior to implementation.
10. The duration of exposed soil must be kept to a minimum and rehabilitation must be initiated as soon as construction is completed.
11. Materials must be stockpiled in appropriate areas where storm water runoff cannot erode into the stockpile.
12. Dust control must be implemented throughout the construction phase through the use of a water cart / truck.
13. Speeding must be prohibited.

Basic Assessment Report

14. Any alien vegetation found within, or surrounding, the construction site must be cleared to ensure that invasion of disturbed areas does not occur.
15. There may not be hunting / fishing of wildlife or poaching of livestock on the site and no setting of snares or traps. No animals are to be harmed or harassed. Hunting or poaching must be prohibited.
16. Cement mixing must take place on a hard surface or on cement mixing trays. Cement mixing will not be permitted to occur where run off can enter the watercourse. In addition cement and fuels must be stored within bunded and hard surfaced areas. If the creation of a permanent bunded area is not feasible, these materials must be stored on drip trays capable of holding at least 110% of the spilled volume.
17. All materials must be obtained from a registered and sustainable source and all delivery notes and slips must be made available to the Environmental Control Officer (e.g. mined material such as stone must only be obtained from permitted quarries).
18. Littering must not be permitted on the site and general housekeeping must be enforced.
19. Waste must be stored in the bins within the waste collection area in the construction camp and must not be allowed to blow around the site, be accessible by animals, or be placed in piles adjacent to the skips / bins and must be disposed of at an appropriate land fill site.
20. Hazardous waste must be stored on a hard surface within a bunded area and must not be allowed to enter watercourses and the surrounding environment.
21. All excess material and rubble must be removed from the site so as not to restrict the rehabilitation process. All excess material and rubble must go to an approved, designated landfill and a safe disposal certificate must be obtained.
22. Recycling should be undertaken where possible to limit waste added to the landfill site
23. The watercourse may not be used as a water source by staff unless water abstraction is approved and permitted by DWS.
24. A spill response procedure must be designed to manage spills during operation. Suitable spill kits must be available and staff must be made aware of the spill response procedure.
25. Continued access to either side of the Klein Boesmans and Little Tugela Rivers must be maintained during the construction phase.
26. The Little Tugela River Bridge is automatically protected by the KZNHA as it is older than 60 years. A permit will be required to damage and/or alter the bridge.
27. The Gerit Maritz Monument should not be affected by the bridge upgrade. It is currently 35m from the road, and 73m from the bridge. A 20m buffer should be placed around the monument. It is highly unlikely that artefacts related to Soolaer will be found in the bridge footprint, and thus no mitigation will be required for the rest of the monument.
28. The footprint of the construction of the bridges must be kept to a minimum, to ensure there is no unnecessary intrusion into any water resource.
29. Existing access routes must be utilised during construction. No additional access roads are required and therefore no further disturbance is necessary. All access points, roads and turning areas must be agreed by the engineer and ECO prior to commencement of construction. No ad hoc haulage roads or turning areas may be created.
30. The design of the detour route (Klein Boesmans System only) must ensure that no further impact and/or intrusion into the CVB-KB/01 system.
31. The realigned road of the Little Tugela System must not intrude into any of the demarcated watercourses and the stormwater infrastructure must not be positioned where concentrated flows will enter these systems.
32. Designated areas for stockpiling of raw materials must be identified before material is brought onto

