

higher education & training Department: Higher Education and Training REPUBLIC OF SOUTH AFRICA



Together , Turning Every Workplace Into A Training Space

> Proposed Development of Further Education Training College (FET) in Balfour, Mpumalanga

# FINAL BASIC ASSESSMENT REPORT

# DEA Reference: 14/12/16/3/3/1/1028

# **PREPARED BY:**



**FEBRUARY 2014** 

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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.

- 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?



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

Proposed Development of Further Education Training College (FET) in Balfour, Mpumalanga.

# 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		
Example: GN R.544 Item 11(3): 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.	over the Orange river		
GN R.544 Item 11: The construction of:	The construction of infrastructure within 32 km of		
(xi) Infrastructure or structures covering 50	a wetland area and non-perennial river.		
square meters or more;			
Where such construction occurs within a			
watercourse or within 32 meters of a			
watercourse, measured from the edge of a			
watercourse, excluding where such construction			
will occur behind the development setback line.			
<b>GN R.544 Item 18:</b> The infilling or depositing of any material of more	The excavation for construction within a wetland.		
than 5 cubic metres into, or the dredging,			
excavation, removal or moving of soil, sand,			
shells, shell grit, pebbles or rock from -			
(i) a watercourse;			
but excluding where such infilling, depositing,			

dredging, excavation, removal or moving	
(i) is for maintenance purposes undertaken	
in accordance with a management plan	
agreed to by the relevant environmental	
authority; or	
(ii) occurs behind the development setback line.	
GN R.544 Item 23(i):	The transformation of approximately 10 hectares
The transformation of undeveloped, vacant or	of land for the development of accommodation
derelict land to:	and education facilities for a new Further
residential, retail, commercial, recreational,	Education Training (FET) college in Balfour.
industrial or institutional use, inside an urban	
area, and where the total area to be transformed	
is 5 hectares or more, but less than 20 hectares.	

#### 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.

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

Please Note: There is only one proposed site for the project; however, layout alternatives are provided below.

Alternative 1 (preferred alternative)				
Description	Lat (DDMMSS)	Long (DDMMSS)		
Balfour Campus	26° 40′09″S	28° 35′ 56″E		
Alternat	tive 2			
Alternative 3				

In the case of linear activities:

#### Alternative:

Alternative S1 (preferred)

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

Alternative S2 (if any)

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

Alternative S3 (if any)

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

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

#### b) Lay-out alternatives

Alternative 1 (preferred alternative)				
Description	Lat (DDMMSS)	Long (DDMMSS)		
Balfour Layout A- Site is smaller in size	26°40'04"S	28°35'55"E		
Alternative 2				
Description	Lat (DDMMSS)	Long (DDMMSS)		
Balfour Layout B- Site is larger in size	26°40'12"S	28°35'50"E		

Latitude (S):

Longitude (E):

Alternative 3

#### c) Technology alternatives

Alternative 1 (preferred alternative)	
Alternative 2	
Alternative 3	

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

#### e) No-go alternative

If the development does not occur, no new college facility will be built. This will result in a lack of benefit to the local communities both with respect to job opportunities and procurement. Junior practitioners that could potentially take part in the proposed project will not be trained towards professional registration. The necessary elements of educational facilities will not be in place for the intake of students at the start of the 2014 academic year as defined in the tender clarifications. This would result in a lack of the necessary infrastructure required for improving education and skill levels in South Africa. The No-go alternative also results in a loss of job opportunities during construction and operation and an economic loss in terms of procurement.

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

# SITE ALTERNATIVES

There is only one site alternative for the proposed project; therefore Paragraphs 3-13 below will not be repeated.

#### 3. PHYSICAL SIZE OF THE ACTIVITY

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

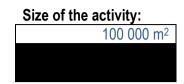
#### Alternative:

Alternative A1<sup>1</sup> (preferred activity alternative) Alternative A2 (if any) Alternative A3 (if any)

or, for linear activities:

#### Alternative:

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



Length of the activity:

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)



YES

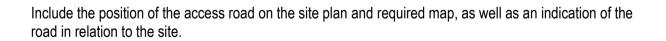
Х

#### 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

Describe the type of access road planned:



#### 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:

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

- 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 X	Please explain		
The land is vacant and is located next to a school development. The land makes provision for future educational infrastructure developments.				
2. Will the activity be in line with the following?				
(a) Provincial Spatial Development Framework (PSDF)	YES X	Please explain		
There is no available Dipaleseng SDF, therefore this section will focus on the Gert Sibande Spatial Development Framework (2009). The Gert Sibande SDF mentions some infrastructure projects and "Programmes of Action" include upgrading of the Further Education and Training colleges. The SDF mentions that the District's Growth and Development Strategy recognises that educational institutions need to focus on the specific skills needed by the sectors driving the District's economy.				
(b) Urban edge / Edge of Built environment for the area	YES X	Please explain		
The proposed development will not affect the Urban Edge.				
(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 X	Please explain		
The Dipaleseng IDP (2008) states that there should be adequate education opportunities for all as recognised by the Mpumalanga Provincial Growth and Development Strategy. The integrity of the IDP and SDF will not be compromised by the proposed development.				
(d) Approved Structure Plan of the Municipality	YES X	Please explain		
Unknown at this stage. This project is aimed at improving the education through the provision of a further education college in Balfour.	status o	f the local community		

(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?)	YES X	Please explain
There is no EMF for the area; however, the Dipaleseng IDP menti education facilities are part of the provincial growth and development pla		
(f) Any other Plans (e.g. Guide Plan)		NO X
<ul> <li>N/A.</li> <li>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)?</li> </ul>	YES X	Please explain
The Dipaleseng IDP identifies that new educational facilities are a prio Provincial Growth and Development Strategy.	rity in th	e future Mpumalanga
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.)	YES X	Please explain
The project is needed because education facilities are required for the education and skills for the community.	he area	in order to enhance
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.)	YES X	Please explain
Please refer to Appendix J.		
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.)	YES X	Please explain
Please refer to Appendix J. The Dipaleseng IDP identifies that new edu in the future Mpumalanga Provincial Growth and Development Strategy		facilities are a priority

