

Draft Basic Assessment Report

RE-ALIGNMENT OF THE N5 SECTION 4 BETWEEN KM 7.8 AND KM 9.9, CONSTRUCTION OF A NEW BRIDGE OVER THE TOM SCHUTTE SPRUIT, DISTRICT OF SENEKAL



Prepared By:

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May 2013

Prepared For:

SANRAL

BASIC ASSESSMENT REPORT

PROJECT DETAILS

PROJECT TITLE:	Re-alignment of the National Route 5, Section 4 between km 7.8 and km 9.9, and the construction of a new bridge over the Tom Schutte Spruit, Senekal District
DEA REFERENCE NO:	DEA Reference: 14/12/16/3/3/1/827 NEAS Reference: DEA/EIA/0001683/2013
PROJECT PROPONENT:	The South African National Road Agency Limited Eastern Region 58 Van Eck Place Mkondeni Pietermaritzburg Phone: 033-292 8100 Fax: 033-386 3365
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environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

(For official use only)

File Reference Number:

Application Number:

Date Received:

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **1 September 2012**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of “not applicable” in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

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

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section? **NO**
 If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

1. PROJECT DESCRIPTION

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

PROJECT DESCRIPTION: RE-ALIGNMENT OF THE N5 SECTION 4 BETWEEN KM 7.8 AND KM 9.9, AS WELL AS THE CONSTRUCTION OF A NEW BRIDGE

Terra Works has been appointed by SMEC Consulting Engineers for SANRAL to undertake a Basic Assessment application for the proposed re-alignment of the N5, Section 4 between km 7.8 and 9.9, as well as the construction of a new bridge over the Tom Schutte Spruit.

The existing Tom Schutte Bridge (Bridge Number B 0273) is located approximately 8km south-west of Senekal on the N5. (see below site location)

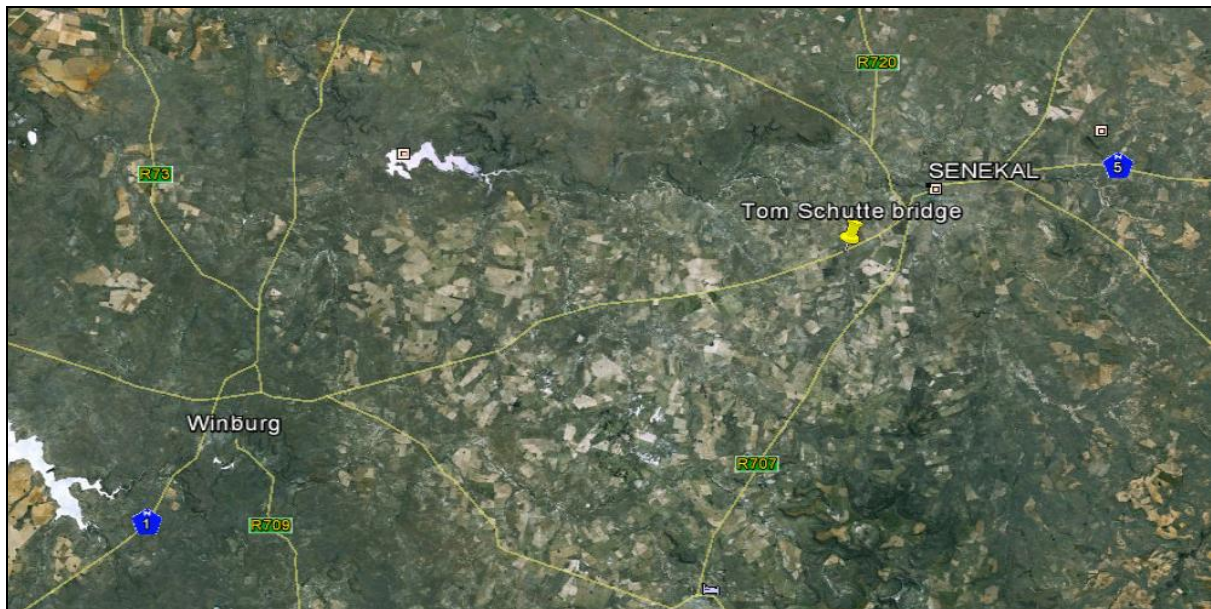


Diagram 1: Site Location

The Tom Schutte Bridge is downstream of a small dam to the south. The stream eventually flows into the Allemanskraal dam 31km to the north west of the bridge. The area is a flattish floodplain and is covered by dense grass, and Willow trees. The bridge has approximate coordinates of 28.371751°S and 27.544954°E.

The proposed project will entail the re-alignment of the N5, Section 4 between km 7.8 and 9.9, as well as the construction of a new bridge over the Tom Schutte Spruit. The rationale of the project aims to alleviate the hydraulic capacity problems of the Tom

Schutte Bridge. Hydraulic analysis indicated that the existing road profile has to be raised by a minimum of 1.7m in order to construct a new bridge with sufficient hydraulic capacity. A new bridge with a clear span of 24m and a height of 4.0m is required to ensure a freeboard of 0.55m. In addition to the hydraulic problems, the existing horizontal alignment of the N5 over the bridge forms an S-curve, which is undesirable.

The preferred proposal is therefore to upgrade the horizontal alignment of the N5 in order to remove the S-curve, and to construct a new bridge over the Tom Schutte Spruit in order to resolve the hydraulic capacity. An alternative to this exists and include, the construction of a new bridge at the existing position.

ACTIVITY DESCRIPTION

Based on the project proposal the following listed activities are applicable and is all in terms of GN R. 544 under the National Environmental Management Act, Act 107 of 1998-:

Activity 11: The construction of:

(iii) bridges;

(vi) bulk storm water outlet structures.

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

The construction of a new bridge over the Tom Schutte Spruit with its associated infrastructure situated on the farm Myrtle 160. (Design drawings of the proposed bridge is attached, see Appendix C).

Activity 18: The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, rock of more than 5 cubic metres from:

(i) a watercourse.

The construction of the new bride and route alignment changes involves the infilling and excavation of soil in order to position the bridge and new alignment of the N5.

Activity 22: The construction of a road, outside urban areas,

(i) with a reserve wider than 13,5 meters or,

(ii) where no reserve exists where the road is wider than 8 metres.

Re-alignment of the N5 for a distance of approximately 1.6km proposed on the southern side of the existing N5.

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

Listed activity as described in GN R.544, 545 and 546	Description of project activity
GN R.544 Item 11(iii)(vi): The construction of a bridge where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.	A bridge with a clear span of 24m wide and a height of 4m, and will be built over the Tom Schutte Spruit. The bridge will be an in-situ cell structure with dimensions of 5 x (5m W x 4m H).
GN R.544 Item 18(i): The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, rock of more than 5 cubic metres from a watercourse.	The construction of the new bridge and route alignment changes involves the infilling and excavation of soil in order to position the bridge and new alignment of the N5.
GN R.544 Item 22(i)(ii): The construction of a road, outside urban areas, with a reserve wider than 13,5 meters or.	Re-alignment of the N5 for a distance of approximately 1.6km proposed on the southern side of the existing N5.

2. FEASIBLE AND REASONABLE ALTERNATIVES

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

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

Describe alternatives that are considered in this application as required by Regulation 22(2)(h) of GN R.543. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

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.

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

a) Site alternatives (Construction of a bridge)

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Construction of a new bridge	28°22'19.68"S	27°32'42.72"E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
None		
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
None		

In the case of linear activities: **(Re-alignment of the N5)**

Alternative:

Latitude (S):

Longitude (E):

Alternative S1 (preferred)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

28°22'16.41"S	27°32'47.23"E
28°22'26.97"S	27°32'20.49"E
28°22'37.24"S	27°31'53.29"E

Alternative S2 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Alternative S3 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

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

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b) Lay-out alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Construction of a new bridge	28°22'19.68"S	27°32'42.72"E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
-		

c) Technology alternatives

Alternative 1 (preferred alternative)
Construct a new bridge with a clear span of ±24m wide and ± 4m high. In-situ cell structure with dimensions of 5 x (5m W x 4.0m H)
Alternative 2
Alternative 3
-

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

Alternative 1 (preferred alternative)		
-		
Alternative 2		
-		
Alternative 3		
-		

e) No-go alternative

Status Quo will remain and the current bridge will not be able to handle hydraulic flow, the s-curve will also not be straitened to make this part of the N5 safer.

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

3. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:

Alternative A1¹ (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the activity:

±585m ²
m ²

¹ "Alternative A.." refer to activity, process, technology or other alternatives.

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or, for linear activities:

Alternative:

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

Length of the activity:

1600m
m

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

Alternative:

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

Size of the site/servitude:

72 000m²
m ²

4. SITE ACCESS

Does ready access to the site exist?

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

YES	
-m	

Describe the type of access road planned:

The existing N5 main road will be used to access the bridge project site. Traffic will not be affected during the construction phase of the new bridge because the existing bridge will still accommodate traffic. The new bridge alignment is to be situated next to the existing alignment.

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

5. LOCALITY MAP

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

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s);
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal

minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

6. LAYOUT/ROUTE PLAN

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

The site or route plans must indicate the following:

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

7. SENSITIVITY MAP

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

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

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

8. SITE PHOTOGRAPHS

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

9. FACILITY ILLUSTRATION

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

10. ACTIVITY MOTIVATION

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

1. Is the activity permitted in terms of the property's existing land use rights?	YES		Agreements have been reached with the farm owner pertaining the re-alignment route next to the existing road reserve. SANRAL is in the process through land acquisition to obtain the rights to re-align as proposed.
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES		One of Governments development priorities also reflected in the Free State Development Framework (revised February 2013) is to upgrade its provincial road infrastructure and network; this proposal is achieving just that.
(b) Urban edge / Edge of Built environment for the area	YES		Not applicable
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES		The integrity of the principles of both the IDP and SDF of Setsoto Local Municipality will not be compromised; in fact the proposal will be in line with priorities set in the municipal IDP.
(d) Approved Structure Plan of the Municipality	YES		The proposed bridge project is situated outside town boundaries. No structure plan for Setsoto could be obtained.

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<p>(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)</p>	<p align="center">YES</p>		<p>No EMF applicable for Setsoto, or the specific area under investigation and assessment.</p>
<p>(f) Any other Plans (e.g. Guide Plan)</p>	<p align="center">YES</p>		<p>None</p>
<p>3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?</p>	<p align="center">YES</p>		<p>Yes, road upgrades remains a priority in the Free State. Although, this upgrade is the competency of SANRAL, but still indirectly affects the Municipal area.</p>
<p>4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)</p>	<p align="center">YES</p>		<p>The aim of this proposal is based on road safety priorities. All road users will benefit from this proposal.</p>
<p>5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>	<p align="center">YES</p>		<p>No services will be affected by this construction proposal.</p>

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<p>6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>		<p>NO</p>	<p>This proposal will not have any implications on municipal infrastructure planning. SANRAL is the custodian of all national roads and responsible to maintain these roads.</p>
<p>7. Is this project part of a national programme to address an issue of national concern or importance?</p>	<p>YES</p>		<p>Improved road and bridge infrastructure is of paramount importance to the whole country. Realignment of this section at the Tom Schutte bridge and the construction of a new bridge is to the benefit of the public at large and specifically industry and economic activities in an around Senekal and Harrismith.</p>
<p>8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)</p>	<p>YES</p>		<p>This proposal remains within the context of the N5 land use. Location factors do not play a role, for this proposal is to rectify a safety concern along the Tom Schutte bridge alignment.</p>
<p>9. Is the development the best practicable environmental option for this land/site?</p>	<p>YES</p>		<p>The proposed construction of a new bridge by increasing the bridge height was necessitated by Tom Schutte Spruit flood waters. A new bridge therefore needs to be established to allow potential flood waters to drain safely under the N5 road.</p>

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<p>10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?</p>	<p>YES</p>		<p>The environmental footprint to be affected is fairly small. In order to increase the safety on this section of the N5, the proposed improvement at the Tom Schutte Spruit is required.</p>
<p>11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?</p>		<p>NO</p>	<p>The proposed activity forms part of rehabilitation actions on Section 4 of the N5 route.</p>
<p>12. Will any person's rights be negatively affected by the proposed activity/ies?</p>		<p>NO</p>	<p>Land acquisition is in process and the affected farm owner agreements are in place.</p>
<p>13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?</p>		<p>NO</p>	<p>Urban edge not applicable.</p>
<p>14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?</p>	<p>YES</p>		<p>Project 6 – Road maintenance. This proposal will indirectly contribute towards project 6 and will increase service delivery capacity, therefore a positive to our population.</p>
<p>15. What will the benefits be to society in general and to the local communities?</p>			
<p>Improved road and bridge infrastructure will be of paramount benefit to the public at large, and specifically the industry and economic activities in and around Senekal. This will stimulate local economic development in the area. The bridge construction project will not result in a major increased direct and indirect employment and training opportunities with improved standards of living for the local community. Where practical and skills permitting labour will be sort locally. The number of people to be employed at the bridge site will be determined by the contractor to be appointed by SANRAL.</p>			
<p>16. Any other need and desirability considerations related to the proposed activity?</p>			
<p>It has been determined that the current bridge at the Tom Schutte Spruit do not have the hydraulic capacity to allow flood water to drain freely under the N5. At the same time a slight s-curve at the bridge site creates an unsafe and dangerous condition for road users. The need therefore exist to better the situation by constructing a new bridge with capacity and to straighten the s-curve in order to make the alignment safer.</p>			

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17. How does the project fit into the National Development Plan for 2030?	
Better economic infrastructure in the transport section.	
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.	
Site assessment incorporating all environmental aspects related to the construction of a bridge over a watercourse has been considered. Social influence and economic considerations forms part of the assessment process.	
19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.	
Through this impact assessment process environmental, social and economic aspects are considered and assessed. Public participation forms part of the assessment process and further allows for transparent participation in the application.	

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
<u>National Environmental Management Act, 107 of 1998 (amended in 2010)</u>	<p>Regulations under NEMA in particular Regulation 544 require the following listed activities to undertake Basic Assessment.</p> <p>Listed activity - GN R.544 Item 11(iii)(vi): The construction of a bridge where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</p> <p>GN R.544 Item 18(i): The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, rock of more than 5</p>	Department of Environmental Affairs (DEA)	1998

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	<p>cubic metres from a watercourse.</p> <p>GN R.544 Item 22(i)(ii): The construction of a road, outside urban areas, with a reserve wider than 13,5 meters or.</p>		
<u>National Water Act, 36 of 1998 (Amended 2006)</u>	<p>The following water uses as defined in section 21 of the national water Act 1998, have been identified which require general authorisation and is applicable in this report:</p> <p>21(c) – Impeding or diverting the flow of water in a watercourse; 21(i) – Altering the beds, banks course or characteristics of a watercourse.</p>	Department of Water Affairs	1998
<u>National Heritage Resources Act, 25 of 1999</u>	<p>The proposed bridge development at the Tom Schutte Spruit falls within semi-rural areas where cultural and heritage resources may exist, therefore will require a phase 1 Heritage Impact Assessment.</p>	South African Heritage Resources Agency	1999

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

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

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

YES	[REDACTED]
±5 - 10m³	

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

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Construction waste generated from the construction phase of the new Tom Schutte bridge will be minimal and will include spoil building material such as concrete, and cement. General waste will on a regular basis be moved, removed and emptied at Senekal Municipal waste facility.

Waste bins will also be provided at the construction site for general (domestic) waste. These waste bins will be regularly emptied by the appointed construction contractor.

The appointed Contractor will collect waste on site and store it at a temporary waste collection area, before removing off-site by truck to dispose of at Senekal Municipal waste facility. – see Draft Construction EMP attached.

