SCOPING REPORT:

THE ESTABLISHMENT OF A RURAL VILLAGE ON THE REMAINING EXTENT OF THE FARM TOEVLUGT 320 JS, MIDDELBURG

Report prepared for: Botshabelo Community Development Trust

Report dated: October 2012 (final)

Report number: EIA 2011/01

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1. INTRODUCTION

The project applicant, *Botshabelo Community Development Trust,* intends to establish a rural village on the Remaining Extent of the farm Toevlugt 320 JS, Middelburg. Approximately 1000 'Residential 1' stands, a business stand, community facilities and a combined school are proposed. The site is located within the Botshabelo Nature Reserve, approximately 7.5 km north of Middelburg along the N11 national road.

The Botshabelo Nature Reserve forms part of a farm that was purchased in 1865 by Alexander Merensky, with the intent to establish a missionary. The mission station was called Botshabelo, meaning 'Place of Refuge'. Between 1860 and 1865, two missionaries (Alexander Merensky and Heinrich Gruntzner) decided to extend their missionary work to the Swazi and Pedi people. The ruler of the area, Chief Sekhukune, suppressed Christianity and ordered Merensky to leave his country. Merensky and his followers (including remnants of the Kopa tribe) subsequently started the Botshabelo Mission Station.

The Mission Station eventually developed into a small town, where the gospel was proclaimed, people received education and where commerce and industry were practised. A fort (Fort Wilhelm) was also constructed to protect the Mission Station against any possible attacks by Chief Sekhukune. By 1873, there were 1315 people living at Botshabelo.

In 1972, the city council of Middelburg purchased Botshabelo, which is now a historical town surrounded by a nature reserve. The fort (now called Fort Merensky) was restored and is now in the possession of the Simon van der Stel Foundation. The Botshabelo Nature Reserve was developed to promote tourism and includes various hiking trails, accommodation and a Ndebele village.

The Remaining Extent of the farm Toevlugt 320 JS, which forms part of the Botshabelo Nature Reserve, was awarded to the Botshabelo Community Development Trust in 2005 as part of a Land Claim. The community (930 beneficiaries) indicated that they intend to resettle on the said property. The Steve Tshwete Local Municipality subsequently agreed to assist the community to establish a township on their land.

The entire property is 2 755 ha in extent, of which approximately 130 ha will be utilized for the rural village.

The Minister of Environmental and Water Affairs listed in terms of Sections 24(2) and 24D of the National Environmental Management Act, 1998 (Act No. 107 of 1998), a number of activities that require an environmental impact assessment (either a Basic Assessment or a full Environmental Impact Assessment) before undertaking these activities.

The proposed development would involve the following listed activities as identified in terms of Section 24(2) and 24D of the National Environmental Management Act, 1998:

Listing	Description
GN R545-Listing Notice 2	***15.*** *Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more; except where such physical alteration takes place for: (i) linear development activities; or (ii) agriculture or afforestation where activity 16 in this Schedule will apply.*
GN R546-Listing Notice 3	***4.*** *The construction of a road wider than 4 metres with a reserve less than 13,5 metres.*
	14. *The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for:(1) purposes of agriculture or afforestation inside an area identified in spatial instruments adopted by the competent authority for agriculture or afforestation purposes; (2) the undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the activity is regarded to be excluded from this list; (3) the undertaking of a linear activity falling below the thresholds in Notice 544 of 2010.*

In order to obtain environmental authorisation, a Scoping Report and an Environmental Impact Assessment Report must be compiled as described in Regulations 26 to 35 of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of Section 24(5), 24M and 44 of the National Environmental Management Act, 1998 (Act 107 of 1998).

Clean Stream Environmental Services was appointed as independent environmental consultant to conduct the required environmental impact assessment and compile the necessary documentation.

This scoping report provides:

- an overview of the proposed project,
- an overview of the environmental features of the proposed site and immediate surrounding area,
- an indication of the interested and affected parties (I&APs) identified to date,
- an indication of issues of concern/comments received from interested and affected parties (I&APs) to date;
- an indication of potential environmental impacts that could take place as a result of the proposed project.

In addition, this scoping report provides an indication of what specialist studies (including further public participation) are required as part of the Environmental Impact Assessment (EIA) phase of the project.

2. DETAILS OF PROJECT APPLICANT AND ENVIRONMENTAL CONSULTANT

2.1 Details of project applicant

Name and address of applicant: Botshabelo Community Development Trust P.O. Box 3907 0700	
Contact person:	Ms. Mabel M. Motsifane
Telephone number:	-
Fax number:	013-245 9900
Cell number:	082 717 9209
e-mail address:	motsifanemabel@yahoo.com

2.2 Details of environmental consultant

Name and address of environmental consultant: Clean Stream Environmental Services P.O. Box 647 Witbank 1035	
Contact persons:	Mrs. A. Erasmus *Pr. Sci. Nat.* Ms. R. Janse van Rensburg
Cell number:	083 271 8260
Telephone number:	(013) 697 5021
Fax number:	(013) 697 5021
e-mail address:	adie@cleanstreamsa.co.za riana@cleanstreamsa.co.za

A copy of the completed application form and the declaration of independence by the applicant and environmental consultant are provided in Appendix 1.

A copy of the Curriculum Vitae of both Mrs. A. Erasmus and Ms. R. Janse van Rensburg are provided in Appendix 2 together with a list of projects completed to date.

3. DESCRIPTION OF THE ACTIVITY

3.1 Nature of the activity/development

The project applicant, *Botshabelo Community Development Trust,* intends to establish a rural village on the Remaining Extent of the farm Toevlugt 320 JS, Middelburg. Approximately 1000 'Residential 1' stands, a business stand, community facilities and a combined school are proposed. The site is located within the Botshabelo Nature Reserve, approximately 7.5 km north of Middelburg along the N11 national road.

The proposed development would involve the following listed activities as identified in terms of Section 24(2) and 24D of the National Environmental Management Act, 1998:

Listing	Description
GN R545- Listing Notice 2	***15.*** *Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more; except where such physical alteration takes place for: (i) linear development activities; or (ii) agriculture or afforestation where activity 16 in this Schedule will apply.*
GN R546- Listing Notice 3	***4.*** *The construction of a road wider than 4 metres with a reserve less than 13,5 metres.*
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In order to obtain environmental authorisation, a Scoping Report and an Environmental Impact Assessment Report must be compiled as described in Regulations 26 to 35 of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of Section 24(5), 24M and 44 of the National Environmental Management Act, 1998 (Act 107 of 1998).

3.2 Scoping and Environmental Impact Assessment process description

Diagram 1 provides a schematic description of the Environmental Impact Assessment process to be followed. This process is strictly according to the above-mentioned Regulations. The aim of the process is to ensure that the environmental impacts are considered, the relevant I&APs are consulted and the decision making authorities are provided with sufficient information to make an informed decision.

The decision making authority is the Mpumalanga Department of Economic Development, Environment and Tourism (DEDET). This Department will decide to grant or refuse the approval of the project. On approval, an

Environmental Authorisation and Record of Decision will be issued in the name of the project applicant.

The project applicant will be responsible for complying with the conditions set in the Environmental Authorisation and Record of Decision.

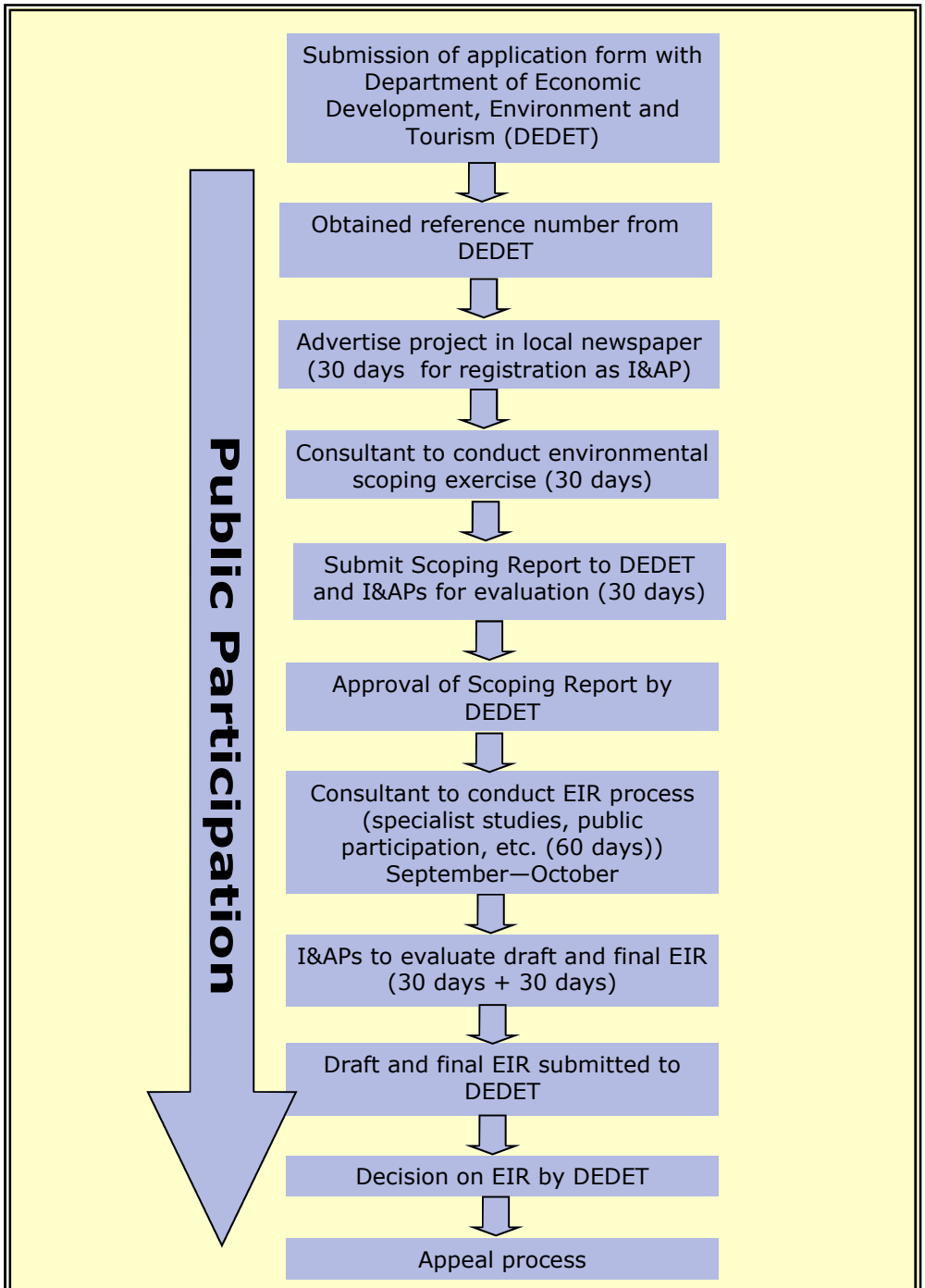


Diagram 1: Environmental Impact Assessment Process

3.3 Reason for project

The property on which the rural village is planned, was awarded to the Botshabelo Community Development Trust in 2005 as part of a Land Claim. The community indicated that they intend to resettle on the said property. According to the community, various legal processes were completed in the past in order to try and resettle on the said property. However, the necessary funding was never available to complete the resettling process.

In 2011, the Steve Tshwete Local Municipality managed to secure the required funding and agreed to assist the community to establish a township on their land.

3.4 Detailed description of the development and all relevant components

The Botshabelo Community Development Trust intends to establish a rural village on the Remaining Extent of the farm Toevlugt 320 JS, Middelburg. The site is located within the Botshabelo Nature Reserve, approximately 7.5 km north of Middelburg along the N11 national road (Figure 4.1).

The entire property is 2 755 ha in extent, of which approximately 130 ha will be utilized for the rural village.

Figure 3.1 provides an indication of the proposed layout plan designed by Urban Dynamics Town and Regional Planners (2011) (hereafter referred to as Urban Dynamics). A copy of the Township Establishment Memorandum compiled by Urban Dynamics (2011) is provided in Appendix 3.

According to Urban Dynamics (2011), the proposed development will comprise of the following (Figure 3.1):

Zoning	Land use	No. of Stands	Average Size	% of Area	Area of Stands
Residential	Residential	1000	518.97 m^2	40.56%	51.90 ha
Business	Business	1	7620.58 m^2	0.59%	0.76 ha
Institutional	Community facility	3	3628.77 m^2	0.85%	1.08 ha
	Combined school	1	61862.96 m^2	4.84%	6.19 ha
Public Open Space	Park	26	19765.39 m^2	40.16%	51.39 ha
Street	Internal			13%	16.63 ha
Total		**1031**		**100%**	**127.95 ha**

Residential:
The average residential stand size will be 518.97 m^2 as agreed with the community during a community meeting at the start of the planning process. Approximately 41 % of the total area will be taken up by residential land uses.

Business:
The business stand (7 620.58 m^2) will be located in the centre of the development (Figure 4.1), which will make it accessible to all residents. The business stand could be used for a number of business activities including a small shopping area and taxi rank.

Institutional land use:
The institutional land use includes the 3 community facilities and the 1 combined school. The 3 community facilities will cater for uses such as churches, crèches, community halls, old age homes, clinics, etc. depending on the needs of the community.

The combined school will cover an area of 6.19 ha according to the Guidelines for Human Settlement Planning and Design.

Public Open Space:
A total of 26 public open spaces will be provided (Figure 3.1). The public open spaces make provision for stormwater management, fire breaks, buffer zones, soccer fields and wetlands present on site. Approximately 40% of the layout consists of public open spaces.

In terms of fire breaks, a park strip is provided around the entire development to safeguard the residents from veld fires during the dry season and to prevent fires from spreading from the development onto the surrounding land (Figure 3.1).

A 10 metre park strip will also be provided along the eastern boundary of the site to try and limit any potential impact from the development on the adjoining airfield.

Access road:
It is proposed that access to the development be obtained from the existing gravel road located on the northern boundary of the site (Figure 3.1). The gravel road connects with the N11 national road. An alternative access road would be the existing access road to the Botshabelo Nature Reserve. However, this road is used by tourists who visit the historical site and cultural village. According to Urban Dynamics (2011), the intention is to keep residents and tourists separate.

The local distributor roads will be 16 m wide and the internal access roads will be 10 wide.

THE AVERAGE SIZE OF RESIDENTIAL SITES ARE 518,97m²
THE MINIMUM STAND SIZE IS 500m²
THE RULING SIZE OF RESIDENTIAL SITES ARE 25m x 20m
THE MINIMUM WIDTH OF REGULAR RESIDENTIAL SITES ARE 20m
MINIMUM WIDTH OF PANHANDLE ACCESSES ARE 4m

ROADS

RESERVE WIDTHS OF ALL INTERNAL STREETS ARE 10m UNLESS OTHERWISE INDICATED ON THE PLAN
SPLAYS ON ALL STREETS ARE 5m x 5m UNLESS OTHERWISE INDICATED ON THE PLAN
THE WIDTH OF ALL TURNING CIRCLES SHOULD NOT BE LESS THAN 16m IN DIAMETER
MAXIMUM SLOPE ON ROADS 1 : 65
MINIMUM SLOPE ON ROADS 1 : 220

CONTOURS / CO-ORDINATES

CONTOURS ARE BASED ON STANDARDS LAID DOWN IN REGULATION 21(2) OF THE TOWN PLANNING AND TOWNSHIPS ORDINANCE (TVL) 25 OF 1965 AS AMENDED.
GEODETICAL SYSTEM : WGS 84
CONSTANTS Y : N.A. X : N.A.
DATE PLANE : SEA LEVEL

DIMENSIONS AND SIZES

ALL DIMENSIONS SHOWN ON THE PLAN ARE APPROXIMATE AND SCALE IN METRES

LAND SURVEYOR

BASE PLAN MAPPING WAS DONE BY THE FIRM JOHAN MEIRING LAND SURVEYOR AND I, THE UNDERSIGNED, HEREBY CERTIFY THE BASE PLAN INFORMATION

LAND SURVEYOR (PRINT):..... REG.No.....

(SIGN):..... DATE :.....

FLOODWATER

IT IS CERTIFIED THAT THE PROJECT AREA IS NOT AFFECTED BY FLOODWATERS IN TERMS OF THE SPECIFICATIONS LAID DOWN BY CLAUSE 144 OF THE WATERACT (ACT 36 OF 1998)

CIVIL ENGINEER (PRINT):.....PR.ENG. REG.No.....

(SIGN):.....

FIRM : STRYDOM & MALAN

DATE :.....

CIVIL ENGINEER'S CONSENT

IT IS HEREBY CERTIFIED THAT THE LAYOUT HAS BEEN CONSIDERED ACCEPTABLE BY STRYDOM & MALAN BEING THE CONSULTING ENGINEER APPOINTED BY THE CLIENT.

(PRINT):.....PR.ENG. REG.No.....

(SIGN):.....

FIRM : STRYDOM & MALAN

DATE :.....

GEOLOGICAL

THIS IS TO CERTIFY THAT THE TOWNSHIP LAYOUT ON THIS PLAN IS IN ACCORDANCE WITH THE PROVISIONS AND RECOMMENDATIONS AS SET OUT IN THE ENGINEERING GEOLOGICAL REPORT.

ENGINEERING GEOLOGIST (PRINT):.....

(SIGN):.....

FIRM : ENGEOLAB CC

DATE :.....

ZONE	NHBRC CLASS	RECOMMENDATIONS
1A	C,S	NORMAL CONSTRUCTION
1B	R,C,S	NORMAL CONSTRUCTION. USE POWERFUL EXCAVATORS
2A	C1,S1	MODIFIED NORMAL CONSTRUCTION
2B	P	MODIFIED NORMAL CONSTRUCTION WITH SUB-SURFACE DRAINAGE
2C	C2,S2	MODIFIED NORMAL CONSTRUCTION
2D	P	SIGNIFICANT DRAINAGE REQUIRED. ALTERNATIVELY RESERVE FOR RECREATION OR NO DEVELOPMENT.

TOWN PLANNER

NAME: JN HAMMAN
TOWN PLANNER TRP (SA) REG. NO: A/525/1987

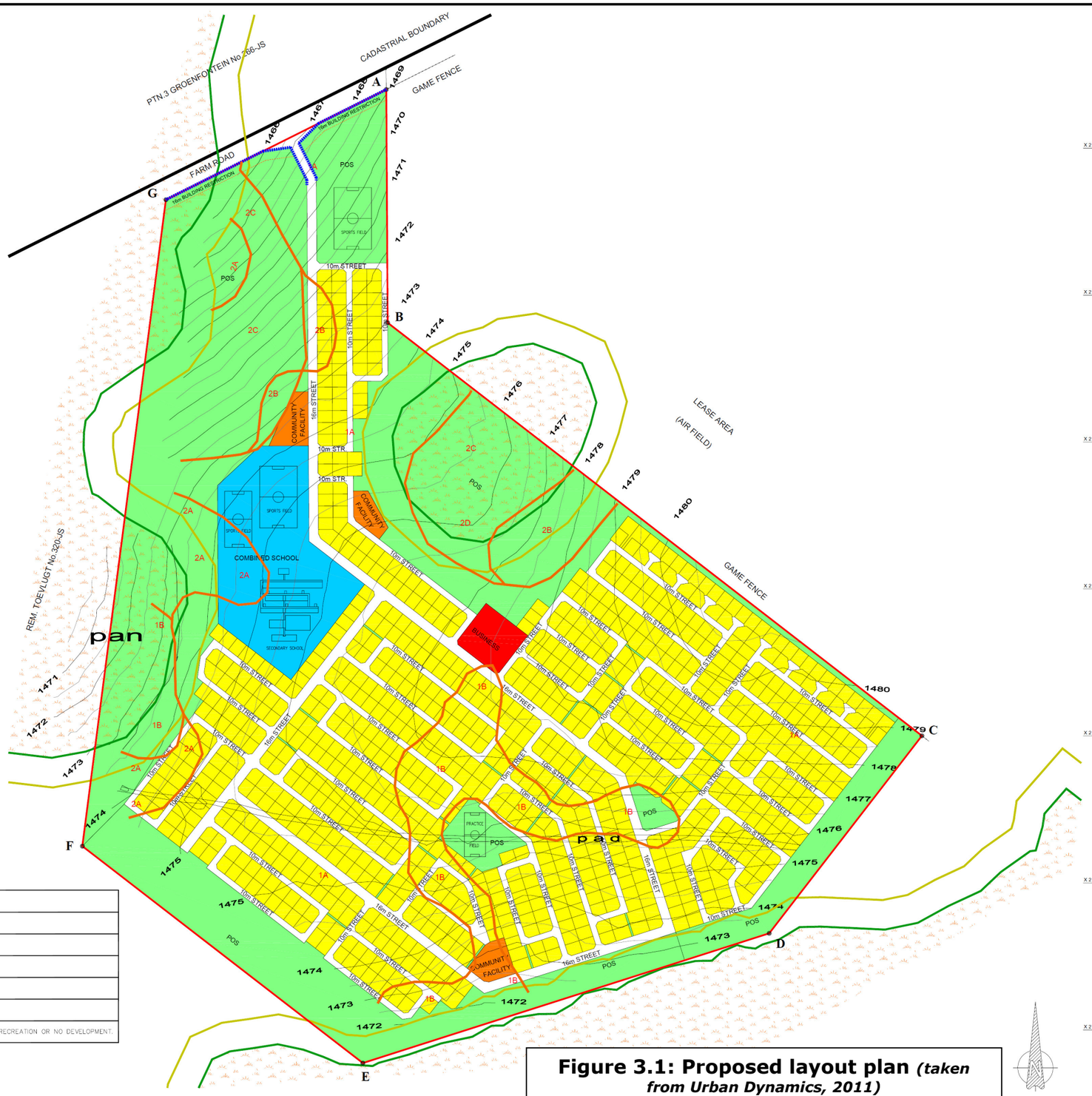
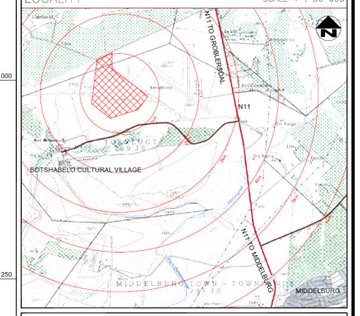


Figure 3.1: Proposed layout plan ***(taken from Urban Dynamics, 2011)***

BOTSHABELO RURAL VILLAGE

SITUATED ON A PORTION OF THE REMAINDER OF THE FARM TOEVLUGT 320-JS
LOCAL AUTHORITY : STEVE TSHWETE LOCAL MUNICIPALITY
DISTRICT : NKANGALA DISTRICT MUNICIPALITY

LOCALITY — SCALE 1 : 50 000



LAND USE

Legend

	Land Use	No. of Stands	% of Area	Area of Stands
	Residential	1000	40.56%	51.90 ha
	Community facility	3	0.85%	1.08 ha
	Business	1	0.59%	0.76 ha
	Combined School	1	4.84%	6.19 ha
	Park	26	40.16%	51.39 ha
	Internal Street		13.00%	16.63 ha
	TOTAL	**1031**	**100%**	**127.95 ha**

GENERAL NOTES

THE FIGURE A,B,C,D,E,F,G & A REPRESENTS THE OUTSIDE BOUNDARY OF THE PROPOSED TOWNSHIP BEING APPROXIMATELY 127,95ha IN EXTENT.

- OUTSIDE BOUNDARY OF TOWNSHIP
- GEOTECHNICAL ZONES
- 16m BUILDING RETRICTION
- LINE OF NO ACCESS
- WETLAND AREA
- 50m WETLAND BUFFER

INDEMNITY

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AMENDMENTS

No.	DESCRIPTION	DATE	BY
1	COMMUNITY FACILITIES ADDED	31/08/2011	MZB
2	ZONES AMENDED AS PER GEOTECHNICAL REPORT	30/03/2012	MZB

DESIGNED	J.N. HAMMAN
DRAWN	M.Z. BOTHA
APPROVED	
DATE	02-08-2011

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SCALE 1 : 2 500
DRAWING No. MID-293_2
FILE NAME : MID-293

CLIENT
BOTSHABELO COMMUNITY DEVELOPMENT TRUST / STEVE TSHWETE LOCAL MUNICIPALITY

URBAN DYNAMICS
TOWN AND REGIONAL PLANNERS
URBAN DYNAMICS MPUMALANGA INC
(REG. NR. 95/10616/21)

3.5 Services required

The Steve Tshwete Local Municipality proposes to install services (i.e. water, sewage, roads, electricity, etc.) in accordance with the minimum standard for rural villages as indicated in the Steve Tshwete Local Municipality policy.

According to Urban Dynamics (2011), early discussions with the community revealed that the level of services proposed by the municipality is not acceptable to the Botshabelo Community Development Trust. However, limited funds are available for the proposed development. Funding for the installation of the preferred level of services (i.e. waterborne sewage and bulk water supply) is currently not available.

3.5.1 Electricity

Currently, no electrical services are present on site. During the construction phase, electricity (if needed) would most probably be obtained from generators supplied by the contractor.

Electricity for the proposed development will be obtained from the Steve Tshwete Local Municipality.

It is estimated that the proposed development will require 3.6 MVA (calculated at 3 KVA ADM per household). There is an existing 11 kVA overhead supply line in the area to which the development can be connected. However, this line will have to be upgraded.

The following design parameters were recommended by RDV Consulting Electrical Engineers:

- Supply voltage – 11 000 Volt
- Supplier – Steve Tshwete Local Municipality
- Reticulation methodology – Midblock overhead system with pole mounted transformers at regular intervals;
- Area lighting – 30 m high mast lights situated at strategic positions throughout the development.

3.5.2 Water

Currently, no potable water is present on site. During the construction phase, the contractor would have to provide potable water to the site workers. Water for dust suppression would have to be obtained from boreholes within the Botshabelo Nature Reserve. No water may be abstracted from the nearby streams unless a water use license is obtained from the Department of Water Affairs.

During the operational phase, water will be obtained from boreholes, which will be supplied by the Steve Tshwete Local Municipality. Three (3) potential borehole sites have been identified. The boreholes will be operated either by windmills and/or hand pumps.

Water will be pumped to high level water tanks and then distributed to pillar taps, which will be placed within a 100 m walking distance from all stands.

The following table provides an indication of the proposed standards for the infrastructure as based on the 'Human Settlement Planning and Design' guidelines under the patronage of the Department of Housing:

Average demand	20 l/capita/day
Pipe material	uPVC (main line) and HDPE house connections
Cover to pipe	800 mm minimum
Pillar taps	20 mm diameter

3.5.3 Sewage

Currently, no infrastructure for the disposal of sewage is present on site. During the construction phase, the contractor would have to provide chemical toilets.

Biological toilets will be provided for each stand. No details regarding the type of biological toilets to be installed are currently available. The biological toilets will be provided outside the houses and will have to be maintained by the Steve Tshwete Local Municipality.

3.5.4 Waste Disposal

During the construction phase, building rubble and domestic waste will have to be collected and disposed of by the contractor at the Middelburg Waste Disposal Site.

During the operational phase, refuse will be collected by the Steve Tshwete Local Municipality's refuse removal unit and will be disposed of at the Middelburg Waste Disposal Site. According to Urban Dynamics (2011), approximately 17 500 kg of domestic waste will be generated per week, based on 1 kg per person per day.

3.5.5 Access road

According to Urban Dynamics (2011), access will be obtained from the existing gravel road located on the northern boundary of the site. This road connects to the N11 national road and provides access to the farms located north and northwest of the proposed site.

Internal roads will also be of a gravel standard, constructed to a 5 – 7.4 m width.

3.5.6 Storm water control measures

According to Urban Dynamics (2011), open concrete storm water drains will be constructed to drain surface water from the internal roads. The major access roads will include surface runoff in the road reserve combined with strategically placed catch pits and storm water pipes.

3.6 Applicable legislation, policies and/or guidelines

Table 3.1 provides an indication of legislation, policies and/or guidelines applicable to the said project.

Table 3.1: Applicable legislation, policies and/or guidelines

Title of legislation, policy or guideline:	Administering authority:	Aim of legislation, policy or guideline
The Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)		To establish a Constitution with a Bill of Rights for the RSA.
Development Facilitation Act, 1995 (Act 67 of 1995)		To provide for planning and development.
Town Planning and Townships Ordinance, 1986 (Ordinance 15 of 1986)		
Environment Conservation Act, 1989 (Act 73 of 1989)	Department of Economic Development, Environment and Tourism	To control environment conservation.
National Environmental Management Act, 1998 (Act 107 0f 1998)	Department of Economic Development, Environment and Tourism	To provide for the integrated management of the environment.
National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004)	Department of Economic Development, Environment and Tourism	To reform the law regulating air quality in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development; to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and for matters incidental thereto.
National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004)	Department of Economic Development, Environment and Tourism	To provide for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; the establishment and functions of a South African Biodiversity Institute; and for matters connected therewith.
National Environmental Management: Waste Act, 2008 (Act 59 of 2008)	Department of Economic Development, Environment and Tourism	To reform the law regulating waste management in order to protect health and the environment by providing for the prevention of pollution and ecological degradation and for securing ecologically sustainable development.
Environmental Impact Assessment Regulations, 2010 (Government Gazette No. 33306 of 18 June 2010)	Department of Economic Development, Environment and Tourism	Regulations pertaining to environmental impact assessments.
National Water Act, 1998 (Act 36 of 1998)	Department of Water Affairs	To control water management aspects.
Natural Heritage Resources Act, 1999 (Act 25 of 1999)	South African Heritage Resources Agency	This legislation aims to promote good management of the national estate, and to enable and encourage communities to nurture and conserve their legacy so that it may be bequeathed to future generations.
Conservation of the Agricultural Resources Act, 1983 (Act 43 of 1989)	Department of Agriculture, Forestry and Fisheries	To provide control over the utilization of the natural resources of the Republic in order to promote the conservation of soil, the water sources and the vegetation and the combating of weeds and invader plants; and for matters connected therewith.