7.	Is this project part of a national programme to address an issue of national concern or importance?	YES X		Please explain	
En	Enhancing the education and skills of the community is of importance.				
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.)	YES X		Please explain	
The	e proposed site is located next to an existing education facility the	refore the	e locat	ion for a new	
col	lege is favoured as this will add to the various educational institutions	in the are	ea.		
9.	Is the development the best practicable environmental option for this land/site?	YES X		Please explain	
A number of factors were considered in the selection of the site for the proposed FET college, such as geological conditions, topography, presence of rivers and wetlands, presence of heritage resources, biota, etc. More detail is provided in the Impact Assessment in Appendix F; however, this development is considered the best practable environmental option.				e of heritage	
10.	Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES X		Please explain	
En pro cor	gative impacts will mainly be experienced during the construction vironmental Management Programme (EMPr) attached as Appen evision for management as well as mitigation measures to be in instruction and operational phases of the project. The provision of edu ecessity thus this benefit outweighs any negative impacts.	dix G to nplement	this I ed du	Report makes ring both the	
11.	Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES X		Please explain	
	s possible that another education institution could be developed in the education of the area.	e area in	the fu	iture to add to	
12.	Will any person's rights be negatively affected by the proposed activity/ies?		NO X	Please explair	
ma	rsons' rights will be positively affected through the provision of edu inly occur during the construction phase of the project and are m IPr (Appendix G).		•		
13.	Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?		NO X	Please explain	
The	e project will not impact the urban edge.				

14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?YES X	Please explair
SIP 14: Higher education infrastructure	
<ul> <li>Infrastructure development for higher education, focusing on lecture accommodation, libraries and laboratories, as well as ICT connectivity.</li> <li>Development of university towns with a combination of facilities from recreation and transport.</li> <li>Potential to ensure shared infrastructure such as libraries by universities educational institutions.</li> </ul>	esidence, retail to
15. What will the benefits be to society in general and to the loca communities?	Please explain
The development will enhance education and skills of the local community as w opportunities during the construction and operation phase. The project will also be through procurement.	
16. Any other need and desirability considerations related to the propose activity?	d Please explain
N/A. 17. How does the project fit into the National Development Plan for 2030?	Please explain
The NDP aims to eliminate poverty and reduce inequality by 2030. According to Africa can realise these goals by enhancing the capacity of the state, one way to provision of education for society.	o the plan, South
18. Please describe how the general objectives of Integrated Environmental set out in section 23 of NEMA have been taken into account.	Management as
This project considers socio-economic factors (heritage, and the value of the education and skills) along with specialist studies investigating potential effects aquatic environments. As independent Environmental Assessment Practioners, our the impacts and suggest appropriate mitigation measures with the aim of minimisin and enhancing benefits while promoting sustainable development.	on terrestrial and task is to balance
19. Please describe how the principles of environmental management as set of NEMA have been taken into account.	t out in section 2
The principles of NEMA have been taken into account through the consideration of benefits of the FET college in terms of social factors as well as sustainable develo specialists to identify possible impacts and mitigation measures allows for the prop to go forward in a manner than will have minimal impact on the environment.	pment. The use of

### 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	Administering authority	Date
Constitution of the Republic of South Africa (No. 108 of 1996)	National and Provincial	18 December 1996
National Environmental Management Act (No. 107 of 1998)	National: Department of Environmental Affairs (DEA)	27 November 1998
	Provincial: Department of Economic Development, Environment and Tourism (DEDET)	
Environmental Impact Assessment Regulations, 2010, promulgated in terms of Section 24(5) of NEMA.	National and Provincial	02 August 2010
National Water Act (No. 36 of 1998)	National and Provincial	26 August 1998
National Environmental Management: Biodiversity Act, 2004 (No. 10 of 2004)	National and Provincial	07 June 2004
National Environmental Management Waste Act (Act 59 of 2008)	National and Provincial	10 March 2009
National Heritage Resources Act (No. 25 of 1999)	National and Provincial	28 April 1999
Occupational Health & Safety Act (No. 85 of 1993)	National and Provincial	23 June 1993
South African Schools Act (No. 84 of 1996)	National and Provincial	6 November 1996
The Basic Education Laws Amendment Act (No. 15 of 2011)	National and Provincial	19 September 2011
Higher Education Amendment Act (No. 39 of 2008)	National and Provincial	04 February 2009
Further Education and Training Colleges Amendment Act (No. 1 of 2013)	National and Provincial	18 March 2013

#### 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?

Displaced solid material might be produced. The volume cannot be determined at this stage.

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

Disposed at nearest landfill site.

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

Municipal landfill sites.

Will the activity produce solid waste during its operational phase?



YES

If YES, what estimated quantity will be produced per month? How will the solid waste be disposed of (describe)?

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

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

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

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

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?

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?

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

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

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.

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

If YES, provide the particulars of the facility:

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

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

Cell:

Fax:

NO X
NO
Х

NO X

NO



All waste water and storm water outfalls will be connected to a system provided by the municipality. See Appendix J3.

# c) Emissions into the atmosphere

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

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

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

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

Types of emissions include exhaust emissions and dust associated with construction phase activities. Concentration of emissions is predicted to be minimal. The EMPr prescribes mitigation measures to minimise impacts related to dust.

### d) Waste permit

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

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?

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:

An increase in noise levels is expected during the construction phase due to construction vehicles and machinery. Mitigation measures included in the Environmental Management Programme (EMPr) attached as Appendix G to this Report.

# 13. WATER USE

Municipal

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

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

Does the activity require a water use authorisation (general authorisation or water YES

YES	
Х	
	NO
	Х



NO

Х

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.

Х

A Water Use License Application (WULA) will be submitted to the Department of Water Affairs. The Basic Assessment Process and the WULA Process will run concurrently. See Appendix J1.

#### 14. ENERGY EFFICIENCY

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

Please refer to Appendix J4 for the Balfour Building Energy Performance Summary and SANS 10400-XA Report.

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

# LAYOUT ALTERNATIVES

There are two layout alternatives for the proposed project. Paragraph 3 will only be repeated. Paragraphs 4-13 below will not be repeated because the information is the same as above for the site alternative.