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

Solid waste will be disposed of at Senekal Municipal landfill site.

Will the activity produce solid waste during its operational phase?

	NO
	N/A

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

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

N/A

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

N/A

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

N/A

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

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

	NO
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If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

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

	NO
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If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

	NO
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If YES, what estimated quantity will be produced per month?

	m ³
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Will the activity produce any effluent that will be treated and/or disposed of on site?

	NO
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If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

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

	NO
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If YES, provide the particulars of the facility:

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

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

The proposed bridge development will not produce any liquid effluent.

There will be at least one (1) chemical toilet at the bridge site. Disposal of sewerage from the chemical toilet will be done by the sub-contractor. Support documentation for such disposal will be kept on record by the contractor and SMEC engineers. This record will be available to the authorities on request.

c) Emissions into the atmosphere

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

	NO
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If YES, is it controlled by any legislation of any sphere of government?

YES	NO
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If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

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

Source of air pollution during the bridge construction activities will be limited to one main contributor:

The dust generated by the heavy earth moving machinery and tipper trucks will be the main source of air pollution at the bridge site. The typical ambient dust levels around the construction site due to vehicle movement are approximately 80 – 120 mg/m²/day. This is significantly low and well within the maximum allowable guidelines set by SANS 1929:2005.

The liberation of dust into the surrounding environment shall be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents. There are no settlements in the immediate vicinity of the bridge site.

d) Waste permit

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

	NO
--	-----------

BASIC ASSESSMENT REPORT

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

e) Generation of noise

Will the activity generate noise?

YES	<input checked="" type="checkbox"/>
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 natural ambient noise levels in the area are largely determined by natural sounds, i.e. birds, insects and the wind in the foliage of plants. Occasional anthropogenic sounds include vehicles moving on the N5 road and the occasional aircraft flying over the area. The estimated noise levels are comparatively lower (80-90dBA during the day and 30-40 dBA during the night) than those listed in the revised SABS 0103 standards. Movement of tipper trucks, excavators and other bridge construction equipment/machinery will create some noise – especially during daytime when operations are active. The noise levels will increase to 90-100 dBA during day time. There are however no dwellings or settlements within the immediate proximity to the proposed bridge site.

13. WATER USE

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

Municipal	<input checked="" type="checkbox"/>
-----------	-------------------------------------

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

	-
<input checked="" type="checkbox"/>	NO

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

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

14. ENERGY EFFICIENCY

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

No specific energy efficient design measures are considered for the bridge construction.

The activity will involve consumption of the following forms of energy:

1. Electricity

Electrical equipment and utilities will be used at the contractor's camp during the bridge construction phase.

2. Fuel and oil

Delivery vehicle and other construction equipment will use petrol, diesel and oil.

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

There are no alternative sources of energy considered.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

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

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

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

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

Property description/physical address:

Province	Free State
District Municipality	Thabo Mofutsanyane
Local Municipality	Setsoto
Ward Number(s)	
Farm name and number	Myrtle 160, and Subdivision 1 of Myrtle 160
Portion number	160
SG Code	F0300000000016000001 F0300000000016000000

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

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

Agriculture, Road Servitude

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

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

BASIC ASSESSMENT REPORT

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	
------	--

Alternative S2 (if any):

--

Alternative S3 (if any):

--

2. LOCATION IN LANDSCAPE

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

2.1 Ridgeline	<input type="checkbox"/>	2.4 Closed valley	<input type="checkbox"/>	2.7 Undulating plain / low hills	<input type="checkbox"/>
2.2 Plateau	<input type="checkbox"/>	2.5 Open valley	<input checked="" type="checkbox"/>	2.8 Dune	<input type="checkbox"/>
2.3 Side slope of hill/mountain	<input type="checkbox"/>	2.6 Plain	<input checked="" type="checkbox"/>	2.9 Seafront	<input type="checkbox"/>

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

	Alternative S1:	Alternative S2 (if any):	Alternative S3 (if any):
Shallow water table (less than 1.5m deep)	YES		
Dolomite, sinkhole or doline areas			
Seasonally wet soils (often close to water bodies)	YES		
Unstable rocky slopes or steep slopes with loose soil			
Dispersive soils (soils that dissolve in water)			
Soils with high clay content (clay fraction more than 40%)			
Any other unstable soil or geological feature			
An area sensitive to erosion	YES		

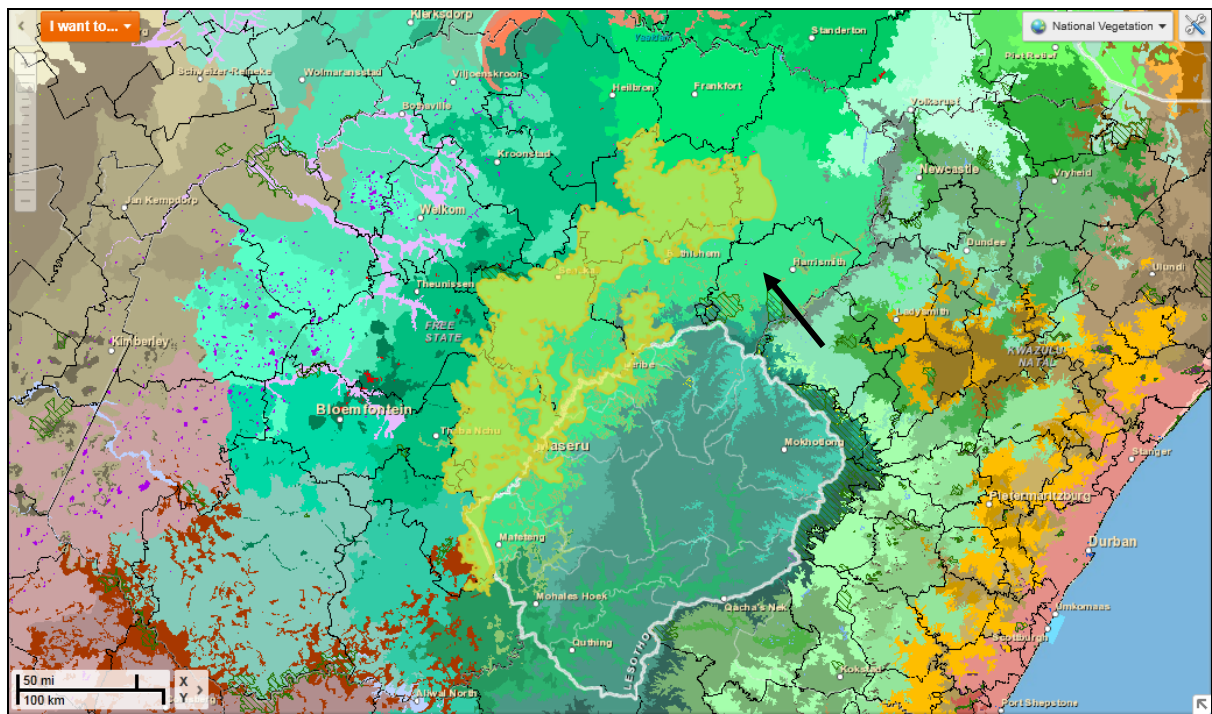
If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part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

4. GROUNDCOVER

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

Natural veld with scattered aliens ^E	Bare soil
Cultivated land	

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.



Vegetation map of SA.

BASIC ASSESSMENT REPORT

Details		Attributes	Links
Field Name	Field Value		
OBJECTID	3801		
Shape	Polygon		
Polygon size (km2)	14999.4606		
BOOKCODE	Gm 3		
Vegetation name	Eastern Free State Clay Grassland		
CONSTRGT	24%		
PROTCTD	0.1%		
REMAINING	44.5%		
CNSRVTNSTT	Endangered		
VYPESQKM	15043.5159		
MAPCODE	Gm3		
BOOKSEQU	05 03 003		
BIOMECODE	G		
Biome	Grassland Biome		
GROUPCODE	Gm		
GROUP	Mesic Highveld Grassland Bioregion		
BRGNCODE	Gm		
Bioregion	Mesic Highveld Grassland Bioregion		
VEGTYPEID	9265		
BIOMEID	6		
GROUPID	86		
BRGNID	86		
POLYGONID	3801		
PRTCTNSTTS	Hardly protected		
PDFNAME	pdf\Gm_3_Eastern_Free_State_Clay_Grassland.pdf		
TOCLEGEND	05 03 003 Gm 3 Eastern Free State Clay Grassland		
Map legend name	Gm 3 Eastern Free State Clay Grassland		

5. SURFACE WATER

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

Perennial Spruit	YES	
Non-Perennial Spruit		
Permanent Wetland		
Seasonal Wetland		
Artificial Wetland		
Estuarine / Lagoonal wetland		

BASIC ASSESSMENT REPORT

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

The watercourse applicable is the Tom Schutte Spruit. The spruit is located approximately 8km south-west of Senekal on the N5. A small dam is located to the south and in the spruit. The spruit eventually flows into the Allemanskraal dam 31km to the north west of the bridge. The floodplain is fairly flat and covered with dense grass, and Willow trees.



Tom Schutte Spruit (Google earth)



Image to the south



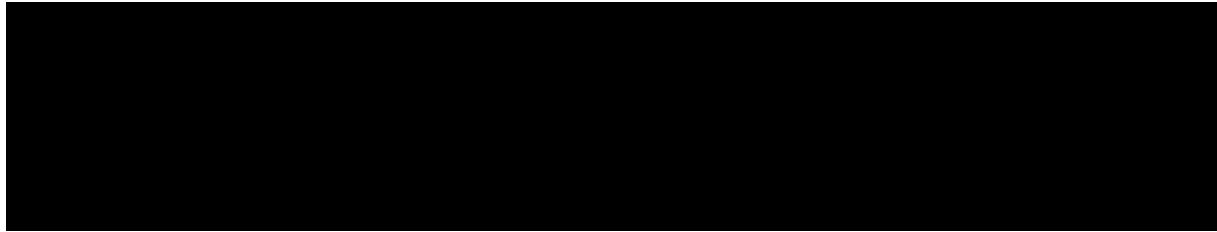
Image to the north

6. LAND USE CHARACTER OF SURROUNDING AREA

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

Natural area			
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Agriculture</td> </tr> <tr> <td style="padding: 2px;">Spruit, stream or wetland</td> </tr> </table>	Agriculture	Spruit, stream or wetland
Agriculture			
Spruit, stream or wetland			

BASIC ASSESSMENT REPORT



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

None

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

None

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

None

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

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

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

7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:

YES

See attached Phase 1 Heritage / Archaeological investigation results and recommendations.

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

BASIC ASSESSMENT REPORT

A small, partially uncapped, Later Stone Age open site is located on an eroded alluvial outcrop approximately 50m from the eastern bank of the spruit at the northern side of the bridge. Recording of the site and collection of the artefacts is considered crucial before any development can take place.

Recommendation: The specialist recommended that a phase 2 rescue operation precede the planned development in order to properly record the site and collect the artefacts.

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

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

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

NO	YES
----	-----

Await SAHRA reply.

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

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

Level of unemployment:

The following **employment levels** as depicted by the IDP 2012 – 2013 indicates that unemployment and dependency rates are one of the weaknesses of the Municipality.

Table 8: Employment Levels

Town	Employed	Unemployed	Total Labour force	Unemployment rate (%)
Clocolan	2 534	1 344	3 878	34.66
Ficksburg	7 151	3 117	10 268	30.36
Marquard	1 703	1 171	2 874	40.74
Senekal	3 527	2 071	5 598	0.37
Setsoto Rural	14 839	1 238	16 077	7.7
Total	29 754	8 941	38 695	23.11

Setsoto IDP 2012-2013

Economic profile of local municipality:

Setsoto Municipal IDP 2012-2013, Economic Profile:

BASIC ASSESSMENT REPORT

Gross Geographic Product Sector	Contribution per Sector
Agriculture	179 082
Mining	111
Manufacturing	44 450
Electricity / Water	7 929
Construction	2 769
Trade	117 394
Transport	22 848
Finance	118 939
Community	6 574
General Government	98 870
Other Producers	15 276
Total	614 242

Source: STATS SA, 1996

Level of education:

Setseto Municipal IDP 2012 – 2013 reveals that a high illiteracy rate exists, 18.2% of people over the age of 15 and 17.5% of children under the age of 15 are illiterate.

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?

What is the expected yearly income that will be generated by or as a result of the activity?

Will the activity contribute to service infrastructure?

Is the activity a public amenity?

How many new employment opportunities will be created in the development and construction phase of the activity/ies?

What is the expected value of the employment opportunities during the development and construction phase?

What percentage of this will accrue to previously disadvantaged individuals?

How many permanent new employment opportunities will be created during the operational phase of the activity?

What is the expected current value of the employment opportunities during the first 10 years?

What percentage of this will accrue to previously disadvantaged individuals?

R30 million
Ro
YES
YES
30 labourers during construction phase
Unsure
Unsure
None
Ro
0%

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgis.sanbi.org> or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/

BASIC ASSESSMENT REPORT

EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

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

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	No biodiversity plan for the Free State

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

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	40%	-
Near Natural (includes areas with low to moderate level of alien invasive plants)	30%	-
Degraded (includes areas heavily invaded by alien plants)	0%	-
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	30%	An existing dam is located upstream on the eastern side of the N5.

BASIC ASSESSMENT REPORT

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

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

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

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

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Volksblad	
Date published	18th of January 2013	
Site notice position	Latitude	Longitude
	28°22'19.28"	27°32'41.07"
	28°22'19.19"	27°32'42.51"
Date placed	18 January 2013	

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

2. DETERMINATION OF APPROPRIATE MEASURES

The following objectives were followed for the stakeholder engagement process for the bridge construction at Tom Schutte Spruit on the N5 National road:

- To inform the public and provide the public with information and an understanding of the project, issues and solutions;
- Identify relevant individuals, organisations and communities who may be interested in or affected by the proposed bridge development;
- Clearly outline the scope of the project, including the scale and nature of the proposed activity, and highlight the potential for environmental impacts, whether positive or negative.

Site notices were placed at the bridge site, and advert was placed in the Volksblad, and Background Information Document (BID) was distributed to sector department for their respective inputs.

The purpose of a BID was to provide stakeholders with introductory information on the proposed bridge project and the stakeholder engagement process. The BID also provided stakeholders interested in the project with the opportunity to register as stakeholders by way of requesting and completing the registration sheet distributed with the BID.

Provide details of the measures taken to include all potential I&APs as required by Regulation 54(2)(e) and 54(7) of GN R.543.

English colour notices, to announce the project and invite members of the public to comment on the proposed bridge project and register as I&APs, were placed at the site location. *(no such individuals have registered).*

A newspaper advert was placed in the Volksblad newspaper informing and inviting members of the public and any other interested and affected parties to comment on the proposed bridge development. *(no response were received from this advertisement).*

BASIC ASSESSMENT REPORT

Key stakeholders (other than organs of state) identified in terms of Regulation 54(2)(b) of GN R.543:

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
None		

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

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

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
No I&APs registered	

4. COMMENTS AND RESPONSE REPORT

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

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
Department of Agriculture, Forestry and Fisheries	Mr. I Venter	051-506-1613	051-448-1045		Privet Bag Xo1 Glen 9360
Department of Land Affairs	Mr. Z Mokoena	051-447 1874	051-447 1967		Private Bag X20803 Bloemfontein 9300
Thabo Mofutsanyana District	Mr. M.B Mphahlele	085-713 4485	085-713 0940		Private bag X810 Witsieshoek

BASIC ASSESSMENT REPORT

Municipality (Infrastructure)					9870
Setsoto Local Municipality (Infrastructure)	HR Department	051-933 9300	051-933 3321		P.O Box 116 Ficksburg 9730
Department of Water Affairs, Free State	Mr. W Grobler	051-405 9000	051-447 1901		P.O. Box 528 Bloemfontein 9300

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

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

6. CONSULTATION WITH OTHER STAKEHOLDERS

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

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

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

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

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 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. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

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

Risks and key issues were identified through an internal process based on similar developments and environmental assessment. The risks and key issues identified include:

1. Topography;
2. Impact on air quality;
3. Biodiversity displacement and destruction;
4. Erosion;
5. Increased ambient noise levels;
6. Contamination of surface water; and
7. Traffic.