Title of legislation, policy or guideline:	Administering authority:	Aim of legislation, policy or guideline
Occupational Health and Safety Act, 1993 (Act 85 of 1993)	Department of Labour	
Health Act, 1977 (Act 63 of 1977)	Department of Health	To promote public health.
Mpumalanga Nature Conservation Act, 1998 (Act 10 of 1998)	Mpumalanga Tourism and Parks Agency	To control nature conservation.
Various by-laws of the Steve Tshwete Local Municipality	Steve Tshwete Local Municipality	To regulate land use with the Steve Tshwete Local Municipal area.
Integrated Development Plan for the Steve Tshwete Local Municipality	Steve Tshwete Local Municipality	Broad spatial framework guidelines for the Steve Tshwete Local Municipality.
Spatial Development Framework for the Steve Tshwete Local Municipality	Steve Tshwete Local Municipality	Spatially based policy guidelines whereby changes, needs and growth in the region can be managed to benefit the whole community.

3.7 Phases of development

3.7.1 Construction phase

The construction phase would involve the surveying of the site, pegging of stands and construction of the various buildings (houses, school, businesses, etc.) as well as the provision of required services (water, sewage, electricity, roads, etc.).

Since limited funds are currently available for the proposed development, it is anticipated that the construction period would also be phased. Further details will be provided in the EIA phase.

3.7.2 Operational phase

The operational phase would involve the utilization of the various stands within the development as well as the services.

3.7.3 Decommissioning phase:

An Environmental Management Plan (EMP) will need to be compiled in order to manage the activities associated with the decommissioning of the site.

4. BIOPHYSICAL DESCRIPTION OF THE SITE

4.1 Location of the site

The proposed development would be located on the Remaining Extent of the farm Toevlugt 320 JS, Middelburg. The site is located within the Botshabelo Nature Reserve, approximately 7.5 km north of Middelburg along the N11 national road. The boundaries of the Botshabelo Nature Reserve are indicated in green in Figure 4.1. The site is indicated in red and the Remaining Extent of the farm Toevlugt 320 JS is indicated in yellow.

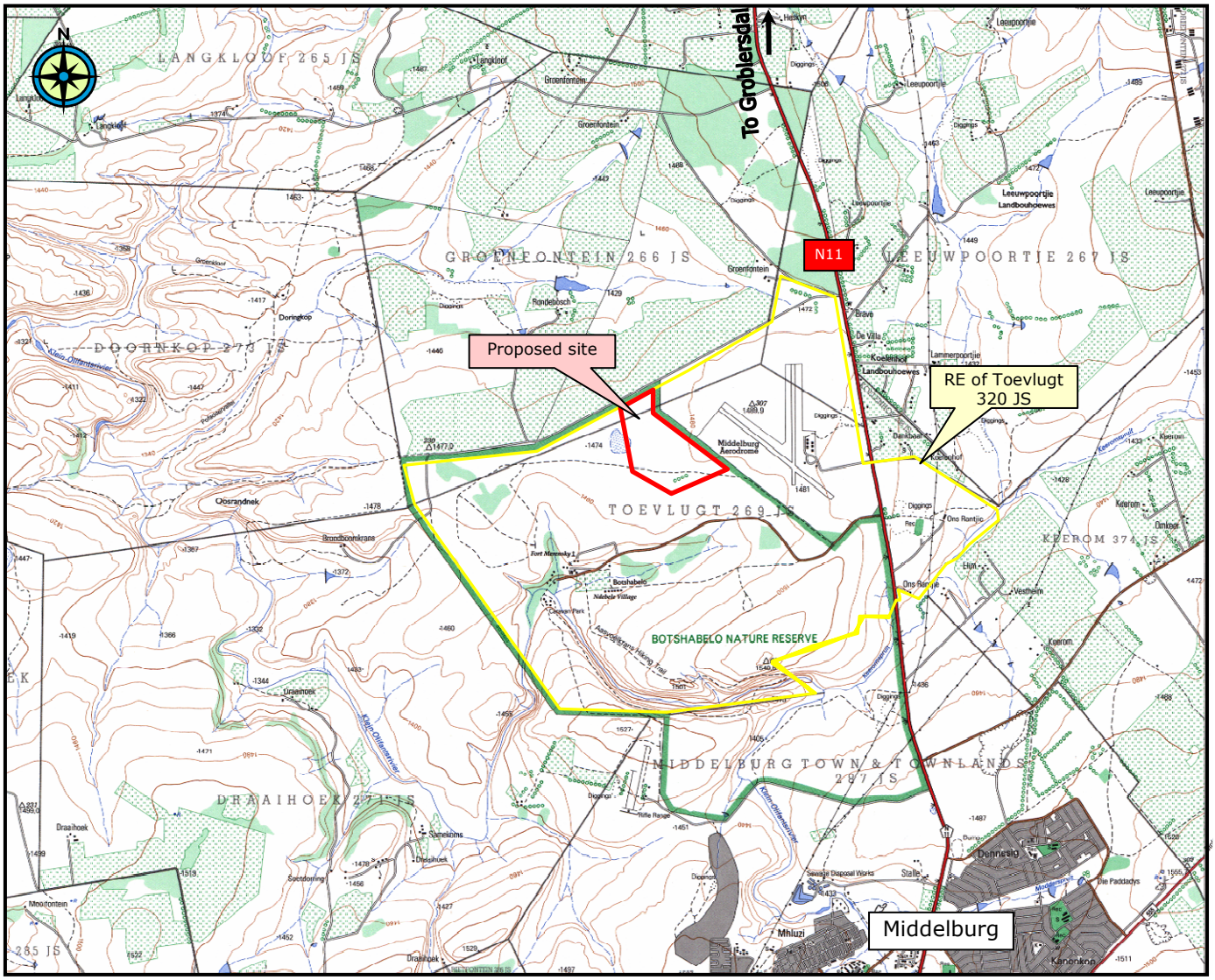


Figure 4.1: Location of site *(taken from 1: 50 000 2529 CB and 2529 CD-not to scale)*

The centre co-ordinates of the site are as follows:

- 25° 41' 09.07'' S;
- 29° 25' 17.99" E.

The Surveyor-General 21 digit site reference number for the proposed project is:

T	O	J	S	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0

The said property falls under the jurisdiction of the Steve Tshwete Local Municipality and the Nkangala District Municipality.

4.2 Climate

The South African Weather Bureau has partitioned the country into 15 climatic regions. This division is based on:

- geographic considerations, more specifically the prominent mountain ranges (great escarpment) which constitute the main climatic divides (in addition to other features such as rivers and political boundaries);
- the interior plateau – use has been made of the change from BW (desert climate) to BS (steppe climate) and from BS (steppe climate) to C (temperate/mesothermal climates) climates according to the Köppen classification.

The proposed site falls within Climatic Region H – The Highveld.

4.2.1 Temperature

The climate is typically "Highveld", with summer temperatures ranging from 9°C to 32°C and winter temperatures from -6°C to 22°C. The mean monthly maximum and minimum temperatures recorded are given in Table 4.1.

Table 4.1: Mean, maximum and minimum temperature

Mean Monthly Maximum and Minimum Temperatures (°C)				
Month	**Daily Maximum**	**Daily Minimum**	**Highest Temp.**	**Lowest Temp**
January	27,2	13,7	32,0	9,1
February	26,8	13,4	30,8	9,0
March	26,8	11,4	30,2	6,4
April	23,9	7,4	27,9	1,4
May	21,3	2,2	26,1	-2,9
June	18,5	-1,8	22,4	-6,0
July	18,4	-1,7	23,0	-5,8
August	21,4	0,8	26,0	-4.1
September	24,0	5,3	29,2	-1,3
October	26,0	10,1	31,2	4,4
November	26,2	11,8	31,8	5,9
December	27,1	13,2	31,2	7,8
Yearly Average	**23.9**	**7.2**	**28.4**	**2.0**

4.2.2 Rainfall

The site occurs in Mpumalanga and falls in the summer rainfall region, which is characterized by thunderstorm activity and relatively low average rainfall. The mean annual rainfall is 735mm compared to the mean annual potential evaporation of 1500mm. Pertinent climate data was obtained from the Middelburg (No. 0515/826) and Belfast (No. 0517/0109) weather stations.

The average number of days per month having rainfall depths in excess of 0.1mm, together with the maximum and minimum number of rainfall days are given in Table 4.2 while the 24 hour rainfall depths for different recurrence intervals are given in Table 4.3.

Table 4.2: Monthly rainfall data

Average Monthly Rainfall Depths (mm) and Days Having a Rainfall of >0,1mm		
Month	**Ave Depths**	**Ave Days**
January	132	13,8
February	103	11,2
March	88	9,5
April	42	6,5
May	19	2,9
June	7	1,5
July	9	1,7
August	8	0,9
September	22	3,7
October	63	8,3
November	124	13,0
December	118	13,1
Total	**735**	**86.1**

Table 4.3: Rainfall intensities

24 Hour Rainfall Depths (mm)			
Maximum Depth	**50 Year Storm Event**	**100 Year Storm Event**	**200 Year Storm Event**
117	104	118	134

4.2.3 Prevailing wind direction

The prevailing wind direction data for the Middelburg station is provided in Table 4.4.

Table 4.4: Mean monthly wind speed and direction

Month	N		NE		E		SE		S		SW		W		NW	
	n	V	n	V	n	V	n	V	n	V	n	v	n	v	N	v
January	161	3.0	287	3.2	44	3.1	92	3.3	122	3.6	96	3.3	109	3.7	48	4.5
February	142	2.9	295	3.2	44	3.1	74	3.4	112	3.4	101	2.9	141	3.9	60	4.2
March	152	2.8	304	3.3	36	3.1	54	3.1	100	3.4	104	2.9	139	3.4	63	3.5
April	170	2.7	211	3.3	47	3.2	95	3.4	149	3.6	146	2.8	87	3.4	39	3.0
May	172	2.6	166	2.9	59	3.4	89	3.7	162	3.9	167	2.9	67	3.0	51	3.3
June	146	2.5	149	3.0	54	3.6	117	3.0	157	3.8	166	2.7	86	3.2	43	3.2
July	162	2.5	184	2.9	51	3.9	99	3.9	142	3.6	143	2.8	79	3.4	53	4.2
August	174	5.4	180	3.4	40	3.5	86	4.1	141	4.1	182	3.0	83	3.2	40	4.4
September	197	3.2	223	3.8	27	3.5	70	3.9	131	4.3	171	3.3	84	4.0	41	3.9
October	190	3.4	243	3.7	33	3.6	71	3.6	142	4.0	160	3.8	83	4.3	42	3.6
November	174	3.2	225	3.6	28	3.1	68	3.1	185	3.8	154	3.5	92	4.1	40	3.9
December	180	3.1	254	3.4	34	3.0	69	3.3	154	3.5	135	3.3	95	4.0	40	4.0
Average	**188**	**2.0**	**227**	**3.3**	**41**	**3.3**	**82**	**3.8**	**141**	**3.8**	**146**	**3.1**	**95**	**3.7**	**47**	**3.8**

n = average direction frequency per 1000 readings; v = velocity (m/s)

4.2.4 Evaporation

The mean monthly evaporation data recorded at the relevant weather station are given in Table 4.5. The data in the table was obtained using an 'A' Pan.

Table 4.5: Mean monthly evaporation

Month	Evaporation (mm)	Rainfall (mm)	Monthly deficit (mm)
January	160	132	28
February	140	103	37
March	110	88	22
April	110	42	68
May	85	19	66
June	70	7	63
July	75	9	66
August	110	8	102
September	140	22	118
October	160	63	97
November	160	124	36
December	180	118	62
Total	**1500**	**735**	**765**

4.2.5 The incidence of extreme weather conditions

Being located on the Highveld, the area is prone to extreme weather conditions on a regular basis. These weather conditions include droughts, floods and strong gusty winds prior to and during thunderstorms. Frost also occurs on an average of 120 to 150 days between April and September.

4.3 Land use

Figure 4.2 provides an aerial view of the site as well as an indication of the surrounding land uses and environmental features of the site.

4.3.1 Land ownership

The said site is registered to the Botshabelo Community Development Trust (title deed number: T113237/2005). The Remaining Extent of the farm Toevlugt 320 JS and Portion 6 of the farm Toevlugt 269 JS were awarded to the Botshabelo Community Development Trust in 2005 as part of a Land Claim.

There is a lease registered against the property in favour of the Steve Tshwete Local Municipality (lease no. K4075/2006L). The lease area covers the Middelburg Aeroclub.

A copy of the Windeed printout (proof of ownership) is provided in Appendix 1.

4.3.2 Zoning of the site

The property is zoned for agriculture but indicated as Nature Reserve in the latest Spatial Development Framework (2010) of the Steve Tshwete Local Municipality. It is also indicated as Nature Reserve on the 1: 50 000 topographical map (Figure 4.1). According to Urban Dynamics (2011), the nature reserve has not been proclaimed.

4.3.3 Size of the site

The entire property (i.e. Remaining Extent of the farm Toevlugt 320 JS) is 2755,0952 ha in extent. However, only approximately 130 ha will be utilized for the rural village. This equates to approximately 4.6% of the total area. The Botshabelo Nature Reserve, which overlaps the Remaining Extent of the farm Toevlugt 320 JS, is approximately 2 300 ha in extent.

4.3.4 Servitudes

There are two servitudes registered against the said property (i.e. Remaining Extent of Toevlugt 320 JS) in favour of Eskom (Notarial Deed of Servitude K1078/1960-S and K853/1972-S). The proposed development will however, not be affected by these servitudes due to its location.

4.3.5 Land use

The site forms part of the greater Botshabelo Nature Reserve. It is thus currently utilized for tourism, game keeping and bird watching. Gravel roads are present on site for game viewing purposes.

The proposed development site is vacant except for a dilapidated game boma near the southern boundary.

4.3.6 Major existing infrastructure

The proposed development site is located within the Botshabelo Nature Reserve and is currently vacant. An old game boma (animal/game enclosure) is located near the southern boundary of the site. The boma is surrounded by Blue Gum trees (Figure 4.2).

The site is fenced along the eastern and northern boundaries. However, the fence between the site and the Middelburg Aeroclub (eastern boundary) is in disrepair.

Narrow gravel roads extend along the eastern boundary of the site and past the boma (Figure 4.2). The gravel road on the northern boundary of the site, which provides access to the adjacent agricultural properties, is located outside of the site boundaries.

A number of game and off-road pathways also crisscross the site as indicated in Figure 4.2.

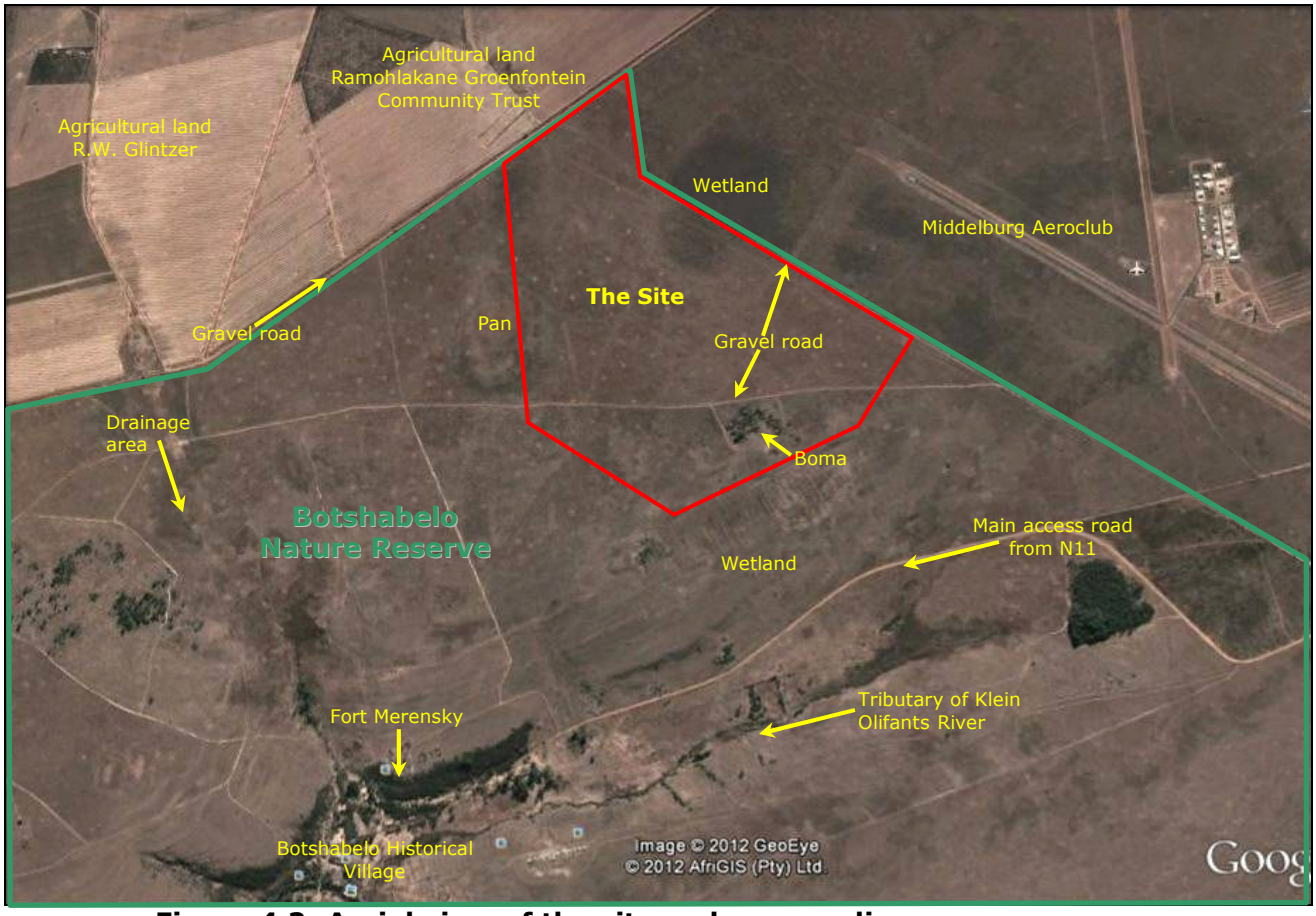


Figure 4.2: Aerial view of the site and surroundings

4.3.7 Adjacent land uses

The proposed site forms part of the greater Botshabelo Nature Reserve. The site is located in the north eastern corner of the nature reserve and is bordered by agricultural land towards the north and the Middelburg Aeroclub towards the east (Figure 4.2).

Although the Middelburg Aeroclub is also located on the Remaining Extent of Toevlugt 320 JS, it does not form part of the nature reserve and is fenced off (Figure 4.1 and 4.2). The Middelburg Aeroclub is currently leased by the Steve Tshwete Local Municipality from the Botshabelo Community Development Trust.

4.4 Geology

According to Engeolab cc (2011), the site is underlain by the following geologies (Figure 4.3):

- Northern portion of the site - Transported and residual soils derived from the in-situ decomposition of tillite and sandstone of the **Dwyka Formation**, Karoo Sequence. It is presumed that the tillite was deposited on the sandstone of the older Wilgerivier Formation.
- Central and southern portion of the site - Sandstone (quartzitic in places) and conglomerate of the older **Wilgerivier Formation** of the Waterberg Group. Regional dip varying between 3° and 6° towards the northwest. Widely scattered sandstone outcrops.
- Towards the south of the site - Intrusive **diabase** occurring as a prominent and undulating east-west trending ridge. The diabase is concealed by a transported layer of silty sand in places, with some boulder outcrops.

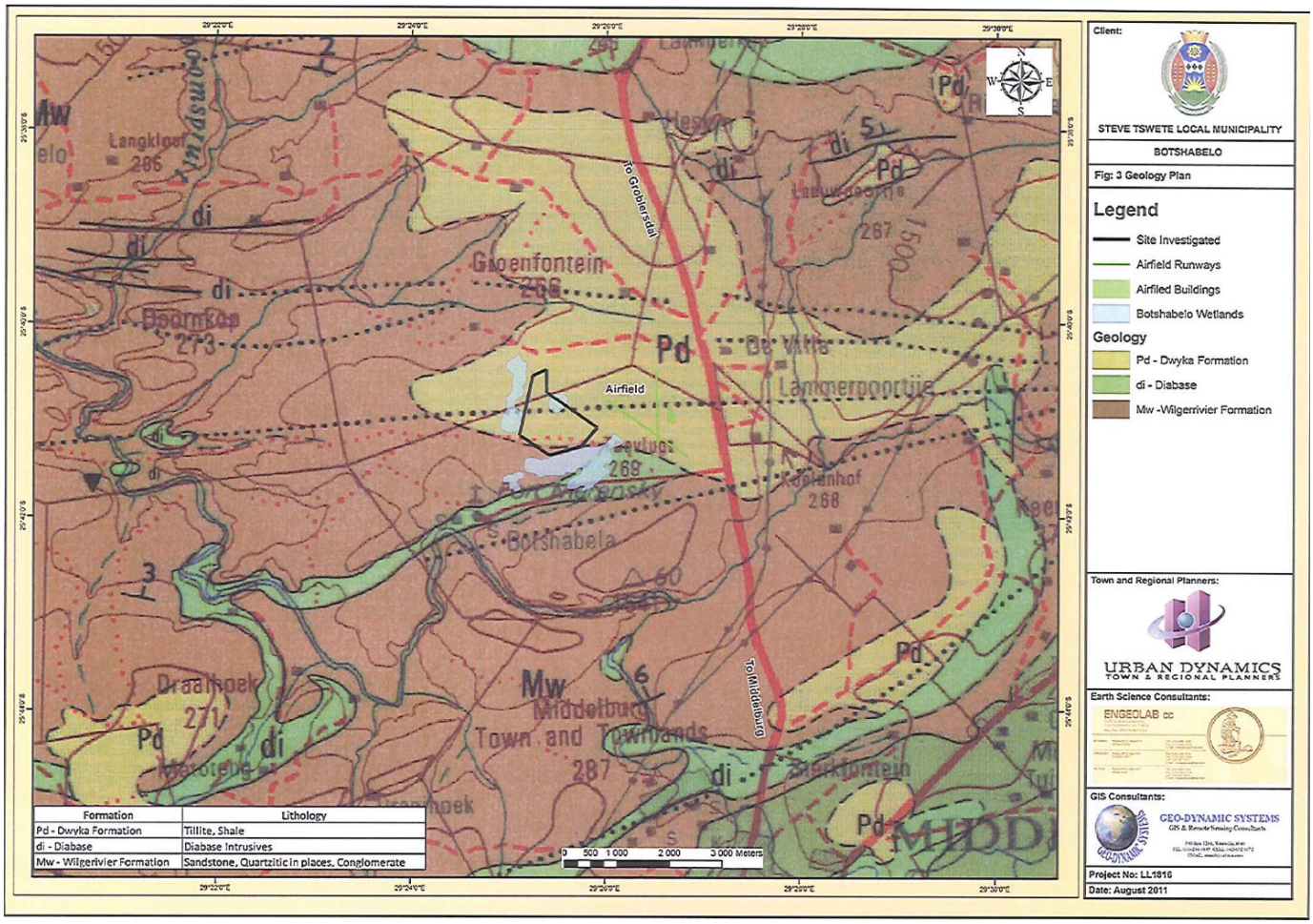


Figure 4.3: Geology of the site (taken from Engeolab cc., 2011)

4.5 Topography

The proposed site lies between 1486 - 1470 meters above mean sea level (mamsl). According to Engeolab cc (2011), the site is relatively flat and slopes slightly at approximately 1: 10 to 1: 20 towards the southwest (i.e. towards the pan, drainage area and tributary of the Klein Olifants River; Figure 4.2).

The topography towards the south of the site (i.e. where the Botshabelo Historical Village is located) is much steeper. Figure 4.4 indicates the 5 m contours of the site and surrounding area.

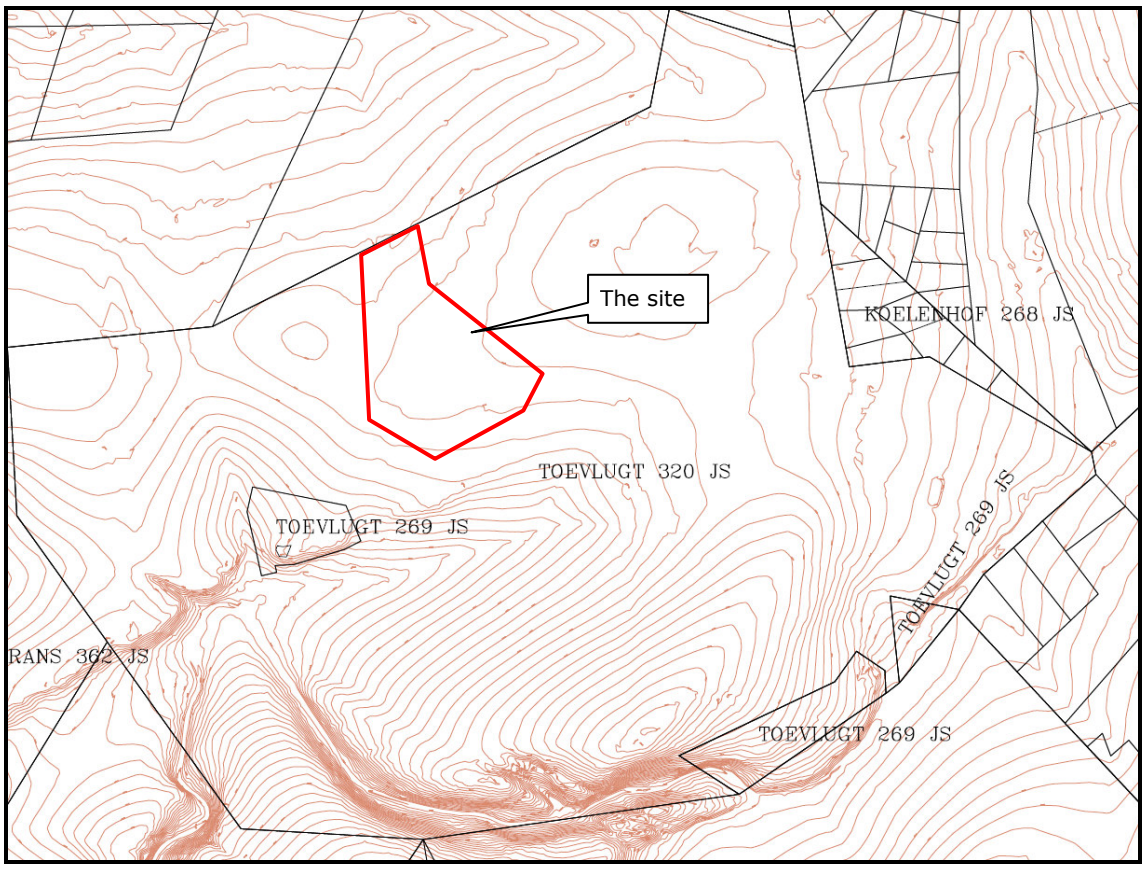


Figure 4.4: Contour plan

There has been little impact on the topography of the site since it forms part of the Botshabelo Nature Reserve. Impacts on the topography include the erection of fences, grading of gravel roads and the construction of a boma.

The terrain type of the proposed site is indicated as plains with open low hills or ridges as indicated in Figure 4.5.

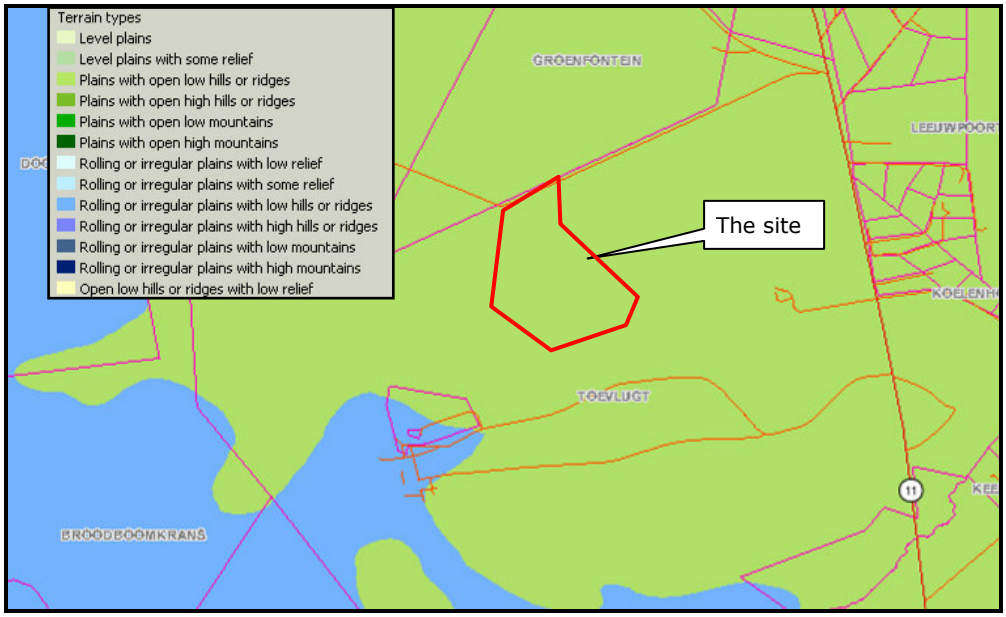


Figure 4.5 – Terrain type of the proposed site (taken from Department of Agriculture, Forestry and Fisheries)

4.6 Soil/land capability/agricultural potential

According to the AGIS Comprehensive Atlas of the Department of Agriculture, Forestry and Fisheries, the soils of the area are generally red, yellow and/or greyish with low to medium base status (PT1) as indicated in Figure 4.6.