#### 3. PHYSICAL SIZE OF THE ACTIVITY

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

#### Alternative:

Alternative A1<sup>2</sup> (preferred activity alternative) Alternative A2 (if any) Alternative A3 (if any)

Size	of the	activi	ty:	
		100	000	m

200 000 m<sup>2</sup>

or, for linear activities:

#### Alternative:

Alternative A1 (preferred activity alternative) Alternative A2 (if any) Alternative A3 (if any) Length of the activity:

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:

100 000 m <sup>2</sup>
200 000 m <sup>2</sup>

<sup>&</sup>lt;sup>2</sup> "Alternative A.." refer to activity, process, technology or other alternatives.

### 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.

Please note that this section will just be completed once for the entire site.

Section B Copy No. (e.g. A): N/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?



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	Province	Mpumalanga	
description/physi	District	Gert Sibande	
cal address:	Municipality		
	Local Municipality	Dipaleseng	
	Ward Number(s)	3	
	Farm name and	A list of the farm/Erf names and numbers are attached	
	number	in Appendix J2.	
	Portion number	A list of the portion numbers is attached in Appendix J2.	
	SG Code	A list of the SG codes is attached in Appendix J2.	
	•	r of properties are involved (e.g. linear activities), please application including the same information as indicated	
Current land-use zoning as per local municipality IDP/records:	The land is currently vacant, unimproved (natural) grassland.		
	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 X

# SITE ALTERNATIVES

There is only one site alternative for the proposed project; therefore Paragraphs 1-6 below will not be repeated.

#### 1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

#### Alternative S1:

Flat	1:50 – 1:20	1:20 – 1:15
Х	Х	Х

The overall gradient of Section 2 is between flat to 1:15

#### Alternative S2 (if any):

Alternative S3 (if any):

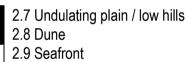
### 2. LOCATION IN LANDSCAPE

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

- 2.1 Ridgeline
- 2.2 Plateau

2.3 Side slope of hill/mountain

2.4 Closed valley2.5 Open valley2.6 Plain



Х



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

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

Shallow water table (less than 1.5m deep)

Dolomite, sinkhole or doline areas

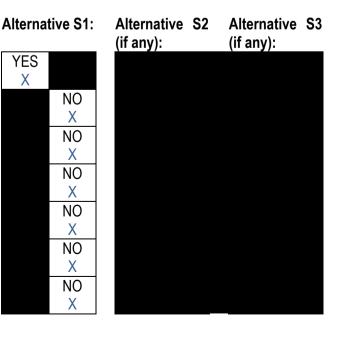
Seasonally wet soils (often close to water bodies)

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



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.

Please refer to Geotechnical Report in Appendix J5.

#### 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).



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

#### 5. SURFACE WATER

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

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

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

The type of wetlands that occur on the site are classified as channelled and unchannelled valleybottom wetlands.

#### 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:

Low density residential		
	School	
	Church	
		River, stream or wetland
	Major road (4 lanes or more) N	
		Graveyard
		Slaveyald
	Sport facilities	

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

The impact expected on the R23 would possibly be an increase in traffic on the road. However, the impact is expected to be low.

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

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:

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

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

	Х
Buffer area of the SKA?	NO
	Х

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

The site falls within an Important and Necessary area as classified by the Mpumalanga Biodiversity Conservation Plan. Refer to Appendix A3.

# LAYOUT ALTERNATIVES

There are two layout alternatives for the proposed project. However, Paragraphs 1-6 will not be repeated because the information is the same as above for the site alternative.

#### 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:

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:

No heritage resources were found within the servitude of the proposed development. See Appendix D3.

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)?

NO
Х
NO
Х

NO

Х

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

#### 8. SOCIO-ECONOMIC CHARACTER

#### a) Local Municipality

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

Level of unemployment:

42% Unemployment Rate.

Economic profile of local municipality:

Industry	Dipaleseng Local Municipality	
Agriculture, forestry and fishing	11%	
Mining and quarrying	1%	
Manufacturing	25%	
Electricity, gas and water	19%	
Construction	3%	
Wholesale and retail trade, catering and accommodation	14%	

#### BASIC ASSESSMENT REPORT

Transport, storage and communication	2%	
Finance, insurance, real estate and business services	18%	
Community, social and personal services	3%	
General government	3%	
Total	100%	

Level of education:

No Schooling	Some Primary	Completed Primary	Some Secondary	Grade 12/Std 10	Higher	Unspecified	Not Applicable	Total
9%	34%	6%	27%	8%	3%	0%	13%	100%

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

What is the expected capital value of the activity on completion?	R 105 000 000
What is the expected yearly income that will be generated by or as a result of the activity?	R 68 559 303
Will the activity contribute to service infrastructure?	YES
Is the activity a public amenity?	X YES
	Х
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	280
What is the expected value of the employment opportunities during the development and construction phase?	R 5 250 000
What percentage of this will accrue to previously disadvantaged individuals?	75%
How many permanent new employment opportunities will be created during the operational phase of the activity?	44
What is the expected current value of the employment opportunities during the first 10 years?	R 73 778 792-09
What percentage of this will accrue to previously disadvantaged individuals?	75% or more

Please Note: A Property Value Assessment Report was conducted for this project as a result from a comment by a Public Interested and Affected Party. Please Refer to Appendix D5.

#### 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/ 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.

Refer to Appendix D4: Biodiversity Information.

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)

Systemat	c Biodiversity Planning Category	If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	No Natural Area Remaining (NNR)	<b>IMPORTANT AND NECESSARY AREA:</b> Biodiversity in this category is relatively intact. It represents the areas which most efficiently contribute to meeting biodiversity targets and minimise landuse conflict. If biodiversity is lost from these areas, larger areas will be required elsewhere for targets to be met. This category allows some flexibility and there are options for development. However, approved developments or changes in land use must still be compatible with conservation objectives. Decisions on land-use changes will require a biodiversity specialist study as part of the EIA. Developments most antagonistic to biodiversity should be discouraged.
	X	NO NATURAL HABITAT REMAINING:
		This category covers the rest of the Province in which natural vegetation has been lost. It includes all land transformed by urban / industrial development and cultivation. Biodiversity is irreversibly changed, reduced to levels that are virtually dysfunctional. These landscapes have only residual or negative effects on the functioning of natural ecosystems.

The site falls within an Important and Necessary Area. Refer to Appendix D2: Ecological Survey.