In the event that a negative environmental impact is identified, it can be avoided, mitigated or off-set. The attached EMPr attempts to identify and mitigate potential environmental impacts at the construction phase of the project. The mitigation measures that are proposed, take cognizance of the final design and impacts that may ensue from the bridge construction.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
<p><u>Topography</u> Hydraulic analysis indicated that the existing road profile of the N5 has to be raised by a minimum of 1.7m in order to construct a new bridge with sufficient hydraulic capacity. A new bridge with a clear span of 24m and a height of 4m is required to ensure a freeboard of 0.55m.</p>	<p>Direct impacts: The re-alignment of the N5 section 4 between km 7.8 and 9.9, as well as the construction of a new bridge over the Tom Schutte Spruit, will result in the raising of the road profile and therefore impact on the existing topography. Construction of the new bridge will result in excavation of the Spruits banks and bed during the construction phase. A low to moderate negative impact for the duration of the construction phase is anticipated.</p> <p>Indirect impacts: -</p> <p>Cumulative impacts: -</p>	<p>Construction – Low – Moderate</p> <p>Operational - positive</p>	<p>-</p>
<p><u>Air quality</u> Construction activities will generate dust, which will negatively impact on the local ambient air quality.</p>	<p>Direct impacts: Dust emissions associated with vehicle movement with respect to site preparation and driving to and from the site.</p> <p>Indirect impacts:</p>	<p>The impact will be localised, limited to a short-term duration and of low intensity due to no local residents in close proximity.</p>	<ul style="list-style-type: none"> • Implement a dust control programme to minimize the generation of dust, including spraying water on exposed surfaces and roads whenever required. • Ensure that exposed areas and material stockpiles are adequately protected against wind. <p>With mitigation the significance rating would changed to LOW (NEGATIVE)</p>

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	<p>Cumulative impacts: Ambient air quality will be influenced due to an addition of construction activities, with construction vehicles CO₂ emissions cumulatively increasing.</p> <p>This is however insignificant based on the vastness of the site area.</p>	-	-
<p>Biodiversity The re-alignment of the N5 section 4 between km 7.8 and 9.9, as well as the construction of a new bridge over the Tom Schutte Spruit, situated near Senekal could result in the loss of riparian vegetation and habitat at the bridge location.</p> <p>The banks at the construction site are currently well established by vegetation such as exotic trees and some indigenous plants and grass. Removal of these plants will lead to destabilisation of the banks, soil losses and increased sedimentation.</p>	<p>Direct impacts: The potential loss of riparian vegetation could result in the alteration of the riparian habitat of the affected stream. The disturbance of riparian habitat due to construction activities could also provide an opportunity for invasive alien plants to proliferate in the area. The riparian zones of the stream are, however, already disturbed and alien plants are already present at the bridge site. The existing riparian habitats therefore perform a limited function in protecting the spruit from surrounding land use activities. It is nevertheless important that the remaining riparian zones are not further reduced.</p> <p>Indirect impacts: Removing riparian vegetation will lead to increased opportunity for bank destabilisation and soil erosion.</p>	<p>The impact would be localized, of medium-term duration and high intensity.</p> <p>The significance of the impact is therefore considered to be medium.</p> <p>The impact would be localized, of medium-term duration and high</p>	<ul style="list-style-type: none"> • Limit disturbance in the spruit bed and the surrounding riparian zones. • Rehabilitate disturbed areas after construction by removing all construction debris and planting suitable indigenous riparian vegetation. • Remove invasive alien plants within the construction and disturbed areas. • Monitor disturbed areas to prevent infestation by invasive alien plants after the construction phase is complete - ideally this should take place every 6 to 12 months for a 3-year period. <p>Provided that the suggested mitigation measures are implemented, this impact is assessed to be of LOW (NEGATIVE) significance (see annexure F).</p> <ul style="list-style-type: none"> Limit disturbance in the spruit bed and the surrounding riparian zones. • Rehabilitate disturbed areas after construction by removing all

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
		<p>intensity.</p> <p>The significance of the impact is therefore considered to be medium.</p>	<p>construction debris and planting suitable indigenous riparian vegetation.</p> <ul style="list-style-type: none"> • Remove invasive alien plants within the construction and disturbed areas. • Monitor disturbed areas to prevent infestation by invasive alien plants after the construction phase is complete - ideally this should take place every 6 to 12 months for a 3-year period. <p>Provided that the suggested mitigation measures are implemented, this impact is assessed to be of <i>LOW (NEGATIVE)</i> significance (see annexure F).</p>
	<p>Cumulative impacts:</p> <p>-</p>		
<p><u>Erosion</u></p>	<p>Direct impacts: Due to vegetation clearance, and soil compaction erosion is expected during the construction phase.</p>	<p>The impact would be localized, of short-term duration and moderate intensity.</p> <p>The significance of the impact is therefore considered to be medium.</p>	<ul style="list-style-type: none"> • The contractor shall only clear vegetation along the construction right-of-way, and the access routes defined in provisions. • Topsoil and subsoil to be protected as per EMPr. • Rehabilitation plan to be implemented after construction activities completed; • In the event that erosion does occur, the contractor must affect repairs timeously. • Steep cut and fill slopes in soft or erodible material will require erosion control measures and correct

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<p>stabilisation measures.</p> <p>With mitigation the significance rating would remain unchanged at <i>LOW (NEGATIVE)</i></p>
	<p>Indirect impacts: Soil erosion leads to sedimentation wash. Sedimentation build-up in the stream will impact on instream habitats.</p>	<p>The impact would be localized, of short-term duration and moderate intensity.</p> <p>The significance of the impact is therefore considered to be medium.</p>	<ul style="list-style-type: none"> • The contractor shall only clear vegetation along the construction right-of-way, and the access routes defined in provisions. • Topsoil and subsoil to be protected as per EMPr. • Rehabilitation plan to be implemented after construction activities completed; • In the event that erosion does occur, the contractor must affect repairs timeously. • Steep cut and fill slopes in soft or erodible material will require erosion control measures and correct stabilisation measures. <p>With mitigation the significance rating would remain unchanged at <i>LOW (NEGATIVE)</i></p>
	<p>Cumulative impacts: Damage to riparian vegetation during construction by heavy machinery and access tracks causing erosion. Degradation of riparian areas by storing equipment, parking of machinery, setting up a work camp, etc. during construction.</p>	<p>The impact would be localized, of short-term duration and moderate intensity.</p> <p>The significance of</p>	<ul style="list-style-type: none"> • Silt laden water shall not be directly discharged over land or directly into water courses, and shall be contained in settlement ponds and managed before release. Any release shall comply with the projects water quality standard; • Such overland discharge may not cause erosion;

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
		<p>the impact is therefore considered to be medium.</p>	<ul style="list-style-type: none"> • Erosion must be prevented through the consolidation of areas that are prone to erosion though the placing of gravel or rip rap, or in extreme cases, plastic or mesh covering; • Special care must be taken in areas susceptible to erosion, e.g. embankments and soil stockpiles; • Sand, silt and silt-laden water shall not enter any surface watercourse; • Erosion and sedimentation control measures will include: <ol style="list-style-type: none"> a. Minimising the removal of vegetation; b. Clearly demarcating boundaries in order to limit construction activities; c. Permanent or temporary fences shall be erected and maintained to ensure that activities are conducted within the demarcated area, and thus limit impacts on the environment; d. Suppliers/contractors shall ensure that all vehicles utilize dedicated routes for construction vehicles; and, e. Where erosion and/or sedimentation occurs, such areas require immediate recovery and implementation of further preventative measures.
<p><u>Stream flow alteration</u> The flow and hydraulics of the affected spruit could potentially be altered</p>	<p>Direct impacts: The construction and design of the bridge does not include any piers standing within the spruit, the spruit flow and hydraulics will therefore not be altered. During the</p>	<p>This negative impact would be localized, of short term duration and of medium</p>	<ul style="list-style-type: none"> • Remove any temporary or disused in-stream structures immediately after completion of the construction phase. • Remove any temporary or disused in-stream structures associated with the

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
<p>downstream of the bridge as a result of the bridge construction work.</p>	<p>construction phase scouring impacts on the spruitbank and spruitbed is possible.</p>	<p>intensity, with an associated low (negative) significance.</p>	<p>construction activities immediately after the particular construction phase has been completed.</p> <ul style="list-style-type: none"> • Clear debris and hard rubble associated with the construction activities after construction. • Implement measures stipulated in the construction environmental management plan, and works method statement. <p>With mitigation the significance rating would remain unchanged at <i>LOW (NEGATIVE)</i></p>
	<p>Indirect impacts: Impeding or diverting flow does not normally cause any loss of water, but rather influences the flow regime in a watercourse. The bridge structure will not reduce the volume of flow except for natural evaporative losses. The water quality will not be affected detrimentally. The proposed bridge will not interfere with the natural migration movement of fish between the rivers and their breeding and nursery habitats.</p>	<p>This negative impact would be localized, of short term duration and of medium intensity, with an associated low (negative) significance.</p>	<p>-</p>
	<p>Cumulative impacts: -</p>	<p>-</p>	<p>-</p>
<p>Stream quality Construction activities could cause sedimentation in watercourse, which would</p>	<p>Direct impacts: This impact is more likely to occur during the rainy season, when run-off from the construction site directly into the streams could cause sedimentation and localised</p>	<p>Localised, short-term impact of medium intensity on water quality;</p>	<ul style="list-style-type: none"> • Prevent contaminated run-off from construction site flowing directly into the stream. • Construction activities must be conducted in terms of the

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
<p>increase turbidity and reduce water quality. Contamination of the stream due to hydrocarbon spills or leakages or solid waste emanating from the construction sites would also affect water quality.</p>	<p>pollution. Due to the small scale of the construction, operation and cofferdam proposal, this would lead to a localised, short-term impact of medium intensity on water quality; therefore, the significance is rated as low.</p>	<p>therefore, the significance is rated as low.</p>	<p>construction environmental management plan and work specific method statement for working inside the spruit banks.</p> <ul style="list-style-type: none"> • The Contractor to be appointed for the construction of the bridge must ensure stockpiles for topsoil, fill, bedding and other materials are established at locations shown on the site Environmental Plan. <p>After mitigation the significance rating of the impact remains <i>LOW (NEGATIVE)</i></p>
	<p>Indirect impacts: -</p>	<p>-</p>	<p>-</p>
	<p>Cumulative impacts: -</p>	<p>-</p>	<p>-</p>
<p><u>Increased noise levels</u> Construction activities (e.g. construction vehicles, excavators etc.) would increase noise levels during the construction phase, which could be a nuisance for local residents.</p>	<p>Direct impacts: The potential noise impact would be localised, of short-term duration and of low intensity since no local residents live in close proximity to the bridge site.</p>	<p>The impact is thus considered to have a low negative significance.</p>	<ul style="list-style-type: none"> • Maintain all construction machinery and vehicles in good working order so that noise is minimized. • Adhere to any regulations and local by-laws regarding the generation of noise and hours of operation. <p>With mitigation the significance rating will remain <i>LOW (NEGATIVE)</i></p>
	<p>Indirect impacts: -</p>	<p>-</p>	<p>-</p>
	<p>Cumulative impacts: The addition of construction vehicles and construction machinery added to the current road user's noise levels will increase current</p>	<p>The impact is thus considered to have a low negative significance.</p>	<p>Maintain all construction machinery and vehicles in good working order so that noise is minimized.</p> <ul style="list-style-type: none"> • Adhere to any regulations and local

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	area ambient noise.		by-laws regarding the generation of noise and hours of operation. With mitigation the significance rating will remain <i>LOW (NEGATIVE)</i>
<u>Road Safety</u> During construction the works will use the existing bride for traffic flow, while construction of the new bridge is in progress	Direct impacts: The provision of a new bridge across the spruit and straitening the road alignment would benefit road users. The impact on road safety for all road users is expected to be positive.	The impact is considered to be of <i>medium (positive)</i> significance.	-
	Indirect impacts: -	-	-
	Cumulative impacts: -	-	-
<u>Archaeological impacts</u> There is no evidence for the accumulation and preservation of intact fossil material within the Quaternary sediments (topsoils) covering the underlying sedimentary rocks. Rock engravings and historical buildings or structures older than 60 years are absent from the site. No graves or graveyards were recorded. There are no major palaeontological grounds to suspend the proposed development, but it is noted	Direct impacts: A small, Later Stone Age open site is located at the northern side of the bridge. It is highly likely that the archaeological site will be disturbed or destroyed during the operational phase of the development. Collection of the material is considered crucial before any development can take place.	The impact is considered to be of <i>medium (negative)</i> significance.	It is recommended that a Phase 2 rescue operation precede the planned development in order to properly record the site and collect the artifacts.
	Indirect impacts: -	-	-
	Cumulative impacts: -	-	-

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
that the bedrock sediments (Adelaide Subgroup) underlying the affected area may well be of palaeontological interest should bedrock excavations be required.			
Alternative 2			
No alternative	<i>Direct impacts:</i>		
	<i>Indirect impacts:</i>		
	<i>Cumulative impacts:</i>		
Alternative 3			
No alternative	<i>Direct impacts:</i>		
	<i>Indirect impacts:</i>		
	<i>Cumulative impacts:</i>		
No-go option			
<p>Implementing the no-go alternative would mean that the proposal to re-align the N5 section 4 between km 7.8 and 9.9 as well as the construction of a new bridge at the Tom Schutte spruit on the N5, near Senekal is not provided. The implications of this alternative are summarised as follows:</p> <ul style="list-style-type: none"> • The safety benefits to road users resulting from the proposed alignment changes would not be realized. • The positive short-term employment and expenditure injection into the local and regional economy would also not accrue to the community. • In the longer term, the key implication of the no-go option would be that the option to take out the s curve making the alignment much safer will not be met. • The hydraulic capacity of the existing bridge is sufficient. The risk of leaving the existing bridge structure as increases and potential road surface flooding may result. 			

BASIC ASSESSMENT REPORT

A complete impact assessment in terms of Regulation 22(2)(i) of GN R.543 must be included as Appendix F.

2. ENVIRONMENTAL IMPACT STATEMENT

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

Alternative A (preferred alternative)

Based on the BA study undertaken, both benefits and negative impacts are anticipated as a result of the proposed project. The benefits associated with the proposed project consist of both the social and natural environment. The direct ecological impacts of the development are considered to be low as the overall footprint of the facility is small.