- site. No stockpiling is to occur on or near slopes or water resources. All stockpiling areas must be approved by the ECO before stockpiling occurs.
33. No-go areas must be determined and demarcated and agreed upon by contractors, engineers and ECO before any construction activities occur onsite. Special attention must be given to the identified wetland and riparian system in the vicinity of the construction sites (Figure 42 & 43 of the Wetland Report in Appendix D). Unnecessary intrusion into these systems is prohibited. These areas must be clearly demarcated onsite and indicated to all construction workers onsite before any construction activities (including site establishment) takes place. It is evident that no intrusion into the wetland systems and their associated buffer zones is required for the Little Tugela development. The majority of the systems within the Klein Boesmans study area will not require any intrusion however due to the proximity of the channelled valley-bottom to the upgrade and the need to cross the system the system and the buffers will need to be entered. The working corridor must be kept to a minimum and identified and demarcated clearly before any construction commences.
 34. Due to the foreseen intrusion into the riparian units, the working servitude for the bridges within the riparian units must be kept to an absolute minimal.
 35. The upgrade of the stormwater infrastructure along the length of the road must be sufficiently incorporated into the design of the road to prevent the concentration of surface runoff resulting in erosion.
 36. All staff are to be trained on their environmental responsibilities before commencing work. All new staff are to be trained before they start work on site. This should be adequately covered within the site-specific EMPr and should not require input from a freshwater habitat specialist (above what is detailed within this report).
 37. A construction method statement is required to be compiled by the applicant/contractor for all activities associated with the upgrade of the road. This method statement must include the phases of the project, activities associated with the upgrade and all mitigation measures stipulated within this report and the site-specific Environmental Management Programme (EMPr). The applicant, engineer, contractor and ECO must agree and approve the statement as this will become a binding document which must be implemented onsite. The independent ECO must ensure this document is continuously implemented onsite to ensure no unnecessary disturbance.
 38. Environmental inductions and training must include the contents of the above method statement.
 39. Cut and fill must be avoided where possible during the set-up of the construction camp. The utilisation of the heavily disturbed areas from the borrow pit activities (Little Tugela) and from the construction of the D69 Road (Klein Boesmans) should be encouraged.
 40. All disturbed areas must be prepared and then re-vegetated to the satisfaction of the ECO as per the relevant Rehabilitation Plan.
 41. Where feasible, construction activities should be conducted during the drier months of the year (April – August) to minimise the possibility of erosion, sedimentation and transport of suspended solids associated with disturbed areas and rainfall events.
 42. The formalisation of the detour route must not result in further infilling into the channelled valley-bottom system as there is an existing culvert and this should be utilised as the crossing point (Klein Boesmans).
 43. The upgrade of the D214 Road associated with the Little Tugela River Bridge must not impact on the Seep-LT/02 wetland as there is a sufficient buffer between the existing road and wetland boundary to prevent any impacts on the system.
 44. All potential stormwater contaminants must be bunded in the site camp to prevent run-off into the

surrounding environment. A drainage system must be established for the construction camp. The drainage system must be regularly checked to ensure an unobstructed water flow. Establish cut off drains and berms to reduce stormwater flow through the construction site. The contractor must prepare a Stormwater Control Plan (which may form part of the construction method statement) to ensure that all construction activities do not cause, or precipitate, soil erosion sediment which may result in sediment input into the surrounding environment.. The designated responsible person on site, as indicated in the stormwater control plan (usually the contractor/ECO) must ensure that no construction work takes place before the stormwater control measures are in place and must include post-construction/operational phase stormwater requirements.

45. The drainage plan must ensure no downstream erosion occurs through increased stormwater inputs and that the stormwater system has sufficient capacity for water inputs and drainage. The use of soft engineering (grassed swales) instead of hardening gutters should be used where possible.
46. No contaminated runoff or grey water is allowed to be discharged from the construction camp.
47. The demarcated wetlands and riparian systems must be protected from erosion and direct or indirect spills of pollutants, e.g. sediment, refuse, sewage, cement, oils, fuels, chemicals, wastewater etc.
48. Stockpiles must not be located within 50 metres of any rivers, wetlands and/or riparian channels or within the 1:100 year flood lines. The furthest threshold must be adhered to. They should not be placed in vegetated areas that will not be cleared. Erosion control measures including silt fences, low soil berms and/or shutter boards must be put in place around the stockpiles to limit sediment runoff from stockpiles.
49. Care must be taken to avoid the introduction of alien plant species to the site. Alien vegetation re-growth must be controlled throughout the entire site during the construction and rehabilitation periods.
50. All exposed surfaces within the construction site must be checked for alien invasive plant species on a monthly basis and any identified alien species must be removed by hand pulling/uprooting and appropriately disposed of. Herbicides should only be utilised where manually removing is not possible. Herbicides utilised are restricted to products which have been certified safe for use in wetland and riparian areas by an independent testing authority. The ECO must be consulted before the purchase of any herbicide.
51. Water used on site must be from an approved source. Should the water be extracted from a natural source, a water use licence must be acquired from DWS before abstraction. Water use on the site must be recorded and monitored.
52. The digging of pit latrines is not allowed under any circumstances.
53. None of the open areas or the surrounding environment may be used as ablution facilities.
54. No contaminated runoff or grey water may be discharged from the site camp or site into the surrounding environment. Portable toilets must be situated outside of the 1:100 year floodline of all rivers, tributaries and wetlands. A maintenance plan for the servicing of these toilets must be drawn up and strictly adhered to, to prevent malfunctioning and neglect resulting in environmental contamination.
55. Should any spills of hazardous materials occur on the site or in the storage area, the relevant clean-up specialists must be contacted immediately. Materials that absorb fuel & oil, such as Drizit or earth should be placed over the spill. This contaminated material must be uplifted, placed within impermeable container and disposed of at a recognized disposal site.
56. In the event of a spillage that cannot be contained and which poses a serious threat to the local