#### 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	10%	Few indigenous species were recorded on site.
Near Natural (includes areas with low to moderate level of alien invasive plants)	20%	Site was severely degraded.
Degraded (includes areas heavily invaded by alien plants)	65%	Due to the levels of disturbances such as illegal dumping of rubbles and human intrusion, many plant species observed are weeds or alien invasive plant species.

plantation, roads, etc)	Transformed (includes cultivation, dams, urban,	5%	The site is transformed from urban development.
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#### c) Complete the table to indicate:

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

Vegetation Type	Ecosystems Status	
Andesite Mountain Bushveld	Least Threatened	

Terrestrial Ecos	ystems	Aquatic Ecos		ystems			
Ecosystem threat status as per the National Environmental Management:		depressi unchann	d (including rivers, ons, channelled and leled wetlands, flats, pans, and artificial wetlands)	Est	uary	Coas	tline
Biodiversity Act (Act No. 10 of 2004)	Least Threatened	YES X			NO X		NO X

# 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)

The Andesite Mountain Bushveld vegetation type is found in Gauteng, Northern-West, Mpumalanga and Free State Provinces. Several separate occurrences of which the main area are: the Bronberg Ridge in eastern Pretoria extending to Welbekend; from Hartebeesthoek in the west along the valley between the two parallel ranges of hills to Atteridgeville; hills in southern Johannesburg; several hills encompassing Nigel, Willemsdal, Coalbrook and Suikerbosrand (in part); and the outer ring of ridges of the Vredefort Dome and some hills to the northwest around Potchefstrrom (Mucina and Rutherford, 2006).

The conservation status of this vegetation type is classified as Least Threatened with a national conservation target of 24%. About 7% is statutorily conserved mainly in the Suikerbosrand Nature Reserve and Magaliesberg Nature Area. An additional 1-2% conserved in other reserves mainly in the Hartbeesthoek Radio Astronomy Observatory. Some 15% already transformed, mainly cultivated and some urban and built-up areas. Some of the unit fringes on major urban areas (Mucina and Rutherford, 2006).

#### Channelled valley-bottom wetland:

A mostly flat wetland area, located within the Highveld Ecoregion, on a valley floor that is dissected by and typically elevated above a well-defined stream channel. Dominant water inputs to these areas are typically from the channel (when it overtops or from sub-surface discharge) and from adjacent valley-side slopes.

#### Unchannelled valley-bottom wetland:

A mostly flat wetland area, located within the Highveld Ecoregion, on a valley floor that is characterised by an absence of distinct channel banks, and the prevalence of diffuse flows. Water inputs are typically from an upstream channel that becomes dominated by diffuse (surface and subsurface) flow as it enters the wetland and seepage from adjacent slopes. There may also be groundwater input.

# SECTION C: PUBLIC PARTICIPATION

#### 1. ADVERTISEMENT AND NOTICE

Publication name	Cosmos News	
Date published	11/10/13	
Site notice position	Latitude	Longitude
-	1. 26°39'50.11"S	1. 28°35'42.19"E
	2. 26°40'4.09"S	2. 28°35'51.16"E
	3. 26°40'8.70"S	3. 28°35'37.50"E
Date placed	01/10/13	

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

Please refer to Appendix E1(i) for the proof of advertisement. Please refer to Appendix E1(ii) for the proof of site notices.

#### 2. DETERMINATION OF APPROPRIATE MEASURES

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.

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)
Person Available	Nederduitsch Hervormde Kerk Van Afrika- Balfour	(017) 773 1802
Police Commander	Balfour Police Station	(017) 773-0414

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.

Please refer to Appendix E2(i) for I&AP (Key Stakeholders) Notification, Appendix E2(ii) for Landowner Notification, and Appendix E2(iii) for Adjacent Property Notification.

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

 Summary of main issues raised by I&APs
 Summary of response from EAP

Any issues raised by interested and affected parties (I&APs) are incorporated in a Comments and Responses Report which is attached as Appendix E3.

#### 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.

All comments received to date are incorporated in a Comments and Responses Report which is attached as Appendix E3.

Please Note: A Property Value Assessment Report was conducted for this project as a result from a comment received by a Public Interested and Affected Party which can be referred to in the Comments and Responses Report in Appendix E3.

#### 5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Org an of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
DEA	Toinette Van der Merwe	(012) 395 1782	-	Tvandermerwe@enviro nment.gov.za	Department of Environmental Affairs Fedsure Forum Building (cnr Pretorius and Van der Walt Streets), 4th Floor South Tower, 315 Pretorius Street, Pretoria, 0002
DEDET	Ms.S. Hlatshwayo	(013) 766 4852	(013) 766 4613	SHlatswayo@mpg.gov. za	7 Government Boulevard, Building 4, Riverside Park, Extension 2, NELSPRUIT
Regional DWA office	Londolani Mutshekwa	(012) 392 1371	(012) 392 1359	MutshekwaL@dwa.gov. za	Bothongo Plaza East (15th Floor), 285 Francis Baard Street, Pretoria
SAHRA Gert	Ms Mmabatho Ramagoshi	(021) 462 4502	(021) 462 4509	info@sahra.org.za	111 Harrington Street, Cape Town Cnr Joubert and
SibandeDistrict Municipality	Mr. T. D. Hlanyane	(017) 801 7000	(017) 811 1207	mm@jgdm.gov.za	Oosthuise Streets, Ermelo

Dipaleseng Local Municipality	Mr. Patrick Malebye	(017) 773 3230	(086) 6965801	None	cnr Steward and Joubert Streets, Balfour
Dipaleseng Local Municipality	Robert Justyn Hall	(017) 773 0055	(017) 7730169	None	cnr Steward and Joubert Streets, Balfour
Dipaleseng Local Municipality	Mafunda Lendu Makhuba	(017) 773 0055	(017) 7730169	None	cnr Steward and Joubert Streets, Balfour

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

The Proof of Delivery to Authorities of the Draft BAR will be available in the Final BAR.

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

#### 6. CONSULTATION WITH OTHER STAKEHOLDERS

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

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

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

Please refer to Appendix E5.

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

No Public Meetings were requested therefore no minutes are available. Please refer to the Receipt of Acknowledgement 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.