The primary findings of the above process are that the proposed construction and operation of the bridge would probably result in:

During operation:

POTENTIAL IMPACT	WITHOUT MITIGATION	WITH MITIGATION
Loss or modification of riparian habitat and biodiversity	Medium	Low
Modification of stream flow and hydraulics	Low	Low
Road safety	Medium (positive)	Medium (positive)

During construction:

POTENTIAL IMPACT	WITHOUT MITIGATION	WITH MITIGATION
Reduction of water quality	Low	Low

BASIC ASSESSMENT REPORT

Altered flow and hydraulics of stream	Medium	High (positive)
Air quality impairment - dust	Medium	Low
Increased noise levels	Low	Low
Road safety	Low	Medium (Positive)
Heritage	Medium	Low

Alternative B

-

Alternative C

-

No-go alternative (compulsory)

-

SECTION E. RECOMMENDATION OF PRACTITIONER

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

YES	
-----	--

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

-

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

1. The key mitigation measure is that construction should be managed through the effective implementation of the Construction Environmental Management Program (EMP).
2. The following mitigation measures have been included in the Construction EMP:
 - Limit disturbance in the spruitbed and the surrounding riparian zones.
 - Rehabilitate the disturbed areas after construction by planting suitable indigenous riparian vegetation.
 - Remove invasive alien plants within the construction and disturbed areas.
 - Monitor disturbed areas to prevent infestation by invasive alien plants after the construction phase is complete - ideally this should take place every 6 to 12 months for a 3-year period.
 - Remove any temporary or disused in-stream structures immediately after completion of the construction phase.
 - Prevent contaminated runoff from construction sites flowing directly into stream.
 - Minimise the duration and extent of construction activities in the spruit.
 - Clear all construction debris and hard rubble associated with the construction activities after construction.
 - Implement a dust control program to minimize the generation of dust, including spraying water on exposed surfaces and roads whenever required.
 - Ensure that exposed areas and material stockpiles are adequately protected against wind.
 - Maintain all construction machinery and vehicles in good working order so that noise is minimized.
 - Adhere to any regulations and local by-laws regarding the generation of noise and hours of operation.
 - Display warning signs and traffic control notifications well in advance on either side of the construction activity.
 - Layout plan. A copy of the layout plan must be available for scrutiny when required.
 - Flooding. The proposed construction may not restrict spruit flows by reducing the overall spruit width or obstructing river flow.
 - Equipment. Operation and storage of equipment within the riparian zone must be limited as far as possible.
 - Activities. All activities within the riparian zone should be restricted as far as possible.
 - Stockpiles. Any material removed from the instream or riparian habitat, may not be stored within the riparian zone, and may not be stored in such a way that will cause damming of water or wash-away.

BASIC ASSESSMENT REPORT

- **Rehabilitation.** Plants that are indigenous to the immediate surroundings must be used for rehabilitation. A strict rehabilitation programme, with erosion control structures and revegetation of damaged areas using indigenous shrubs and grasses only.
- **Alien vegetation.** Alien vegetation (e.g. reeds) must not be allowed to colonise the area, and all new alien vegetation recruitment must be controlled.
- **Compaction.** Soils that have become compacted through the activities of the destruction activities must be loosened to an appropriate depth to allow seed germination.
- **Drainage and storm water.** Increased runoff due to vegetation clearance and/or soil compaction must be managed, and steps must be taken to ensure that storm water does not lead to bank instability and excessive levels of silt entering the stream.
- **Trees and wood.** Riparian vegetation, including dead trees, may not be removed from the area. In particular, snags (fallen trees and branches) in the river must be protected (*i.e.* not collected for firewood or any other purpose).
- **Temporary crossings.** The structure of temporary crossings must be non-erosive, structurally stable and may not induce any flooding or safety hazard. Temporary crossings must be inspected regularly for accumulation of debris, blockage, erosion of abutments and overflow areas; remove debris and repair and reinforce damaged areas immediately.
- **Heritage.** It is recommended that a Phase 2 rescue operation precede the planned development in order to properly record the site and collect the artifacts. If the recommendation is deemed satisfactory, a collection permit and a permit to destroy the site will have to be issued by SAHRA. The site information and material should be stored at an appropriate repository approved by SAHRA, which in this case is National Museum in Bloemfontein.

Is an EMPr attached?

YES

The EMPr must be attached as Appendix G.

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

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

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

NAME OF EAP

SIGNATURE OF EAP

DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

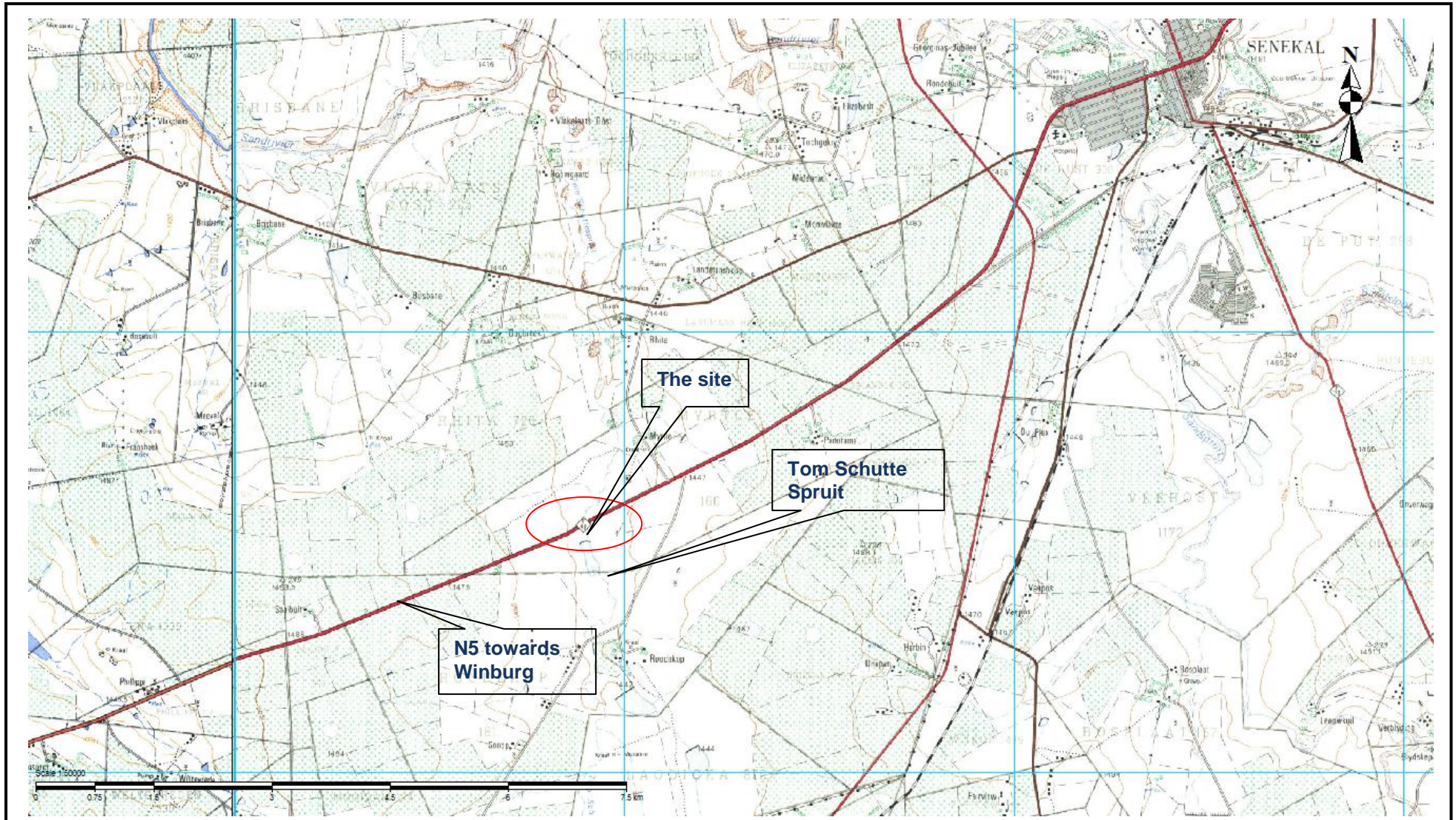
Appendix J: Additional Information

Appendix A:

Maps



BASIC ASSESSMENT REPORT



Setsotho Local Municipality
P.O. Box 116 | Tel: 051 933 9300
Ficksburg | Fax: 051 933 3321
9730

1:50 000 TOPO MAP
SITE PLAN – Re-alignment of the N5 section 4 and new bridge over the Tom Schutte Spruit

Terra Works Environmental Consultants
P.O. Box 28242 | Tel: 051-412 6350
DANHOF | Fax: 051-412 6351
9310

BASIC ASSESSMENT REPORT



Setsoto Local Municipality

P.O Box 116 | Tel: 051 933 9300
Ficksburg | Fax: 051 933 3321
9730

GOOGLE EARTH IMAGE

**Re-alignment of the N5 section 4 and new bridge over
the Tom Schutter Spruit**

Terra Works Environmental Consultants

P.O. Box 28242 | Tel: 051-412 6350
DANHOF | Fax: 051-412 6351
9310

Appendix B:

Photographs



BASIC ASSESSMENT REPORT



Plate 1: View towards Tom Schutte Bridge



Plate 2: Closer view towards Tom Schutte Bridge



Plate 3: Eastern view



Plate 4: Western view



Plate 5: Tom Schutte Spruit



Plate 6: Dam wall in the background on the eastern side



Plate 7: Panoramic view of area to be affected by road alignment and bridge construction

Appendix C:

Facility illustration(s)



Appendix D:

Specialist reports (including terms of reference)



BASIC ASSESSMENT REPORT

Terms of reference for assessment:

1. Identify and map possible heritage resources at the proposed site;
2. Determine and assess the potential impacts of the proposed development on potential heritage resources in the proposed areas of impact;
3. Recommend mitigation measures to minimize impacts associated with the proposed development.

Appendix E:

Public Participation



BASIC ASSESSMENT REPORT

- This Draft Basic Assessment Report has been sent to the following authorities:
 1. Department of Water Affairs;
 2. Department of Agriculture;
 3. Department of Economic Development, Tourism and Environmental Affairs, Free State;
 4. Local Municipality;
 5. District Municipality.

- A Newspaper advertisement was placed on the 18th of January 2013, in the Volksblad.

- Various site notices were also placed.

- Registered I&APs – No person or entity registered as I&APs.

- Draft BAR: to be distributed to all Organs of State listed.

Die Shimlas-105110 van Erik le Roux, Oupa Mohoje en Freddie Ngoza sal boonop nie terugstaan in dis juis wat Horak van sy hele span verlang.

■ Die Shimlas het twee veranderings aan hul beginspan ge-

maak. Die voedsyde Gertman Nico Scheepers speel op vleuel in JJ de Klerk se plek, met Ma-phutha Dolo wat van regter- ná linkervleuel skuif. Scheepers is ook nóg 'n opsie as stelskopper. Renier Botha vervang die be-

LEUKES: LIGORIPDORRINGS, MIKEL WELLS, William Small-Smith, Christopher Bosch, Courtnail Skoson, Tian Schoeman, Lohan Jacobs, Jean Cook, Willem Liebenberg (k), Shaun Adendorff, Marvin Ois, Mike Williams, Hercules Van Wyk, Mbongeni Mbonambi, Sabela Nhlape. PLAS-VERVANGERS: Jaco Visagie, Juan Schoeman, Schalk Van Heerden, Jacques Verwey, Clayton Stewart, André Pollart, Piet Lindeque, Chris-

Jakarandastermer al vanaan Die Ixias Bester, is oot TUT se planstryd te speel

GEKLASSIFIEER

AMPTELIK
120 Amptelike kennisgewings

120 NOTICE OF BASIC ASSESSMENT RE-ALIGNMENT OF THE N5 SECTION 4 BETWEEN KM 7.8 AND 9.9, AS WELL AS THE CONSTRUCTION OF A NEW BRIDGE OVER THE TOM SCHUTTE SPRUIT NEAR SENEKAL.
DEA REFERENCE: 14/12/16/3/3/1/827
Notice is given in terms of Regulation 54 of the regulations published in Government Notice No. R543 in Government Gazette No. 33306 of 18 June 2010 under the National Environmental Management Act (Act No. 107 of 1998) of intent to carry out the following activities:
The construction of a new bridge as listed in Government Notice R544 (Basic Assessment activity) No. 11(iii): Construction of a bridge No. 18(i): The excavation and removal of soil or sand from a watercourse.
No. 22(1)(i): The construction of a road, outside urban areas, with a reserve wider than 12.5 meters or, where no reserve exists, where the road is wider than 8 metres.
Location: Tom Schutte spruit on the N5, near Senekal.
Proponent: South African National Roads Agency (SANRAL)
NOTICE OF PUBLIC PARTICIPATION PROCESS
Terra Works has been appointed as the Independent Environmental Assessment Practitioner to carry out the required Basic Assessment Process. In order to ensure that you are identified as an interested and/or affected party, please submit your name, contact information and interest in the matter to the consultant given below within 40 days of placement of this notice.
Mr Danie Krynauw
Terra Works
PO Box 28242
Dunhof 4010
Tel: 051 413 4350
Fax: 051 413 4361/066 968 4343
E-mail: dk@terraworks.co.za

120 PUBLIC PARTICIPATION PROCESS
Notice is given of a public participation process currently underway to provide potentially interested and/or affected parties the opportunity to submit any comment related with the intent to carry out the following activity:
Construction of a Vodacom Mast with a height of 75 m on Erf 1077 (adjacent to the R26 road), Colobeng. You are requested to send any issues and/or concerns regarding the proposed project to Hanlie Geene-wald at Incline Environmental, Suite 138, Private Bag XII, Brandaal, Bloemfontein 9204 or 051 444 4700 (tel.), 082 460 8113 (fax) or Hanlie@incline.co.za before 4 March 2013.

130 Gereguleerde verkopings (los goed)

130 NEDBANK BEPERK/ MNR. GR VAN ROOYEN



EG. COOPER MAJIEDT
E-POS: EG@COOPERMAJIEDT.CO.ZA
FAX: 051 413 4361/066 968 4343
WWW.COOPERMAJIEDT.CO.ZA

VELLING
In die Landdroshof vir die distrik van Bloemfontein geskoe te Bloemfontein in die saaknommer: 17457/13 tussen:
NEDBANK BEPERK Eksekutiewe skuldenaar en
MNR GERT RENIER VAN ROOYEN Eksekutiewe skuldenaar
Ingevolge vonnis in die Landdroshof vir die distrik van Bloemfontein en lasterlik vir eksekusie gedatêr 14 November 2012.
Naam ook verder kennis dat die ondergenoemde goedere by vyfde van 'n openbare veiling, voetstoots, onderbeweg aan paragraaf 2 hiervan, gereguleerd verkope sal word aan die hoogste bieder op Dinsdag 5 Maart 2013 om 10:00 in halso-Wes, Veilinglokaal, Maroengweg 6C, Oos Industriële Gebied, Oranjevlei (onges Kragentraal en Little Cross Beverages), Bloemfontein.

naamlike:
8 polshorlosies
Technics-hoëtrostel
Victorianse sofa
Verkoelingspomp
2 matte (goblenk)
Victorianse silikasterel
Sony-DVD
Skootskooner / 3 Pad
Panasonic-mikrogevoel
Sony-plasma TV
Crispstyl (petrol)
Weedster (petrol)
8 sekunêrelele
3 perstrieke
L2-voertuig
Beuch-vehaas
Rugbybiering
Niem verder kennis dat:
1. Die reëls van hierdie veiling is beskikbaar 24 (vier en twintig) uur vóórvalende die verkoping in die Entree van die Halso Bloemfontein Wes, Derdestraat (SA), Bloemfontein.
2. Die registrasie as koper is 'n vereiste onderworpe aan bepaalde voorwaardes onder andere:

BETRE

CHIEF SALES MANAGER
REQUIRES THE SERVICES OF FOLLOWING:
2 SALES MANAGER POS
SALES MANAGER: Chris will be on gift products
SALES MANAGER: Chris will be Christian book prod
Requirements for both positions:
- Advanced skills in strategy
- Strategic management of
- A marketing degree or marketing
- Secondary focus will be on
- Marketing of relevant prod
- Advanced experience in p
- Coordinate and achieve g
- aspects
- Excellent communication
- At least 10-15 years sales
- Computer proficiency
- Fully bilingual (English & A
- Must be willing to travel
SALES REPRESENTATIVE
Requirements:
- At least 5-10 years' sales
- Must have a valid driver's
- A degree will be an advan
- Fully bilingual (English & A
- Must have the ability to pe
- Proven sales track record
- Excellent communication
- Computer proficiency
- Willing to travel.
If you qualify for the above application to hradmin@ch... for attention
Successful applicants will be...
4 March
For a complete list of all vacancies visit our website: www.ch...
We retain the right not to

120 NOTICE OF BASIC ASSESSMENT RE-ALIGNMENT OF THE N5 SECTION 4 BETWEEN KM 7.8 AND 9.9, AS WELL AS THE CONSTRUCTION OF A NEW BRIDGE OVER THE TOM SCHUTTE SPRUIT NEAR SENEKAL.
DEA REFERENCE: 14/12/16/3/3/1/827
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No. 22(1)(i): The construction of a road, outside urban areas, with a reserve wider than 13.5 meters or, where no reserve exists, where the road is wider than 8 metres.
Location: Tom Schutte spruit on the N5, near Senekal.
Proponent: South African National Roads Agency (SANRAL)
NOTICE OF PUBLIC PARTICIPATION PROCESS
Terra Works has been appointed as the independent Environmental Assessment Practitioner to carry out the required Basic Assessment Process. In order to ensure that you are identified as an interested and/or affected party, please submit your name, contact information and interest in the matter to the consultant given below within 40 days of placement of this notice.
Mr Danie Krynauw
Terra Works
PO Box 28242

Placement of an advert in the Volksblad



Re-alignment of the N5 Section 4 between km 7.8 and 9.9, as well as the construction of a new bridge over the Tom Schutte Spruit near Senekal.