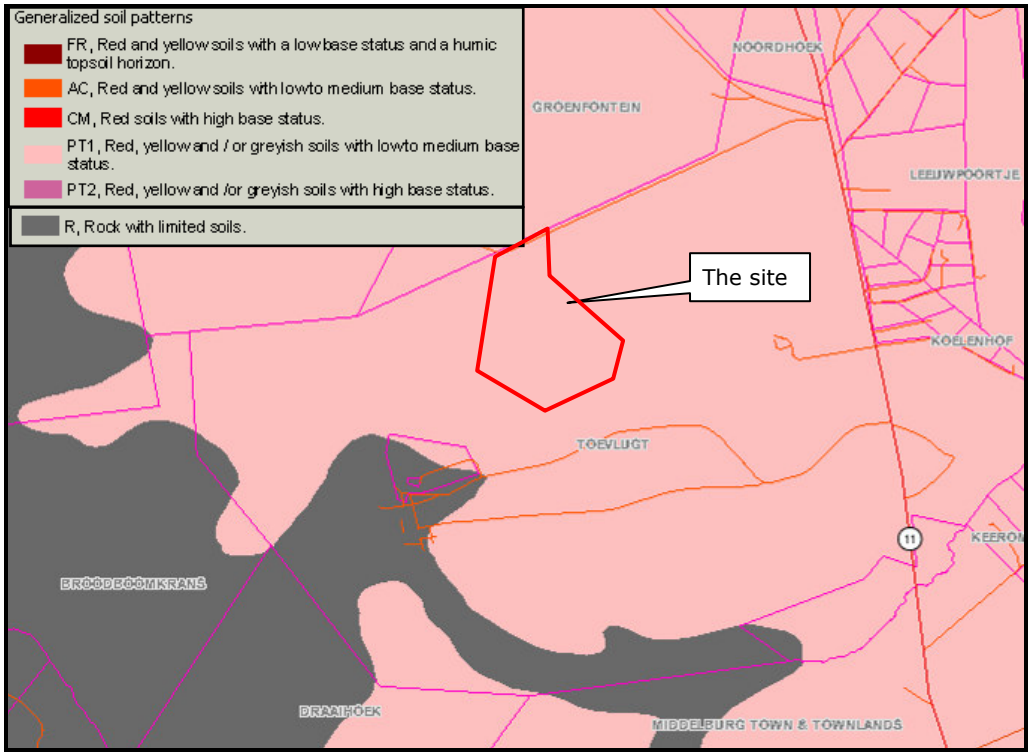


Figure 4.6 – Generalized soil patterns (taken from Department of Agriculture, Forestry and Fisheries)

4.6.1 Soil properties

A geotechnical study (Appendix 4) was undertaken by Engeolab cc. to determine the suitability of the site for the proposed development.

As indicated in Section 4.4, the site is underlain by tillite of the Dwyka Formation as well as sandstone and conglomerate of the older Wilgerivier Formation.

In general, the average soil profile on site consists of a relatively thin (<500 mm) topsoil layer, which is sequentially underlain by a sandy residuum, ferruginised residuum, some pedocrete and bedrock (Engeolab cc, 2011). The residual soils are generally loose to medium dense silty sands and silty gravels, overlain by loose colluvial soils.

In the north eastern portion of the site, gravel and dropstones of various origins are present in a powdery matrix of brown silty sand. The reddish brown, occasionally mottled yellow, silty gravel layer originates from the in-situ decomposition of Dwyka tillite. It generally extends to depths in excess of 1.5 m below surface (Engeolab cc, 2011).

In the south easterly portion of the site, the diabase is deeply weathered, comprising characteristically maroon-brown active clays with corestones and boulders.

According to Engeolab cc (2011), a medium dense, generally thick, erratically developed, partially ferruginized pedocrete layer (colluvium and residuum) was recorded in a number of test pits (i.e. mostly around the wetland area). In addition, well cemented, dense honeycomb hardpan ferricrete was also noted.

The site soils and bedrock are summarised in Table 4.6. Table 4.7 presents the estimated compressibility of the soils on site.

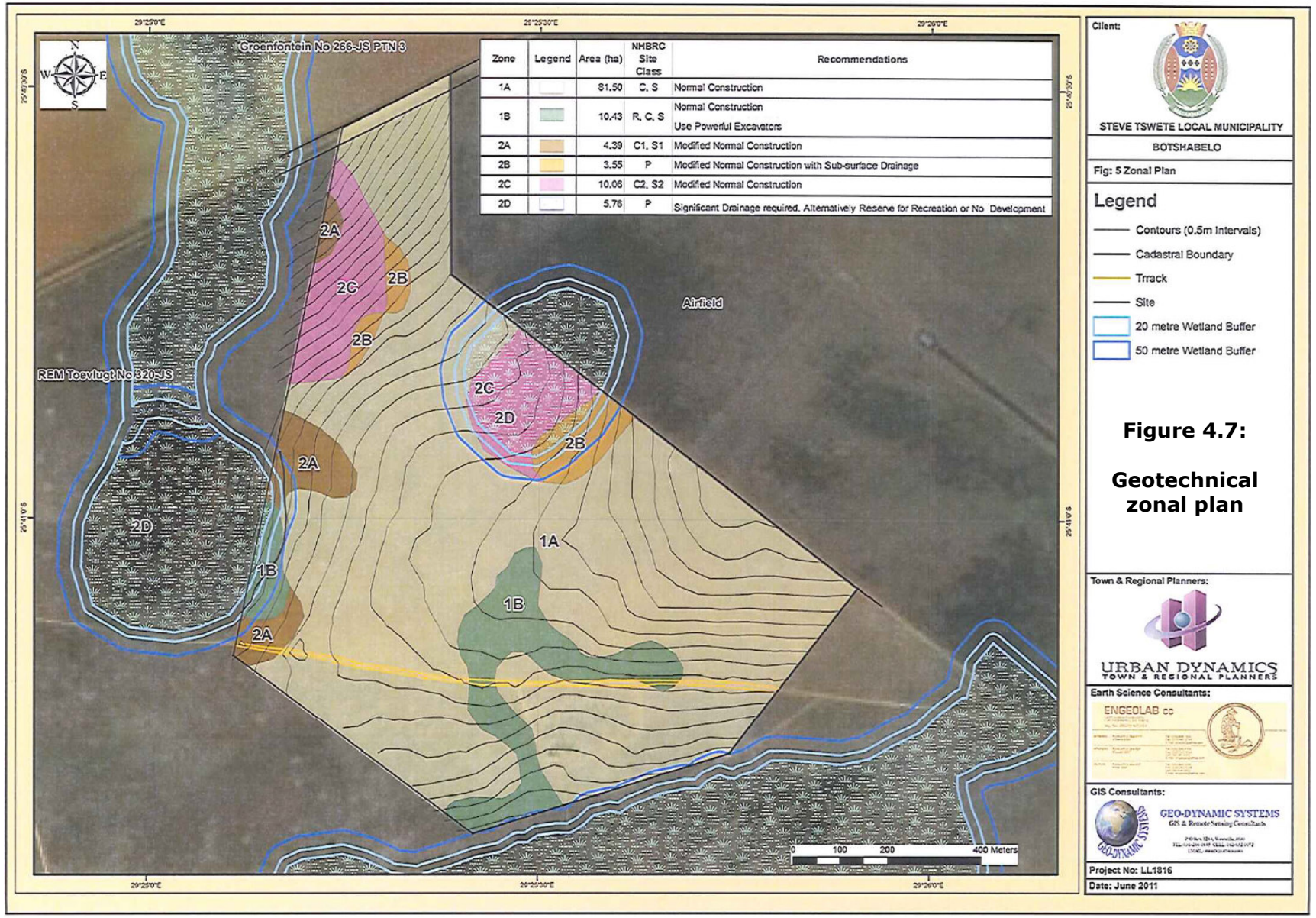
Table 4.6: Summary of site soils and bedrock (taken from Engeolab cc., 2011)

Material type	Origin	Average thickness (m)	Depth range (m)
Cover soils	Various Origins	0.47	Surface to 2.5
Partially ferruginised residuum	Pedocrete	0.47 – 1.34	0.1 - >2.0
Well cemented hardpan ferricrete	Pedocrete	1.23 – unknown	0.5 – 1.8
Tillite	Dwyka Formation	> 2.0 – depth	>2.0
Quartzitic sandstone	Wilgerivier Formation	1.25 – depth	0.7 - >2.0

Table 4.7: Estimated compressibility (taken from Engeolab cc., 2011)

Material Description	Consistency	Deformation Modulus (MPa)	Foundation Rating
Topsoil/hillwash/colluvium	Very loose – Loose	< 5	Very poor
Colluvium/loose/pedocrete	Loose – Medium Dense	10 – 20	Fair - Erratic
Upper residuum/pedocrete	Loose to Medium Dense	10 – 30	Fair - Good
Lower residuum	Medium Dense to Dense	30 – 60	Good – Very Good
Decomposed bedrock	Very dense to soft rock	60 – 120	Very Good

Figure 4.7 provides an indication of the geotechnical zones identified on site.


Groenfontein No 266-JS PTN 3
REM Toevlugt No 320-JS
Airfield
2A
2B
2C
2D
1A
1B
0 100 200 400 Meters
Zone | Legend | Area (ha) | NHBRC Site Class | Recommendations
1A | 81.50 | C, S | Normal Construction
1B | 10.43 | R, C, S | Normal Construction; Use Powerful Excavators
2A | 4.39 | C1, S1 | Modified Normal Construction
2B | 3.55 | P | Modified Normal Construction with Sub-surface Drainage
2C | 10.06 | C2, S2 | Modified Normal Construction
2D | 5.76 | P | Significant Drainage required. Alternatively Reserve for Recreation or No Development
Client:
STEVE TSWETE LOCAL MUNICIPALITY
BOTSHABELO
Fig: 5 Zonal Plan
Legend
Contours (0.5m Intervals)
Cadastral Boundary
Trrack
Site
20 metre Wetland Buffer
50 metre Wetland Buffer
Figure 4.7:
Geotechnical zonal plan
Town & Regional Planners:
URBAN DYNAMICS
TOWN & REGIONAL PLANNERS
Earth Science Consultants:
ENGEOLAB cc
GIS Consultants:
GEO-DYNAMIC SYSTEMS
GIS & Remote Sensing Consultants
Project No: LL1816
Date: June 2011

Engeolab cc. (2011) demarcated the site into six (6) geotechnical zones as defined by the NHBRC and indicated in Table 4.8.

Table 4.8: Geotechnical zones (taken from Engeolab cc, 2011)

Zone	Area (ha)	NHBRC Class	Geotechnical Aspects
1A	81.50	C, S	*Normal construction*. Thin layer of compressible soils followed by medium dense gravely soils. Foundation settlement not expected to exceed 7.5 mm. Normal precautions include: adequate drainage away from building, flexible water connections, grass or concrete aprons around the buildings and moderate compaction in the base of foundation excavations.
1B	10.43	R, C, S	*Normal construction. Excavatability constraints.* Area is characterised by a generally thin layer of colluvium underlain by shallow soft to medium hard sandstone bedrock. Around the fringes of this zone, a layer of residuum is present between the layers. Soil movements under load are expected to be ≤7.5 mm. Refusal of TLB was experienced at shallow depths, generally on soft rock sandstone. The excavators should be able to excavate to depths of 1.5 m.
2A	4.39	C1, S1	*Modified normal construction.* This zone comprises moderately compressible soils and collapsing sands >750 mm thick. Loose to medium dense soil with a moderate compressibility may cause settlements of between 5 – 15 mm if construction is not modified. Erratically developed ferricrete (from loose nodules to hardpan ferricrete) is present. Well cemented ferricrete may cause excavatability problems. Precautions include: compaction to at least 93% Mod. AASTHO density at optimum moisture content to a depth of 1.5 times the foundation width; light reinforcement in foundations and masonry; articulated joint at doors and lintels; additional drainage; service and plumbing precautions.
2B	3.55	P	*Modified normal construction with sub-surface drainage.* A perched water table is expected during the rainy season due to the close proximity to the wetland area and a shallow hardpan ferricrete layer.
2C	10.05	C2, S2	*Modified normal construction.* This zone comprises moderately compressible soils and collapsing sands up to 2 m thick. Loose soil with a low to moderate compressibility may cause settlements of > 15 mm if construction is not modified to accommodate the differential movements. Precautions include: compaction to at least 93% Mod. ASSTHO density at optimum moisture content to a depth of 1.5 times the foundation width; light reinforcement in foundation and masonry; articulated joint at doors and lintels; additional drainage; service and plumbing precautions.
2D	5.75	P	*Significant drainage required. Alternatively reserve for recreation or No Development.* This zone comprises areas susceptible to inundation from rising water tables during the wet, rainy season. The area requires either significant drainage works or should be set aside as a no development area.

4.6.2 Agricultural potential/land capability

Figure 4.2 provides an aerial view of the proposed site. From this aerial view, it is evident that no cultivation has recently taken place on site. However, the site does form part of the overall Botshabelo Nature Reserve and is subsequently used by wildlife for grazing purposes.

In terms of land capability, the proposed site is indicated according to the Department of Agriculture, Fisheries and Forestry as comprising moderate potential arable land (Figure 4.8).

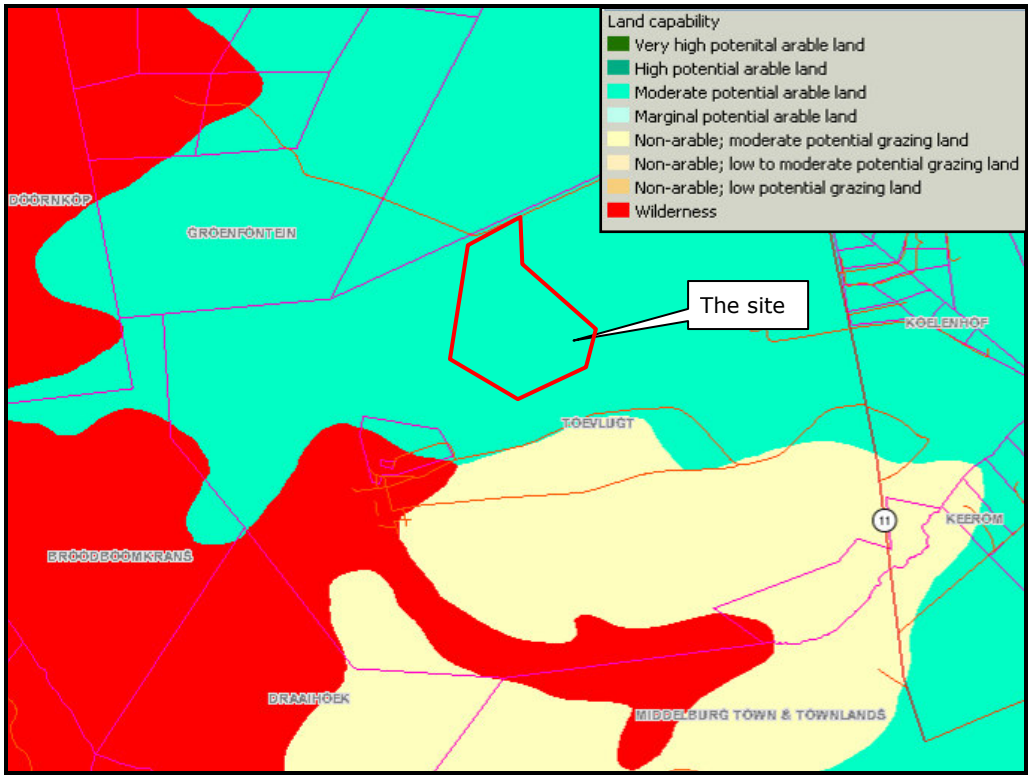


Figure 4.8 – Land capability of the proposed site (taken from Department of Agriculture, Forestry and Fisheries)

The Mpumalanga Biodiversity Conservation Plan indicates a score of 6 (which is medium, grazing) for the site in terms of land capability.

The Department of Agriculture, Forestry and Fisheries classified the land type of the site as Ba (Figure 4.9). The Ba land type comprises of plinthic soils (with subsurface accumulation of iron and manganese oxides due to fluctuating water table) with low to intermediate base status. Red soils are widespread. Upland duplex and black clay soils are rare.

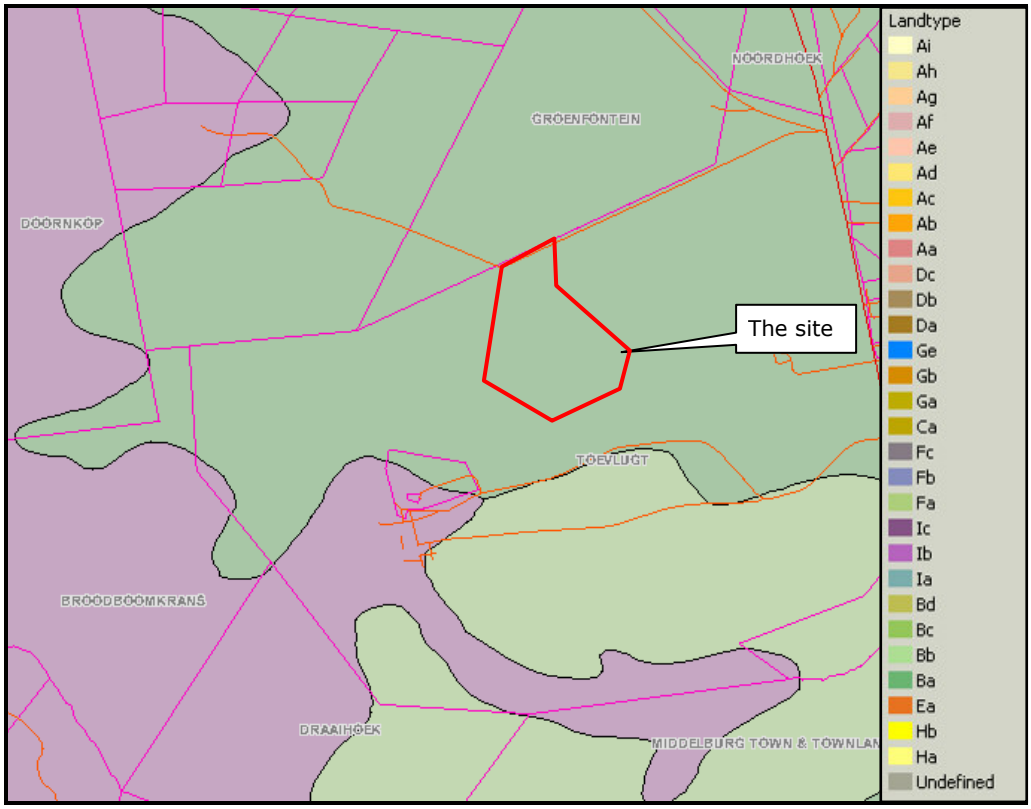


Figure 4.9 – Land type (taken from Department of Agriculture, Forestry and Fisheries)

Looking at grazing capacity, Figure 4.10 (Department of Agriculture, Forestry and Fisheries) indicates that the proposed site has a grazing capacity of 11 – 13 ha required per livestock unit.

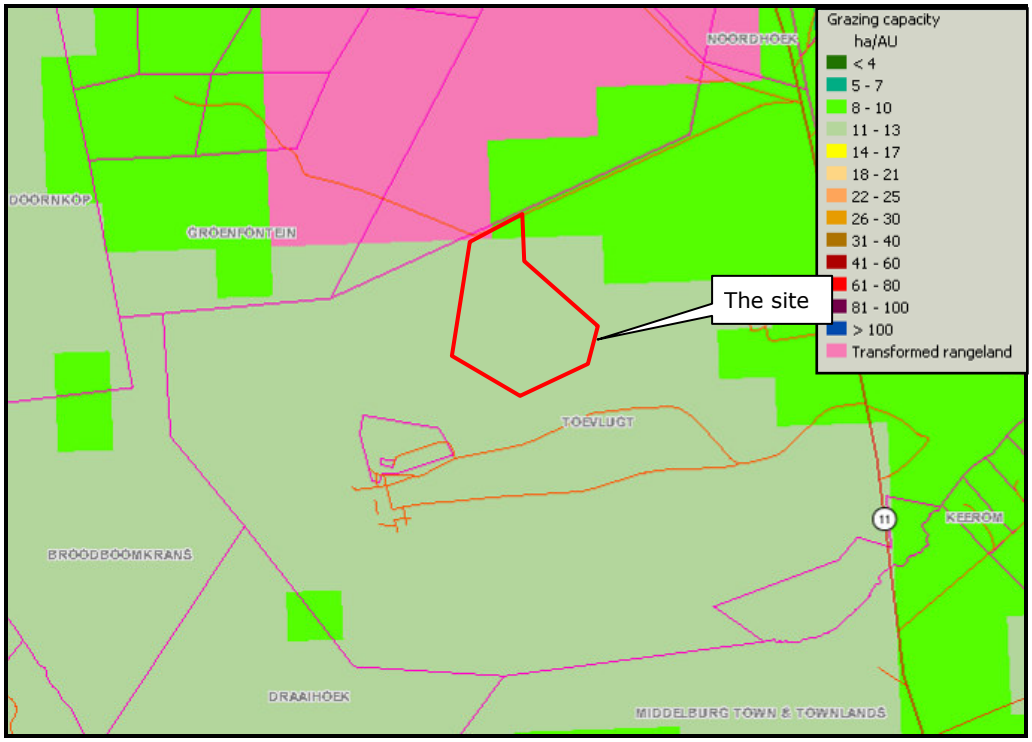


Figure 4.10 – Grazing capacity of the proposed site (taken from Department of Agriculture, Forestry and Fisheries)

4.6.3 Impacts on soil

The proposed site forms part of the greater Botshabelo Nature Reserve. Impacts on the environmental features of the site are therefore limited, since the site is conserved and only used for wildlife grazing and tourism.

Impacts on the soil include the construction and maintenance of the gravel roads on site as well as the construction of the boma (now dilapidated) in the southern portion of the site. Some soil erosion was noted along the gravel roads.

4.7 Natural vegetation

4.7.1 General vegetation description

According to the 'The vegetation of South Africa, Lesotho and Swaziland', the study area falls within the Mesic Highveld Grassland Bioregion, specifically the Rand Highveld Grassland (veld type Gm11; Figure 4.11) (Mucina & Rutherford, 2006). The vegetation type was previously referred to by Low and Rebelo (1998) as Moist Sandy Highveld Grassland (38) and Rocky Highveld Grassland (34) and by Acocks (1953) as Bankenveld (61).

This grassland is found at an altitude of 1 300 metres above mean sea level (mamsl) to 1 635 mamsl in areas between rocky ridges from Pretoria to eMalahleni (Witbank). It also extends onto ridges in the Stoffberg and Roossenekal regions as well as west of Krugersdorp.

This vegetation type is species-rich and comprises wiry, sour grassland alternating with low, sour shrubland on rocky outcrops and steeper slopes. The most common grasses on the plains belong to the genera *Themeda, Eragrostis, Heteropogon* and *Elionurus*. A high diversity of herbs, many of which belong to the *Asteraceae* family, is also a typical feature. Rocky hills and ridges carry sparse woodlands with *Protea caffra* subsp. *caffra, Acacia caffra* and *Celtis africana*, accompanied by a rich suite of shrubs among which the genus *Rhus* is most prominent.

Almost half of the Rand Highveld Grassland has already been transformed by cultivation, urbanisation, plantations and dams. This vegetation type has been afforded the status of **Endangered** with a conservation target of 24%. Only approximately 1% of this vegetation type is currently conserved.

The National List of Ecosystems that are Threatened and in need of protection (GN1002 of 2011), published under the National Environmental Management: Biodiversity Act (Act No. 10, 2004), lists this vegetation type as **Vulnerable**.

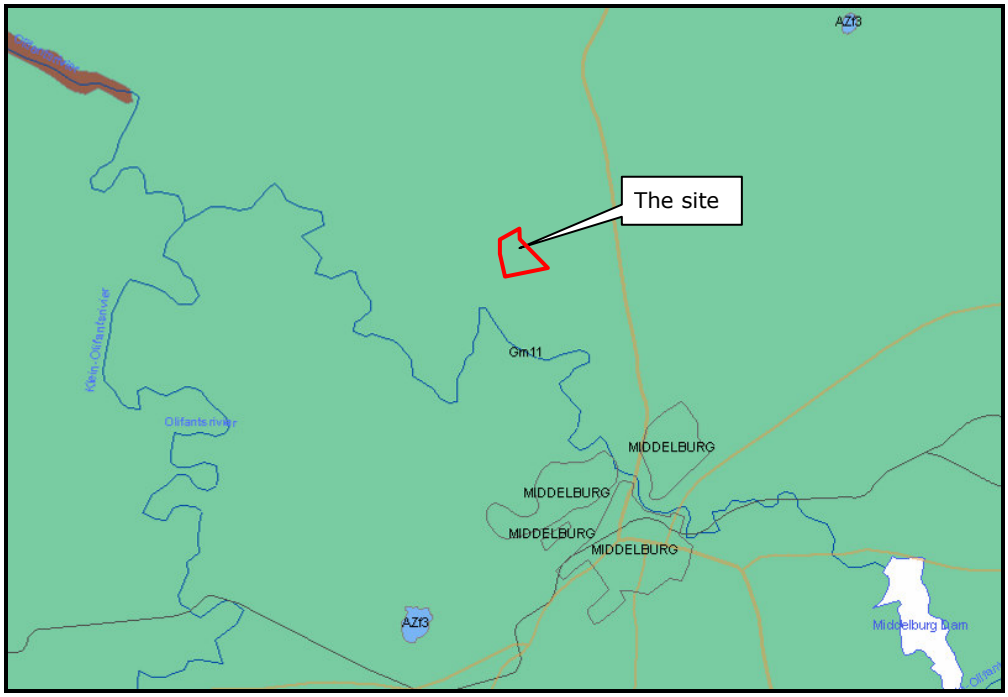


Figure 4.11 – Vegetation type (taken from Mucina and Rutherford, 2006)

The site and surrounding area is indicated as 'Highly Significant' and 'Important and Necessary' in terms of the terrestrial biodiversity assessment of the Mpumalanga Biodiversity Conservation Plan (2006) (Figure 4.12).

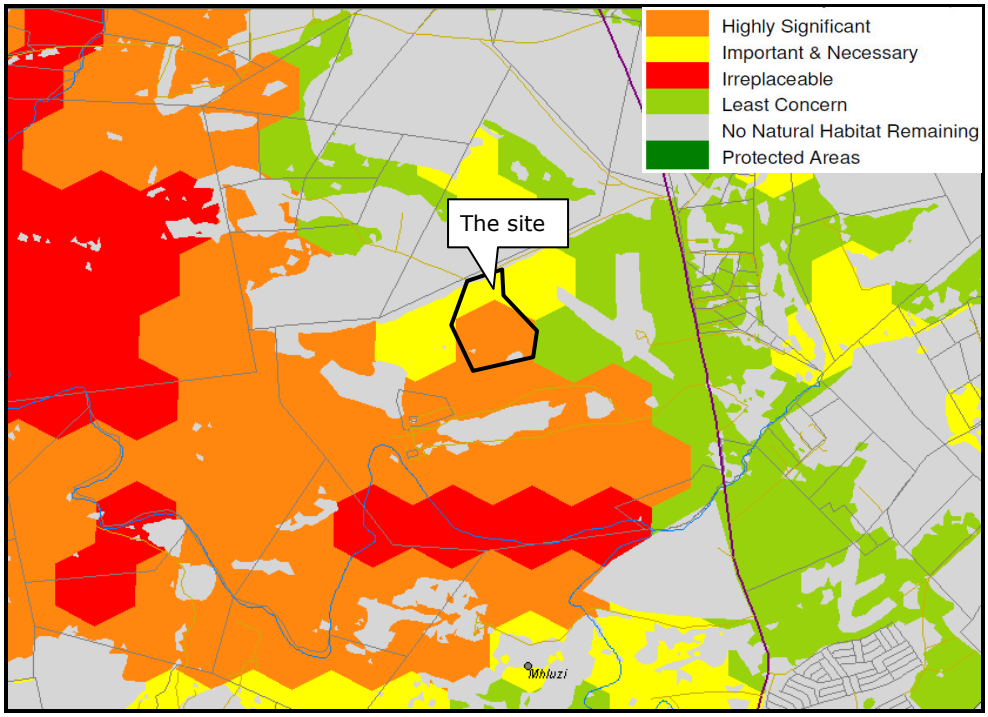


Figure 4.12 – Terrestrial biodiversity assessment (taken from the Mpumalanga Biodiversity Conservation Plan)

4.7.2 Vegetation found on site

The proposed site is located in the north eastern corner of the Botshabelo Nature Reserve, adjacent to the Middelburg Aeroclub. The Botshabelo Nature Reserve is fenced and has been managed as a conservation and historical area for many years.