Please note: The Significance value of the impacts provided below represents the overall impact score (Please refer to Impact Assessment in Appendix F which describes this fully). The Significance value in the table below refers to the overall impact score BEFORE the proposed mitigations. Please refer to Appendix F for the overall impact scores AFTER the proposed mitigations.

Activity	Impact summary	Significance	Proposed mitigation						
Alternative 1 (preferred alternative)									
PRE-CONSTRUCTUION PHASE									
Watercourses	<ul> <li>Direct impacts:</li> <li>Loss of wetland habitat and ecological structure.</li> <li>Changes to wetland ecological and sociocultural service provision.</li> <li>Impacts on wetland hydrological function and sediment balance.</li> </ul>	Medium	<ul> <li>Prevent poor planning leading to the placement of infrastructure within wetland areas or too near to wetland areas leading to degradation of wetland areas.</li> <li>Prevent inadequate design of infrastructure with special mention of stormwater management structures leading to changes in wetland habitat.</li> <li>Prevent inadequate design of sewerage infrastructure leading to pollution of soils and ground water.</li> </ul>						
	Indirect impacts:	None.	None.						
	None.								
	Cumulative impacts:	None.	None.						

### Site Alternative:

Activity	Impact summary	Significance	Proposed mitigation
	None.		
	Direct impacts: Loss of flora	Medium	Search and Rescue : A qualified and / or appropriately experienced Botanist or an experienced person who knows specific vegetation types well should mark any Red data species recorded ( <i>Hypoxis hemerocallidea and</i> <i>Boophane disticha</i> ), species of conservation importance ( <i>Euphorbia</i> <i>clavarioides</i> var. <i>truncata</i> and <i>Hypoxis multiceps</i> ) and other medicinal plants. A permit for either removing or transplanting these plants will be required from MTPA before any construction commences.
Flora			<ul> <li>Site Preparation :</li> <li>During site preparation, topsoil and subsoil are stripped separately from each other and must be stored separately from spoil material for use in the rehabilitation phase. It should be protected from wind and rain, as well as contamination from diesel, concrete or wastewater.</li> <li>Records of all environmental incidents must be maintained and a copy of these records must be made available to authorities on request throughout the project execution.</li> </ul>
	Indirect impacts: None.	None.	None.
	Cumulative impacts: None.	None.	None.
Fauna	<i>Direct impacts:</i> Loss of fauna	Low	Search and Rescue : • A qualified and / or appropriately experienced Zoologist or an experienced person who knows the animals in the region well will identify any possible Red Data fauna on site and the necessary permits to

Activity	Impact summary	Significance	Proposed mitigation
			<ul> <li>relocate fauna must be obtained if avoidance is not possible.</li> <li>Training of construction workers to recognise threatened animal species will reduce the probability of fauna being harmed unnecessarily.</li> <li>Posters should be displayed on sight to sensitise workers to fauna in the region.</li> </ul>
		Medium	<ul> <li>Site Preparation :</li> <li>During site preparation special care must be taken during the clearing of the works area to minimise damage or disturbance of roosting and nesting sites.</li> <li>Before construction commences, all sensitive habitats, such as rivers must be clearly demarcated with fencing or orange mesh netting. Barricading measures to be utilised should not restrict the movement of the fauna in the area.</li> </ul>
	Indirect impacts: None.	None.	None.
	Cumulative impacts: None.	None.	None.
	CONSTR	UCTION PHASE	
Soil	<ul> <li>Direct impacts:         <ul> <li>Possible erosion on steep slopes and loss of top soil. Compaction of top soil through construction activities.</li> <li>An increased sediment load within the watercourses may impact on the water quality and habitat quality of the watercourses.</li> </ul> </li> </ul>	Medium	<ul> <li>Stabilisation of cleared areas to prevent and control erosion will be actively managed. The method chosen (e.g. watering, planting, retaining structures, commercial anti-erosion compounds) will be selected according to the site-specific conditions. Construction employees to be restricted to approved access roads and walk ways.</li> <li>Adequate measures to be implemented for soil erosion</li> </ul>

Activity	Impact summary	Significance	Proposed mitigation
			and soil contamination as a result of hydrocarbon spills which in turn will impact vegetation on site.
	Indirect impacts: None.	None.	None.
	Cumulative impacts: None.	None.	None.
Watercourses	Direct impacts: Loss of wetland habitat and ecological structure.	Medium	<ul> <li>Adequate stormwater management must be incorporated into the design of the proposed FET college development in order to prevent erosion and the associated sedimentation of the wetland system.</li> <li>Adequate sewerage infrastructure must be incorporated into the design of the proposed FET college development in order to prevent the pollution of soils and groundwater.</li> <li>Consideration to the use of attenuation facilities must also be given to ensure that post development runoff does not exceed predevelopment runoff volumes and lead to altered flood peaks.</li> <li>Sheet runoff from roads and any parking facility associated with the FET college needs to be curtailed and slowed down by the strategic placement of berms.</li> <li>Limit the footprint area of the construction activity to what is absolutely essential in order to minimise environmental damage. Strict control of edge effects during the construction of the proposed development needs to take place.</li> <li>During construction, erosion berms should be installed to</li> </ul>

Activity	Impact summary	Significance	Proposed mitigation
Activity	Impact summary	Significance	<ul> <li>Proposed mitigation</li> <li>prevent gully formation. Berms every 50m should be installed where any disturbed soils have a slope of less than 2%, every 25m where the track slopes between 2% and 10%, every 20m where the track slopes between 10% and 15% and every 10m where the track slope is greater than 15%.</li> <li>Ensure that all hazardous storage containers and storage areas comply with the relevant SABS standards to prevent leakage. Regularly inspect all vehicles for leaks. Re-fuelling must take place on a sealed surface area to prevent ingress of hydrocarbons into topsoil.</li> <li>Ensure that all activities impacting on water resources of the study area are managed according to the relevant DWAF Licensing regulations completion of the construction phase of the development to ensure that wetland functions are re- instated.</li> <li>Areas should be reseeded with indigenous grasses as specified by a suitably qualified specialist (ecologist).</li> <li>Restrict construction to the drier winter months, if possible, to avoid erosion of exposed soils and sedimentation of wetland features in the vicinity of the</li> </ul>
	Changes to wetland ecological and sociocultural service provision.	Medium	<ul> <li>proposed development.</li> <li>Adequate stormwater management must be incorporated into the design of the proposed FET college</li> </ul>