DEA Reference: 14/12/16/3/3/1/827

BASIC ASSESSMENT

Background Information Document

February 2013

1. INTRODUCTION

SANRAL as the implementing agent proposes the re-alignment of the N5 section 4 between km 7.8 and 9.9 as well as the construction of a new bridge at the Tom Schutte spruit on the N5, near Senekal. This re-alignment of the N5 Section 4 is between Vaalpens spruit and Winburg, Free State.

South African National Road Agency Limited (SANRAL) is applying for Environmental Authorisation for the construction of a new bridge at the Tom Schutte spruit on the N5 near Senekal. Terra Works Environmental Consultants was appointed as independent consultants to undertake the required EIA.

2. PURPOSE OF THIS DOCUMENT

The purpose of this Background Information Document (BID) is to provide Interested and Affected Parties (I&APs) with background information about the proposed project and the EIA process to be undertaken. It also explains how you can become involved in the project, receive further information as the EIA progresses, identify issues and concerns that should be addressed in the EIA, and review and comment on the reports that are produced during the EIA. This BID will help I&APs to:

- Determine if they are interested in and/or affected by the proposed project;
- Better understand the project in order to be able to provide comment; and
- Understand the environmental authorisation process so that they are able to participate effectively.

3. BRIEF PROJECT DESCRIPTION

The re-alignment of the N5 section 4 between km 7.8 and 9.9 as well as the construction of the new bridge at the Tom Schutte spruit on the N5 near Senekal will entail:

- The option to take out the s curve making the alignment much safer, however a greater Greenfield area to be disturbed.

4. THE NEED FOR AN EIA

In terms of the EIA Regulations published in Government Notice R543 of 18 June 2010 in terms of Section 24 (5) of the National Environmental Management Act (Act No. 107 of 1998), certain listed activities as set out in Government Notice R544 and R546 (activities that trigger Basic Assessments) and R545 (activities that trigger Scoping and Environmental Impact Assessment processes or full EIAs) require Environmental Authorisation before they can proceed.

The proposed construction of the weir is listed in Regulations 544 and requires a Basic Assessment to be undertaken as part of the approval process. An application has been submitted under NEMA for inter alia the following activities (see Table 1):

Table 1: Listed activities requiring Environmental Authorisation

Notice & Activity	Activity Description
GN544 (11)	The construction of a bridge over a watercourse, and the construction of bulk stormwater outlet structures along a road.

BASIC ASSESSMENT REPORT

GN544 (18)	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, rock of more than 5 cubic metres from: (i) a watercourse.	<p>ensure that all relevant issues have been captured and mitigation measures proposed are adequate;</p> <ul style="list-style-type: none"> • Submit a Final Basic Assessment Report to the authorities for decision making. <p>Environmental Authorisation Phase</p> <ul style="list-style-type: none"> • The Environmental Authorisation is issued once DEA has made a decision regarding the proposed project; • The decision may be positive or negative based on <i>inter alia</i>, information received in the BAR phase; • Notification of all Registered I&APs of the Environmental Authorisation and the appeal process.
GN544 (22)	The construction of a road, outside urban areas, (i) with a reserve wider than 13,5 metres or, (ii) where no reserve exists where the road is wider than 8 metres.	

5. THE EIA PROCESS

The EIA process is guided by regulations made in terms of Section 24 (5) of NEMA. In addition to specifying the sorts of activities for which Environmental Authorisation is necessary, the regulations also set out the procedures for the preparation, submission, processing, consideration of and decisions on applications for Environmental Authorisation.

An EIA for Basic Assessment involves these phases:

1. Application and Initial Notification;
2. Basic Assessment Report (BAR) Phase; and
3. Environmental Authorisation Phase.

The process is intended to ensure an open and participatory approach to the assessment, with the full involvement of I&APs in order to ensure that all the impacts are identified and taken into consideration and that planning and decision-making is informed, transparent and accountable.

Application and Initial Notification

- Submit an EIA application to the National DEA;
- DEA acknowledgement of the EIA application;
- Notify the public of the proposed development through *inter alia*, newspaper adverts, notification letters, BIDs and notice boards.

Basic Assessment Report Phase

- Ensure that all key issues and environmental impacts that will be generated by the project are identified;
- Identify reasonable alternatives;
- Provide for the involvement of I&APs in the identification of issues through the PPP;
- Undertake detailed assessments of all issues and impacts identified;
- Identify mitigation measures and recommendations to reduce the significance of potential impacts;
- Produce a Draft Basic Assessment Report for public review so that I&APs can comment on the report and

6. CONSIDERATION OF ALTERNATIVES

The EIA Study will include the due consideration of alternatives as required by the EIA Regulations.

During the BAR Phase these alternatives will be assessed, taking into consideration the environmental and social significance of key issues associated with each option.

7. KEY ISSUES TO BE ASSESSED

Detail assessment of the alternatives identified will be done during the BAR Phase. The key issues that have been identified for assessment are shown in Table 2 below. Additional issues may also be raised during the draft BAR Phase.

Table 2: Description of impacts associated with the alternatives and options for the re-alignment of the N5 and the new bridge for Tom Shutte spruit

Impact	Cause and Comment
Impacts – Construction Phase	
Botanical	Vegetation removal; Areas disturbed by construction could be invaded by exotic plants which could outcompete indigenous plants.
Fauna	The proposed project could disturb animals through noise and physical barriers, and may cause animals to leave the area.
Aquatic ecology	Watercourse impedance or diversion. Bank destabilisation and erosion. Water quality deterioration (through increased turbidity, accidental spills, poor waste and sanitation management, erosion from aggregate stores, disturbance of fine sediment).
Visual	Visual impact due to construction activities.
Noise	Construction of the proposed bridge could lead to increased ambient noise levels.
Socio-economic	Influx of construction workers employed on the project. Increased risk of stock theft, poaching and damage to farm infrastructure associated with construction workers. Increased risk of veld fires associated with construction related activities. Impact of heavy vehicles, including damage to roads, safety, noise and dust.

BASIC ASSESSMENT REPORT

	Loss of agricultural land associated with construction related activities.
Impacts – Operational Phase	
Aquatic ecology	Impeding flow and flow alteration. Flood protection. Safety risk. Riparian vegetation. Erosion Alteration of the bed or banks of the watercourse. Impaired fish movement
Heritage	The site was investigated for <i>in situ</i> Stone Age artefacts and Quaternary fossils. There is no evidence of intact or capped Stone Age or agriculturalist archaeological or Quaternary fossil material within the confines of the footprint.
Visual	The proposed bridge will be visible to nearby residents and road users
Noise	Ambient noise levels could increase during operation of the bridge.
Socio-economic	Creation of employment and business opportunities. The operational phase will also create opportunities for skills development and training.

STEP 5: Record all comments raised by I&AP's within a Comments and Response Report, which will form an integral part of the Basic Assessment Report

STEP 6: Invite I&AP's comments and input on the Basic Assessment Report (Comment period as stipulated by GN R 543).

If you consider yourself an I&AP for this proposed project, we urge you to make use of the opportunities created by the public participation process to become actively involved in the process and provide comment or concerns which affect and/or interest you, or about which you would like more information. Your input into this process forms a key part of the Environmental Studies and we would like to hear from you to obtain your views on the proposed project.

By completing and submitting the accompanying Registration and Comment form, you automatically register yourself as an I&AP for this proposed project and it will ensure that your comments and/or concerns raised regarding the proposed project will be noted.

We look forward to your contributions. Please also feel free to suggest other stakeholders to be consulted. Please submit your name, contact information (address, telephone number, e-mail address, postal address) and written comments to the contact person at Terra Works as indicated below.

8. PUBLIC PARTICIPATION

Public participation will be the cornerstone of the Basic Assessment for this proposed project. The principles of the National Environmental Management Act (NEMA), govern many aspects of EIAs, including public participation. The key objective of public participation during this Basic Assessment is to provide interested and/or affected parties (I&APs) with sufficient and transparent information on an ongoing basis. The public participation process (PPP) also allows you the opportunity to comment on the findings of the Basic Assessment Report that will be made available for public review.

It is important that the relevant I&APs are identified and involved in the PPP from the outset of the proposed project.

The PPP includes the following steps to ensure effective public participation:

- STEP 1: Notification to I&AP's of the applicant intent to submit an EIA for Basic Assessment with the Competent Authority
- STEP 2: Advertise the EIA Notice for Basic Assessment (local newspapers)
- STEP 3: Register I&AP's on the project database (on-going throughout Basic Assessment process)
- STEP 4: Consultation with and transfer of information to I&AP's through consultation, public meetings, etc.

Public Participation Contact Details

Contact Person:	Mr. Danie Krynauw Terra Works Bloemfontein
Tel:	051-412 6350
Fax:	051-412 6351/ 0866634343
E-mail:	info@terraworks.co.za
Postal Address:	P.O. Box 28242 Danhof, 9310

BASIC ASSESSMENT REPORT

Interested and Affected Party Registration and Comments Form

**RE-ALIGNMENT OF THE N5 SECTION 4 BETWEEN KM 7.8 AND 9.9, AS WELL AS THE CONSTRUCTION OF A NEW BRIDGE OVER THE TOM SCHUTTE SPRUIT NEAR SENEKAL.
DEA REFERENCE: 14/12/16/3/3/1/827**

ENVIRONMENTAL IMPACT ASSESSMENT

Notice is given in terms of Regulation 54 of the regulations published in Government Notice No. R. 544 in Government Gazette No. 33306 of 18 June 2010 under the National Environmental Management Act (Act No. 107 of 1998) of intent to carry out the following activity:

The proponent South African National Roads Agency (SANRAL) on behalf of Department of Environment and Water Affairs is proposing to re-align the N5 section between km 7.8 and 9.9, as well as the construction of a new bridge at the Tom Schutte spruit on the N5 near Senekal. This development will comply with all the necessary legislative requirements and processes.

This activity is listed as:

The construction of a new bridge as listed in Government Notice R544

(Basic Assessment activity):

No. 11(iii): Construction of a bridge

No. 18(i): The excavation and removal of soil or sand from a watercourse.

No. 22(i)(ii): The construction of a road, outside urban areas, with a reserve wider than 13,5 meters or, where no reserve exists where the road is wider than 8 metres.

A public consultation process forms an integral component of this EIA process.

You are kindly requested to complete the comments form and give any comment/concern or input with regard to the environment that you may have, on the proposed development. If we do not receive any comments from you within 40 days we will accept that you do not have any objections against the project and are therefore not registered as a I&AP.

Name/Naam	
Organisation/Instansie	
Address/Adres	
Tel	
Fax/Faks	
E-mail/E-pos	

Comments/ Opmerkings:

Please return this form to:

Danie Krynauw

Terra Works

P.O. Box 28242, Danhof

BLOEMFONTEIN, 9310

Tel: 051-412 6350

E-mail: info@terraworks.co.za

Fax: 051-412 6351/086 6634343



BASIC ASSESSMENT REPORT



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(PTY) Ltd T/A Terra
Works.**

**Reg No:
2000/020654/07.**

**VAT Reg No:
4700 197 405**

**Directors:
AC Pauw
(Managing)**

**Environmental
Management**

13 February 2013

Isak Venter
Department of Agriculture, Forestry and Fisheries
Privet Bag X01
Glen
9360

Tel: (051) 506-1613
Fax: (051) 448-1045

Dear Sir

Re: Interested and Affected Party - Environmental Impact Assessment Application for the proposed re-alignment of the N5 section 4 between km 7.8 and 9.9, as well as the construction of a new bridge over the Tom Schutte spruit DEA Reference: 14/12/16/3/3/1/827.

Attached herewith you will find a Back Ground Information Document and a I&AP registration form for your completion. We have been appointed by SANRAL to conduct an Environmental Impact Assessment for the re-alignment of the N5 section 4 between km.7.8 and 9.9, as well as the construction of a new bridge over the Tom Schutter spruit. The purpose of this notification is an opportunity for you to register as an I&AP.

Please complete the attached registration form for you to be registered as an I&AP. All other communication regarding the project will then be forwarded to you for your input and comments.

Your comments on the project will be appreciated.

Should you have any project related queries, please do not hesitate to contact the undersigned.

Sincerely

Danie Krynauw
Environmental Assessment Practitioner
Cell: 082 435 2108
E-mail: dk@terraworks.co.za



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**Directors:
AC Pauw
(Managing)**

**Environmental
Management**

13 February 2013

Mr. Willem Grobler
Department of Water Affairs, Free State
P.O. Box 528
Bloemfontein
9300

Dear Sir

Re: Interested and Affected Party - Environmental Impact Assessment Application for the proposed re-alignment of the N5 section 4 between km 7.8 and 9.9, as well as the construction of a new bridge over the Tom Schutte spruit DEA Reference: 14/12/16/3/3/1/827.