The vegetation on site comprises mostly short, untransformed grassland (Photo 4.1). Due to the relatively undisturbed nature of the vegetation, species richness is expected to be high. In the past, the grassland was most probably used for cattle grazing. However, in recent years the grassland has only been utilized by wildlife and the grazing pressure has been low. The two dominant grass species noted on site are *Tristachya rehmannii* and *Diheteropogon amplectens.* Other common grass species include *Hyparrhenia hirta*, *Eragrostis racemosa, Elionurus muticus* and *Schizachyrium sanguineum.* A wide variety of herbaceous plant species (mainly from the Asteraceae and Fabaceae families) are also present within the grassland.

Photo 4.1: Untransformed grassland

The eastern and western boundaries of the site extend through two seasonal pans and associated hillslope seepage wetlands. A wetland is also present on the southern boundary of the site. Wetland vegetation is thus present on site (Photo 4.2). In the pans, *Imperata cylindrica* and *Leersia hexandra* were noted to be dominant, with sedges being common around the fringes of the pans. Due to the waterlogged conditions of the pan on the western boundary of the site, it is expected that certain plant species (hydrophytes) would only occur within the pan and nowhere else on site.

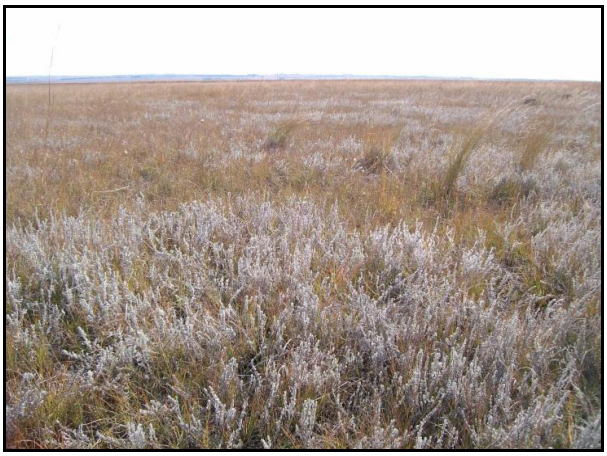


Photo 4.2: Wetland vegetation

Since the hillslope seepage wetlands are not permanently water logged, the species composition differs from that within the pans. For example, *Leersia hexandra* is less dominant and the diversity of herbaceous species seems to be higher.

Some of the vegetation in the southern portion of the site has been transformed by the planting of alien trees (*Eucalyptus sideroxylon, Acacia dealbata*) (Photo 4.3). A dilapidated boma and associated infrastructure is present amongst the alien trees. There is evidence that *Acacia dealbata* is spreading into the adjacent grassland.

Photo 4.3: Alien vegetation

4.7.3 Endangered or rare species

The said site is located within the following quarter degree square: 2529CB.

Table 4.9 provides an indication of the Red Data plant species recorded on the PRECIS Database of the South African National Biodiversity Institute for the quarter degree square 2529CB.

Table 4.9: Red Data plant species recorded for quarter degree square: 2529CB

Latin Name	Common Name and Description	Habitat	Status
Argyrolobium megarrhizum			Near Threatened
Eucomis vandermerwei	Spotted-leave Eucomis	Well-drained, sandy soil amongst quartzitic stones, crevices and rocky ledges as well as in short grassland mainly on south and east facing slopes	Vulnerable
Frithia humilis	Fairy Elephant's Feet	Shallow, sandy gravel located on large, flat sandstone rock plates	Endangered
Ilex mitis	African Holly	Banks of rivers and streams	Declining
Pavetta zeyheri middelburgensis		Outcrops of rocks and boulders or rocky sheets	Rare
Encephalartos lanatus	Olifants River Cycad	Sheltered, rocky valleys; deep, sandy, fertile soils	Vulnerable
Encephalartos middelburgensis	Middelburg Cycad	Rocky areas	Critically endangered

The likelihood of *Frithia humilis*, *Eucomis vandermerwei, Encephalartos lanatus, Encephalartos middelburgensis* and *Pavetta zeyheri middelburgensis* occurring on site is low, since no large rock sheets and rocky ledges/outcrops and slopes are present on site. In addition, it is unlikely that *Ilex mitis* will occur on site since no rivers or streams cross the site.

Habitat for *Argyrolobium megarrhizum* may be present on site.

4.7.4 Protected plant species

According to Provincial Ordinances, a number of plant species are protected in the Mpumalanga Province, whether they are considered to be threatened or not. This includes, but is not limited to, the following common names: ferns, flame lilies, christmas bells, pineapple flowers, clivia, nerine, crinum, ground lily, fire lily, irises, all orchids.

One protected plant species, *Boophone disticha,* was noted on site. Other protected plant species may also be present.

4.7.5 Invader or exotic species

The following declared weeds and alien invasive species listed in the Conservation of Agricultural Resources Act (Act 43 of 1983) and Schedule 13 of the Mpumalanga Nature Conservation Act, 1998 (Act 10 of 1998) were noted on site:

Latin name	Common name	Category
Acacia dealbata	Silver Wattle	Category 2
Eucalyptus sideroxylon	Black Ironbark	Category 2
Solanum sisymbriifolium	Wild Tomato	Category 1

- ***Category 1:*** *Prohibited and must be controlled.*
- ***Category 2:*** *(commercially used plants) – May be grown in demarcated areas provided that there is a permit and that steps are taken to prevent their spread.*

A specialist vegetation study was commissioned for the proposed development site. More information will be provided in the Environmental Impact Assessment.

4.8 Animal life

The site is indicated as 'Highly Significant' and 'Important and Necessary' in terms of the terrestrial biodiversity assessment of the Mpumalanga Biodiversity Conservation Plan (2006) (Figure 4.13).

In terms of aquatic biodiversity, the proposed site is indicated in the Mpumalanga Biodiversity Conservation Plan (2006) as occurring within an area where the conservation of aquatic biodiversity is 'Not Required' (Figure 4.13).

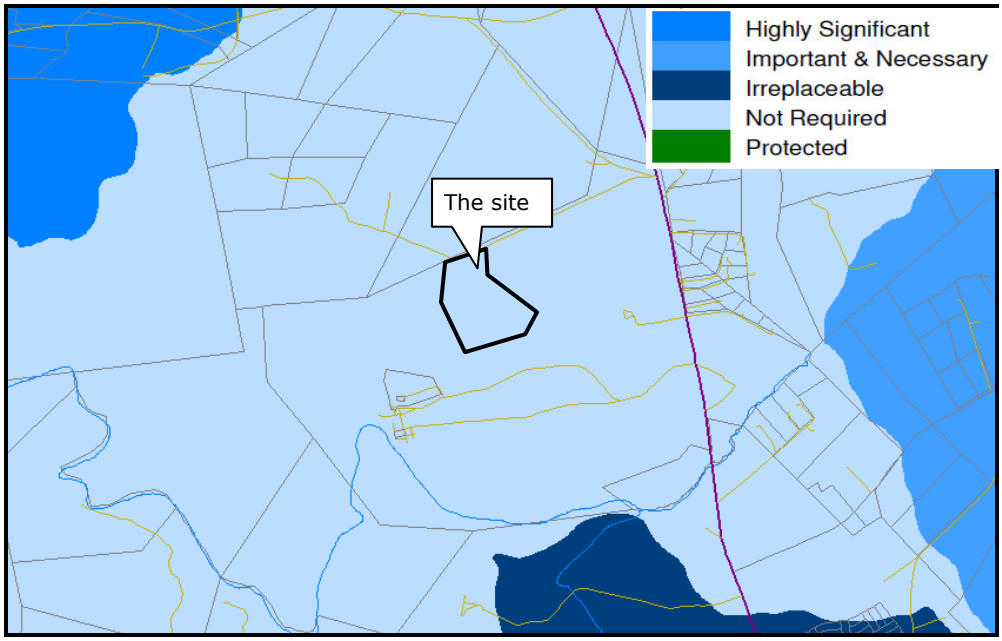


Figure 4.13 – Aquatic biodiversity subcatchments of the area (taken from the Mpumalanga Biodiversity Conservation Plan)

The Klein Olifants River, which is located south west of the proposed site, is identified in the Mpumalanga Biodiversity Conservation Plan (2006) as an important aquatic corridor in terms of fish movements (Figure 4.14).

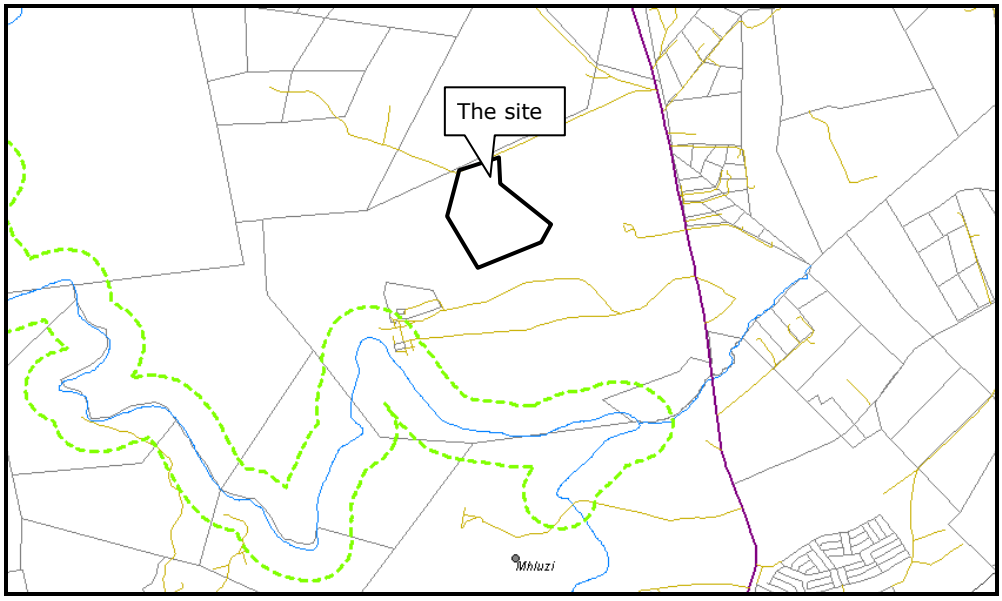


Figure 4.14 - Aquatic Corridor (taken from the Mpumalanga biodiversity Conservation Plan)

A number of animal species are expected to occur on site and the surrounding area, since the site is located within a nature reserve. The untransformed grassland, pans and wetlands on site provide ample habitat for fauna.

Amphibians will most likely utilize the pans and wetlands during the summer months for breeding purposes and will burrow into the soil in the grasslands during the winter months. According to one of the nearby landowners (Mr. Glintzer), the giant bullfrog (*Pyxicephalus adspersus*) has been noted on the

proposed site. The giant bullfrog is considered a Protected species in terms of the National Environmental Biodiversity Act (Minter, 2004).

Many reptiles (e.g. snakes, lizards, etc.) are also expected to occur within the grassland and wetland/pan habitats. The disused termite mounds on site provide especially good habitat for reptiles. In terms of threatened species, the Aurora house snake *(Lamprophis aurora) and* Breyer's long-tailed seps (*Tetradactylus breyeri*) may be present on site.

A diversity of bird species may be present on site. Some species will be resident on site, whilst others might only visit the site for foraging or resting during certain times of the year. One of the nearby landowners (Mr. Glintzer), indicated that he noted the Southern Bald Ibis *(Geronticus calvus)* on site. This bird species is listed as Threatened in the IUCN Red List of Threatened Species (IUCN, 2008). Another threatened bird species, the Lesser Kestrel *(Falco naumanni),* may also frequent the site during the summer months.

The Botshabelo Nature Reserve, within which the site is located, is stocked with a number of mammal species. The untransformed grasslands, pans and wetlands on site provide suitable habitat for many of the mammal species. Mammal species present in the nature reserve include but are not limited to Red Hartebeest (*Alcelaphus buselaphus*), Blesbok (*Damaliscus dorcas phillipsi*), Springbok (*Antidorcas marsupialis*), Eland (*Taurotragus oryx*), Black Wildebeest (*Connochaetes gnou*), Cape Porcupine *(Hystrix africaeaustralis),* Blue Wildebeest (*Connochaetes taurinus*) and Cape hare (*Lepus capensis*). According to Mr. Glintzer, he also noted Oribi (*Ourebia ourebi*), Leopard (*Panthera pardus)* and Aardvark (*Orycteropus afer*) within the reserve.

The Black Wildebeest and Oribi are considered Threatened in terms of the IUCN Red List of Threatened Species (IUCN, 2008). Other threatened mammal species may also be present on site or within the Botshabelo Nature Reserve.

According to Mr. Glintzer, large scale hunting and capturing of game recently took place within the nature reserve. Game numbers are therefore very low. In addition, local community members are using dogs for hunting purposes.

A specialist animal study was commissioned for the proposed development site. More information will be provided in the Environmental Impact Assessment.

4.9 Surface water

The said site is situated within the Olifants River Catchment, more specifically the quaternary catchment B12E (Figure 4.15).

Table 4.10 provides more details regarding the B12E quaternary catchment.

Table 4.10: Quaternary catchment characteristics (Middleton, B.J., Midgley, D.C and Pitman, W.V., 1990)

Area (Ha)	Mean Annual Precipitation (mm)	Mean Annual Runoff (mm)	MAR as a % of MAP	Mean Annual Evaporation (mm)
39190	696.76	52.5	7.54	1600-1700

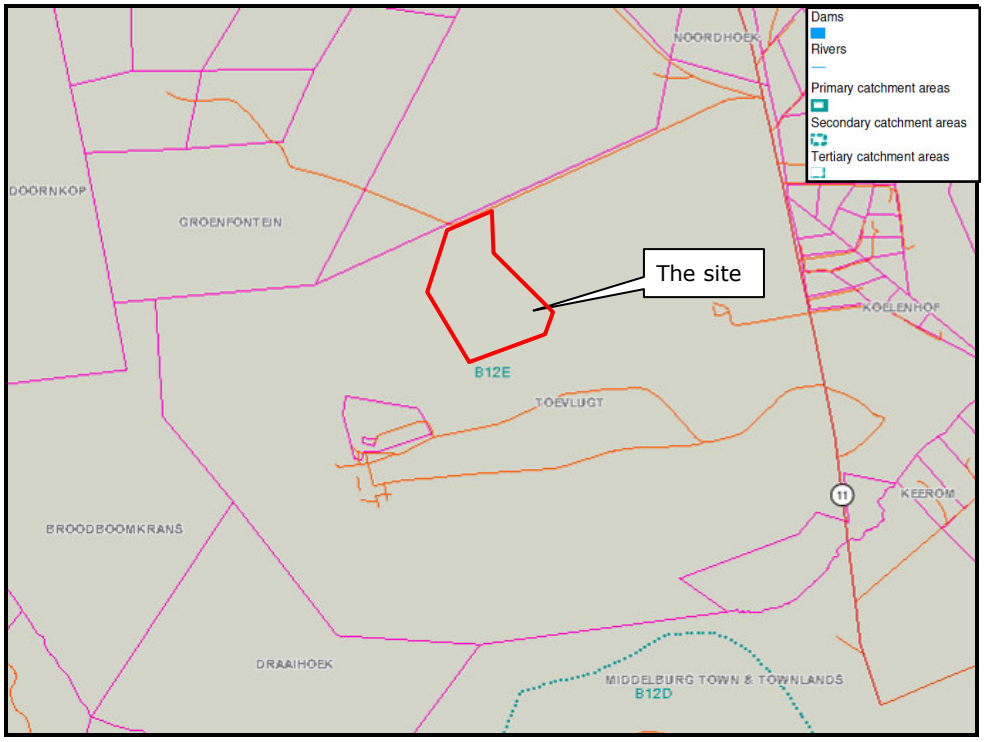


Figure 4.15 – Tertiary Catchment (taken from Department of Agriculture, Forestry and Fisheries)

The site is located on a high point in the landscape and drains in both a northerly and a south westerly direction towards tributaries of the Klein Olifants River.

Two perennial pans are present in the almost level, higher lying eastern and western boundaries of the site (Figure 4.16). The pan on the western boundary of the site is fed by surface water runoff and shallow groundwater from the central and northern portions of the site. The pan then drains towards the north, feeding a hillslope seepage wetland (Figure 4.16).

The pan on the eastern boundary of the site is fed from the Middelburg Aeroclub side (i.e. east of the site). It drains onto the site and subsequently feeds the larger pan and hillslope seepage wetland (Figure 4.16).

Surface water runoff and groundwater from the southern portion of the site feeds a hillslope seepage wetland located on the southern boundary (4.16).

A specialist wetland study was commissioned in order to delineate the wetlands on site. More information will be provided in the Environmental Impact Assessment.

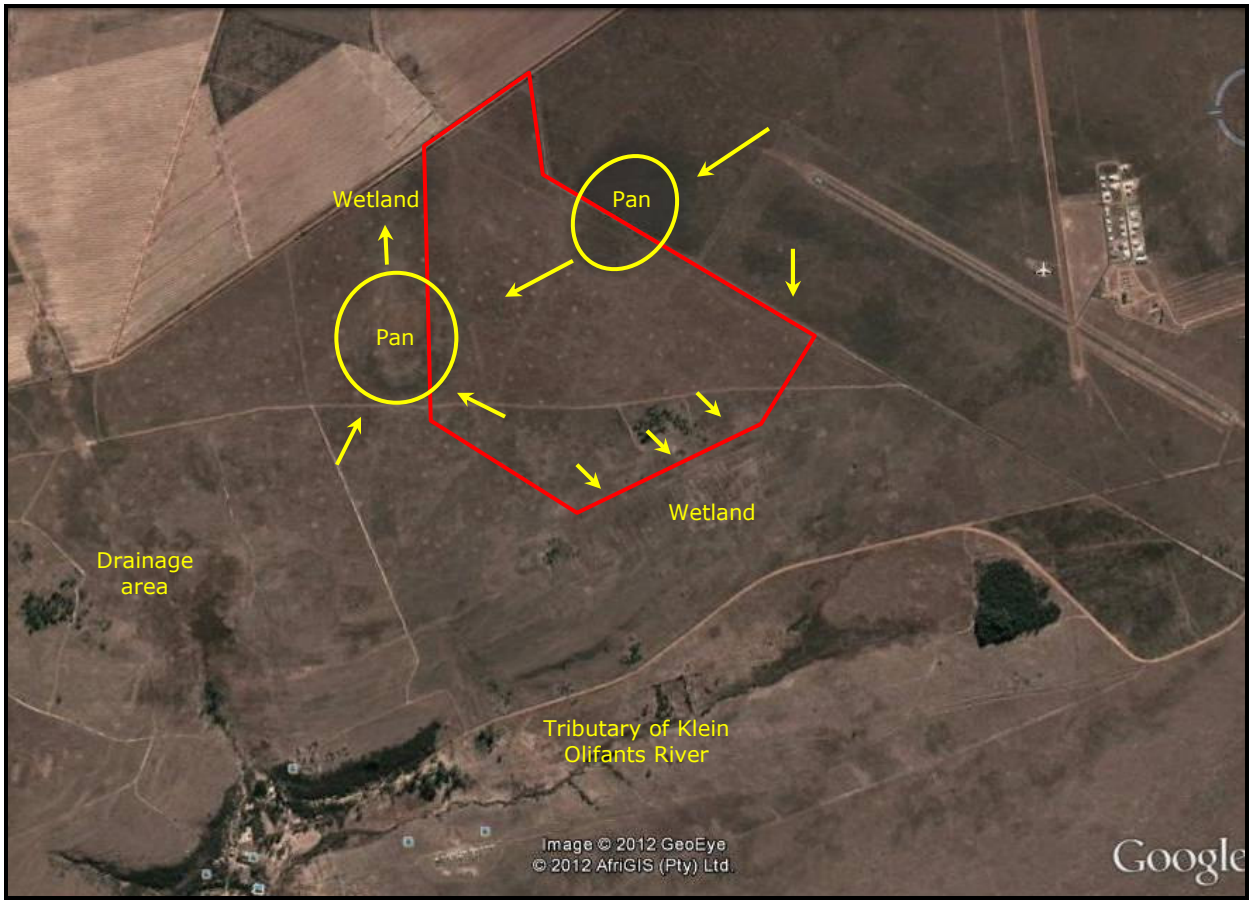


Figure 4.16: Surface water environments on site

4.10 Groundwater

Engeolab cc. (2011) indicated that the presence of hardpan ferricrete on site is a good indication that a seasonally perched water table can be expected. However, no groundwater was noted in any of the geotechnical test pits.

The presence of the pans and hillslope seepage wetlands on site is also an indication that a shallow perched groundwater table can be expected on site.

A geohydrological study was commissioned to obtain more information regarding the groundwater situation on site and to determine whether sufficient water can be obtained from boreholes for the proposed development. More information will be provided in the Environmental Impact Assessment.

4.11 Air quality

The air quality of the site is predominantly governed by the following:

- Various industrial (e.g. power stations, etc.) and opencast mining activities in the Steve Tshwete area.
- Emissions from vehicles utilizing the surrounding roads (e.g. N11 national road);
- Dust from traffic utilizing the internal Botshabelo gravel roads;
- Dust from agricultural activities in the surrounding area;
- Smoke emitted from veld fires.

4.12 Noise

In general, the area is relatively quiet since it is located within a rural area. The major contributing factor to the ambient noise level of the site would be as a result of:

- Limited traffic along the gravel access road on the northern boundary of the site and within the Botshabelo Nature Reserve;
- Activities at the adjacent Middelburg Aeroclub and aircraft flying overhead;
- Agricultural activities in the surrounding area.

4.13 Traffic

As indicated previously, the proposed site is located within the Botshabelo Nature Reserve. The main access to the Botshabelo Nature Reserve is from the N11 national road. The main gravel access road winds through the nature reserve and ends at the historical village. There are numerous smaller gravel roads that branch off from the main gravel road to provide access to the rest of the Botshabelo Nature Reserve.

Two smaller gravel roads are present on site, along the eastern boundary and in the southern section (Figure 4.16)

According to Urban Dynamics (2011), access to the proposed development will be obtained from the existing gravel road located on the northern boundary of the site. This road connects to the N11 national road and provides access to the farms located north and northwest of the proposed site.

A traffic impact assessment will be commissioned in order to determine the potential impact of the additional development traffic on the gravel road and the N11 national road.

4.14 Sites of archaeological and cultural interest

The proposed development will be located within the Botshabelo Nature Reserve on the Remaining Extent of the farm Toevlugt 320 JS, Middelburg.

The Botshabelo Nature Reserve forms part of a farm that was purchased in 1865 by Alexander Merensky, with the intent to establish a missionary. The mission station was called Botshabelo, meaning 'Place of Refuge'. Between 1860 and 1865, two missionaries (Alexander Merensky and Heinrich Gruntzner) decided to extend their missionary work to the Swazi and Pedi people. The ruler of the area, Chief Sekhukune, suppressed Christianity and ordered Merensky to leave his country. Merensky and his followers (including remnants of the Kopa tribe) subsequently started the Botshabelo Mission Station.

The Mission Station eventually developed into a small town, where the gospel was proclaimed, people received education and where commerce and industry were practised. A fort (Fort Wilhelm) was also constructed to protect the Mission Station against any possible attacks by Chief Sekhukune. By 1873, there were 1315 people living at Botshabelo.

In 1972, the city council of Middelburg purchased Botshabelo, which is now a historical town surrounded by a nature reserve. The fort (now called Fort Merensky) was restored and is now in the possession of the Simon van der Stel Foundation. The Botshabelo Nature Reserve was developed to promote tourism and includes various hiking trails, accommodation and a Ndebele village.

The proposed development will be located approximately 1.2 km from Fort Merensky and 1.5 km from the historical village.

Figure 4.17 provides an indication of the Botshabelo heritage sites as taken from the Steve Tshwete Local Municipality Spatial Development Framework, 2010.

Photos 1 and 2 indicate some of the buildings (e.g. the church) within the historical town.

A specialist archaeological study was commissioned to determine the potential impact of the proposed development on the heritage sites. More information will be provided in the Environmental Impact Assessment.

Photo 1: Seminary

Photo 2: Church

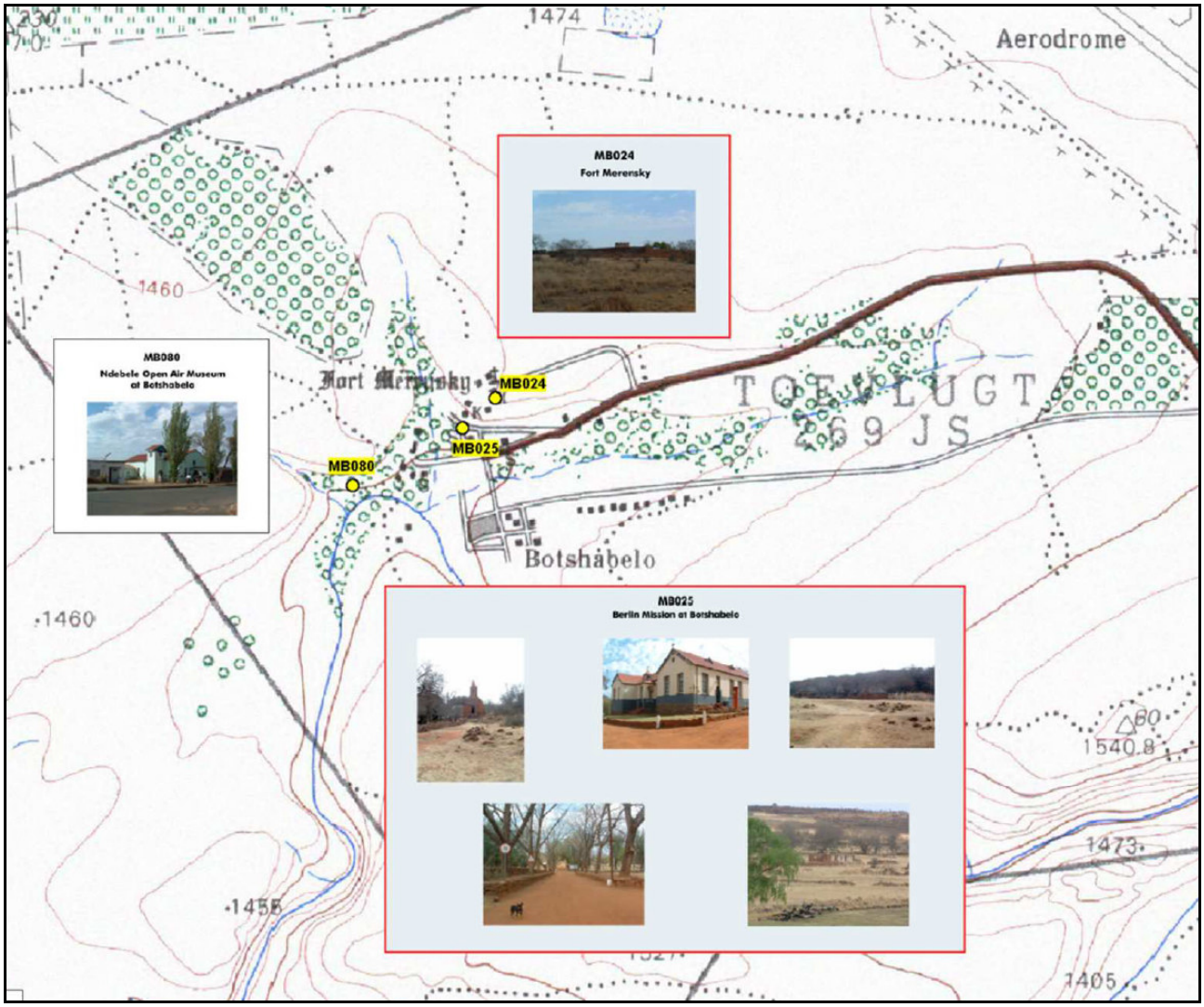


Figure 4.17: Heritage sites within Botshabelo Nature Reserve (taken from the Steve Tshwete Local Municipality Spatial Development Framework, 2010)

4.15 Sensitive landscapes

Surface water environments

Two pans and hillslope seepage wetlands are present on site. A specialist wetland study was commissioned to delineate the wetlands and recommend mitigation measures. More information will be provided in the Environmental Impact Assessment.

Vegetation

According to the 'The vegetation of South Africa, Lesotho and Swaziland', the study area falls within the Mesic Highveld Grassland Bioregion, specifically the Rand Highveld Grassland (veld type Gm11; Figure 4.11) (Mucina & Rutherford, 2006). Almost half of the Rand Highveld Grassland has already been transformed by cultivation, urbanisation, plantations and dams.

This vegetation type has been afforded the status of **Endangered** with a conservation target of 24%. The National List of Ecosystems that are Threatened and in need of protection (GN1002 of 2011), published under the

National Environmental Management: Biodiversity Act (Act No. 10, 2004), lists this vegetation type as **Vulnerable**.