Activity	Impact summary	Significance	Proposed mitigation
			<ul> <li>resources of the study area are managed according to the relevant DWAF Licensing regulations completion of the construction phase of the development to ensure that wetland functions are reinstated.</li> <li>Areas should be reseeded with indigenous grasses as specified by a suitably qualified specialist (ecologist).</li> <li>Sedimentation of the system may lead to altered wetland habitat if wetland is not effectively monitored.</li> <li>Proliferation of alien and weed species in disturbed areas will lead to altered vegetation communities within the wetland if not continually monitored and removed.</li> <li>Erosion and incision of the wetland areas may occur if wetland is not effectively rehabilitated.</li> </ul>
	Impacts on wetland hydrological function and sediment balance.	Medium	<ul> <li>Adequate stormwater management must be incorporated into the design of the proposed FET college development in order to prevent erosion and the associated sedimentation of the wetland system.</li> <li>Adequate sewerage infrastructure must be incorporated into the design of the proposed FET college development in order to prevent the pollution of soils and groundwater.</li> <li>Sheet runoff from roads and any parking facility associated with the FET college needs to be curtailed and slowed down by the</li> </ul>

Activity	Impact summary	Significance	Proposed mitigation
Activity	Impact summary	Significance	<ul> <li>strategic placement of berms.</li> <li>Limit the footprint area of the construction activity to what is absolutely essential in order to minimise environmental damage.</li> <li>During construction, erosion berms should be installed to prevent gully formation. Berms every 50m should be installed where any disturbed soils have a slope of less than 2%, every 25m where the track slopes between 2% and 10%, every 20m where the track slopes between 10% and 15% and every 10m where the track slope is greater than 15%.</li> <li>Ensure that all hazardous storage containers and storage areas comply with the relevant SABS standards to prevent leakage. Regularly inspect all vehicles for leaks. Re-fuelling must take place on a sealed surface area to prevent ingress of hydrocarbons into topsoil;</li> <li>Ensure that all activities impacting on water resources of the study area are managed according to the relevant DWAF Licensing regulations completion of the</li> </ul>
			Licensing regulations
			<ul> <li>Areas should be reserved with indigenous grasses as specified by a suitably qualified specialist (ecologist).</li> <li>Restrict construction to the drier winter months, if</li> </ul>

Activity	Impact summary	Significance	Proposed mitigation
			<ul> <li>possible, to avoid sedimentation of wetland features in the vicinity of the proposed development.</li> <li>Use of permeable hard surface materials to increase infiltration and minimise runoff should be considered.</li> </ul>
	Indirect impacts: None.	None	None
	Cumulative impacts: None.	None	None
	<i>Direct impacts:</i> Soil contamination, vegetation loss and vegetation disturbance due to fuel and chemical spills.	Medium	<ul> <li>Employ on site personnel responsible for preventing and controlling potential soil pollution through fuel and oil leaks and spills.</li> <li>Make sure construction vehicles are maintained and serviced to prevent oil and fuel leaks. Emergency onsite maintenance should be done over appropriate drip trays and all oil or fuel must be disposed of according to waste regulations. Drip-trays must be placed under vehicles and equipment when not in use.</li> </ul>
Flora	Indirect impacts: None.	None.	None.
	<i>Cumulative impacts:</i> None.	None.	None.
	<b>Direct impacts:</b> Vegetation and habitat disturbance due to the accidental introduction of alien species.	Medium	<ul> <li>Promote awareness of all personnel.</li> <li>After construction programme, monitoring and control of alien weeds and invaders through hand removal; slashing (annuals) or chemical control (perennials). Chemical control may only be done upon approval from the Environmental Control Officer.</li> </ul>
	Indirect impacts: None.	None.	None.

Activity	Impact summary	Significance	Proposed mitigation
	Cumulative impacts:	None.	None.
	None.		
	<b>Direct impacts:</b> Vegetation and habitat disturbance due to pollution and littering during construction phase.	Low	<ul> <li>Employ personnel on site responsible for preventing and controlling of litter. Promote housekeeping with daily clean-ups on site.</li> <li>Before construction commences, construction workers should be educated with regards to littering, <i>ad hoc</i> veld fires, and dumping.</li> <li>No fires are allowed on site.</li> </ul>
	Indirect impacts: None.	None.	None.
	<i>Cumulative impacts:</i> None.	None.	None.
	<b>Direct impacts:</b> Damage to plant life outside of the proposed development area	Low	Construction activities should be restricted to the footprint area. All workers must be trained before construction commences.
	Indirect impacts: None.	None.	None.
	Cumulative impacts: None.	None.	None.
Fauna	Direct impacts: Disturbance to animals	Low	<ul> <li>Animals residing within the designated area shall not be unnecessarily disturbed.</li> <li>Before construction starts, construction workers must be educated with regards to littering and poaching.</li> <li>The Contractor and his/her employees shall not bring any domestic animals onto site.</li> <li>Toolbox talks should be provided to contractors regarding disturbance to animals. Particular emphasis should be placed on talks regarding snakes.</li> </ul>
	Indirect impacts: None.	None.	None.
	Cumulative impacts: None.	None.	None.
	<i>Direct impacts:</i> Allow for safe animal passage	Low	Construction areas must be demarcated but should allow for the

Activity	Impact summary	Significance	Proposed mitigation
	through and specifically out of the construction site.		migration of small faunal species out of the construction zone. Fencing types must be selected for minimal disturbance to animal movement corridors (e.g. palisade fencing is preferable to diamond-mesh fencing).
	Indirect impacts: None.	None.	None.
	Cumulative impacts: None.	None.	None.
Air	<ul> <li>Direct impacts:         <ul> <li>Dust from movement of construction vehicles and machinery as well as bare surface areas.</li> <li>Vehicles and construction machinery's emissions.</li> <li>Smoke from uncontrolled fires.</li> </ul> </li> </ul>	Low	<ul> <li>Dust abatement measures to be implemented for construction activities.</li> <li>Vehicles not to travel faster than 30km on servitude road.</li> <li>Bare areas (i.e. siphon sections) must be watered to minimise dust.</li> <li>No uncontrolled fires to be allowed on site.</li> </ul>
	Indirect impacts: None.	None.	None.
	<i>Cumulative impacts:</i> None.	None.	None.
Noise	Direct impacts: Noise associated with construction activities (e.g. vehicle movement, demolition work, generators).	Low	<ul> <li>The provisions of SANS 10103 will apply to all areas within audible distance of residents.</li> <li>Construction activities generating output levels of 55 dB or more will be confined to normal working hours.</li> <li>Construction work to be restricted to approved working hours.</li> <li>Construction machinery (especially silencers) to be maintained and kept in working condition.</li> <li>No loud music to be played on servitude or at construction camp site.</li> </ul>
	Indirect impacts: None.	None.	None.