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BASIC ASSESSMENT REPORT



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**Environmental
Management**

13 February 2013

Mr. M.B Mphahlele
Infrastructure
Thabo Muftsonyana District Municipality
Private bag X810
Witsieshoek
9870

Tel: 085 713 4485
Fax: 085 713 0940

Dear Sir

**Re: Interested and Affected Party - Environmental Impact Assessment Application for the proposed re-alignment of the N5 section 4 between km 7.8 and 9.9, as well as the construction of a new bridge over the Tom Schutte spruit
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**Environmental
Management**

13 February 2013

Zola Mokoena
Department of Land Affairs
Private Bag X20803
Bloemfontein
9300

Tel: 051 447 1874
Fax: 051 447 1967

Dear Sir

**Re: Interested and Affected Party - Environmental Impact Assessment Application for the proposed re-alignment of the N5 section 4 between km 7.8 and 9.9, as well as the construction of a new bridge over the Tom Schutte spruit
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BASIC ASSESSMENT REPORT



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AC Pauw
(Managing)**

**Environmental
Management**

13 February 2013

HR Department
Infrastructure
Setsoto Local Municipality
P.O Box 116
Ficksburg
9730

Tel: 051 933 9300
Fax: 051 933 3321

Dear Sir

Re: Interested and Affected Party - Environmental Impact Assessment Application for the proposed re-alignment of the N5 section 4 between km 7.8 and 9.9, as well as the construction of a new bridge over the Tom Schutte spruit
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E-mail: dk@terraworks.co.za

Registered letter that went out to Organs of State

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List of REGISTERED LETTERS Lys van GEREGISTREERDE BRIEWE (with an insurance option/met 'n versekeringsopsie)



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Name and address of sender: Terra Work
Naam en adres van afsender:

Enquiries/Navrae
Toll-free number
Tolvry nommer
0800 111 502

No	Name and address of addressee Naam en adres van geadresseerde	Insured amount Versekerde bedrag	Insurance fee Versekeringsgeld	Postage Posgeld	Service fee Diensgeld	Affix Track and Trace customer copy Plak Volg-en-Spoor-kliëntafskrif
1	<u>Isak Vorster</u>					REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 111 502 www.post.co.za RD 721 837 822 ZA CUSTOMER COPY 301028R
2	<u>Zola Mokoena</u>					REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 111 502 www.post.co.za RD 721 837 840 ZA CUSTOMER COPY 301028R
3	<u>Mr. M.B. Mphahlele</u>					REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 111 502 www.post.co.za RD 721 837 884 ZA CUSTOMER COPY 301028R
4	<u>Mr. Willem Grobler</u>					REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 111 502 www.post.co.za RD 721 837 907 ZA CUSTOMER COPY 301028R
5	<u>HR Department, Infrastructure</u>					REGISTERED LETTER (with a domestic insurance option) ShareCall 0800 111 502 www.post.co.za RD 721 837 853 ZA CUSTOMER COPY 301028R
6						
7						
8						
9						
10						
Total Totaal		R	R	R	R	

Number of letters posted
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Signature of client
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Signature of accepting officer
Handtekening van aanneembeampte

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Die waarde van die inhoud van hierdie briewe is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100,00. Geen vergoeding is sonder dokumentere bewys betaalbaar nie. Opsionele versekering van tot R2 000,00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.



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Appendix F:

Impact Assessment



SIGNIFICANCE RATING

CONVENTION FOR ASSIGNING SIGNIFICANCE RATINGS TO IMPACTS

Methodology used in assessing potential impacts considered ten rating scales. These include:

- Extent of impact;
- Duration of impact;
- Intensity of impact;
- Status of impact;
- Probability of impact occurring;
- Degree of confidence of assessment;
- Significance of impact;
- Degree to which a resource is lost;
- Degree to which impact can be mitigated; and
- Reversibility of impact.

In assigning significance ratings to potential impacts the approach presented below were followed:

1. The core criteria for determining significance ratings are “extent”, “duration” and “intensity”. The preliminary significance ratings for combinations of these three criteria were included.
2. Additional criteria to be considered, which could “increase” the significance rating if deemed justified with motivation, are the following:
 - Permanent / irreversible impacts (as distinct from long-term, reversible impacts);
 - Potentially substantial cumulative effects (see Item 9 below); and
 - High level of risk or uncertainty, with potentially substantial negative consequences.
3. Additional criteria to be considered, which could “decrease” the significance rating if deemed justified with motivation, is the following:
 - Improbable impact, where confidence level in prediction is high.
4. The status of an impact is used to describe whether the impact will have a negative, positive or neutral effect on the surrounding environment. An impact may therefore be negative, positive (or referred to as a benefit) or neutral.
5. Describe the degree to which a resource is impacted.
6. Describe the impact in terms of the probability of the impact occurring and the degree of confidence in the impact predictions, based on the availability of information.
7. When assigning significance ratings to impacts *after mitigation*:

First, consider probable changes in intensity, extent and duration of the impact after mitigation, assuming effective implementation of mitigation measures, leading to a revised significance

BASIC ASSESSMENT REPORT

rating; and then moderate the significance rating after taking into account the likelihood of proposed mitigation measures being effectively implemented.

Consider:

- Any potentially significant risks or uncertainties associated with the effectiveness of mitigation measures;
 - The technical and financial ability of the proponent to implement the measure; and
 - The commitment of the proponent to implementing the measure, or guarantee over time that the measures would be implemented.
8. Describe the degree to which an impact can be mitigated or enhanced and reversed.
 9. The cumulative impacts of a project should also be considered. "Cumulative impacts" refer to the impact of an activity that may become significant when added to the existing activities currently taking place within the surrounding environment.
 10. Where applicable, assess the degree to which an impact may cause irreplaceable loss of a resource. A resource assists in the functioning of human or natural systems, i.e. specific vegetation, minerals, water, agricultural land, etc.

The significance ratings are based on largely objective criteria and inform decision-making at a project level as opposed to a local community level. In some instances, therefore, whilst the significance rating of potential impacts might be "low" or "very low", the importance of these impacts to local communities or individuals might be extremely high. The importance which I&APs attach to impacts must be taken into consideration, and recommendations should be made as to ways of avoiding or minimising these negative impacts through project design, selection of appropriate alternatives and / or management.

The relationship between the significance ratings after mitigation and decision-making.

Significance rating	Effect on decision making
VERY LOW:LOW	Will not have an influence on the decision to proceed with the proposed project, provided that recommended measures to mitigate negative impacts are implemented.
MEDIUM	Should influence the decision to proceed with the proposed project, provided that recommended measures to mitigate negative impacts are implemented.
HIGH:VERY HIGH	Would strongly influence the decision to proceed with the proposed project.

1. EXTENT

"Extent" defines the physical extent or spatial scale of the impact.

Rating	Description
LOCAL	Extending only as far as the activity, limited to the site and its immediate surroundings. Specialist studies to specify extent.

BASIC ASSESSMENT REPORT

REGIONAL	Free State
NATIONAL	South Africa
INTERNATIONAL	

2. DURATION

“Duration” gives an indication of how long the impact would occur.

Rating	Description
SHORT TERM	0-5 years
MEDIUM TERM	5-15 years
LONG TERM	Where the impact will cease after the operational life of the activity, either because of natural processes or by human intervention.
PERMANENT	Where mitigation either by natural processes or by human intervention will not occur in such a way or in such time span that the impact can be considered transient.

3. INTENSITY

“Intensity” establishes whether the impact would be destructive or benign.

Rating	Description
ZERO TO VERY LOW	Where the impact affects the environment in such a way that natural, cultural and social functions and processes are not affected.
LOW	Where the impact affects the environment in such a way that natural, cultural and social functions and processes continue, albeit in a slightly modified way.
MEDIUM	Where the affected environment is altered, but natural, cultural and social functions and processes continue, albeit in a modified way.
HIGH	Where natural, cultural and social functions or processes are altered to the extent that it will temporarily or permanently cease.

4. LOSS OF RESOURCES

“Loss of resource” refers to the degree to which a resource is permanently affected by the activity, i.e. the degree to which a resource is irreplaceable.

Rating	Description
LOW	Where the activity results in a loss of a particular resource but where the natural, cultural and social functions and processes are not affected.
MEDIUM	Where the loss of a resource occurs, but natural, cultural and social functions and processes continue, albeit in a modified way.

BASIC ASSESSMENT REPORT

HIGH	Where the activity results in an irreplaceable loss of a resource.
------	--

5. STATUS OF IMPACT

The status of an impact is used to describe whether the impact would have a negative, positive or zero effect on the affected environment. An impact may therefore be negative, positive (or referred to as a benefit) or neutral.

6. PROBABILITY

"Probability" describes the likelihood of the impact occurring.

Rating	Description
IMPROBABLE	Where the possibility of the impact to materialise is very low either because of design or historic experience.
PROBABLE	Where there is a distinct possibility that the impact will occur.
HIGHLY PROBABLE	Where it is most likely that the impact will occur.
DEFINITE	Where the impact will occur regardless of any prevention measures.

7. DEGREE OF CONFIDENCE

This indicates the degree of confidence in the impact predictions, based on the availability of information and specialist knowledge.

Rating	Description
HIGH	Greater than 70% sure of impact prediction.
MEDIUM	Between 35% and 70% sure of impact prediction.
LOW	Less than 35% sure of impact prediction.

8. SIGNIFICANCE

"Significance" attempts to evaluate the importance of a particular impact, and in doing so incorporates the above three scales (i.e. extent, duration and intensity).

Rating	Description
VERY HIGH	Impacts could be EITHER: of high intensity at a regional level and endure in the long term ; OR of high intensity at a national level in the medium term ; OR of medium intensity at a national level in the long term .
HIGH	Impacts could be EITHER: of high intensity at a regional level and endure in the medium term ; OR of high intensity at a national level in the short term ;

BASIC ASSESSMENT REPORT

	<p>OR of medium intensity at a national level in the medium term;</p> <p>OR of low intensity at a national level in the long term;</p> <p>OR of high intensity at a local level in the long term;</p> <p>OR of medium intensity at a regional level in the long term.</p>
MEDIUM	<p>Impacts could be EITHER:</p> <p>of high intensity at a local level and endure in the medium term;</p> <p>OR of medium intensity at a regional level in the medium term;</p> <p>OR of high intensity at a regional level in the short term;</p> <p>OR of medium intensity at a national level in the short term;</p> <p>OR of medium intensity at a local level in the long term;</p> <p>OR of low intensity at a national level in the medium term;</p> <p>OR of low intensity at a regional level in the long term.</p>
LOW	<p>Impacts could be EITHER</p> <p>of low intensity at a regional level and endure in the medium term;</p> <p>OR of low intensity at a national level in the short term;</p> <p>OR of high intensity at a local level and endure in the short term;</p> <p>OR of medium intensity at a regional level in the short term;</p> <p>OR of low intensity at a local level in the long term;</p> <p>OR of medium intensity at a local level and endure in the medium term.</p>
VERY LOW	<p>Impacts could be EITHER</p> <p>of low intensity at a local level and endure in the medium term;</p> <p>OR of low intensity at a regional level and endure in the short term;</p> <p>OR of low to medium intensity at a local level and endure in the short term.</p>
INSIGNIFICANT	<p>Impacts with:</p> <p>Zero to very low intensity with any combination of extent and duration.</p>
UNKNOWN	<p>In certain cases it may not be possible to determine the significance of an impact.</p>

9. DEGREE TO WHICH IMPACT CAN BE MITIGATED

This indicates the degree to which an impact can be reduced / enhanced.

Rating	Description
NONE	No change in impact after mitigation.
VERY LOW	Where the significance rating stays the same, but where mitigation will reduce the intensity of the impact.
LOW	Where the significance rating drops by one level, after

BASIC ASSESSMENT REPORT

	mitigation.
MEDIUM	Where the significance rating drops by two to three levels, after mitigation.
HIGH	Where the significance rating drops by more than three levels, after mitigation.

10. REVERSIBILITY OF AN IMPACT

This refers to the degree to which an impact can be reversed.

Rating	Description
IRREVERSIBLE	Where the impact is permanent.
PARTLY REVERSIBLE	Where the impact can be partially reversed.
FULLY REVERSIBLE	Where the impact can be completely reversed.

Appendix G:

Environmental Management Programme (EMPr)



**DRAFT ENVIRONMENTAL
MANAGEMENT PLAN:**

**RE-ALIGNMENT OF THE N5 SECTION 4
BETWEEN KM 7.8 AND KM 9.9, AS
WELL AS THE CONSTRUCTION OF A
NEW BRIDGE**

For South African National Roads Agency Limited
(SANRAL)

BASIC ASSESSMENT REPORT

DRAFT ENVIRONMENTAL MANAGEMENT PLAN

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BASIC ASSESSMENT REPORT

SCOPE

This Environmental Management Plan (EMP) sets out the methods by which proper environmental controls are to be implemented by the contractor. The duration over which the contractor's controls shall be in place cover the construction period of the project as well as the limited time after contract completion defined by the General Conditions of Contract, and the project specifications, as the Defects Notification Period (maintenance period).

The provisions of this EMP are binding on the contractor during the life of the contract. They are to be read in conjunction with all the documents that comprise the suite of documents for this contract. In the event that any conflict occurs between the terms of the EMP and the project specifications or Environmental Authorisation the terms herein shall be subordinate.

The EMP is a dynamic document subject to similar influences and changes as are brought by variations to the provisions of the project specification. Any substantial changes shall be submitted to the South African National Roads Agency in writing for approval.

The EMP identifies the following:

- Construction activities that will impact on the environment.
- Specifications with which the contractor shall comply in order to protect the environment from the identified impacts.
- Actions that shall be taken in the event of non-compliance.

DEFINITIONS

Alien Vegetation: alien vegetation is defined as undesirable plant growth which shall include, but not be limited to; all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA) regulations. Other vegetation deemed to be alien shall be those plant species that show the potential to occupy in number, any area within the defined construction area and which are declared to be undesirable.

Construction Activity: a construction activity is any action taken by the contractor, his subcontractors, suppliers or personnel during the construction process as defined in the South African National Roads Agency and National Roads Act, 1998 (Act No. 7, 1998)

Environment: environment means the surroundings within which humans exist and that could be made up of -

- the land, water and atmosphere of the earth;
- micro-organisms, plant and animal life;
- any part or combination of (i) and (ii) and the interrelationships among and between them; and
- the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

Environmental aspect: an environmental aspect is any component of a contractor's construction activity that is likely to interact with the environment.

Environmental impact: an impact or environmental impact is the change to the environment, whether desirable or undesirable, that will result from the effect of a construction activity. An impact may be the direct or indirect consequence of a construction activity.

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Environmental Authorisation: a environmental authorisation is a written statement from the National Department of Environmental Affairs and Tourism, (N.DEAT) that records its approval of a planned undertaking to improve, upgrade or rehabilitate a section of road and the mitigating measures required to prevent or reduce the effects of environmental impacts during the life of a contract.

Road reserve: the road reserve is a corridor of land, defined by co-ordinates and proclamation, within which the road, including access intersections or interchanges, is situated. A road reserve may, or may not, be bounded by a fence.

Road width: for the purposes of the EMP, the road width is defined as the area within the road reserve i.e. fence line to fence line, but also includes all areas beyond the road reserve that are affected by the continuous presence of the road, e.g. a reach of a water course.

IDENTIFICATION OF ENVIRONMENTAL ASPECTS AND IMPACTS

The contractor shall identify likely aspects before commencing with any construction activity. Examples of environment aspects include:

- waste generation
- stormwater discharge
- emission of pollutants into the atmosphere
- chemical use operations
- energy use operations
- water use operations
- use of natural resources
- noise generation

Thereafter the contractor shall programme his work in such a way that each cause and effect of a construction activity is also identified and the activity planned so as to prevent any impact from happening. If prevention is not practicable, or in the event of mishap or misapplication, the contractor shall provide plans and measures for the engineer's approval, which will limit and contain the magnitude, duration and intensity of the impact. The contractor shall demonstrate that he is capable of carrying out any repair and reinstatement of the damaged environment.

Listed below are some environmental impacts that could adversely alter an aspect of the environment through usual construction activities:

- Pollution of atmosphere, soil or water
- Destruction or removal of fauna and flora and effect on biological diversity
- Deformation of the landscape
- Soil erosion
- Destruction of historical/heritage sites
- Effect on the built environment
- Effect on agricultural land and wetlands

General good construction practice will play an important role in avoiding the occurrence of an Impact.

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LEGAL REQUIREMENTS

(a) General

Construction will be according to the best industry practices, as identified in the project documents. This EMP, which forms an integral part of the contract documents, informs the contractor as to his duties in the fulfilment of the project objectives, with particular reference to the prevention and mitigation of environmental impacts caused by construction activities associated with the project. The contractor should note that obligations imposed by the EMP are legally binding in terms of environmental statutory legislation and in terms of the additional conditions to the general conditions of contract that pertain to this project. In the event that any rights and obligations contained in this document contradict those specified in the standard or project specifications then the latter shall prevail.