A specialist vegetation study was commissioned for the said site. More information will be provided in the Environmental Impact Assessment.

Animal life
The site is located within the Botshabelo Nature Reserve and may as such provide habitat to threatened and/or endangered animal species.

A specialist animal study was commissioned for the said site. More information will be provided in the Environmental Impact Assessment.

Sites of archaeological and cultural interest
The proposed development will be located approximately 1.2 km from Fort Merensky and 1.5 km from the Botshabelo historical village and may therefore have an indirect impact on these historical features. A specialist archaeological study was commissioned to determine the potential impact of the proposed development on the heritage sites. More information will be provided in the Environmental Impact Assessment.

4.16 Visual aspects

The topography of the proposed site is relatively flat. The site is visible from the Middelburg Aeroclub property, the gravel road along the northern boundary of the site as well as the immediate surrounding area.

The site is not visible from the southern and western portions of the Botshabelo Nature Reserve or from the historical village. It is however, visible from Fort Merensky, since the fort is located on a hill overlooking the surrounding area.

4.17 Sense of place

The proposed site is identified in the Spatial Development Framework of the Steve Tshwete Local Municipality (2010) as a nature reserve (Figure 4.18). It is also located outside of the Middelburg urban edge.

Another rural village (Doornkop) is located north of the site (Figure 4.18).

In terms of land capability, the proposed site is indicated according to the Department of Agriculture, Fisheries and Forestry as comprising moderate potential arable land. However, no cultivation has recently taken place on site. The site forms part of the overall Botshabelo Nature Reserve and is subsequently used by wildlife for grazing purposes.

The surrounding area (north and east) is used for agricultural purposes. The Middelburg Aeroclub is located on the eastern boundary. The area towards the west is identified for eco-tourism in the Spatial Development Framework of the Steve Tshwete Local Municipality (2010) due to the area being largely natural with a steep topography.

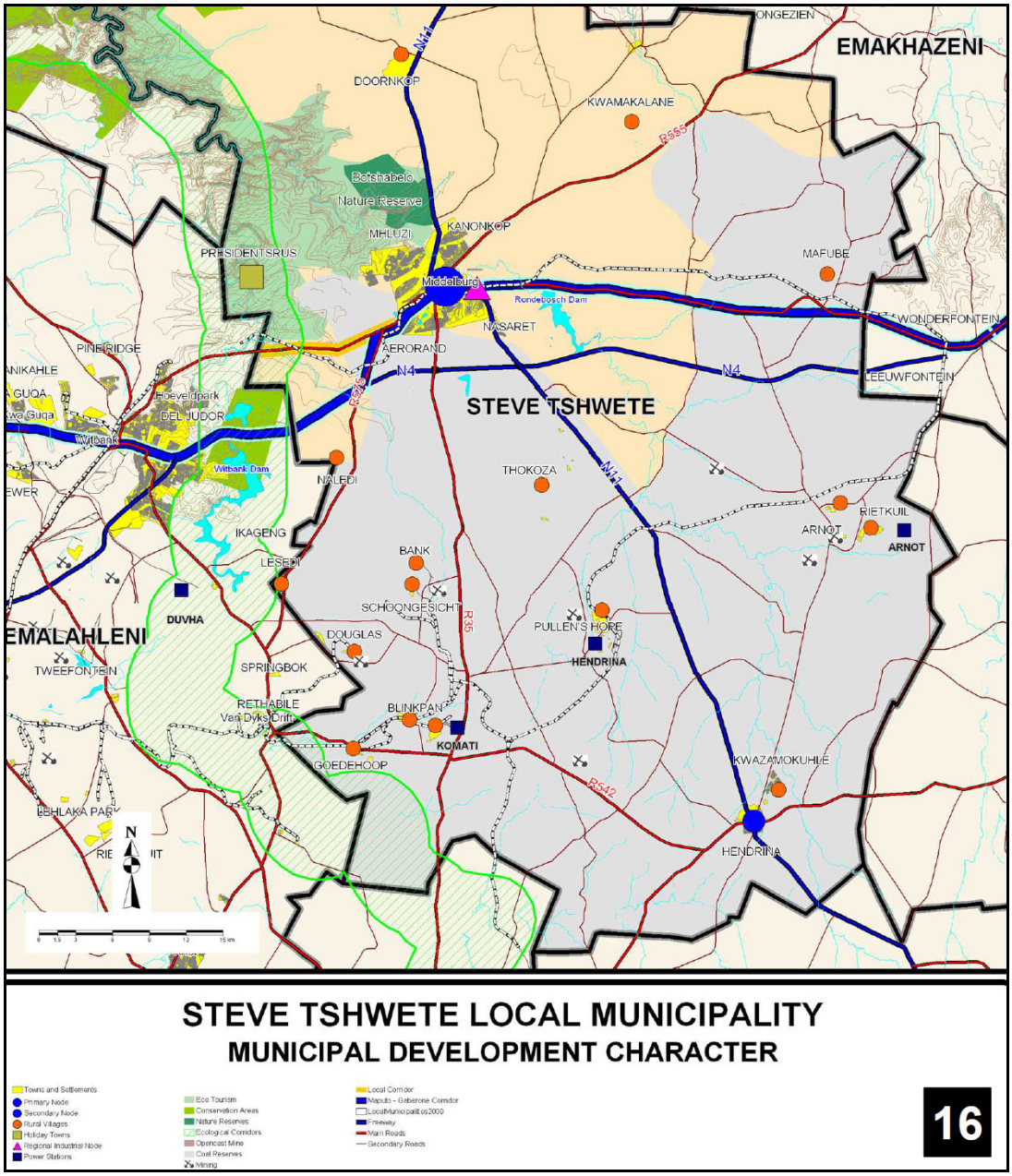


Figure 4.18: Municipal development character of the Steve Tshwete Local Municipality (taken from the Spatial Development Framework, 2010)

5. DESCRIPTION OF ALTERNATIVES

5.1 Alternative sites

During initial discussions with the community, alternative sites were discussed. Figure 5.1 provides an indication of the various sites considered by Urban Dynamics.

Site 1 (Figure 5.1):
The Botshabelo Community Development Trust indicated that the farm Noordhoek 333 JS also belong to them, even though it is still registered to the Republic of South Africa. The farm Noordhoek 333 JS is located just south of existing Doornkop rural development, adjacent to the N11 national road (Figure 5.1).

Through discussions, it was decided against developing the rural village on Noordhoek due to the following:

- The Botshabelo community members indicated that they want to reside within the Botshabelo Nature Reserve (i.e. on their forefathers land).
- A black wattle forest is present on the said site. It would be very costly to remove all the trees and tree stumps and to compact the site as required for building purposes.
- The site is located directly adjacent to the N11 national road. The establishment of yet another township adjacent to this road could lead to more accidents.

Site 2 (Figure 5.1):
Site 2 is located on the Remaining Extent of the farm Toevlugt 320 JS. However, the site is not located within the Botshabelo Nature Reserve but within the Middelburg Aeroclub lease area.

This site was decided against due to the following:

- The site is located directly adjacent to the N11 national road. The establishment of yet another township adjacent to this road could lead to more accidents.
- The development will definitely impact on the Middelburg Aeroclub. The Middelburg Aeroclub would have to close down and the lease agreement terminated. The Botshabelo Community Development Trust would also lose a regular source of income.

Site 3 (Figure 5.1):
Site 3 is located in the centre of the Botshabelo Nature Reserve.

This site was decided against based on the following:

- The development would definitely impact on tourism since it would be very visual.
- The development would be more expensive due to the slope of the site.
- The development would be located closer to the Botshabelo Historical Village and Fort Merensky, increasing the potential impact on the historical sites.
- The residents would have to utilize the main Botshabelo entrance. This could impact on tourism.

- The potential impact on the Klein Olifants River in terms of pollution would be high due to the close proximity of the development to the river.

Site 4 - the proposed site (Figure 5.1):
The applicant and Urban Dynamics decided upon the development of the proposed site due to the following reasons:

- The said site belongs to the applicant.
- The intention is to relocate to their ancestral home/forefather's land.
- The development will not be visible from the N11 national road.
- The development will not be visible from the Botshabelo Historical Village. This would minimize the impact on tourism
- Easy access to the development could be obtained from the existing gravel road along the northern boundary of the site. The residents would not have to use the roads within the Botshabelo Nature Reserve. This would minimize the impact on tourism.
- The slope of the site is relatively flat, reducing the cost of the development.

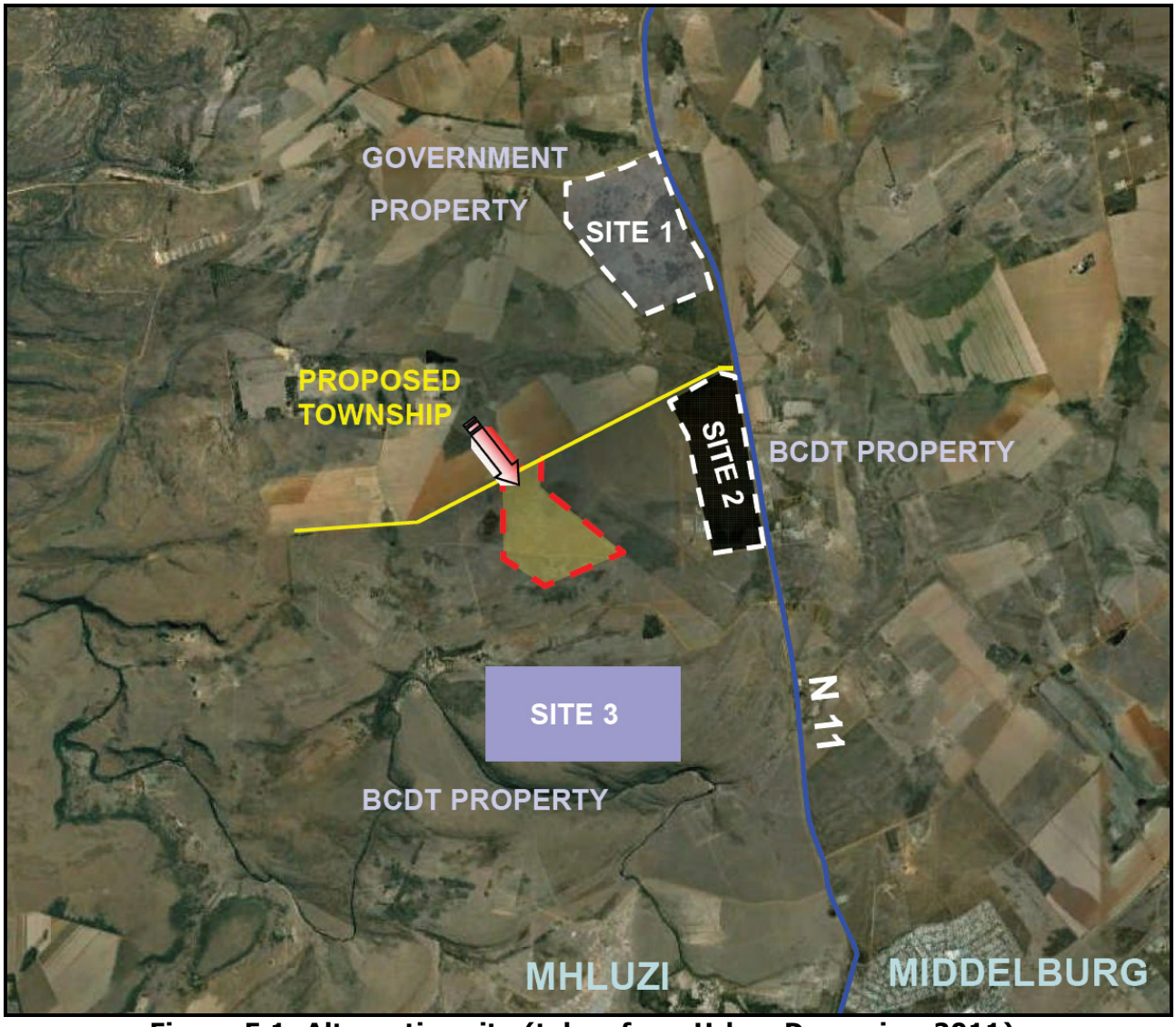


Figure 5.1: Alternative site (taken from Urban Dynamics, 2011)

5.2 Alternative layouts

During the initial discussions between Urban Dynamics and the Botshabelo Community Development Trust committee, the issue of stand sizes and possible layouts were discussed. Initially, the committee indicated that they want large stands (up to 4000 m^2) to give the residents a sense of space and to allow for vegetable/maize gardens and livestock.

Urban Dynamics indicated that large stands would take up a large portion of the Botshabelo Nature Reserve. This would affect the income generated from tourism. It would also impact on the amount of game they would be able to keep on site.

Subsequently, Urban Dynamics presented two options to the community, namely a 1000 m^2 and 500 m^2 stand with various house placements. The advantages of the larger and bigger stands were also presented to the committee (see Table 5.1). Figures 5.2 and 5.3 provide an indication of the two stand sizes and house footprints.

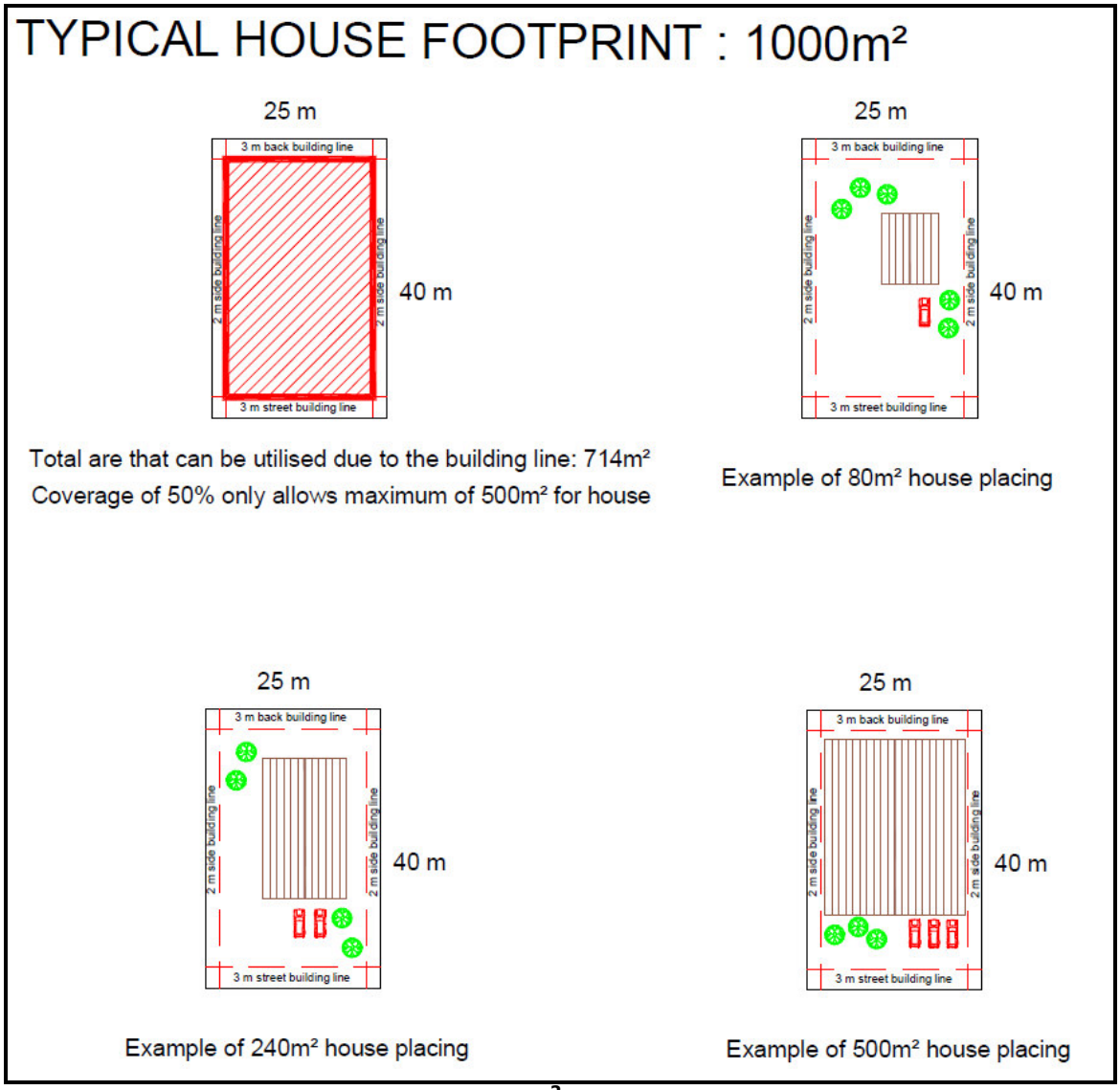


Figure 5.2: Layout of the 1000 m^2 stand (taken from Urban Dynamics, 2011)

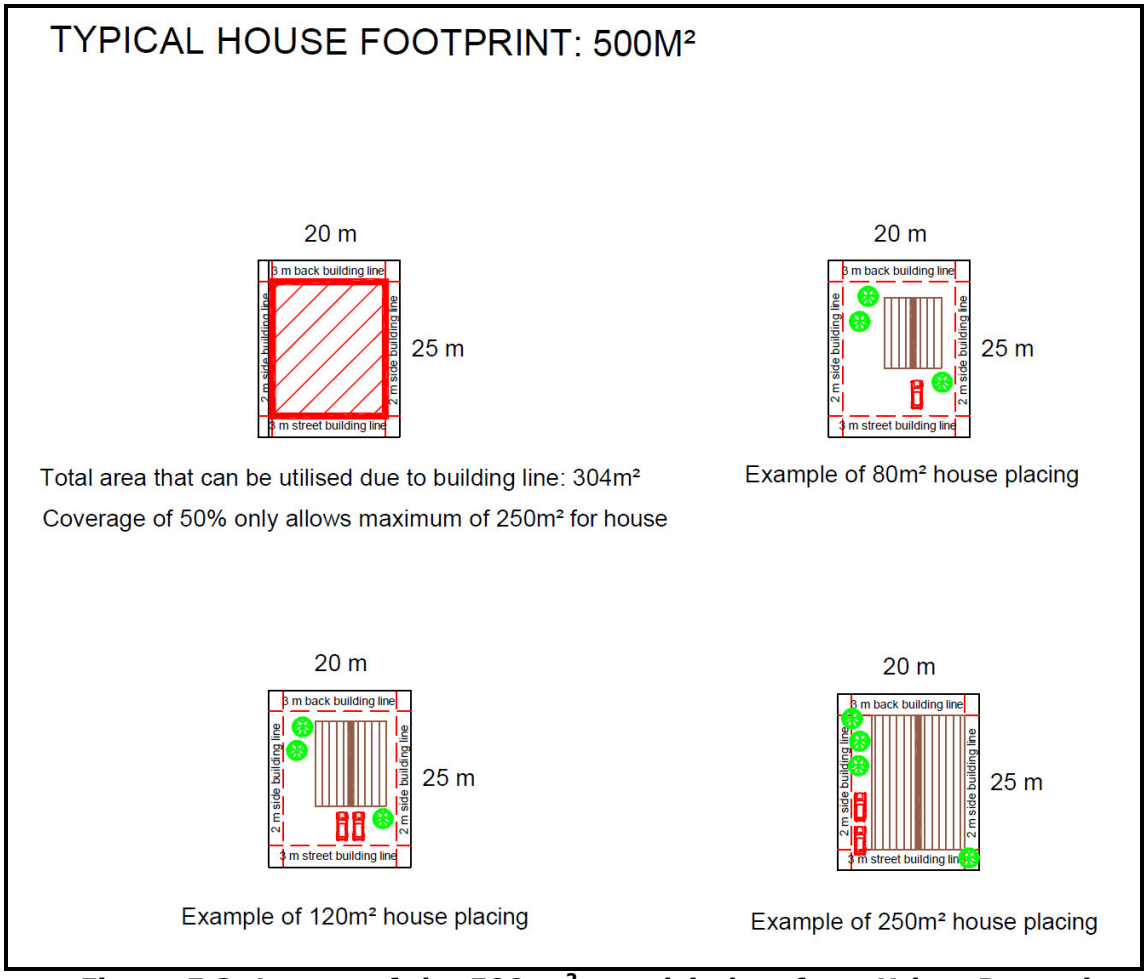


Figure 5.3: Layout of the 500 m² stand (taken from Urban Dynamics, 2011)

Table 5.1 indicates the advantages and disadvantages of the two stand sizes.

Table 5.1: Advantages and disadvantages of the 500 m² and 1000 m² stand sizes (taken from Urban Dynamics)

500 m² Stand	1000 m² Stand
Provision of 30 stands in street block.	Provision of 24 stands in street block.
Shorter water line to be installed (715 m).	Longer water line to be installed (776 m).
Municipal tax is lower due to the smaller size.	Due to the bigger size the municipal tax is higher.
Extended family will be able to have a stand of their own, right of tenure.	Extended families all on one property, not enough space.
Street block width is only 50 m.	Street block width is 80 m.
Perimeter fence is less expensive due to shorter length.	Perimeter fence is more expensive due to longer length.
Smaller stand to maintain.	Bigger stand to maintain.
Smaller area that will be taken from the reserve.	Bigger area that will be taken from the reserve.
Stand utilized to full extent.	Stand not utilized to full extent (Maximum house footprint is 500 m²).
Area of road around block is less (0.585 ha). Cost of road is less.	Area of road around block is longer (0.633 ha). Cost of road is higher.

The Botshabelo Community Trust committee members agreed that the 500m^2 stand sizes are more viable. The layout plan was thus designed accordingly.

5.3 Alternative land uses

Urban Dynamics (2011) investigated two concept design layouts, namely the typical block layout and an alternative layout for the extended family tradition. Figure 5.4 provides the typical block layout that does not make provision for the extended family.

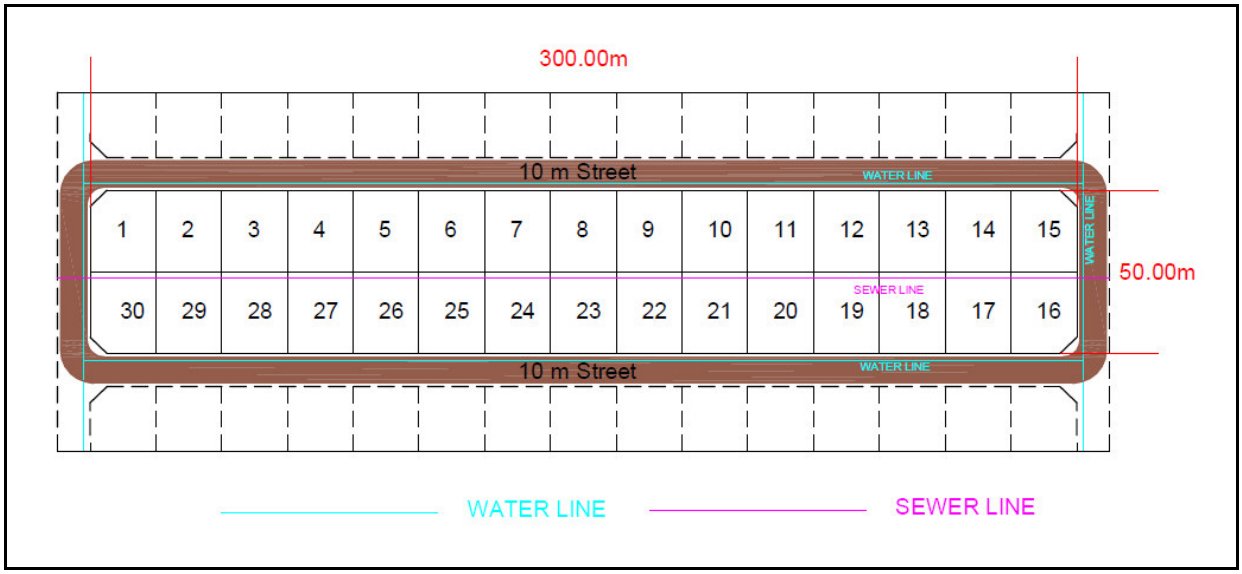


Figure 5.4: Typical block layout (taken from Urban Dynamics, 2011)

The alternative concept design for the extended family makes provision for five (5) separate stands, which allows different members of the family to own their own properties (Figure 5.5). The street layout is such that it forms a cul-de-sac that can also be utilized as a playground or shared central space for the family.

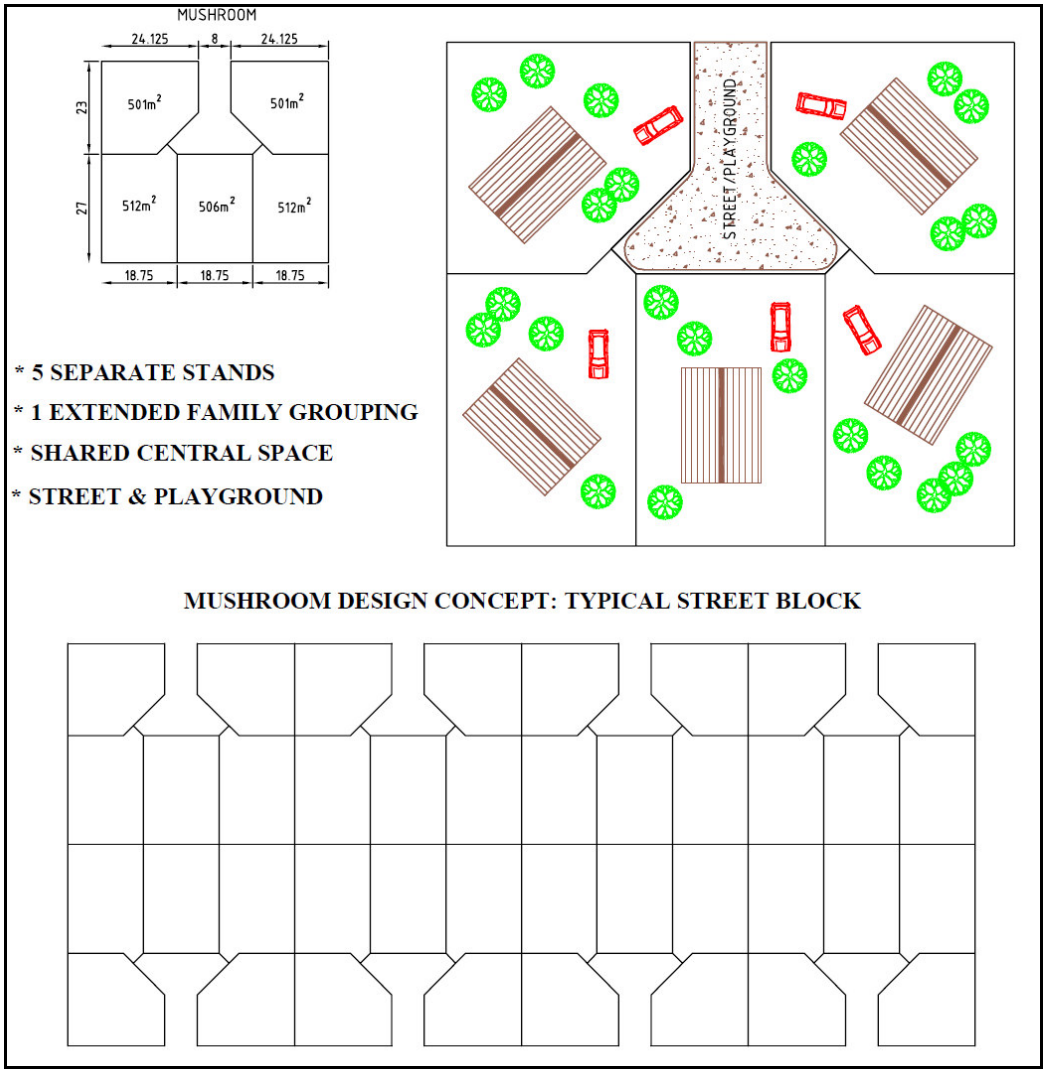


Figure 5.5: Alternative design for the extended family (taken from Urban Dynamics, 2011)

The layout plan provided by Urban Dynamics (Figure 3.1) is based on the typical block design concept. Provision was however, made for extended families in the eastern portion of the site (Figure 3.1).

5.4 Alternative service provision

The Steve Tshwete Local Municipality proposes to install services (i.e. water, sewage, roads, electricity, etc.) in accordance with the minimum standard for rural villages as indicated in the Steve Tshwete Local Municipality policy. This is also indicated in Section 3.5.

According to Urban Dynamics (2011), early discussions with the community revealed that the level of services proposed by the municipality is not acceptable to the Botshabelo Community Development Trust.

It should be noted that limited funds are available for the proposed development. Funding for the installation of the preferred level of services (i.e. waterborne sewage and bulk water supply) is currently not available. The preferred level of services will only be installed once the required funding

can be secured from government.

Urban Dynamics (2011) therefore investigated two options, namely:

- Option 1: This option will cover the demands of the community and would include water provision at each stand as well as water borne sewage.
- Option 2: This option is based on the minimum essential standards for low cost township establishment. It would include the provision of boreholes, pillar taps at regular intervals and a biological toilet system.

Herewith a brief overview of what services would be provided in terms of each option investigated.