Activity	Impact summary	Significance	Proposed mitigation
-	Cumulative impacts:	None.	None.
	None.		
Aesthetics	<ul> <li>Direct impacts:</li> <li>Visual alterations to the area.</li> <li>Visual impact associated with construction camp/s</li> <li>Adverse impacts on the landscape character and sense of place of the affected area.</li> </ul>	Low	<ul> <li>Construction camp to be positioned so as to minimize its visual impacts.</li> <li>Sound housekeeping practices to be enforced.</li> <li>Damage to the natural environment should be minimised.</li> <li>Vegetation should be cut only if absolutely necessary.</li> <li>The clearing of all sites should be kept to a minimum and surrounding vegetation should as far as possible be left intact.</li> </ul>
	Indirect impacts: None.	None.	None.
	Cumulative impacts:	None.	None.
	None.		
Safety and Security	<ul> <li>Direct impacts:</li> <li>Development of FET College</li> <li>Uncontrolled access to servitude.</li> <li>Construction employees getting injured.</li> </ul>	Medium	<ul> <li>Construction methodology to make provision for development of FET College.</li> <li>Compliance with Occupational Health and Safety Act (Act No. 85 of 1993).</li> <li>Contractor to provide an Occupational Health and Safety Management Plan to the Construction Manager for approval prior to the commencement of works in terms of the Construction Regulations (2003).</li> <li>Proper supervision of employees at all times. Employees to be clearly identifiable.</li> <li>Employees to remain within the servitude and no loitering to be allowed.</li> <li>Access into and out of the servitude must only be via existing access roads from local public roads.</li> <li>Contractor to prepare and</li> </ul>

Activity	Impact summary	Significance	Proposed mitigation
			submit, for approval, a rescue procedure for employees in the case of an injury.
	Indirect impacts: None.	None.	None.
	Cumulative impacts: None.	None.	None.
Waste Management	<ul> <li>Direct impacts:</li> <li>Use of veld/ riparian areas for ablution purposes.</li> <li>Land, air and water pollution through poor waste management practises.</li> </ul>	Medium	<ul> <li>Sufficient ablution facilities to be provided at the Construction Camp and along construction servitude. Ablution facilities to be maintained.</li> <li>No ablution facilities to be positioned within riparian areas.</li> <li>Suitable litter receptacles to be positioned strategically across the site at all working areas.</li> <li>Contractor to submit waste management plan prior to commencement. Such plan to be approved by ECO and enforced by contractor.</li> <li>Waste must be separated at source (e.g. containers for glass, paper, metals, plastics, organic waste and hazardous wastes).</li> </ul>
	Indirect impacts: None.	None.	None.
	Cumulative impacts: None.	None.	None.
Socio-	<i>Direct impacts:</i> Education Provision	N/A	The provision of education is a positive impact therefore no mitigation measures are required.
Economic Aspects	Indirect impacts: Job Creation	N/A	Employment creation is a positive impact therefore no mitigation measures are required.
	Cumulative impacts: None.	None.	None.
Heritage Resources	<ul> <li>Direct impacts:</li> <li>Damage to archaeological sites.</li> <li>Damage to graves.</li> </ul>	Medium	<ul> <li>Should remains and/or artefacts be discovered on the site during earthworks, all work will cease in the area affected and the Contractor will immediately inform the Construction Manager.</li> <li>Should any heritage resources be exposed during excavation or be found on site, the relevant</li> </ul>

Activity	Impact summary	Significance	Proposed mitigation	
Activity	Impact summary	Significance	<ul> <li>heritage resource agency (SAHRA) must be informed and a registered heritage specialist must be called to site for inspection.</li> <li>No person may, without a permit issued by SAHRA or a provincial heritage resources authority – <ul> <li>Destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim</li> </ul> </li> </ul>	
			of conflict, or any burial ground or part thereof which contains such graves; • Destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority or; • Bring onto or use at	
			a burial ground or grave referred to in above any excavation equipment, or any equipment which assists in the detection or recovery of metals.	
	<i>Indirect impacts:</i> None.	None.	None.	
	Cumulative impacts: None.	None.	None.	
OPERATION PHASE				
Watercourses	Direct impacts: Loss of wetland habitat and	Medium	Monitor removal of vegetation and the	

Activity	Impact summary	Significance	Proposed mitigation
	ecological structure.	Medium	<ul> <li>disturbance of soils leading to increased runoff and erosion.</li> <li>Prevent potential contamination from littering and ongoing impact from post construction impacts.</li> <li>Prevent inefficient aftercare and maintenance leading to continued latent impacts on the wetland system.</li> <li>Prevent increased runoff</li> </ul>
	ecological and sociocultural service provision.	Medium	<ul> <li>velocity and volume due to increase in impervious surface associated with the development.</li> <li>Prevent ongoing disturbance of wetland vegetation and soils, leading to increased levels of pollution downstream.</li> <li>Prevent ilnsufficient aftercare and maintenance leading to impacts on floral habitat (i.e. encroaching of alien vegetation) due to poor management.</li> <li>Monitor removal of vegetation and the disturbance of soils leading to increased runoff and erosion.</li> </ul>
			<ul> <li>Prevent compaction and loss of wetland soils leading to increased runoff.</li> <li>Prevent insufficient aftercare and maintenance leading to ongoing erosion and increased sedimentation due to poor management.</li> </ul>
	Indirect impacts: None.	None.	None.
	Cumulative impacts: None.	None.	None.
Flora	<b>Direct impacts:</b> The proposed development may affect biodiversity through the encroachment of exotic vegetation following soil disturbance, in addition the maintenance of the area would disturb naturalised species within the area.	Low	Encroachment of alien vegetation should be monitored regularly and controlled; the area must be kept clear of all invader plants as per the Conservation of Agricultural Resources Act, 1983 (Act No 43 of 1983). Rehabilitation measures must be employed until such a time as indigenous species are established.
	Indirect impacts: None.	None.	None.