(b) Statutory and other applicable legislation

The contractor is deemed to have made himself conversant with all legislation pertaining to the environment, including provincial and local government ordinances, which may be applicable to the contract.

ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS

(a) Appointment of a Designated Environmental Officer (DEO)

For the purposes of implementing the conditions contained herein, the contractor shall submit to the engineer for approval the appointment of a nominated representative of the contractor as the DEO for the contract. The request shall be given, in writing, at least fourteen days before the start of any work clearly setting out reasons for the nomination, and with sufficient detail to enable the engineer to make a decision. The engineer will, within seven days of receiving the request, approve, reject or call for more information on the nomination. Once a nominated representative of the contractor has been approved he/she shall be the DEO and shall be the responsible person for ensuring that the provisions of the EMP are complied with during the life of the contract. The engineer will be responsible for issuing instructions to the contractor where environmental considerations call for action to be taken. The DEO shall submit regular written reports to the engineer, but not less frequently than once a month.

The engineer shall have the authority to instruct the contractor to replace the DEO if, in the engineer's opinion, the appointed officer is not fulfilling his/her duties in terms of the requirements of the EMP or this specification. Such instruction will be in writing and shall clearly set out the reasons why a replacement is required.

(b) Administration

Before the contractor begins each construction activity the DEO shall give to the engineer a written statement setting out the following:

- The type of construction activity.
- Locality where the activity will take place.
- Identification of the environmental aspects and impacts that might result from the activity.
- Methodology for impact prevention for each activity or aspect.
- Methodology for impact containment for each activity or aspect.
- Emergency/disaster incident and reaction procedures.
- Treatment and continued maintenance of impacted environment.

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The contractor may provide such information in advance of any or all construction activities provided that new submissions shall be given to the engineer whenever there is a change or variation to the original.

The engineer may provide comment on the methodology and procedures proposed by the DEO, but he shall not be responsible for the contractor's chosen measures of impact mitigation and emergency/disaster management systems. However, the contractor shall demonstrate at inception and at least once during the contract that the approved measures and procedures function properly.

(c) Good housekeeping

The contractor shall undertake "good housekeeping" practices during construction as stated in clause 1217 of the COLTO Standard Specifications for Roads and Bridge Works for State Road Authorities (1998 edition) and sub-clauses 4.18 and 11.11 of the General Conditions of Contract. This will help avoid disputes on responsibility and allow for the smooth running of the contract as a whole. Good housekeeping extends beyond the wise practice of construction methods that leaves production in a safe state from the ravages of weather to include the care for and preservation of the environment within which the site is situated.

TRAINING

The designated environmental officer (DEO) must be conversant with all legislation pertaining to the environment applicable to this contract and must be appropriately trained in environmental management and must possess the skills necessary to impart environmental management skills to all personnel involved in the contract.

The contractor shall ensure that adequate environmental training takes place. All employees shall have been given an induction presentation on environmental awareness. Where possible, the presentation needs to be conducted in the language of the employees. The environmental training should, as a minimum, include the following:

- The importance of conformance with all environmental policies;
- The environmental impacts, actual or potential, of their work activities;
- The environmental benefits of improved personal performance;
- Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirement of the Agency's environmental management systems, including emergency preparedness and response requirements;
- The potential consequences of departure from specified operating procedures;
- The mitigation measures required to be implemented when carrying out their work activities.

In the case of permanent staff the contractor shall provide evidence that such induction courses have been presented. In the case of new staff (including contract labour) the contractor shall inform the engineer when and how he intends concluding his environmental training obligations.

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ACTIVITIES/ASPECTS CAUSING IMPACTS

A list of possible causes of environmental impacts that occur during construction activities is given in Table 1: Aspects or Activities that Cause Environmental Impacts during Construction Activities, which is to be found at the end. This list is not exhaustive, and shall be used for guideline purposes only.

ENVIRONMENTAL MANAGEMENT OF CONSTRUCTION ACTIVITIES

(a) Site establishment

(i) Site plan

The contractor shall establish his construction camps, offices, workshops, staff accommodation and testing facilities on the site in a manner that does not adversely affect the environment. However, before construction can begin, the contractor shall submit to the engineer for his approval, plans of the exact location, extent and construction details of these facilities and the impact mitigation measures the contractor proposes to put in place.

The plans shall detail the locality as well as the layout of the waste treatment facilities for litter, kitchen refuse, sewage and workshop-derived effluents. The site offices should not be sited in close proximity to steep areas, as this will increase soil erosion. Preferred locations would be flat areas along the route. If the route traverses water courses, streams and rivers, it is recommended that the offices, and in particular the ablution facilities, aggregate stockpiles, spoil areas and hazardous material stockpiles are located as far away as possible from any water course. Regardless of the chosen site, the contractor's intended mitigation measures shall be indicated on the plan. The site plan shall be submitted not later than the first site meeting. Detailed, electronic colour photographs shall be taken of the proposed site before any clearing may commence. These records are to be kept by the engineer for consultation during rehabilitation of the site. Read in conjunction with COLTO Specification 1302(a) and 1402(e).

(ii) Vegetation

The contractor has a responsibility to inform his staff of the need to be vigilant against any practice that will have a harmful effect on vegetation.

The natural vegetation encountered on the site is to be conserved and left as intact as possible. Vegetation planted at the site shall be indigenous and in accordance with instructions issued by the engineer. Only trees and shrubs directly affected by the works, and such others as may be indicated by the engineer in writing, may be felled or cleared. In wooded areas where natural vegetation has been cleared out of necessity, the same species of indigenous trees as were occurring shall be re-established.

The project specification for the rehabilitation of the grass cover shall be strictly adhered to. Any proclaimed weed or alien species that propagates during the contract period shall be cleared by hand before seeding. (Read in conjunction with COLTO Specification 5801(b), 5802(b), (c), (d) and (e), 5804, 5805, 5806 and 5807). Fires shall only be allowed in facilities or equipment specially constructed for this purpose. A firebreak shall be cleared and maintained around the perimeter of the camp and office sites.

(iii) Rehabilitation

The area where the site offices were erected will require rehabilitation at the end of the contract. All construction material, including concrete slabs and braai areas shall be removed from the site on completion of the contract.

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(iv) Water for human consumption

Water for human consumption shall be available at the site offices and at other convenient locations on site.

All effluent water from the camp / office sites shall be disposed of in a properly designed and constructed system, situated so as not to adversely affect water sources (streams, rivers, pans dams etc). Only domestic type wastewater shall be allowed to enter this drain.

(v) Heating and cooking fuel

The contractor shall provide adequate facilities for his staff so that they are not encouraged to supplement their comforts on site by accessing what can be taken from the natural surroundings. The contractor shall ensure that energy sources are available at all times for construction and supervision personnel for heating and cooking purposes.

(b) **Sewage treatment**

Particular reference in the site establishment plan shall be given to the treatment of sewage generated at the site offices, site laboratory and staff accommodation and at all localities on the site where there will be a concentration of labour. Sanitary arrangements should be to the satisfaction of project management, the local authorities and legal requirements.

Safe and effective sewage treatment will require one of the following sewage handling methods: septic tanks and soak-aways, dry-composting toilets such as "enviro loos", or the use of chemical toilets which are supplied and maintained by a subcontractor. The type of sewage treatment will depend on the geology of the area selected, the duration of the contract and proximity (availability) of providers of chemical toilets. Should a soak-away system be used, it shall not be closer than 800 metres from any natural water course or water retention system. The waste material generated from these facilities shall be serviced on a regular basis. The positioning of the chemical toilets shall be done in consultation with the engineer. Read with COLTO Specifications 1402(g) and 1404(a).

Toilets and latrines shall be easily accessible and shall be positioned within walking distance from wherever employees are employed on the works. Use of the veld for this purpose shall not, under any circumstances, be allowed.

Outside toilets shall be provided with locks and doors and shall be secured to prevent them from blowing over. The toilets shall also be placed outside areas susceptible to flooding. The contractor shall arrange for regular emptying of toilets and shall be entirely responsible for enforcing their use and for maintaining such latrines in a clean, orderly and sanitary condition to the satisfaction of the engineer.

(c) **Waste management**

The contractor's intended methods for waste management and waste minimisation shall be implemented at the outset of the contract. All personnel shall be instructed to dispose of all waste in the proper manner.

(i) Solid waste

Solid waste shall be stored in an appointed area in covered, tip proof metal drums for collection and disposal. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the engineer. Disposal of solid waste shall be at a licensed landfill site or at a site approved by DEA in the event that an existing operating landfill site is not within reasonable distance from the site

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offices and staff accommodation. No waste shall be burned or buried at or near the site offices, nor anywhere else on the site, including the approved solid waste disposal site. Read with COLTO Specification 1404(a).

(ii) Litter

No littering by construction workers shall be allowed. During the construction period, the facilities shall be maintained in a neat and tidy condition and the site shall be kept free of litter.

Measures shall be taken to reduce the potential for litter and negligent behaviour with regard to the disposal of all refuse. At all places of work the contractor shall provide litter collection facilities for later safe disposal at approved sites. (Read in conjunction with COLTO Specification 1302(b)).

(iii) Hazardous waste

Hazardous waste such as bitumen, tar, oils etc. shall be disposed of in a approved landfill site. Special care shall be taken to avoid spillage of tar or bitumen products such as binders or pre-coating fluid to avoid water-soluble phenols from entering the ground or contaminating water.

Under no circumstances shall the spoiling of tar or bituminous products on the site, over embankments, in borrow pits or any burying, be allowed. Unused or rejected tar or bituminous products shall be returned to the supplier's production plant. Any spillage of tar or bituminous products shall be attended to immediately and affected areas shall be promptly reinstated to the satisfaction of the engineer.

(d) Control at the workshop

The contractor's management and maintenance of his plant and machinery will be strictly monitored according to the criteria given below, regardless whether it is serviced on the site (i.e. at the place of construction activity or at a formalised workshop).

(i) Safety

All the necessary handling and safety equipment required for the safe use of petrochemicals and oils shall be provided by the contractor to, and used or worn by, the staff whose duty it is to manage and maintain the contractor's and his subcontractor's and supplier's plant, machinery and equipment.

(ii) Hazardous Material Storage

Petrochemicals, oils and identified hazardous substances shall only be stored under controlled conditions. All hazardous materials e.g. tar or bitumen binders shall be stored in a secured, appointed area that is fenced and has restricted entry. Storage of tar or bituminous products shall only take place using suitable containers to the approval of the engineer.

The contractor shall provide proof to the engineer that relevant authorisation to store such substances has been obtained from the relevant authority. In addition, hazard signs indicating the nature of the stored materials shall be displayed on the storage facility or containment structure. Before containment or storage facilities can be erected the contractor shall furnish the engineer with details of the preventative measures he proposes to install in order to mitigate against pollution of the surrounding environment from leaks or spillage. The preferred method shall be a concrete floor that is bunded. Any deviation from the method will require proof from the relevant authority that the alternative method proposed is acceptable to that authority. The proposals shall also indicate the emergency procedures in the event of misuse or spillage that will negatively affect an individual or the environment.

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(iii) Fuel and gas storage

Fuel shall be stored in a secure area in a steel tank supplied and maintained by the fuel suppliers. An adequate bund wall, 110% of volume, shall be provided for fuel and diesel areas to accommodate any leakage spillage or overflow of these substances. The area inside the bund wall shall be lined with an impervious lining to prevent infiltration of the fuel into the soil. Any leakage, spillage or overflow of fuel shall be attended to without delay.

Gas welding cylinders and LPG cylinders shall be stored in a secure, well-ventilated area.

(iv) Oil and lubricant waste

Used oil, lubricants and cleaning materials from the maintenance of vehicles and machinery shall be collected in a holding tank and sent back to the supplier. Water and oil should be separated in an oil trap. Oils collected in this manner, shall be retained in a safe holding tank and removed from site by a specialist oil recycling company for disposal at approved waste disposal sites for toxic/hazardous materials. Oil collected by a mobile servicing unit shall be stored in the service unit's sludge tank and discharged into the safe holding tank for collection by the specialist oil recycling company.

All used filter materials shall be stored in a secure bin for disposal off site. Any contaminated soil shall be removed and replaced. Soils contaminated by oils and lubricants shall be collected and disposed of at a facility designated by the local authority to accept contaminated materials.

(e) **Clearing the Site**

In all areas where the contractor intends to, or is required to clear the natural vegetation and soil, either within the road reserve, or at designated or instructed areas outside the road reserve, a plan of action shall first be submitted to the engineer for his approval.

The plan shall contain a photographic record and chainage/land reference of the areas to be disturbed. This shall be submitted to the engineer for his records before any disturbance/stockpiling may occur. The record shall be comprehensive and clear, allowing for easy identification during subsequent inspections.

The contractor shall be responsible for the re-establishment of grass within the road reserve boundaries for all areas disturbed during road construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise within the road reserve, or at designated or instructed areas outside the road reserve. This responsibility shall extend until expiry of the Defects Notification Period.

(f) **Soil management**

(i) Topsoil

Topsoil shall be removed from all areas where physical disturbance of the surface will occur and shall be stored and adequately protected. The contract will provide for the stripping and stockpiling of topsoil from the site for later re-use. Topsoil is considered to be the natural soil covering, including all the vegetation and organic matter. Depth may vary at each site. The areas to be cleared of topsoil shall include the storage areas. All topsoil stockpiles and windrows shall be maintained throughout the contract period in a weed-free condition. Weeds appearing on the stockpiled or windrowed topsoil shall be removed by hand. Soils contaminated by hazardous substances shall be disposed of at an approved Department of Water Affairs and Forestry waste disposal site. (Read with COLTO Specifications 3104(a), 5802(a), (g), 5804(a), (b) and (c)). The topsoil stockpiles shall be stored, shaped and sited in such a way that they do not interfere with the flow of water to cause damming or erosion, or itself be eroded by the action of water. Stockpiles of topsoil shall not exceed a height of 2m, and if they are to be left for longer

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than 6 months, shall be analysed, and if necessary, upgraded before replacement. Stockpiles shall be protected against infestation by weeds.

The contractor shall ensure that no topsoil is lost due to erosion – either by wind or water. Areas to be topsoiled and grassed shall be done so systematically to allow for quick cover and reduction in the chance of heavy topsoil losses due to unusual weather patterns. The contractor's programme shall clearly show the proposed rate of progress of the application of topsoil and grassing. The contractor shall be held responsible for the replacement, at his own cost, for any unnecessary loss of topsoil due to his failure to work according to the progress plan approved by the engineer. The contractor's responsibility shall also extend to the clearing of drainage or water systems within and beyond the boundaries of the road reserve that may have been affected by such negligence.

(ii) Subsoil

The subsoil is the layer of soil immediately beneath the topsoil. It shall be removed, to a depth instructed by the engineer, and stored separately from the topsoil if not used for road building. This soil shall be replaced in the excavation in the original order it was removed for rehabilitation purposes.

(g) **Drainage**

The quality, quantity and flow direction of any surface water runoff shall be established prior to disturbing any area for construction purposes. Cognisance shall be taken of these aspects and incorporated into the planning of all construction activities. Before a site is developed or expanded, it shall be established how this development or expansion will affect the drainage pattern. Recognised water users / receivers shall not be adversely affected by the expansion or re-development. No water source shall be polluted in any way due to proposed changes.

Streams, rivers, pans, wetlands, dams, and their catchments shall be protected from erosion and from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and bituminous or tar products.