5.4.1 Water

Option 1:

For Option 1, water would be provided to each stand via an internal water reticulation network and uPVC pipe with a minimum of 75 mm diameter. Water meters would also be installed to allow the Steve Tshwete Local Municipality to carry out readings.

The following table provides the proposed standards for the infrastructure (i.e. Option 1) as based on the 'Human Settlement Planning and Design' guidelines under the patronage of the Department of Housing:

Average demand	800 l/day
Peak Factor	4
Fire Risk	Low risk Group 3
Minimum flow at fire hydrants	350 l/day
Absolute minimum water pressure	12 m and 7 m with fire flow
Fire hydrant spacing	240 m maximum
Minimum pipe size	75 mm outside diameter uPVC for main lines 20 and 25 mm outside diameter HDPE for single and double house connections
Pipe material	uPVC (main line) and HDPE house connections
Cover to pipe	800 mm minimum
Hydrant valves	Screw type
Valves	Right hand (clockwise) closing
Water meters	As per municipal regulation

According to Urban Dynamics (2011), the water demand of ± 35 l/s (peak flow) would have to be supplied for the proposed development. Treated water will have to be obtained from the Middelburg water supply network.

Providing bulk water to the proposed development would entail the following:

- A bulk water pipeline from the existing Dennesig reservoir to the proposed development.
- The pipeline would potentially be a pump line of approximately 10 km in distance and the existing reservoir might need to be enlarged to supply the mentioned demand.
- Installation of a water pump station situated at the Dennesig Reservoir.
- Installation of a high-level water tank at the development to ensure minimum water pressure to the stands in the proposed development.

Funding for the installation of the bulk water supply is currently not available. Bulk water will thus only be supplied once the required funding can be secured from government.

Option 2:
Water would be obtained from boreholes, which would be supplied by the Steve Tshwete Local Municipality. Three (3) potential borehole sites were identified. The boreholes would be operated either by windmills and/or hand pumps.

Water would be pumped to high level water tanks and then distributed to pillar taps, which would be placed within a 100 m walking distance from all stands.

The following table provides the proposed standards for the Option 2 infrastructure as based on the 'Human Settlement Planning and Design' guidelines under the patronage of the Department of Housing:

Average demand	20 l/capita/day
Pipe material	uPVC (main line) and HDPE house connections
Cover to pipe	800 mm minimum
Pillar taps	20 mm diameter

As indicated in Section 3.5, this option would be implemented. However, a geohydrological study would have to be commissioned in order to determine whether sufficient groundwater would be available for the said development.

5.4.2 Sewage

Option 1:
This option would involve the construction of two new biological reclaiming sewage plants in the north western and south western corners of the site. A complete waterborne sewerage system would be installed with a connection point at each stand. Sewage from the various stands and combined school would gravitate into the sewage plant and would be treated on site. Treated water would be discharged into the nearby stream.

The following table provides an indication of the proposed standards for the infrastructure for Option 1 as based on the 'Human Settlement Planning and Design' guidelines under the patronage of the Department of Housing:

Average daily flow	700 l/day
Minimum pipe size for house connections	110 mm
Minimum pipe size in network	160 mm
Pipe material	Structured wall uPVC
Maximum manhole spacing	90 m
Peak factor	2.25
Minimum flow speed	0.7 m/s
Minimum slope	1: 120 for 110 mm diameter 1: 200 for 160 mm diameter
Minimum cover to pipes in servitudes	800 mm
Minimum cover to pipes in sidewalks	1000 mm

Manholes	1000 mm inside diameter with step iron if deeper than 1.2 m
Rodding eye	Positioned at the beginning of a line if there are 4 house connections or less before the next manhole. Rodding eyes to be installed with its won chamber and cover.

This option is currently not viable due to the lack of water on site. In addition, funding for the installation of a waterborne sewage system is currently not available.

Option 2:
Option 2 would involve the provision of biological toilets for each stand. The biological toilets would be provided outside the houses and would have to be maintained by the Steve Tshwete Local Municipality. No details regarding the type of biological toilets to be installed are currently available.

As indicated in Section 3.5, this system will be implemented.

5.5 The 'No Project Option'

The 'no project option' is the alternative of not going ahead with the proposed development. The 'no project option' is only considered if it is found that the development will have significant negative impacts on the environment, which cannot be mitigated or managed.

If the 'no project option' in terms of the proposed development was exercised, it could mean that:

- The land use of the Botshabelo Nature Reserve would remain the same.
- The Botshabelo community would not be able to resettle on their property.
- The Botshabelo committee and the Steve Tshwete Local Municipality would have to obtain more financing for the development and investigate an alternative site.
- The Botshabelo community may decide to relocate to the site without any of the relevant approvals.

6. DESCRIPTION OF THE PUBLIC PARTICIPATION PROCESS

6.1 Advertising of the project

6.1.1 Press advertising

A block advert (150mm x 95mm), according to the Environmental Impact Assessment Regulations, 2010, was placed in the local newspaper, Middelburg Observer, on Friday, 22 June 2012. A copy of the advert is provided in Appendix 5.

6.1.2 On-site advertising

Notices according to the Environmental Impact Assessment Regulations, 2010, were displayed at the following locations:

- On-site at the Botshabelo Nature Reserve entrance (A1; Figure 6.1, Photo 1);
- At the gravel access road on the northern boundary (A1; Figure 6.1; Photo 2);
- Within Botshabelo on the hiking trail notice board (A3; Figure 6.1; Photo 3);
- On the northern fence of the site (A3; Figure 6.1, Photo 4)
- At the Gerard Sekoto Library (A3; Figure 6.1, Photo 5);
- At the Steve Tshwete Local Municipality (A3; Figure 6.1, Photo 6);
- A copy of the notice (English) was also loaded onto the company website: www.cleanstreamsa.co.za.

A copy of the notice (English) is provided in Appendix 5.

It should be noted that a notice of 594 mm x 841 mm (A1) was displayed at the Botshabelo Nature Reserve entrance gate and at the gravel access road on the northern boundary. The rest of the notices were 416mm x 295mm (A3) in size.

No notices were placed on any alternative sites investigated.

6.1.3 Informing I&APs via the internet

Interested and affected parties were also informed via the above-mentioned adverts and notices that a copy of the following documentation could be downloaded from the Clean Stream Environmental Services website (www.cleanstreamsa.co.za) from Friday, 22 June 2012:

- Copy of the notice;
- Background Information Document (BID; Appendix 6).

This information was available on the website for the duration of the scoping phase.

A copy of the webpage printouts is provided in Appendix 5.

6.1.4 Feedback from the advertising process

No persons registered as interested and affected parties in terms of the advertising process (site and newspaper advertising) within the 30 day registration period provided. However, a few persons did phone regarding employment and stands.

An e-mail (dated: 30 July 2012; Appendix 5) in this regard was forwarded to Ms. M. Seshweni of the Department.

Photo 1: Botshabelo Nature Reserve Entrance

Photo 2: Adjacent to the gravel access road

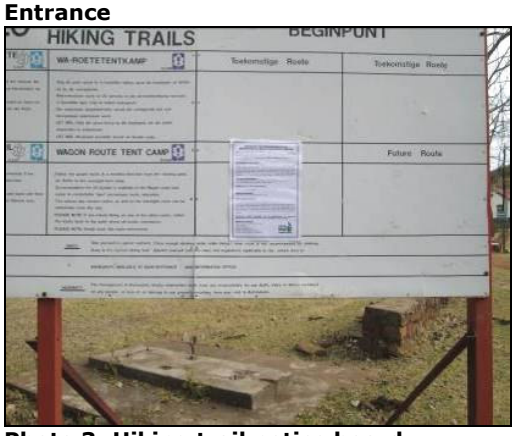


Photo 3: Hiking trail notice board

Photo 4: Northern fence

Photo 5: Gerard Sekoto Library

Photo 6: Steve Tshwete Local Municipality

Figure 6.1: On-site notices displayed (from 22 June to 23 July 2012)

6.2 Relevant Authorities

6.2.1 The Department of Economic Development, Environment and Tourism

The Department of Economic Development, Environment and Tourism (DEDET) was consulted with regards to the proposed development.

The following documentation was submitted to the Department (eMalahleni office) on 29 May 2012 (Appendix 1):

- Application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), (as amended) and the Environmental Impact Assessment Regulations, 2010.

A letter from the Department (dated: 20 June 2012; Ref: 17/2/3 N-167; Appendix 7) was received acknowledging receipt of this documentation and indicating the responsible officer (Ms. M. Seshweni) for the said project.

A site visit with Ms. M. Seshweni of the Department and Ms. R. van Rensburg of Clean Stream Environmental Services was held on Tuesday, 4 September 2012.

The issues raised by Ms. Seshweni are indicated in Table 6.1.

Table 6.1: Issues raised by the Department of Economic Development, Environment and Tourism

Comment	Response
Will the development be manageable?	To be investigated in the EIA phase and mitigation measures proposed.
Require a letter from the Steve Tshwete Local Municipality indicating that they will be responsible for the management of the development, especially in terms of service provision and waste removal.	The Steve Tshwete Local Municipality will be requested to provide the said letter.
It must be ensured that there is sufficient groundwater available for the development.	A geohydrological study was commissioned. More information will be provided in the Environmental Impact Report (EIR).
The groundwater quality must be tested to ensure that it is suitable for domestic use.	Noted.
It must be ensured that water abstraction for the proposed development does not impact on the groundwater supply of the surrounding landowners.	A geohydrological study was commissioned. More information will be provided in the Environmental Impact Report (EIR).
The 50-m buffer zone around the pans and wetlands will suffice.	Noted.
It is agreed that the following specialist species must be conducted: ▪ Archaeological study ▪ Wetland study ▪ Vegetation study ▪ Animal study ▪ Traffic impact study ▪ Social impact study ▪ Geotechnical study ▪ Geohydrological study.	The said specialist studies will be commissioned. Refer to Section 8 for more details.

6.2.2 Steve Tshwete Local Municipality

The Steve Tshwete Local Municipality is assisting the applicant (Botshabelo Community Development Trust) with the said applicant. However, a background information document (Appendix 6) was e-mailed (dated: 10 July 2012; Appendix 7) to Mr. M. Mahamba and Mr. P. Ndlovu of the Steve Tshwete Local Municipality in order to obtain their comment. ***To date, no comments have been received.***

6.2.3 Nkangala District Municipality

A background information document (Appendix 6) was forwarded (facsimile dated: 10 July 2012; Appendix 7) to the Development and Planning Unit of the Nkangala District Municipality. ***To date, no comment has been received.***

6.2.4 Department of Water Affairs

A background information document (Appendix 6) was forwarded (e-mail dated: 10 July 2012; Appendix 7) to the Department of Water Affairs in order to obtain their concerns with regards to the proposed development. ***To date, no comments have been received.***

6.2.5 Department of Agriculture, Rural Development and Land Administration (agriculture)

A background information document (Appendix 6) was forwarded (e-mail dated: 10 July 2012; Appendix 7) to the Department of Agriculture, Rural Development and Land Administration (official – Mr. J. Venter) in order to obtain the Department's concerns with regards to the proposed project. ***To date, no comments have been received.***

6.2.6 Department of Agriculture, Forestry and Fisheries

A background information document (Appendix 6) was forwarded (e-mail dated: 10 July 2012; Appendix 7) to the Department of Agriculture, Forestry and Fisheries in order to obtain the Department's concerns with regards to the proposed project. ***To date, no comments have been received.***

6.2.7 Department of Mineral Resources

A background information document (Appendix 6) was forwarded (e-mail dated: 10 July 2012; Appendix 7) to the Department of Mineral Resources in order to obtain the Department's concerns with regards to the proposed project. ***To date, no comment has been received.***

6.2.8 Department of Culture, Sports and Recreation (Provincial Heritage Resources Authority, Mpumalanga)

A background information document (Appendix 6) was forwarded (e-mail dated: 10 July 2012; Appendix 7) to the Department of Culture, Sports and Recreation (Director – Mr. S. Singh) in order to obtain the Department's concerns with regards to the proposed project. ***To date, no comment has been received.***

6.2.9 Department of Agriculture, Rural Development and Land Administration (housing)

A background information document (Appendix 6) was forwarded (facsimile dated: 10 July 2012; Appendix 7) to the Department of Housing (official – Ms. E. van Jaarsveld) in order to obtain the Department's concerns with regards to the proposed project. ***To date, no comment has been received.***

6.2.10 Department of Rural Development and Land Reform (Commission on Restitution of Land Rights)

The Department of Rural Development and Land Reform was contacted (e-mail dated: 10 July 2012; Appendix 7) with regards to the proposed project. ***To date, no comment has been received.***

6.2.11 Department of Public Works

A background information document (Appendix 6) was forwarded (facsimile dated: 10 July 2012; Appendix 7) to the Department of Public Works (official – M. Mokgohloa) in order to obtain the Department's concerns with regards to the proposed project. ***To date, no comment has been received.***

6.3 Consultation with other stakeholders

6.3.1 Mpumalanga Tourism and Parks Agency (MTPA)

A background information document (Appendix 6) was forwarded (e-mail dated: 10 July 2012; Appendix 7) to the following persons at the Mpumalanga Tourism and Parks Agency:

- Mr. A. Hoffman;
- Mr. F. Krige; and
- Mr. M. Lotter

To date, no comments have been received.

6.3.2 Mpumalanga Provincial Heritage Authority

A background information document (Appendix 6) was forwarded (e-mail dated: 10 July 2012; Appendix 7) to the Mpumalanga Provincial Heritage Authority in order to obtain their concerns with regards to the proposed project. ***To date, no comment has been received.***

6.3.3 South African Heritage Resources Agency (SAHRA)

A background information document (Appendix 6) was forwarded (e-mail dated: 12 July 2012; Appendix 7) to the South African Heritage Resources Agency (satellite and head offices) in order to obtain their concerns with regards to the proposed project. ***To date, no comment has been received.***

6.3.4 Mpumalanga Heritage Foundation

Mr. A. Barlow registered as an interested and affected party on 6 August 2012. Mr. Barlow indicated that he is the Curator of Fort Merensky and also represents the Mpumalanga Heritage Foundation and Heritage South Africa.

According to Mr. Barlow, the Botshabelo Nature Reserve, village and fort are classified by the South African Heritage Resources Agency as a Class 1 heritage site. Background information regarding Botshabelo was provided telephonically. In addition, a list of written resources that can be consulted regarding the history was provided.

Mr. Barlow expressed his concern about the proposed development.

6.3.5 Heritage South Africa

Fort Merensky (located within the Botshabelo Nature Reserve on Portion 3 of the farm Toevlugt 320 JS) is under the auspices of Heritage South Africa.

Mr. M. Kent, on behalf of Heritage South Africa, registered as an interested and affected party via e-mail on 2 August 2012 (Appendix 7). Table 6.2 provides an indication of the issues raised by Heritage South Africa.

Table 6.2: Issues raised by Heritage South Africa

Comment	Response
The impact assessment has to address matters concerning the fact that this property is within a Nature Reserve.	Official status to be investigated as part of the EIA phase.
It is said that 1000 stands are provided. 930 beneficiaries are recorded. Does this mean that any further expansion would take place?	The Botshabelo Community Development Trust indicated that they currently need 930 stands to accommodate the beneficiaries from the Trust. Urban Dynamics subsequently proposed to make provision for 1000 stands, which will accommodate the current need and potential future need of the community.
There is an airstrip close by. Will this be taken into consideration?	Yes. Conditional approval has already been obtained from the Civil Aviation Authority (CAA). See Section 6.3.20.
Will the 'Rural Village' accommodate rural and ethnic concerns?	To be addressed in the EIA.
Will road outlays be in line with traffic assessments?	A traffic impact assessment will be conducted during the EIA phase.

6.3.6 Simon van der Stel Foundation

Portion 3 of the farm Toevlugt 269 JS is registered to the Simon van der Stel Foundation (Figure 6.2). Portion 3 is located within the Botshabelo Nature Reserve and comprises Fort Merensky.

A background information document (Appendix 6) was forwarded (e-mail dated: 12 July 2012; Appendix 7) to the Simon van der Stel Foundation in order to obtain their comment with regards to the proposed development.

Subsequently, an e-mail (dated: 25 July 2012; Appendix 7) was received from Ms. P. Benhow-Hebbert requesting that the Simon van der Stel Foundation be registered as an interested and affected party.

Table 6.3 provides an indication of the comment received from the Simon van der Stel Foundation.

Table 6.3: Issues raised by the Simon van der Stel Foundation

Comment	Response
It is called a 'rural' village but it is very close to the existing urban node of Middelburg AND adjacent to the Air Strip. Concern is voiced about the fact that urban development 'jumps' across undeveloped areas (leap frogging). The development of an individual free standing node like the one proposed will most probably in the long term stimulate infill resulting in urban sprawl. As this is not an ideal situation, the impact assessment has to address preventative measures.	To be addressed during the EIA phase.
Secondly: this proposed village is situated WITHIN the Nature Reserve which probably is in contradiction with the aim and purpose of the said Nature Reserve. The impact assessment must address issues such as the current state and future planning of the Nature Reserve, the importance of	To be addressed during the EIA phase.

Comment	Response
the natural vegetation, how endangered it is, impact of development on the Nature Reserve, etc.	
Mention is made of 930 beneficiaries but 1000 stands are being provided for. How will future growth of this village be addressed? The street layout seems to 'invite' future expansion. These are crucial issues that must be addressed.	The Botshabelo Community Development Trust indicated that they currently need 930 stands to accommodate the beneficiaries from the Trust. Urban Dynamics subsequently proposed to make provision for 1000 stands, which will accommodate the current need and potential future need of the community.
Proximity to the Air Strip – does it comply to all aviation regulations – safety, noise, future expansion of the facility, etc?	Conditional approval has already been obtained from the Civil Aviation Authority (CAA). See Section 6.3.20.
Sense of Place – the proposed layout is a very conventional and ordinary URBAN landscape. Concern is raised that this layout makes hardly any attempt in creating an unique African rural village with a special sense of place.	To be addressed during the EIA phase.

6.3.7 Wildlife and Environment Society of South Africa (WESSA)

A background information document (Appendix 6) was forwarded (e-mail dated: 10 July 2012; Appendix 7) to Mr. L. Betha of the Wildlife and Environment Society of South Africa (WESSA) for evaluation and comment. ***To date, no comments have been received.***

6.3.8 South African National Roads Agency (SANRAL)

The proposed development would obtain access from the N11 national road. A background information document (Appendix 6) was therefore forwarded (e-mail dated: 10 July 2012; Appendix 7) to the South African National Roads Agency for evaluation and comment. ***To date, no comments have been received.***

6.3.9 Mr. J. Dyason (Councillor - Ward 16)

A background information document (Appendix 6) was forwarded (e-mail dated: 10 July 2012; Appendix 7) to the councillor for the area (Mr. J. Dyason) in order to obtain his issues of concern and/or objections on behalf of the community. Telephonically, Mr. Dyason indicated that he would like to be involved in the process. ***To date, no comment has been received.***

6.3.10 Middelburg Chamber of Commerce and Industry

A background information document (Appendix 6) was forwarded (e-mail dated: 10 July 2012; Appendix 7) to Ms. A Ott of the Middelburg Chamber of Commerce and Industry for evaluation and comment. ***To date, no comment has been received.***

6.3.11 Birdlife South Africa

Birdlife South Africa was contacted (e-mail dated: 19 July 2012; Appendix 7) since the proposed development would be located within a nature reserve.

Subsequently, an e-mail was received (20 July 2012; Appendix 7) from Ms. C. Uys indicating that Birdlife South Africa will not register as an I&AP since the proposed development does not fall within or near a registered Important Bird Area.

Birdlife South Africa was therefore removed from the I&AP list.

6.3.12 Middelburg Birding Club

A background information document (Appendix 6) was forwarded (e-mail dated: 10 July 2012; Appendix 7) to Mr. H. Hoffman of the Middelburg Birding Club for comment. ***To date, no comments have been received.***

6.3.13 Endangered Wildlife Trust (EWT)

The Endangered Wildlife Trust (EWT) was contacted (e-mail dated: 10 July 2012; Appendix 7) since the proposed development would be located within a nature reserve. ***To date, no comments have been received.***

6.3.14 Mpumalanga Wetland Forum (MWF)

The background information document was forwarded (e-mail dated: 10 July 2012; Appendix 7) to Mr. G. Cowden of the Mpumalanga Wetland Forum since wetlands are present on site. Mr. Cowden was requested to forward the background information document to all persons on the MWF database. This was done on 20 August 2012 (Appendix 7).

6.3.15 Middelburg Distriks Landbou Unie

A background information document (Appendix 6) was forwarded (e-mail dated: 10 July 2012; Appendix 7) to Mr. J. Schmahl of the Middelburg Distriks Landbou Unie for comment. ***To date, no comments have been received.***

6.3.16 Mpumalanga Agriculture

Mpumalanga Agriculture registered as an interested and affected party per letter (dated: 20 August 2012; Appendix 7). Table 6.4 provides an indication of the comment received.

Table 6.4: Issues raised by Mpumalanga Agriculture

Comment	Response
It will be of great interest to find out how the boundaries of the proposed rural village will be managed to remain in the area declared as a rural village.	Feedback to be provided in the Environmental Impact Report (EIR).
This is a recipe for the establishment of informal settlements next to/around the proposed rural village.	Noted.
The proposed village is planned next to a Pan. How will this pan be protected against pollution?	Mitigation measures will be provided in the EIR.
How will all forms of wildlife on and in the pan be protected?	Mitigation measures will be provided in the EIR.
Figure 2 is supposed to indicate where sewerage and waste will be managed, but it is not on the map supplied.	Please refer to Section 3.5 regarding services. Further details to be provided in the EIR.

6.3.17 Botlalo Mining and Energy Resources (Pty) Ltd.

Botlalo Mining and Energy Resources (Pty) Ltd. was informed (e-mail dated: 30 July 2012; Appendix 7) since they submitted a prospecting application in the area. ***To date, no comments have been received.***

6.3.18 Telkom

A background information document (Appendix 6) was forwarded (e-mail dated: 10 July 2012; Appendix 7) to Telkom in order to obtain their concerns with regards to the proposed project. ***To date, no comments have been received.***

6.3.19 Eskom

A background information document (Appendix 6) was forwarded (e-mail dated: 10 July 2012; Appendix 7) to Eskom Distribution and Eskom Transmission in order to obtain their concerns with regards to the proposed project.

Subsequently, an e-mail (dated: 25 July 2012; Appendix 7) was received from Eskom indicating that Eskom is not affected by the proposed development.

6.3.20 SA Civil Aviation Authority (SACAA)

A background information document was forwarded (e-mail dated: 10 July 2012; Appendix 7) to the SA Civil Aviation Authority since the proposed development would be located adjacent to the Middelburg Aeroclub.

Subsequently, an e-mail (dated: 11 July 2012) was received from Mr. C. Isherwood indicating that the proposed development has already received SACAA conditional approval. Urban Dynamics Town and Regional Planners contacted the SACAA at the start of the townplanning process and applied for the relevant approval.

The conditional approval letter (dated: 12 April 2012; Ref: CA8/8/Middleburg CAA-2012-04-DEV001; Appendix 7) indicates the following:

> "As requested an assessment, utilising information supplied by your office (i.e. Urban Dynamics Town and Regional Planners), of the site on which the above mentioned development is proposed has been undertaken.
>
> The assessment indicates that the developments on the site will encroach into protected areas of airspace relating to the Middelburg airfield and as such building height restrictions will be required.
>
> The restrictions are stipulated as follows:
> 1) In the area designated as Botshabelo North (.jpg graphic of same name refers) and which comprises the area contained within the straight lines joining the positions Botshabelo Point, Botshabelo 2 and Botshabelo 6, buildings are to be restricted to no higher than an elevation (above mean sea level) of 1455 meters.
>
> 2) Buildings in the area contained within the straight lines joining Botshabelo 2, Botshabelo 3, Botshabelo 4, Botshabelo 5, Botshabelo 6 and then directly back to Botshabelo 2, are to be restricted to no higher than an elevation of 1510 meters. Graphic Botshabelo South (.jpg graphic of same name refers)."

More information regarding the airfield and the potential impact of the proposed development on the airfield will be provided in the Environmental Impact Report.

6.4 Adjacent landowners/users

Figure 6.2 provides an indication of the surrounding landowners/users in relation to the proposed site. During the scoping phase, the landowners/users within a 5 km radius were identified using a Deeds Search via the WinDeed system of the Deeds Office of South Africa. The Deeds Search Template

provides information pertaining to land ownership, size and land value of each of the properties.

Contact details for the landowners were obtained from the townplanners (Urban Dynamics) where available as well as from the telephone directory and other interested and affected parties. Contact details could however, not be obtained for all the landowners within the 5 km radius. Since public participation is a continuous process, all effort will be made to obtain the relevant contact details during the Environmental Impact Assessment phase. The landowners indicated in yellow in Figure 6.2 have been contacted. The landowners indicated in red still need to be consulted as part of the EIA phase.

The surrounding landowners were informed of the proposed development through the advertising process as indicated in Section 6.1 and the distribution of background information documents (BID's). A copy of the background information document is provided in Appendix 6.

In addition, individual meetings were held with a few of the landowners. A public meeting will be arranged during the Environmental Impact Assessment phase.

The comments received from the surrounding landowners in response to the advertising, distribution of the background information document and the meetings held are indicated below.

6.4.1 Middelburg Aeroclub – RE of Toevlugt 320 JS (Figure 6.2)

The Middelburg Aeroclub is located on the Remaining Extent of the farm Toevlugt 320 JS. The property is leased by the Steve Tshwete Local Municipality from the Botshabelo Community Development Trust. In turn, the Middelburg Aeroclub leases the airfield from the Steve Tshwete Local Municipality on a three (3) year contract basis.

The proposed development would be located on the western boundary of the Middelburg Aeroclub.

The chairman of the Middelburg Aeroclub (Mr. R. Lovett) was contacted (e-mail dated: 10 July 2012; Appendix 7) in order to obtain their concerns with regards to the proposed project.

Subsequently, an e-mail (dated: 11 July 2012; Appendix 7) was received from the Vice Chair of the Middelburg Aeroclub, Mr. B. van der Merwe, indicating that they strongly object to the proposed development. Table 6.5 lists the comments received. These written concerns were also raised in terms of the townplanning process.

Table 6.5: Issues raised by the Middelburg Aeroclub

Comment	Response
The Middelburg Aeroclub is the Lessee of the airfield (Middelburg Airfield). The said airfield is leased by the Middelburg Aeroclub in terms of a written Lease Agreement of a period of 3 (three) years, affording it an option to renew the Lease Agreement for a further 3 (three) years. The Lease Agreement was renewed recently.	Noted.
In terms of the said Lease Agreement the Middelburg Municipality has the obligation to maintain the airfield, its parameters and license with the Civil Aviation Authority of South Africa (CAA).	Noted.

Comment	Response
It is noted that the township is envisaged to be situated to the North West of the airfield.	That is correct.
The Middelburg Aeroclub's Members invested substantial amounts in the airfield. In recent times various electrical cables were installed by the Aeroclub to host air shows. The members also invested substantial amounts in the infrastructure of the airfield, being hangers, ablution facilities, offices, etc. The members also invested substantial amounts in aircraft that are being kept in the said hangers.	Noted.
It is noted that the planned township would be established approximately 1 (one) kilometre or less from the runway and hangers. The aero club's members have serious concerns about the safety and security aspects at Middelburg aerodrome after the establishment of the rural village.	Noted.
The Middelburg Aeroclub hereby formally objects strongly to the proposed site of the proposed development and it is evident that not enough attention was given to the safety, security and risk elements in the proposed establishment. Surely the safety and security of especially children had not been taken into account.	Noted.
The Aeroclub base its objections and concerns on various other similar situations in towns where either formal or informal settlements have been established next to the towns airfields. Those airfields are non-existent today (Bethal and Bronkhorstspruit) and airfields like the Witbank and Newcastle Airfields are constantly battling with safety and security issues.	Noted.
Burglaries, vandalism and runway intrusions are common at the Witbank airfield Newcastle airfield are constantly struggling with grazing animals on the airfield, so much so that a recent medical rescue flight were almost cancelled due to the safety risks involved. That despite the fact that contrary to Middelburg Airfield, those Airfield's Municipalities maintains the security fences around the airfield.	Noted.
Currently, despite an obligation in terms of the Lease Agreement between the Middelburg Aeroclub and the Steve Tshwete Local Municipality (STLM) the fences on the parameters of the Middelburg airfield are in a state of dismal disrepair.	Noted.
The fences on the Northern border of the airfield was vandalised, stolen and is actually non-existent. That allows intrusion of the airfield by animals and people which poses a serious threat to any aircraft utilizing the facility and the passengers using such aircraft. That is also contrary to the CAA requirements for a licensed airfield. It needs to be mentioned that STLM is the licensee of the airfield. It is a further concern that the unauthorised people entering the airfield are unaware of the deadly dangers they expose themselves and the general flying public to.	Noted.
The Aeroclub members are aware of the fact that it cannot stop the legitimate owners of the farm Toevlugt to exercise their right to occupy their property. However, which is of utmost concern is the safety and security at the Middelburg aerodrome.	Noted.
It is further proven by other similar situations that it will ultimately result in the Middelburg Aerodrome to become obsolete, unusable and lost for the Town of Middelburg.	Noted.
Requirements: Should the township be established it is and will be a requirement by the Aeroclub that: o Parameter fencing must be erected and maintained which would prevent animals, people and children in particular to enter the airfield area without proper authorisation. Wire fencing has proven not sufficient and safe and will not prevent such to enter the airfield. A concrete fence has proven its security qualities at the bigger Airports like ORT. o The parameter of the hangers at the facility should be fenced off properly by way of concrete security fencing with a proper large	Feedback to be provided in the EIR.