Activity	Impact summary	Significance	Proposed mitigation			
	Cumulative impacts:	None.	None.			
	None.					
	DECOMMISIONING PHASE					
	Please note that no decommissioning and closure phase is expected to take place as the college is a					
	permanent feature. However, if decommissioning will be undertaken a separate Basic Assessment					
Report inclusive of a site decommissioning Environmental Management Programme should be						
developed and	developed and implemented.					
No-go option						
The 'No-Go' alternative means that the proposed development will not take place and the area will						
retain its status quo. This will result in lack of infrastructure to provide education and skills, loss of job						
opportunities and the economy will not benefit from procurement.						
Alternative 2						
Alternative 3						

# Layout Alternatives:

Environmental Impacts identified for the development of Balfour layout A or B will be identical and include: soil; watercourses; flora; fauna; air; noise; aesthetics; safety and security; waste management; socio-economic aspects; and Heritage resources. Therefore there is no environmental impact difference between these two alternatives.

The impacts identified above for Site Alternatives can be applied for these layout alternatives. Adequate implementation of mitigation measures are provided in the Environmental Management Programme (please refer to Appendix G attached).

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

Please see 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 <u>after</u> 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.

### Site Alternative:

#### Alternative A (preferred alternative)

Most of the potential impacts on the environment will take place during the construction phase. As a result, with the proposed mitigations enforced, disturbance to the area can be reduced.

Two positive impacts have been identified for this project. The first positive impact is provision of education to the local communitiess. The second positive indirect impact is the socio-economic effects resulting from job creation.

All negative impacts identified for the construction phase of the proposed development can be minimized provided that the proposed mitigation measures provided in this Basic Assessment Report, the Environmental Management Programme (please refer to Appendix G attached), the Ecological Study and the Wetland Assessment and Delineation (please refer to Appendix D attached) are adequately implemented during the construction and operation phases of the project.

The wetlands as well as terrestrial vegetation will however be negatively impacted on although such impacts are manageable and restricted to the construction phase. The EMPr must be strictly enforced for the project in order to mitigate the identified possible impacts associated to it.

The environmental consequences associated with the project's potential impacts are not considered significant if appropriately managed during the construction and operation phases of the project. **Alternative B** 

## Alternative C

#### No-go alternative (compulsory)

The 'No-Go' alternative means that the proposed development will not take place and the area will retain its status quo. This will result in lack of infrastructure to provide education and skills, loss of job opportunities and the economy will not benefit from procurement.

## Layout Alternatives:

#### Alternative A (preferred alternative)

The proposed FET College in Layout Option A is the preferred option due to the following reasons:

• Option A will develop a smaller area of land thus decrease potential impacts on the environment thus less land will be transformed and developed.

#### Alternative B

Layout Option B is not preferred due to the following reasons:

• Option B will develop a larger area of land thus increase potential impacts on the environment thus more land will be transformed and developed.

## Alternative C

## No-go alternative (compulsory)

The 'No-Go' alternative means that the proposed development will not take place and the area will retain its status quo. This will result in lack of infrastructure to provide education and skills, loss of job opportunities and the economy will not benefit from procurement.

# 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 X	

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.

Based on the information contained in this report, and taking into account the outcome of the impact assessment, opinions and recommendations included in the specialist studies as well as all supporting documentation, it is the recommendation of the practitioner that Environmental Authorisation be granted by the Department of Environmental Affairs (DEA).

The following pertinent conditions for inclusion in the Environmental Authorisation are recommended:

- Appointment of an Environmental Control Officer to monitor compliance with the Environmental Authorization and the approved Environmental Management Programme;
- All mitigation measures provided in the Wetland Assessment and Delineation and the Ecological Assessment (please refer to Appendix D attached) to be adhered to;
- Construction camp to be established in an already disturbed area and away from any surface water bodies;
- Minimize and avoid impact on water bodies and riparian vegetation;
- Vegetation removal to be kept to a minimum;
- 'No go' area to be demarcated;
- To manage the handling, use and storage of hazardous substances on site (i.e. fuel and oil);
- Construction activities to be limited to the development footprint as these activities result in altering soil conditions, hydrological features and topography thus resulting in loss of wetland functionality.
- Impacted wetland areas to be rehabilitated;
- Rehabilitation to be undertaken post construction where required;
- Only indigenous vegetation to be utilized during rehabilitation;
- Minimise noise during construction;
- Wetland buffer zone of 50m that should be maintained; and
- Preventative measures avoiding contaminated runoff from the construction area, must be implemented throughout the construction phase.

Is an EMPr attached?



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.

Please refer to Appendix H for EAP details.

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

Please refer to Appendix I for Specialist Declarations.

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

Please refer to Appendix J for Additional Information: J1 – Water Use License Application (WULA) J2 – Property Description J3 – Municipality Letter J4 – Energy Information J5 – Geotech Report

NAME OF EAP

SIGNATURE OF EAP

DATE

## SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps Appendix A1: Locality Map Appendix A2: Site or Route Plan Appendix A3: Sensitivity Map

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference) Appendix D1: Wetland Assessment and Delineation Appendix D2: Ecological Survey Appendix D3: Heritage Impact Assessment Appendix D4: Biodiversity information Appendix D5: Property Value Assessment

Appendix E: Public Participation

Appendix E1 – Proof of Notification
Appendix E1i – Proof of newspaper advertisement
Appendix E1ii – Proof of Site Notice
Appendix E2 – Proof of BID Notification
Appendix E2i – Proof of I&AP (Key Stakeholders) Notification
Appendix E2ii – Proof of Landowner Notification
Appendix E2iii – Proof of Adjacent Property Notification
Appendix E3 – Comments and Responses Report
Appendix E4 – Proof of I&AP (Authorities or Organs of State) Notification
Appendix E5 – List of I&APs
Appendix E6 - Correspondence and Minutes

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 J1 – Water use license(s) authorisation Appendix J2 – Property Description Appendix J3 – Municipality Letter Appendix J4 – Energy Information Appendix J5 – Geotech Report