Basic Assessment Report

environment, the following Departments must be informed of the incident in accordance with Section 30 of the National Environmental Management Act, Act 107 of 1998, within forty-eight (48) hours:

57. The Local Authority;
58. Department of Water and Sanitation;
59. The Department of Economic Development, Tourism and Environmental Affairs
60. The Local Fire Department when relevant; and
61. Any other affected departments.
62. An incident record must be completed for all spills that do occur onsite. Minor incidents will include small spills of less than 5 litres that do not enter a watercourse, stormwater drains, housekeeping issues and general small non compliances with the requirements of this report, method statements, EA and/or EMPr. The record of incidents is to be included in the reporting to the authorities. Major incidents must be reported to the authorities, which include spills larger than 5L and all incidents involving contamination of water resources, stormwater or other reportable incidents. Minor incidents: small spills less than 5l that do not enter stormwater, minor non-compliance with EMPr that does not cause major environmental impact i.e. Housekeeping issues etc. Action: Supervisor and staff on site to record and address and notify ECO. ECO to advise on remediation measures and to follow up on actions taken to address incident. Records: On site incident register. Major incidents: Large spills or any spills that enter watercourses, stormwater, contamination of soil, fires, explosions. Action: Report immediately to ECO, action to be taken to prevent further damage and incident to be reported to authorities. ECO to advise on remediation measures and to follow up on actions taken to address incident. Records: On site incident register and report to authorities as listed above.
63. Topsoil must be stored on a level area at least 50 m away from any river, tributary and/or wetland, and outside the 1:100 year flood line. The furthest threshold must be adhered to.
64. The harvesting of firewood, medicinal plants, tree bark, flowers or other natural materials is forbidden on the site and surrounding environment.
65. The Contractor must, as an initial and on-going exercise, implement erosion and sedimentation control measures to the satisfaction of the ECO. Stabilisation of cleared areas to prevent and control erosion and/or sedimentation must be actively managed.
66. A designated waste area must be utilised at all times. Bins must be provided and emptied at no less than monthly intervals.
67. All solid waste generated during the construction process (including packets, plastic, rubble, cut plant material, waste metals etc.) must be placed in the waste collection area in the construction camp and must not be allowed to blow around the site, be accessible by animals, or be placed in piles adjacent the skips / bins.
68. Burying of waste, rubble on site, or dumping in drainage lines/rivers is prohibited.
69. Material Safety Data Sheets (MSDSs) must be readily available on site for all chemicals and hazardous substances to be used on site. Where possible and available, MSDSs should additionally include information on ecological impacts and measures to minimize negative environmental impacts during accidental releases or escapes.
70. Hazardous material storage areas must not be within 50 m of any watercourse or within the 1:100 year flood line. The furthest threshold must be adhered to. Hazardous storage areas to be hard surfaced and bunded with an impermeable liner to protect groundwater quality and undercover. The bunded a catch pit must have at least 110% the storage capacity of the total stored quantity.

SECTION G: APPENDIXES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

Appendix E: Comments and responses report

Appendix F: Draft Environmental Management Programme (EMPr)

Appendix G: Other information

Basic Assessment Report

Appendix A – Locality Map and Site Plan

Basic Assessment Report

Appendix B – Site Photos

Basic Assessment Report

Appendix C – Facility Illustrations

Basic Assessment Report

Appendix D – Specialist Reports

- Heritage Report
- Vegetation Report
- Wetland Report

Basic Assessment Report

Appendix E – Comments and Response Table

Basic Assessment Report

Appendix F – Environmental Management Programme

Basic Assessment Report

Appendix G – Additional Information

Public Participation Process

- Placement of signboards and signboards
- Landowner Notification
- NoA and Distribution
- BID and Distribution
- Newspaper adverts
- Registered I&APs
- Meeting Register

Basic Assessment Report

Placement of signboards and signboards

Basic Assessment Report

Landowner Notification

Basic Assessment Report

NoA and Distribution

Basic Assessment Report

BID and Distribution

Basic Assessment Report

Newspaper adverts

Basic Assessment Report

Registered I&APs

Basic Assessment Report

Meeting Register