Comment	Response
gate to the hangers to allow aircraft to enter and exit the hanger's spaces. o That the STLM accepts responsibility and liability for the security and safety of the aerodrome facilities as well as the safety and security of the aerodrome member's, the general flying public that makes use of the facility and hangers and investment into the airfield. o That access to the airfield by the inhabitants of the rural village, their children and animals be absolutely prevented and limited.	
Various mining Companies use the airfield for their employees to have quick access to business opportunities and their businesses / mining activities in the vicinity. If security is not stepped up by visible Policing of the facility, the said facility would fall into disuse and discourage investment in the Middelburg economy.	Noted.
It is thus the Middelburg Aero club's concern that the establishment of the rural village will pose a serious threat to the safety and security of the users of the facility and the Aeroclub members as well as the proposed inhabitants of the proposed village.	Noted.
A precondition should be set to the establishment and the reality of a township next to the airfield should be dealt with. In terms of the license agreement between the STLM and the CAA, it is and remains the STLM's responsibility to ensure the safety of general aviation and the general public utilising the facility.	Feedback to be provided in the EIR.
It is suggested that a meeting be scheduled between the responsible officials of the STLM, Urban Dynamics and the Management of the Middelburg Aeroclub to discuss and formalise conditions president to the establishment of the rural village and that such conditions form part of the conditions by the MEC for the establishment of the township.	To be discussed with said parties.
As the STLM is aware of its obligations, responsibilities and liabilities towards the Middelburg Aeroclub and general aviation in particular, as the licensee of the facility, the STLM will have to accept responsibility and liability for the said security arrangements as well as any damages, losses or other suffered by the Middelburg Aero club's Members as a result of the establishment of the said village.	Noted.

Clean Stream Environmental Services enquired from Mr. Van der Merwe whether any meetings were held between the Middelburg Aeroclub, Urban Dynamics and the Steve Tshwete Local Municipality. Mr. B. van der Merwe indicated (e-mail dated: 11 July 2012; Appendix 7) that several meetings were held, with no results. In addition, the Steve Tshwete Local Municipality indicated to the Middelburg Aeroclub that there is no money budgeted for the airfield and can thus not re-seal the runway or maintain the fences.

According to Mr. Van der Merwe, wild animals are encountered on the runway on a frequent basis and it is anticipated that with the establishment of a township, the airfield will be closed.

6.4.2 Toevlugt 269 JS (Figure 6.2)

Table 6.6 provides an indication of various landowners of the farm Toevlugt 269 JS according to the WinDeed system.

Table 6.6: Landowners of Toevlugt 269 JS

Toevlugt 269 JS			
Portion	**Registered landowner**	**Contact person**	**Comment received**
2	V.C. Fourie	Contact details not known	-
3	Stigting Simon van der Stel	M. Kent A. Barlow P. Benhow-Hebbert	Refer to Sections 6.3.4, 6.3.5 and 6.3.6
4	Middelburg Municipality	Mr. W. Fouche (Municipal Manager) Mr. M. Mahamba (Chief Townplanner)	None. Refer to Section 6.2.2.
6	Botshabelo Community Development Trust	Ms. M. Motsifane	None (the applicant)

6.4.3 Middelburg Town and Townlands 387 JS (Figure 6.2)

According to the WinDeed system, Portion 27 of the farm Middelburg Town and Townlands 387 JS is registered to the Steve Tshwete Local Municipality. The boundaries of the Botshabelo Nature Reserve (as indicated on the 1: 50 000 topographical map) extend onto this property.

6.4.4 Draaihoek 271 JS (Figure 6.2)

The entire farm Draaihoek 271 JS is registered to the Republic of South Africa. The property is located approximately 4 km south west of the proposed site (Figure 6.2). The Department of Public Works was informed of the proposed development (see Section 6.2.11). ***To date, no comment has been received.***

6.4.5 Noordhoek 333 JS (Figure 6.2)

The Botshabelo Community Development Trust indicated that the farm Noordhoek 333 JS also belong to them, even though it is still registered to the Republic of South Africa. The property is located approximately 3 km north east of the proposed site, adjacent to the N11 national road. This property was investigated as an alternative site for the proposed development (see Section 5).

The Department of Public Works was informed of the proposed development (see Section 6.2.11). ***To date, no comment has been received.***

6.4.6 Broodboomkrans 363 JS (Figure 6.2)

According to the WinDeed system, the entire farm Broodboomkrans 363 JS is registered to the Republic of South Africa. The property is located approximately 4 km west of the proposed development (Figure 6.2). The Department of Public Works was informed of the proposed development (see Section 6.2.11). ***To date, no comment has been received.***

Mr. S. Mabena currently resides on Broodboomkrans. He was contacted telephonically on 13 August 2012 regarding the proposed development. Mr. Mabena indicated that although the farm Broodboomkrans is still registered to the Republic of South Africa, the property was given to him through a land claim.

The background information document (Appendix 6) was forwarded to Mr. Mabena (facsimile dated: 13 August 2012; Appendix 7) in order to obtain his comments. ***To date, no comment has been received.***

6.4.7 Doornkop 273 JS (Figure 6.2)

According to the WinDeed system, the entire farm Doornkop 273 JS is registered to the Republic of South Africa. The property is located approximately 4 km north west of the proposed development (Figure 6.2). The Department of Public Works was informed of the proposed development (see Section 6.2.11). ***To date, no comment has been received.***

The said property is utilized by the 4 SAI for military training. A background information document (Appendix 6) was forwarded (facsimile dated: 13 August 2012; Appendix 7) to Major Gysman in order to obtain his comment with regards to the proposed development. ***To date, no comment has been received.***

6.4.8 Groenfontein 266 JS (Figure 6.2)

Table 6.7 provides an indication of various landowners of the farm Groenfontein 266 JS according to the WinDeed system.

Table 6.7: Landowners of Groenfontein 266 JS

Groenfontein 266 JS			
Portion	**Registered landowner**	**Contact person**	**Comment received**
1 & 2	Emarubini Communal Property Association	Contact details not known	-
3	Ramohlakane Groenfontein Community Trust	Contact details not known	-
3	Ramohlakane Groenfontein Community Trust	Leased by P. Steenkamp (SKS Boerdery) for agricultural purposes	Yes – refer to Table 6.8
4	N.J. Hesselman	K. Hesselman	Yes – refer to Table 6.9
5	R.W. Glintzer	R.W. Glintzer	Yes – refer to Table 6.10
8	R. Masondo	Contact details not known	-
11 & 12	LIJ Boerdery	S.J. Bester	None. Background information document (BID) e-mailed 13 August 2012 (Appendix 7)

6.4.8.1 P. Steenkamp (SKS Boerdery) (Figure 6.2)

Mr. P. Steenkamp leases the property (Portion 3 of Groenfontein 266 JS; Figure 6.2) on the northern boundary of the proposed development site from the Ramohlakane Groenfontein Community Trust for agricultural purposes.

A background information document was forwarded (e-mail dated: 13 August 2012; Appendix 7) to Mr. Steenkamp to obtain his issues of concern. Subsequently, a letter was received (dated: 16 August 2012; Appendix 7) indicating his concerns. Table 6.8 indicates the issues raised.

Table 6.8: Issues raised by Mr. P. Steenkamp (SKS Boerdery)

Comment	Response
Water: It came to our attention that the local municipality plan to supply the whole village with water from boreholes sunk in and around the village. According to the National Water Act of 1999, each rural household is entitled to at least 6000 litres of water per month, which in this case, amounts to 6 000 000 litres per month, or, 196721 litres of water to be pumped from this boreholes per DAY. How sustainable can this be in the long term, especially in an area known for its poor groundwater availability? Furthermore, would the Local Authorities decide to supply the water via road, just imagine what the financial implications would be on the taxpayers pockets of Middelburg.	A geohydrological study was commissioned to investigate the usage of groundwater for the proposed development.
Sewage: It is still unclear as to which sewerage system would be adapted, but I presume it will be the same system as found in the village of Doornkop. The 'long drop' system works well, however, if we have excessive rain during the rainy season, it has been known for these 'long drops' to overflow and that in turn results in the groundwater as well as the surface water being contaminated. With an average of 16 000 people dying from diarrheal diseases every year in South Africa, would this development be managed properly, and who would take responsibility if disaster strikes?	Please refer to Section 3.5 for more information regarding proposed services. Further details regarding the sewage system to be implemented will be provided in the EIR.
Vegetation: We have a thousand residential stands which will evidently result in no less than 4000 people residing in the village. The impact on the environment in terms of the availability of wood and grazing would be astronomical.	Noted. To be addressed as part of the EIA phase.
Air quality: Air pollution due to wooden fires would also be something to be taken into account.	Noted.
Safety and Security: The Middelburg Aerodrome would be adjacent to the village and that poses a few threats to the residents of the village as well as to the airport users. Poor visibility due to air pollution, children playing on the landing strip and stray animals from the village can result in fatalities.	Noted.
Safety and Security: Lessons learnt from the establishment of the Doornkop Village was that the residents need to fence off their stands, to either indicate their border or keep their livestock at bay during the evenings. Furthermore, these people must erect some kind of dwelling to live in at first. These materials (wire, droppers, corrugated iron, etc.) is rarely bought and is more often than not, taken from the adjacent farms and especially from the fences right next to the road (N11), hence, this results in stray animals ending up in the road and plenty of accidents	Noted.

Comment	Response
happening. The close-by historical settlement of Botshabelo would also become a source of building materials for the new residents of the village.	
Unemployment: The unemployment rate in Doornkop is also a factor to be reckoned with. If the same rate applies to the new village, it would become a market for stolen necessities like fuel, oil, wire, fertiliser, etc. which in turn makes life difficult for the people trying to make a living in the close vicinity of these villages.	Noted.
Summary: The proposed layout is done correctly but situated wrongly. Resources such as pollution, availability of water, wood and public transport needs to be argued at length to find the best solution. Unemployment poses a real threat to the economically active people in and around these villages. If not properly managed and controlled, it will result in the whole area being negatively impacted on in terms of theft, pollution and property values going astray.	Noted.

6.4.8.2 K. Hesselman (Figure 6.2)

A meeting was held with Mr. K. Hesselman on 18 July 2012 in order to obtain his issues of concern. Table 6.9 provides a summary of the issues raised during meeting.

Table 6.9: Issues raised by Mr. K. Hesselman

Comment	Response
Water: The three proposed boreholes will not be sufficient to provide everyone with water. In addition, the water abstraction may impact on his water supply downstream.	A geohydrological study was commissioned to investigate the usage of groundwater for the proposed development.
Wildlife: What will happen with the wildlife within the Botshabelo Nature Reserve?	To be addressed in the EIA phase.
Fences: Theft of fencing will increase	Noted.
Agriculture: Intends to start cultivating maize. This will not be possible with the intended development since the maize will be stolen. Theft in general will most probably increase.	Noted.
Fire: There is already a problem with fires in the area. A lot of damage is being caused.	A buffer zone around the proposed village has been incorporated in the layout plan to act as a fire break (see Figure 3.2).
Access road: The gravel access road is a private road, which is maintained by himself and Mr. Glintzer. The increased traffic will impact on this road. Who will be responsible for the maintenance of this road? Recommends that an alternative access road is constructed from the tar road, which will only be used by the new residents. Alternatively, the main Botshabelo entrance road must be used.	Noted. Alternative access routes will be investigated during the EIA phase. Feedback to be provided in the EIR.
Safety: During protests, it would be easy to block off the gravel access road. The adjacent landowners would then not have access to their properties.	Noted.

6.4.8.3 R.W. Glintzer (Figure 6.2)

A meeting was held with Glintzer family on 18 July 2012 in order to obtain their issues of concern. Written as well as verbal comments were received and are indicated in Table 6.10.

Table 6.10: Issues raised by Mr. R.W. Glintzer

Comment	Response
Wildlife: Botshabelo is a game farm and a township/rural village inside it is going to decimate the farm and its game. It is also a world heritage area. Indigenous to that area is scarce game like Oribi and Rooi Ribbok and a township is going to threaten its existence. Serval, genets, caracal, aardwolf, brown hyenas, ant bear, ietermago, suricate now back for the first time in many years, as well as springhaas. The bullfrog also occurs on site.	An animal life study was commissioned. More information will be provided in the EIA.
Birdlife: Blou ryer and wild makou breed next to the gravel road (DF) and will be driven out of the area by all the extra traffic. Fish eagle at the dam only here because of healthy area.	An animal life study was commissioned. More information will be provided in the EIA. According to Birdlife South Africa, the site is not an identified priority bird area.
Water: The fountain on Groenfontein has its catchment area right there where this township is planned. Pollution is a great concern. A proper baseline before any development needs to be done. Lifelong tests are going to have to be done, on regular bases, to ensure that water quality stays the way it is now. The three proposed boreholes will not be sufficient to provide everybody with water. The abstraction of water from the boreholes could impact on their water supply.	A geohydrological study was commissioned to investigate the usage of groundwater for the proposed development.
Wetland: The township is planned on a wet area. In the summertime during the rainy season that area is a marshland.	A wetland study was commissioned. More information will be provided in the EIA.
Access road: The DF gravel road is a farm road for farmers and maintained privately. No entrance SHOULD be made to the planned township through this road. Dust from vehicles is going to increase drastically. The entrance road comes from the main road and goes directly through a pan. This pan during summers fills up over the road. Minor traffic will not cause the wet road to disintegrate but major traffic will be a problem. Entrance must be made from the main Botshabelo gate.	Alternative access routes will be investigated during the EIA phase.
Services: Where is the water and sanitation coming from? Rural means extra costs. No pit toilets and boreholes are to be made here! Pipelines to Middelburg must be installed before any houses are set up here.	Please refer to Section 3.5 for more information regarding service provision. Further information to be provided in the EIR.
Site: Why behind the airfield? We request that the proposed town be located nearer to the middle of Botshabelo toward more open and flat area or nearer to town. Recommends that the development is placed adjacent to Mhluzi. Proper services can then be installed and the people will be closer to town and job opportunities.	Noted. See Section 5 regarding alternatives investigated.

Comment	Response
Fire: Veldfires are going to be a big threat.	A buffer zone around the proposed village has been incorporated in the layout plan to act as a fire break (Figure 3.1).
Pollution: All pollutions e.g. smoke, papers, dust, etc.	Noted.
Apparently there are regulations stating that rural villages may not be located closer than 15 km from each other. Are there such regulations?	Feedback to be provided in the EIR.
Safety: The farmers in the surrounding area would most probably have to stop farming and sell their properties due to an increase in theft and safety issues. Currently, the farmers in the area loose large portions of their harvest due to theft and cattle.	Noted.
The Botshabelo Community may not sell or rent their stands to people not belonging to the community. In addition, the Botshabelo Community Trust must not sell the stands to the Botshabelo community members. The development is being paid for by the taxpayer. The development should not just be elaborate vacation homes.	Noted.

6.4.9 Koelenhof 278 JS (Figure 6.2)

Table 6.11 provides an indication of various landowners of the farm Koelenhof 278 JS according to the WinDeed system.

Table 6.11: Landowners of Koelenhof 278 JS

Groenfontein 266 JS			
Portion	**Registered landowner**	**Contact person**	**Comment received**
0	E.J. de Meyer	Contact details not known	-
1	B.J. Mayerhofer	Contact details not known	-
2	D.P.J. van den Bergh	Contact details not known	-
3	N.J. Hesselman	K. Hesselman	Yes – see Section 6.4.8
4	G. van der Walt	N. van der Walt	None. BID e-mailed 11 July 2012 (Appendix 7)
5	D.B. Snyman	M.M. Snyman	None. BID e-mailed 11 July 2012 (Appendix 7)
6	A.R. Potgieter	P. Potgieter	None. BID faxed 11 July 2012 (Appendix 7)
7	M. Heyns	M. Heyns	None. BID e-mailed 13 August 2012 (Appendix 7)
9	Neels Moolman Familie Trust	Contact details not known	-

6.4.10 Leeuwpoortje 267 JS (Figure 6.2)

Table 6.12 provides an indication of various landowners of the farm Koelenhof 278 JS according to the WinDeed system.

Table 6.12: Landowners of Leeuwpoortje 267 JS

Groenfontein 266 JS			
Portion	**Registered landowner**	**Contact person**	**Comment received**
4, 8, 9	Republic of South Africa	Department of Public Works	None
2	K. Erichsen	Contact details not known	-
10	N.J. Hesselman	K. Hesselman	Yes – see Section 6.4.8
12	S.D. Adams	S. Adams	BID e-mailed 11 July 2012 (Appendix 7). Requested a map of the area and wanted to know whether it has already been approved (e-mail dated: 18 July 2012; Appendix 7)
13	J.J.M. Mthombeni	Contact details not known	-
14	L. van der Merwe	L. van der Merwe	None. BID e-mailed 11 July 2012 (Appendix 7)
15	T.J. Mahlangu	Contact details not known	-
16	P.R. Spies	B. Holder	-
17	T.E. van Niekerk	Contact details not known	-
18	E.I. Tosen	Contact details not known	-
19	V.O. Louw	V.O. Louw	None. BID e-mailed 13 August 2012 (Appendix 7)
20	P.J. Haarhoff	P.J. Haarhoff	None. BID e-mailed 11 July 2012 (Appendix 7)
21	Mid-Malanga X104 cc	Contact details not known	-
23	Neels Moolman Familie Trust	Contact details not known	-
24	Harbou Boerdery	Contact details not known	-
25	H.M. van der Westhuizen	Contact details not known	-
26	J.M. Ruthven	Contact details not known	-
28	M.M. Herbst	Contact details not known	-
29	J.A.M. Pieterse	J.A.M. Pieterse	None. BID e-mailed 11 July 2012 (Appendix 7)

6.4.11 Keerom 374 JS (Figure 6.2)

Table 6.13 provides an indication of various landowners of the farm Keerom 374 JS according to the WinDeed system. They will be contacted during the EIA phase.

Table 6.13: Landowners of Keerom 374 JS

Groenfontein 266 JS			
Portion	**Registered landowner**	**Contact person**	**Comment received**
3	K. Erichsen	Contact details not known	-
44	Pots Galore cc	Contact details not known	-
45	C.J. Hattingh	Contact details not known	-
46	C.P. Nagel	Contact details not known	-
47	Philmar Trust	Contact details not known	-

6.5 List of Interested and Affected Parties

From the above public participation process, the following list of Interested and Affected Parties was compiled:

INTERESTED AND AFFECTED PARTY LIST	
Organisation	**Name**
Government Departments	
Department of Agriculture, Forestry and Fisheries – Nelspruit	D. Cindi
Department of Agriculture, Rural Development and Land Administration (housing)	E van Jaarsveld
Department of Agriculture, Rural Development and Land Administration (agriculture)	J Venter
Department of Culture, Sports and Recreation	S Singh
Department of Economic Development, Environment and Tourism	M Sesweni
Department of Mineral Resources– eMalahleni	M Mokonyane
Department of Public Works	M Mokgohloa
Department of Rural Development and Land Reform	G Mathonsi
Department of Water Affairs – Bronkhorstspruit	M Mudau
Other Organisations	
Civil Aviation Authority	C Isherwood
Eskom	E Lennox, A Pretorius
Heritage South Africa	M Kent
Middelburg Aeroclub	R Lovett B van der Merwe
Middelburg Agriculture	H Laas
Middelburg Birding Club	H Hoffman
Middelburg Chamber of Commerce and Industry	A Ott
Middelburg Distriks Landbou Unie	J Schmahl
Mpumalanga Heritage Foundation	A Barlow
Mpumalanga Provincial Heritage Authority	B Moduka
Mpumalanga Tourism and Parks Agency – Groblersdal	A Hoffman, F Krige, M Lotter
Mpumalanga Wetland Forum	G Cowden
Simon van der Stel Foundation	P Benhow-Hebbert
South African Heritage Resources Agency	L van Damme
South African National Roads Agency	M Yorke-Hart
Telkom	J Kruger
Non-Governmental Organisations	
Birdlife South Africa	C Uys
Endangered Wildlife Trust	U Franke
Wildlife and Environment Society of South Africa	L Betha

INTERESTED AND AFFECTED PARTY LIST	
Organisation	**Name**
Local Municipality and Municipal Councillor	
Ward Councillor – Steve Tshwete (Ward 16)	J Dyason
Steve Tshwete Local Municipality	M Mahamba P Ndlovu
Nkangala District Municipality (Development and Planning)	G Mathalise
Surrounding landowners/users	
Botlalo Mining and Energy Resources (Pty) Ltd.	Masondo, Rhoda
Adams, Susan	Mayerhofer, B.J.
Bester, Leon & Johan	Mid-Malanga X104 cc.
De Meyer, Flip	Mthombeni, J.
Emarubini Communal Property Association	Nagel, K.P.
Glintzer, Rudiger	Neels Moolman Familie Trust
Glintzer, MJ	Philmar Trust
Haarhoff, PJ	Pieterse, JAM
Harbou Boerdery	Potgieter, P.
Hattingh, C.J.	Pots Galore cc
Herbst, M.M.	Ramohlakane Groenfontein Community Trust
Hesselman, K	Ruthven, J.M.
Heyns, M.	Snyman, MM
Erichsen, K.	Steenkamp, P (renting land)
Fourie, V.C.	Tosen, E.I.
Gysman, H.J (Major) 4SAI Military	Van den Bergh, D.
Holder, Bennie	Van der Merwe, L
Louw, V.O.	Van der Walt, N
Mabena, Samual	Van der Westhuizen, H.M.
Mahlangu, T.J.	Van Niekerk, T.E.

7. DISCUSSION AND CONCLUSION

The project applicant, *Botshabelo Community Development Trust,* intends to establish a rural village on the Remaining Extent of the farm Toevlugt 320 JS, Middelburg. Approximately 1000 'Residential 1' stands, a business stand, community facilities and a combined school are proposed. The site is located within the Botshabelo Nature Reserve, approximately 7.5 km north of Middelburg along the N11 national road.

The farm Toevlugt 320 JS, which forms part of the Botshabelo Nature Reserve, was awarded to the Botshabelo Community Development Trust in 2005 as part of a Land Claim. The community (930 beneficiaries) indicated that they intend to resettle on the said property. The Steve Tshwete Local Municipality subsequently agreed to assist the community to establish a township on their land.

The entire property is 2 755 ha in extent, of which approximately 130 ha will be utilized for the rural village.

In order to obtain environmental authorisation, a Scoping Report and an Environmental Impact Assessment Report must be compiled as described in Regulations 26 to 35 of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of Section 24(5), 24M and 44 of the National Environmental Management Act, 1998 (Act 107 of 1998).

Clean Stream Environmental Services was appointed by the applicant as independent environmental consultant to compile a scoping and environmental impact assessment in terms of Section 24 and 24D of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2010.

7.1 Public participation

Section 5 provides an indication of the public participation process undertaken during the scoping phase and feedback received to date. In essence, it involved informing interested and affected parties of the proposed project and identifying interested and affected parties to be consulted as part of the overall process.

In terms of the advertising of the project, no persons registered as interested and affected parties. However, a few persons did phone regarding employment and stands.

Comments were received from the following departments, stakeholders and landowners:

- Department of Economic Development, Environment and Tourism;
- Mpumalanga Heritage Foundation;
- Heritage South Africa;
- Simon van der Stel Foundation;
- Birdlife South Africa;
- Mpumalanga Agriculture;
- Eskom;
- SA Civil Aviation Authority;
- Middelburg Aeroclub;

- P Steenkamp (SKS Boerdery);
- K. Hesselman; and
- R.W. Glintzer.

The Middelburg Aeroclub, R. Glintzer and SKS Boerdery objected to the proposed development.

The comments received/objections are summarized under the relevant headings in Section 7.2. Various specialist studies will be conducted during the EIA phase in order to address the issues raised. In addition, a public meeting will be held where the project will be discussed.

As indicated in Section 5, the intention is to consult all landowners within a 5km radius of the proposed development. Contact details could however, not be obtained for all the landowners within the 5 km radius during the scoping phase. These landowners will be consulted during the EIA phase and their comments included in the Environmental Impact Report.

All the relevant documentation (i.e. draft and final scoping reports, draft and final environmental impact reports and the authorisation) will be made available to registered interested and affected parties for review and comment. Further consultation will thus take place during the Environmental Impact Assessment (EIA) phase of the project. Section 7 of this report provides an indication of the public participation process to be followed during the EIA phase of the project.

7.2 Potential environmental impacts and issues identified

An indication of the baseline environmental features present on site is provided in Section 4 of this report.

The proposed development will be located within the Botshabelo Nature Reserve and is therefore expected to have a potential impact on a number of environmental features.

Geology/geotechnical
The provision of foundations for the houses and excavations for services would have an insignificant impact on the underlying geology. It should be noted that the proposed site has not previously been mined or undermined.

In terms of the geotechnical aspects, no major geotechnical constraints were identified by Engeolab cc. (2011). Normal and Modified Normal Construction would apply over the majority of the site. The two pans were however, identified as 'no development' areas since the areas would be inundated during the rainy season.

Topography
The natural topography of the proposed site is relatively flat. The construction of the buildings would form topographical highs in the landscape and would therefore have an impact on the topography of the area.

Soil/land capability/agricultural potential
According to the Department of Agriculture, Fisheries and Forestry, the site comprises moderate potential arable land. However, the site is not used for agricultural purposes. Developing the site would mean that the site is no

longer available for potential agricultural activities. Interested and affected parties indicated that the proposed development may impact on the agricultural production of the surrounding farms due to potential theft and illegal cattle grazing.

In general, the average soil profile on site consists of a relatively thin (<500 mm) topsoil layer, which is sequentially underlain by a sandy residuum, ferruginised residuum, some pedocrete and bedrock (Engeolab cc, 2011). The residual soils are generally loose to medium dense silty sands and silty gravels, overlain by loose colluvial soils.

Wetland soils with characteristic mottling and a gleyed colouring would be present at the pans and hillslope seepage wetlands on site. The wetland soils should not be impacted upon since no development will take place within a 50m radius of the pans and wetlands.

However, the remainder of the soil on site will be directly impacted when the vegetation and topsoil are removed, the site is sloped and the infrastructure is constructed. In addition, sediment transport and erosion may occur following the clearing of the site in preparation of construction. This may impact on the pans and hillslope seepage wetlands on site and nearby. Mitigation measures would have to be implemented.

Land use/sense of place

The site forms part of the Botshabelo Nature Reserve and is currently used for conservation purposes (although it is zoned agriculture). It is indicated as a nature reserve in the Steve Tshwete Local Municipality Spatial Development Framework (2010). The proposed development will impact on the land use and sense of place of the site, since the area (±130 ha) will no longer be available for conservation purposes.

The following issues recorded through the public participation process and relating mostly to sense of place will be investigated during the EIA phase of the project:

- The proposed development is probably in contradiction with the aim and purpose of a nature reserve.
- Will the airstrip located near the proposed development be taken into consideration?
- Proximity to the air strip – does it comply with aviation regulations in terms of safety, noise, future expansion of the facility, etc?
- Why will the proposed development be located adjacent to the airfield? The village should rather be located nearer to town (adjacent to Mhluzi) or in the middle of Botshabelo.
- It is called a 'Rural Village' but it is very close to the existing urban node of Middelburg and adjacent to the air strip. Concern is voiced about the fact that urban development 'jumps' across undeveloped areas. The development of an individual free standing node like the one proposed will most probably in the long term stimulate infill resulting in urban sprawl. As this is not an ideal situation, the impact assessment has to address preventative measures.
- The Botshabelo community must not be allowed to sell/rent their stands to people not belonging to the community. In addition, the Botshabelo Community Development Trust may not charge the Botshabelo community members for the stands. The development is being paid for

by the taxpayers. The development should not just be elaborate vacation homes.
- 1000 stands are provided but there are only 930 beneficiaries. Does this mean that further expansion would take place?
- Will the 'Rural Village' accommodate rural and ethnic concerns?
- The proposed layout is a very conventional and ordinary urban landscape. Concern is raised that this layout makes hardly any attempt in creating an unique African rural village with a special sense of place.

Vegetation/animal life

The site is located within the Rand Highveld Grassland, which has been afforded the status of Endangered by Mucina & Rutherford (2006) and Vulnerable in terms of the National Environmental Management: Biodiversity Act (Act No. 10 of 2004).

The site and surrounding area is also indicated as 'Highly Significant' and 'Important and Necessary' in terms of the terrestrial biodiversity assessment of the Mpumalanga Biodiversity Conservation Plan.

The vegetation on site comprises mostly short, untransformed grassland. Wetland vegetation is present within the pans and hillslope seepage wetlands on site and in the surrounding area. Red Data and protected plant species may be present on site due to the natural state of the vegetation.

Since the site is located within the Botshabelo Nature Reserve, it is expected that many animal species frequent the site. The untransformed grassland, pans and wetlands on site provide ample habitat for fauna. The Giant Bullfrog (a protected species in terms of the National Environmental Management: Biodiversity Act (Act No. 10 of 2004) is known to be present on site.