The contractor shall submit to the engineer his proposals for prevention, containment and rehabilitation measures against environmental damage of the identified water and drainage systems that occur on the site. Consideration shall be given to the placement of sedimentation ponds or barriers where the soils are of a dispersive nature or where toxic fluids are used in the construction process. The sedimentation ponds must be large enough to contain runoff so that they function properly under heavy rain conditions.

(h) **Earthworks and Layerworks**

This section includes all construction activities that involve the mining of all materials, and their subsequent placement, stockpile, spoil, treatment or batching, for use in the permanent works, or temporary works in the case of deviations. Before any stripping prior to the commencement of construction, the contractor shall have complied with the requirements of sections C1008(e) and C1008(g). In addition, the contractor shall take cognisance of the requirements set out below.

(i) Quarries and borrow pits

The contractor's attention is drawn to the requirement of the Department of Minerals and Energy that before entry into any quarry or borrow pit, an EMP for the establishment, operation and closure of the quarry or borrow pit shall have been approved by the Department. It is the responsibility of the contractor to ensure that he is in possession of the approved EMP or a copy thereof, prior to entry into the quarry or borrow pit. The conditions imposed by the relevant EMP are legally binding on the contractor and may be more extensive and explicit than the requirements of this specification. In the event of any conflict occurring between the requirements of the specific EMP and these specifications

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the former shall apply. The cost of complying with the requirements shall be deemed to be included in existing rates in the Pricing Schedule. (Read with COLTO Specification 3100 and 3200).

(ii) Excavation, hauling and placement

The contractor shall provide the engineer with detailed plans of his intended construction processes prior to starting any cut or fill or layer. The plans shall detail the number of personnel and plant to be used and the measures by which the impacts of pollution (noise, dust, litter, fuel, oil, sewage), erosion, vegetation destruction and deformation of landscape will be prevented, contained and rehabilitated. Particular attention shall also be given to the impact that such activities will have on the adjacent built environment. The contractor shall demonstrate his "good housekeeping", particularly with respect to closure at the end of every day so that the site is left in a safe condition from rainfall overnight or over periods when there is no construction activity. (Read with COLTO Standard Specification clauses 1217 and 3309)

(iii) Spoil sites

The contractor shall be responsible for the safe siting, operation, maintenance and closure of any spoil site he uses during the contract period, including the Defects Notification Period. This shall include existing spoil sites that are being re-entered. Before spoil sites may be used proposals for their locality, intended method of operation, maintenance and rehabilitation shall be given to the engineer for his approval. The location of these spoil sites shall have signed approval from the affected landowner before submission to the engineer. No spoil site shall be located within 500m of any watercourse. A photographic record shall be kept of all spoil sites for monitoring purposes. This includes before the site is used and after revegetation.

The use of approved spoil sites for the disposal of hazardous or toxic wastes shall be prohibited unless special measures are taken to prevent leaching of the toxins into the surrounding environment. Such special measures shall require the approval of the relevant provincial or national authority. The same shall apply for the disposal of solid waste generated from the various camp establishments. The engineer will assist the contractor in obtaining the necessary approval if requested by the contractor.

Spoil sites will be shaped to fit the natural topography. These sites shall receive a minimum of 75mm topsoil and be grassed with the recommended seed mixture. Slopes shall not exceed a vertical: horizontal ratio of 1:3. Only under exceptional circumstances will approval be given to exceed this ratio. Appropriate grassing measures to minimise soil erosion shall be undertaken by the contractor. This will include both strip and full sodding. The contractor may motivate to the engineer for other acceptable stabilising methods. The engineer may only approve a completed spoil site at the end of the Defects Notification Period upon receipt from the contractor of a landowner's clearance notice and an engineer's certificate certifying slope stability (Read with COLTO standard Specifications clause 1214). The contractor's costs incurred in obtaining the necessary certification for opening and closing of spoil sites shall be deemed to be included in the tendered rates for spoiling.

(iv) Stockpiles

The contractor shall plan his activities so that materials excavated from borrow pits and cuttings, in so far as possible, can be transported direct to and placed at the point where it is to be used. However, should temporary stockpiling become necessary, the areas for the stockpiling of excavated and imported material shall be indicated and demarcated on the site plan submitted in writing to the engineer for his approval, together with the contractor's proposed measures for prevention, containment and rehabilitation against environmental damage.

The areas chosen shall have no naturally occurring indigenous trees and shrubs present that may be damaged during operations. Care shall be taken to preserve all vegetation in the immediate area of these

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temporary stockpiles. During the life of the stockpiles the contractor shall at all times ensure that they are:

- Positioned and sloped to create the least visual impact;
- Constructed and maintained so as to avoid erosion of the material and contamination of surrounding environment; and
- Kept free from all alien/undesirable vegetation.

After the stockpiled material has been removed, the site shall be re-instated to its original condition. No foreign material generated / deposited during construction shall remain on site. Areas affected by stockpiling shall be landscaped, top soiled, grassed and maintained at the contractor's cost until clearance from the engineer and the relevant National Authority is received.

Material milled from the existing road surface that is temporarily stockpiled in areas approved by the engineer within the road reserve, shall be subject to the same condition as other stockpiled materials. Excess materials from windrows, in situ milling or any detritus of material from road construction activities may not be swept off the road and left unless specifically instructed to do so in the contract drawing or under instruction from the engineer

In all cases, the engineer shall approve the areas for stockpiling and disposal of construction rubble before any operation commences and shall approve their closure only when they have been satisfactorily rehabilitated. (Read with COLTO Specification B3203 and B4306).

(v) Blasting activities

Wherever blasting activity is required on the site (including quarries and/or borrow pits) the contractor shall rigorously adhere to the relevant statutes and regulations that control the use of explosives. In addition, the contractor shall, prior to any drilling of holes in preparation for blasting, supply the engineer with a locality plan of the blast site on which shall be shown the zones of influence of the ground and air shock-waves and expected limits of fly-rock. The plan shall show each dwelling, structure and service within the zones of influence and record all details of the dwellings/structures/services including existing positions, lengths and widths of cracks, as well as the condition of doors, windows, roofing, wells, boreholes etc. The contractor, alone, shall be responsible for any costs that can be attributed to blasting activities, including the collection of fly-rock from adjacent lands and fields. The submission of such a plan shall not in any way absolve the contractor from his responsibilities in this regard. The contractor shall also indicate to the engineer the manner in which he intends to advertise to the adjacent communities and/or road users the times and delays to be expected for each individual blast.

(i) **Batching sites**

Asphalt plants are considered scheduled processes listed in the second schedule to the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965). Should the use of an asphalt plant be considered on site, the contractor shall be responsible to obtain the necessary permit from the Department of Environmental Affairs and Tourism, regardless of where they are sited.

Crushing plants and concrete batching plants, whether sited inside or outside of defined quarry or borrow pit areas, shall be subject to the requirements of the Department of Minerals and Energy legislation as well as the applicable industrial legislation that governs gas and dust emissions into the atmosphere. Such sites will be the subject of regular inspections by the relative authorities during the life of the project. In addition, the selection, entry onto, operation, maintenance, closure and rehabilitation of such sites shall be the same as for those under section C1008(h)(iii), with the exception that the contractor shall provide additional measures to prevent, contain and rehabilitate against environmental damage from toxic/hazardous substances. In this regard the contractor shall provide plans that take into account such additional measures as concrete floors, bunded storage facilities, linings to drainage channels and

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settlement dams. Ultimate approval of these measures shall be from the relevant national authority, as shall approval of closure. The engineer will assist the contractor in his submissions to the relevant authority.

Effluent from concrete batch plants and crusher plants shall be treated in a suitable designated sedimentation dam to the legally required standards to prevent surface and groundwater pollution. The designs of such a facility should be submitted to the engineer for approval.

The contractor shall invite the relevant department to inspect the site within 2 months after any plant is commissioned and at regular intervals thereafter, not exceeding 12 months apart

(j) Spillages

Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and tar or bituminous products. In the event of a spillage, the contractor shall be liable to arrange for professional service providers to clear the affected area.

Responsibility for spill treatment lies with the contractor. The individual responsible for, or who discovers a hazardous waste spill must report the incident to his/her DEO or to the engineer. The Designated Environmental Officer will assess the situation in consultation with the engineer and act as required. In all cases, the immediate response shall be to contain the spill. The exact treatment of polluted soil / water shall be determined by the contractor in consultation with the DEO and the engineer. Areas cleared of hazardous waste shall be revegetated according to the engineer's instructions

Should water downstream of the spill be polluted, and fauna and flora show signs of deterioration or death, specialist hydrological or ecological advice will be sought for appropriate treatment and remedial procedures to be followed. The requirement for such input shall be agreed with the engineer. The costs of containment and rehabilitation shall be for the contractor's account, including the costs of specialist input.

(k) Areas of specific importance

Any area, as determined and identified within the project document as sensitive or of special interest within the site shall be treated according to the express instructions contained in these specifications or the approved EMP. The contractor may offer alternative solutions to the engineer in writing should he consider that construction will be affected in any way by the hindrance of the designated sensitive area or feature. However, the overriding principle is that such defined areas requiring protection shall not be changed. Every effort to identify such areas within the site will have been made prior to the project going out to tender. The discovery of other sites with archaeological or historical interest that have not been identified shall require ad hoc treatment.

(i) Archaeological sites

If an artefact on site is uncovered, work in the immediate vicinity shall be stopped immediately. The contractor shall take reasonable precautions to prevent any person from removing or damaging any such article and shall immediately upon discovery thereof inform the engineer of such discovery. The South African Heritage Resource Agency (SAHRA) is to be contacted who will appoint an archaeological consultant. Work may only resume once clearance is given in writing by the archaeologist. (Read with FIDIC General Condition of Contract sub-clause 4.24 as amended by Particular Condition).

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(ii) Graves and middens

If a grave or midden is uncovered on site, or discovered before the commencement of work, then all work in the immediate vicinity of the graves/middens shall be stopped and the engineer informed of the discovery. The South African Heritage Resource Agency (SAHRA) should be contacted and in the case of graves, arrangements made for an undertaker to carry out exhumation and reburial. The undertaker will, together with the SAHRA, be responsible for attempts to contact family of the deceased and for the site where the exhumed remains can be re-interred. (Read with FIDIC General Conditions of Contract sub-clause 4.24 as amended by Particular Condition).

(l) **Noise control**

The contractor shall endeavour to keep noise generating activities to a minimum. Noises that could cause a major disturbance, for instance blasting and crushing activities, should only be carried out during daylight hours. Compliance with the appropriate legislation with respect to noise shall be mandatory.

Should noise generating activities have to occur at night the people in the vicinity of the drilling shall be warned about the noise well in advance and the activities kept to a minimum.

(m) **Dust control**

Dust caused by strong winds shall be controlled by means of water spray vehicles. Dust omission from batching plants shall be subject to the relevant legislation and shall be the subject of inspection by the relevant office of the Department of Minerals and Energy.

(n) **Alien vegetation**

The contractor shall be held responsible for the removal of alien vegetation within the road reserve disturbed during road construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for or from road construction has been stored temporarily or otherwise within the road reserve. This responsibility shall extend for the duration of the Defects Notification Period.

RECORD KEEPING

The engineer and the DEO will continuously monitor the contractor's adherence to the approved impact prevention procedures and the engineer shall issue to the contractor a notice of non-compliance whenever transgressions are observed. The DEO should document the nature and magnitude of the non-compliance in a designated register, the action taken to discontinue the non-compliance, the action taken to mitigate its effects and the results of the actions. The non-compliance shall be documented and reported to the engineer in the monthly report.

Copies of any record of decision or EMP's for specific borrow pits or quarries used on the project shall be kept on site and made available for inspection by visiting officials from the Employer or relevant environmental departments.

COMPLIANCE AND PENALTIES

The contractor shall act immediately when a notice of non-compliance is received and correct whatever is the cause for the issuing of the notice. Complaints received regarding activities on the construction site pertaining to the environment shall be recorded in a dedicated register and the response noted with the date and action taken. This record shall be submitted with the monthly reports and an oral report given at the monthly site meetings.

BASIC ASSESSMENT REPORT

Any non-compliance with the agreed procedures of the EMP is a transgression of the various statutes and laws that define the manner by which the environment is managed therefore any avoidable non-compliance, dependant on severity, shall be considered sufficient grounds for contact to be made with relevant provincial or national authorities.

The engineer's decision with regard to what is considered a violation, its seriousness and the action to be taken against the contractor shall be final. Failure to redress the cause shall be reported to the relevant authority. The responsible provincial or national authorities shall ensure compliance and impose penalties relevant to the transgression as allowed for within its statutory powers.

BASIC ASSESSMENT REPORT

TABLE 1: MECHANISMS THAT CAUSE ENVIRONMENTAL IMPACTS DURING CONSTRUCTION ACTIVITIES

Section	Contents	Environmental Impacts				
		Pollution Type	Deformation of Landscape	Soil erosion	Alien Vegetation	Sensitive Areas
	Camp Establishment	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	Spruit and Wetland areas
	Housing, Offices and laboratories	Waste treatment Hazardous waste Water supply Spillage Storage Noise/lights	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	Spruit and Wetland areas
	Accommodation of Traffic	Waste treatment Hazardous waste Water supply Spillage Storage Noise/lights Dust control	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas Maintenance of windrows	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	Spruit and Wetland areas
	Overhaul	Spillage Storage Noise/lights Dust control Exhaust fumes Washing waste	Turning circles Parking areas	Restrict access to sensitive areas	Protection of indigenous vegetation Preserve topsoil	Spruit and Wetland areas
	Clearing and grubbing	Waste treatment Hazardous waste Water supply Noise /lights Dust control	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Protection of indigenous vegetation Preserve topsoil	Spruit and Wetland areas
	Drainage	Waste treatment Hazardous waste Water supply	Selection of site Preserve indigenous vegetation	Selection of site Preserve indigenous vegetation	Preserve indigenous vegetation Preserve topsoil	Spruit and Wetland areas

BASIC ASSESSMENT REPORT

Section	Contents	Environmental Impacts				
		Pollution Type	Deformation of Landscape	Soil erosion	Alien Vegetation	Sensitive Areas
		Spillage Storage	Preserve topsoil	Preserve topsoil	Management of weeds	
1	Borrow pits	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	Spruit and Wetland areas
2	Stockpiling	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	Spruit and Wetland areas
3	Mass Earthworks	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	Spruit and Wetland areas
4	Pavement layers	Waste treatment Hazardous waste Water supply Spillage Storage Noise / lights Dust control	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas Maintenance of windrows	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	Spruit and Wetland areas
5	Asphalt works / sealing operations	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil Turning circles	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil	Spruit and Wetland areas

BASIC ASSESSMENT REPORT

Section	Contents	Environmental Impacts				
		Pollution Type	Deformation of Landscape	Soil erosion	Alien Vegetation	Sensitive Areas
		Noise / lights Dust control Smoke control Storage of materials	Parking areas			
6	Ancillary roadworks	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	Spruit and Wetland areas
7	Structures	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	Spruit and Wetland areas
8	Concrete pavements etc	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	Spruit and Wetland areas

Appendix H:

Details of EAP and expertise



BASIC ASSESSMENT REPORT

REPORT PREPARED BY: Samuel Pauw and Danie Krynauw

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QUALIFICATIONS OF EAP: Samuel Pauw has a Diploma in Datametrics & a M.Sc. Environmental Management. He has over 10 years environmental assessment experience in projects covering road construction, housing developments, waste management, agric-industrial developments, water treatment works and bulk water infrastructure, mining, telecommunication infrastructure and electricity transmission infrastructure among many others.

He is registered with the Interim Certification Board for Environmental Assessment Practitioners **Reg No: 0071/95**

Appendix I:

Specialist's declaration of interest



Appendix J:

Additional Information