The proposed development will thus have a direct impact on the fauna and flora of the site. The development may also impact indirectly on the surrounding Botshabelo Nature Reserve if mitigation measures are not implemented.

Various concerns regarding the fate of the animal life within Botshabelo Nature Reserve, potential harvesting of wood for fires, etc. were also raised by surrounding landowners (details provided in Section 6).

The following issues recorded through the public participation process and relating mostly to vegetation/animal life will be investigated during the EIA phase of the project:

- Botshabelo is a game farm and a township/rural village inside it is going to decimate the farm and its game.
- Impact on the environment in terms of the availability of wood and grazing.
- What will happen to the wildlife within the Botshabelo Nature Reserve?
- How will all forms of wildlife on and in the pan be protected?
- The proposed development will threaten the existence of scarce game like Oribi and Rooi Ribbok.
- Bird breeding pairs will be driven out of the area.
- Veld fires will be a big threat.
- The impact assessment must address issues such as the current state and future planning of the Nature Reserve, the importance of the

natural vegetation, how endangered it is, impact of development on the Nature Reserve, etc.

A specialist vegetation study and animal study was commissioned to assess the site and the impact of the proposed development on the natural environment. Further details are provided in Section 8.

Surface water

The site is situated within the Olifants River Catchment and drains towards tributaries of the Klein Olifants River. Two pans are present on the western boundaries of the site. Hillslope seepage wetlands are also present in the north western portion of the site (adjacent to the pan) and on the southern boundary.

According to the layout plan, no development will take place within a 50 m buffer zone of the pans and wetlands. However, the development could have an indirect impact on the wetlands and pans (and downstream surface water environments) if mitigation measures are not implemented.

The following issues recorded through the public participation process and relating mostly to surface water will be investigated during the EIA phase of the project:

- During the rainy season, the proposed site is very wet (i.e. the entire site is a wetland).
- The proposed village is planned next to a pan. How will this pan be protected against pollution?
- Sewage: Potential surface water contamination due to the 'long drop' system.

A specialist wetland study was commissioned in order to assess the potential impact of the development on the wetlands and to recommend mitigation measures. Further details are provided in Section 8.

Groundwater

A seasonally perched water table can be expected on site due to the presence of pans and wetlands. Construction and operational activities may therefore impact on the groundwater quality of the site and surrounding area.

Biological toilets are proposed. If these systems are not maintained, it may lead to groundwater pollution.

In addition, the proposed development will initially utilize borehole water. The abstraction of groundwater may impact on the groundwater quantity of the site and surrounding area.

The following issues recorded through the public participation process and relating mostly to groundwater will be investigated during the EIA phase of the project:

- Will the proposed boreholes have sufficient water for the development?
- Will the use of groundwater be sustainable over the long term?
- Water should not be obtained from boreholes. A pipeline should be installed from Middelburg before any development takes place.

- Water abstraction for the village may impact on the water supply of surrounding landowners (the proposed site is the catchment for the fountain on Groenfontein).
- Lifelong tests will have to be conducted to ensure that the water quality stays the same.
- Sewage: Potential groundwater contamination due to the 'long drop' system. No pit latrines should be allowed.

A geohydrological study was commissioned in order to obtain more information regarding the groundwater situation on site and to determine whether sufficient water can be obtained from boreholes. Further details are provided in Section 8.

Air quality

The proposed development will be supplied with electricity. No industrial activities would be undertaken on site. The development should therefore not have a direct impact on the air quality in the area.

The following issues recorded through the public participation process and relating mostly to air quality will be investigated during the EIA phase of the project:

- Air pollution due to wood fires would have to be taken into account.
- Poor visibility at the Middelburg Aerodrome due to air pollution.
- Dust pollution.

Noise

In general, the area is relatively quiet since it is located within a rural area. Activities associated with the construction and operational phases of the development could impact on the ambient noise level of the site. This could impact on the animal life within the Botshabelo Nature Reserve.

No farmsteads are however, located nearby and would thus not be impacted.

Sites of archaeological and/or cultural interest

Some background information regarding the archaeological and cultural interest of Botshabelo is provided in Section 4.13 of this report.

The proposed development will be located approximately 1.2 km from Fort Merensky and 1.5 km from the historical village (Mission Station) within the Botshabelo Nature Reserve. Mitigation measures would have to be implemented to ensure that the proposed development will not impact on the historical village or Fort Merensky.

The following issues recorded through the public participation process and relating mostly to archaeology/cultural interest will be investigated during the EIA phase of the project:

- Botshabelo is a world heritage area.
- The historical village and Fort Merensky are classified by the South African Heritage Resources Agency as a Class 1 heritage site.

A specialist archaeological study was commissioned to determine the potential impact of the proposed development on the heritage sites and to recommend mitigation measures. Further details are provided in Section 8.

Traffic
Access to the proposed development will be obtained from the existing gravel access road located on the northern boundary of the site. This road connects to the N11 national road and provides access to the farms located north and northwest of the proposed site.

The following issues recorded through the public participation process and relating mostly to traffic will be investigated during the EIA phase of the project:

- Will road outlays be in line with the traffic assessment?
- The proposed gravel access road is a private road maintained by the farmers. Who will be responsible for the maintenance if the road is to be used by the new development?
- During protests, it would be easy to block off the gravel access road. The adjacent landowners would then not have access to their properties.
- An alternative access road must be constructed for the proposed development.
- Access to the development must rather be obtained from the main Botshabelo Nature Reserve access road.

A traffic impact assessment will be commissioned in order to determine the potential impact of the additional development traffic on the gravel road and the N11 national road.

Visual aspects
The proposed development will be visible from Fort Merensky, the Middelburg Aeroclub property, the gravel road along the northern boundary as well as the immediate surrounding area within Botshabelo Nature Reserve. The construction and operational phases of the development will thus have a visual impact on visitors to the Botshabelo Nature Reserve and adjacent landowners/users. Mitigation measures would have to be implemented.

Socio-economic environment
Various issues were raised by the surrounding landowners/users regarding the potential impact of the proposed development on the socio-economic environment.

The issues noted included the following and will be investigated during the EIA phase of the project:

- Increase in theft due to unemployment.
- The proposed development would be established less than 1 km from the Middelburg Aeroclub runway and hangers. The Aeroclub's members have serious concerns about the safety and security aspects at the aerodrome after the establishment of the rural village.
- Lack of safety and security at the Middelburg Aeroclub due to the proposed development could lead to the closure of the airfield. This would discourage investment in the Middelburg economy.
- Vandalism at the Middelburg Aeroclub.
- Safety risks due to people and animals wandering onto the airfields.
- Maize cultivation would not be possible near the proposed development since the crops will be stolen.
- Farmers may have to sell their properties due to an increase in theft and safety issues (i.e. loss of agricultural production in the area). The

farmers are already loosing large portions of their harvest due to theft and illegal cattle grazing.
- Increased fires and subsequent damage to property.
- Impact on taxpayers if water has to be brought in from town.
- Services: With an average of 16 000 people dying from diarrheal disease every year in South Africa, would this development be managed properly and who would take responsibility if disaster strikes?
- How will be boundaries of the proposed rural village be managed to remain in the area declared as a rural village?
- This is a recipe for the establishment of informal settlements next to/around the proposed rural village.

A social impact study will be commissioned to investigate the potential impact of the development on the surrounding landowners/users. Further details are provided in Section 8.

7.3 Conclusion

Through the scoping phase, it was determined that the main issues of concern are with regards to potential impacts on:
- The Botshabelo Nature Reserve (natural vegetation and animal life);
- The Middelburg Aeroclub;
- The surrounding farms (agriculture, safety and security);
- Groundwater;
- The Botshabelo historical village and Fort Merensky (archaeological/cultural).

In order to investigate the identified issues, the project is to proceed to the Environmental Impact Assessment phase. Section 8 of the scoping report provides an indication of the tasks to be completed and details of the specialist study to be commissioned during the Environmental Impact Assessment (EIA) phase.

The issues of concern recorded through the public participation process as well as the potential impacts as a result of the proposed development and the results of the specialist study will be documented in the Environmental Impact Report (EIR), which will also be made available for evaluation purposes.

8. PLAN OF STUDY FOR EIA

The aim of the environmental impact assessment phase will be as follows:

- To supplement information contained in the Scoping Report regarding the natural and social environments of the site to be affected by the proposed development;
- To assess the potential impacts of the proposed development on the environment;
- To identify and recommend mitigation measures to minimize the potential impact of the development on the environment;
- To compile an Environmental Management Plan (EMP), which will include the recommended mitigation measures;
- To provide the Department of Economic Development, Environment and Tourism with sufficient information to make an informed decision regarding the proposed development.

8.1 Evaluation of the Scoping Report

The draft Scoping Report (dated: August 2012) will be submitted to the Department of Economic Development, Environment and Tourism for evaluation purposes. A hard copy of the document will also be forwarded to the following authorities for evaluation (40-day period):

- Department of Water Affairs;
- Mpumalanga Tourism and Parks Agency;
- Steve Tshwete Local Municipality.

An electronic copy of the Scoping Report will be made available during the above-mentioned period to the interested and affected parties and stakeholders consulted and/or registered as part of the scoping process.

The availability of the draft Scoping Report for review will be advertised in the Middelburg Observer.

The various departments, stakeholders and interested and affected parties will be requested to forward any comments on the report to the consultant within the 40 day period provided. A register will be kept of all comments received in terms of the evaluation of the report. These comments will then be included and addressed in a final Scoping Report.

The final Scoping Report will once again be made available to interested and affected parties and stakeholders for comment (21-day period), whereafter it will be submitted to the Department of Economic Development, Environment and Tourism.

A hard copy of the Draft and Final Scoping Reports will be left at the Gerard Sekoto Public Library as well as the Botshabelo Nature Reserve offices. An electronic version will be made available on the company website (www.cleanstreamsa.co.za) and on cd (on request).

The Environmental Impact Report will be compiled once the Final Scoping Report has been approved by the Department of Economic Development, Environment and Tourism.

8.2 Informing Interested and Affected Parties

The following interested and affected parties and stakeholders will be notified by means of facsimile, email, etc. of the availability of the reports for evaluation:

INTERESTED AND AFFECTED PARTY LIST	
Organisation	**Name**
Government Departments	
Department of Agriculture, Forestry and Fisheries – Nelspruit	D. Cindi
Department of Agriculture, Rural Development and Land Administration (housing)	E van Jaarsveld
Department of Agriculture, Rural Development and Land Administration (agriculture)	J Venter
Department of Culture, Sports and Recreation	S Singh
Department of Economic Development, Environment and Tourism	M Sesweni
Department of Mineral Resources– eMalahleni	M Mokonyane
Department of Public Works	M Mokgohloa
Department of Rural Development and Land Reform	G Mathonsi
Department of Water Affairs – Bronkhorstspruit	M Mudau
Other Organisations	
Civil Aviation Authority	C Isherwood
Eskom	E Lennox, A Pretorius
Heritage South Africa	M Kent
Middelburg Aeroclub	R Lovett B van der Merwe
Middelburg Agriculture	H Laas
Middelburg Birding Club	H Hoffman
Middelburg Chamber of Commerce and Industry	A Ott
Middelburg Distriks Landbou Unie	J Schmahl
Mpumalanga Heritage Foundation	A Barlow
Mpumalanga Provincial Heritage Authority	B Moduka
Mpumalanga Tourism and Parks Agency – Groblersdal	A Hoffman, F Krige, M Lotter
Mpumalanga Wetland Forum	G Cowden
Simon van der Stel Foundation	P Benhow-Hebbert
South African Heritage Resources Agency	L van Damme
South African National Roads Agency	M Yorke-Hart
Telkom	J Kruger
Non-Governmental Organisations	
Birdlife South Africa	C Uys
Endangered Wildlife Trust	U Franke

INTERESTED AND AFFECTED PARTY LIST	
Organisation	**Name**
Wildlife and Environment Society of South Africa	L Betha
Local Municipality and Municipal Councillor	
Ward Councillor – Steve Tshwete (Ward 16)	J Dyason
Steve Tshwete Local Municipality	M Mahamba P Ndlovu
Nkangala District Municipality (Development and Planning)	G Mathalise
Surrounding landowners/users	
Botlalo Mining and Energy Resources (Pty) Ltd.	Masondo, Rhoda
Adams, Susan	Mayerhofer, B.J.
Bester, Leon & Johan	Mid-Malanga X104 cc.
De Meyer, Flip	Mthombeni, J.
Emarubini Communial Property Association	Nagel, K.P.
Glintzer, Rudiger	Neels Moolman Familie Trust
Glintzer, MJ	Philmar Trust
Haarhoff, PJ	Pieterse, JAM
Harbou Boerdery	Potgieter, P.
Hattingh, C.J.	Pots Galore cc
Herbst, M.M.	Ramohlakane Groenfontein Community Trust
Hesselman, K	Ruthven, J.M.
Heyns, M.	Snyman, MM
Erichsen, K.	Steenkamp, P (renting land)
Fourie, V.C.	Tosen, E.I.
Gysman, H.J (Major) 4SAI Military	Van den Bergh, D.
Holder, Bennie	Van der Merwe, L
Louw, V.O.	Van der Walt, N
Mabena, Samual	Van der Westhuizen, H.M.
Mahlangu, T.J.	Van Niekerk, T.E.

Further issues of concern will be documented and addressed during the EIA phase.

8.3 Public meeting

A public meeting will be held during the EIA phase in order to inform and obtain further issues of concern from interested and affected parties. Identified interested and affected parties will be informed of the public meeting.

An advertisement will also be placed in the local newspaper, Middelburg Observer, in order to inform I&APs of the intended public meeting.

Minutes of the meeting will be taken and included as part of the Environmental Impact Report (EIR).

8.4 Evaluation of the Environmental Impact Report (EIR)

A copy of the draft and final Environmental Impact Reports will be made available for evaluation purposes. A period of 40 days will be provided for the evaluation of the draft report, whereas a period of 21 days will be provided for the evaluation of the final report.

8.5 Informing Interested and Affected Parties of the Record of Decision

On receipt of the Environmental Authorisation and Record of Decision (positive or negative decision), all identified interested and affected parties (see Section 6 of this report) will be informed by means of facsimile, e-mail or telephonically that the Environmental Authorisation and Record of Decision with regards to the project have been issued. Information w.r.t. the appeal procedure will also be provided.

An advertisement in this regard will also be placed in the Middelburg Observer, in order to inform I&APs of the decision.

A copy of the Environmental Authorisation and Record of Decision will be made available on the company website (www.cleanstreamsa.co.za).

8.6 Specialist studies

It is envisaged that the following specialist studies will be commissioned:

- Vegetation survey;
- Animal survey (terrestrial);
- Phase 1 Archaeological survey;
- Wetland delineation survey;
- Groundwater/geohydrological study;
- Social impact study;
- Traffic study.

Vegetation study
A detailed vegetation survey will be undertaken by Tony de Castro (De Castro and Brits Ecological Consultants).

The scope of work will include the following:

- Determination of the Vegetation Type/Types in accordance with the most current national vegetation map (Mucina and Rutherford, 2006) and local vegetation studies, as well as proximity and relationship to any Centre of Endemism (Van Wyk and Smith 2001).
- Broad-scale structural classification of the vegetation into homogenous units following the approach of Edwards (1983). A description of the dominant and characteristic species identified within the broad-scale plant communities comprising each of these units, also to be provided. These descriptions are based on visual estimates of cover/abundance and density

following established vegetation survey techniques (Kent and Coker, 1996).
- Vegetation/habitat types to be mapped on the basis of available information (aerial photography, soil types, geology).
- Each identified vegetation unit to be briefly described in terms of its sensitivity and conservation importance.
- Compilation of a species list (to provide an accurate indication of the floristic diversity) according to latest taxonomic treatments used by the South African National Biodiversity Institute (Germishuizen *et al*., 2006). Alien invasive species, as listed in the Conservation of Agricultural Resources Act (Act No.43 of 1983), will be highlighted.
- Determination of the occurrence, or possible occurrence, of threatened and/or sensitive plant species, as per Raimondo *et al*. (2009), on the basis of field surveys, historical distribution records obtained from the PRECIS database of the National Botanical Institute, and available literature.
- Further botanical assessments required to be identified and Terms of Reference recommended.

Faunal study (terrestrial and aquatic)
A faunal study will be undertaken by Dr. Andrew Deacon.

The scope of work includes the following:

- Describe the potential habitats available to fauna expected to occur within the area to be affected;
- Identify expected impacts on the area due to the proposed developments;
- Provide recommendations regarding appropriate mitigation and/or management measures to be implemented should the proposed activities be authorised.

Phase 1 Archaeological survey
A Phase 1 Heritage Impact Assessment (as required in terms of the National Heritage Resources Act, 1999 (Act No. 25 of 1999)) will be conducted in order to determine whether any sites of archaeological and/or cultural interest are located on or near the said site. Dr. Julius Pistorius, an accredited archaeologist, will conduct the assessment.

The aim of the HIA will be:

- To establish whether any of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) (see Box 1) occur in the Project Area and, if so, to determine the nature, the extent and the significance of these remains.
- To establish if any of these heritage resources will be affected by the proposed new residential development and, if so, to evaluate what appropriate mitigation measures could be taken to reduce the impact of the proposed residential development on these remains.

Wetland delineation survey
A wetland delineation study will be undertaken by Ms. Shavaughn Davis of Wetland Consulting Services (Pty) Ltd.

The scope of work will include the following:

- Conduct a desktop and field investigation of the wetlands and/or riparian areas within the study area;
- Delineate and map the wetland and/or riparian areas;
- Classify wetlands according to HGM (see Marneweck and Batchelor, 2002; Kotze, Marneweck, Batchelor, Lindley and Collins, 2004; SANBI 2009);
- Determine the Present Ecological State (PES) and Ecological Importance and Sensitivity (EIS) of wetlands on site using WET-Health and the DWAF scoring system (DWAF, 1999);
- Undertake a functional assessment of the identified wetland systems (WET-EcoServices); and
- Provide a report detailing all the information.

Groundwater/geohydrological study
The groundwater/geohydrological study will be undertaken by Engeolab cc.

The main objective of the investigation is to determine whether sustainable groundwater source(s), yielding some 96m³ per day are available on site. To this end, the scope of work will include the following:

- Assess the groundwater potential of the site;
- Assess the development status and usage of existing groundwater resources on the proposed development site and it's immediate surroundings.
- Investigate alternative resources to groundwater.

Issues of concern raised through the scoping and public participation processes will also be addressed.

Social impact study
A social impact study will be commissioned in order to address the issues of concern raised by surrounding landowners. Terms of reference still to be established.

Traffic study
A detailed traffic study will be undertaken by Eben Kotze of WSP SA Civil and Structural Engineers (Pty) Ltd.

The traffic study will investigate access to the proposed site as well as the potential impact of the development traffic on the N11 national road and gravel road. The following would be included in this study:

Data collection
- Traffic Counts /Traffic Surveys
- Site Visit & Measurement of Intersections Geometrics

Traffic, analyses, drawing & report
- Traffic Data Collation.
- Trip Generation, Distribution & Assignment.
- Intersections Analyses.
- Locality Plan.
- Geometric Layout Plan (Accesses).
- Access & Traffic Impact Study Report

Liaison & submission
- Liaison / Discussion with Road Authorities
- Submission of Report

8.7 Method of assessing issues and alternatives

8.7.1 Issues

Issues of concern will be identified by way of objections/concerns received, approvals granted (subject to certain conditions) and by consultation with various authorities and interested and affected parties as detailed in the preceding sections.

The identified 'environmental issues' will be defined as either:

- Definable issues e.g. air pollution
- The cause of an impact e.g. impacts as a result of construction; operational or decommissioning phases.
- A generally expressed concern e.g. social disruption of communities.

The relevant and important issues will be focused on.

Issues concerning the following project phases will also be identified:

- Construction phase
- Operational phase
- Decommissioning phase

8.7.2 Impacts

Potential impacts that could take place during both the construction and the operational phases will be identified by overlaying the proposed layout plans on the environmental sensitivity map for the site.

Evaluation of impacts

The evaluation of impacts will be conducted in terms of the following criteria:

- **Nature of impact** e.g. impact on surface water; groundwater; natural vegetation; etc.

- **Extent of impact**

Site	Effect limited to the site and its immediate surroundings
Local	Effect limited to within 3-5 km of the site
Regional	Effect will have an impact on a regional scale

- **Duration of impact**

Short	Effect lasts for a period 0 to 5 years
Medium	Effect continues for a period between 5 and 10 years
Long	Effect will cease after the operational life of the activity either because of natural process or by human intervention
Permanent	Where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient

- **Intensity of impact**

Low	The impact affects the environment in such a way that natural, cultural and social functions and processes are not affected
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 or social functions or processes are altered to the extent that it will temporarily or permanently cease

- **Probability**

Improbable	Less than 33% chance of occurrence
Probable	Between 33 and 66% chance of occurrence
Highly probable	Greater than 66% chance of occurrence
Definite	Will occur regardless of any prevention measures

- **Significance of impact**

Low	Where the impact will have a relatively small effect on the environment and will not have an influence on the decision
Medium	Where the impact can have an influence on the environment and the decision and should be mitigated
High	Where the impact definitely has an impact on the environment an the decision regardless of any possible mitigation

- **Status**

Positive	Impact will be beneficial to the environment
Negative	Impact will not be beneficial to the environment
Neutral	Positive and negative impact

- **Confidence**

Low	It is uncertain whether the impact will occur
Medium	It is likely that the impact will occur
High	It is relatively certain that the impact will occur

It must be noted that many of the potential negative consequences can be mitigated successfully. It will however, be necessary to make a thorough assessment of all possible impacts in order to ensure that environmental considerations are taken into account, in a balanced way, as far as possible, supporting the aim of creating a healthy and pleasant environment.

8.7.3 Alternatives

Alternatives will be identified by way of discussion with authorities, interested and affected parties and the client. Alternatives will also be identified by overlaying the proposed layout plans on the environmental sensitivity map for the site. Alternative layouts would therefore have to be provided by the applicant.

The 'No Project Option' will be included in the assessment. Not all alternatives will be investigated in the same degree of intensity – only the feasible ones. The EIA report will include a description of each alternative for the project as well as the advantages and disadvantages of each.

Report compiled by:

_____

Riana Janse van Rensburg

_____

Adie Erasmus *Pr. Sci. Nat.*

_____

Date

9. EVALUATION OF DRAFT SCOPING REPORT

9.1 Availability of Draft Scoping Report

The draft Scoping Report was submitted to the Department of Economic Development, Environment and Tourism on 19 September 2012 (letter dated: 10 September 2012; Appendix 8).

The draft Scoping Report was also provided to the following authorities for evaluation purposes:

- Department of Water Affairs – 2 October 2012 (letter dated: 10 September 2012; Appendix 8);
- Mpumalanga Tourism and Parks Agency – couriered 5 October 2012 (letter dated: 10 September 2012; Appendix 8);
- Steve Tshwete Local Municipality – 10 September 2012 (letter dated: 10 September 2012; Appendix 8).

9.2 Informing Interested and Affected Parties

An electronic copy of the Scoping Report was made available from 10 September 2012 to 22 October 2012 at the Gerard Sekoto Public Library and the Botshabelo Historical Village (letter dated: 10 September 2012; Appendix 8) for evaluation purposes. A copy of the notice displayed at the library and the register is provided in Appendix 8.

The availability of the draft Scoping Report for review was advertised in the Middelburg Observer on 14 September 2012 (Appendix 8).

In addition, a copy of the document was provided on the Clean Stream Environmental Services website (www.cleanstreamsa.co.za) for download and evaluation purposes. A copy of the webpage printouts are provided in Appendix 8.

The following Interested and Affected Parties and Stakeholders were notified by means of facsimile, e-mail, etc. of the availability of the said report (an example of the e-mail forwarded is provided in Appendix 8):

INTERESTED AND AFFECTED PARTY LIST	
Organisation	**Name**
Government Departments	
Department of Agriculture, Forestry and Fisheries – Nelspruit	D. Cindi
Department of Agriculture, Rural Development and Land Administration (housing)	E van Jaarsveld
Department of Agriculture, Rural Development and Land Administration (agriculture)	J Venter
Department of Culture, Sports and Recreation	S Singh
Department of Mineral Resources– eMalahleni	M Mokonyane
Department of Public Works	M Mokgohloa
Department of Rural Development and Land Reform	G Mathonsi

INTERESTED AND AFFECTED PARTY LIST	
Organisation	**Name**
Other Organisations	
Civil Aviation Authority	C Isherwood
Eskom	E Lennox, A Pretorius
Heritage South Africa	M Kent
Middelburg Aeroclub	R Lovett B van der Merwe
Middelburg Agriculture	H Laas
Middelburg Birding Club	H Hoffman
Middelburg Chamber of Commerce and Industry	A Ott
Middelburg Distriks Landbou Unie	J Schmahl
Mpumalanga Heritage Foundation	A Barlow
Mpumalanga Provincial Heritage Authority	B Moduka
Mpumalanga Tourism and Parks Agency – Groblersdal	A Hoffman, F Krige, M Lotter
Mpumalanga Wetland Forum	G Cowden
Simon van der Stel Foundation	P Benhow-Hebbert
South African Heritage Resources Agency	L van Damme
South African National Roads Agency	M Yorke-Hart
Telkom	J Kruger
Non-Governmental Organisations	
Birdlife South Africa	C Uys
Endangered Wildlife Trust	U Franke
Wildlife and Environment Society of South Africa	L Betha
Local Municipality and Municipal Councillor	
Ward Councillor – Steve Tshwete (Ward 16)	J Dyason
Nkangala District Municipality (Development and Planning)	G Mathalise
Surrounding landowners/users	
Botlalo Mining and Energy Resources (Pty) Ltd.	Gysman, H.J (Major) 4SAI Military
Adams, Susan	Louw, V.O.
Bester, Leon & Johan	Mabena, Samual
Glintzer, Rudiger	Masondo, Rhoda
Glintzer, MJ	Pieterse, JAM
Haarhoff, PJ	Snyman, MM
Hesselman, K	Steenkamp, P (renting land)
Heyns, M.	Van der Merwe, L
	Van der Walt, N

9.3 Comments received

No comment was received from interested and affected parties (i.e. adjacent landowners). Comment was however, received from stakeholders and government departments.

Department of Economic Development, Environment and Tourism
A letter was received from the Department of Economic Development, Environment and Tourism (dated: 23 October 2012; Ref: 17/2/3 N-167; Appendix 8) accepting the Scoping Report and Plan of Study for EIA.

The Department indicated that Clean Stream Environmental Services may proceed with the Environmental Impact Report.

Eskom Distribution
A letter was received from Ms. A. Pretorius (dated: 12 September 2012; Appendix 8) indicating that the application affects the existing Eskom Distribution Rockdale – Doornkop 11 kV powerline.

It was also indicated that Eskom Distribution has in principle no objection to the proposed development. However, a number of conditions must be adhered to and accepted in writing.

The conditions stipulated by Eskom are as follows:

1. *There is a 9 metres building and tree restriction either side of the centre lines of the 11kV powerlines, which must be adhered to in all future development and or construction. No construction work may be executed closer than 9 metres from any of Eskom's structures and or supporting mechanisms.*

2. *Eskom should receive an application for township development and or any other proposed activities near the powerlines, for which Eskom's will then comment accordingly.*

3. *All work within Eskom's servitude areas will have to comply with the relevant Eskom earthing standards at the time of construction.*

4. *All work within Eskom Distribution reserve area and servitudes must be done in accordance with the requirements of the Occupational Health and Safety Act No.85 of 1993 as amended. Special attention must be given to the clearances between Eskom's conductors, structures, cables and electrical apparatus and the proposed work as stipulated by Regulation R15 of the Electrical Installations Regulations of the aforementioned Act or any other legal requirements.*

5. *Eskom can't guarantee the exact position of the underground electrical cables and therefore the applicant's site representatives must expose the cables by hand, in order to establish their location.*

6. *The Applicants and Eskom's cables must be placed in sleeves encased in concrete across the width of the servitude, at the applicant's expense where frequent excavations occur in the cable area.*

7. *Eskom Distribution shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the area where Eskom Distribution has its services, by the applicant, his/her agent, contractors, employees, successors in title and assigns. The applicant indemnifies Eskom against loss, claims or damages including claims pertaining to consequential damages by third parties and whether as a result of damage to or interruption of or interference with Eskom Distribution services or apparatus or otherwise. The applicant's attention is drawn to section 27(3) of the Electricity Act 1987, (Act 41 of 1987, as amended in 1994), Section 27(3), which stipulates that the applicant can be fined and/or imprisoned as a result of damage to Eskom's apparatus.*

8. *No mechanical equipment, including mechanical excavators, high lifting machinery and drilling equipment, shall be used within Eskom's reserve area, or within close proximity of Eskom's services and equipment, without prior written permission having been granted by Eskom. If such permission is granted the applicant must give at least ten working days prior notice of the commencement of any work. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued.*

9. *Eskom Distribution shall at all times have unobstructed access to and egress from its services.*

10. *No work shall commence unless Eskom has received the applicant's written acceptance of the conditions specified in the final letter of consent.*

11. *Eskom's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with. Please note: Where an electrical outage is required, at least fourteen working days is required for arrangement.*

12. *Any third party servitudes encroaching on Eskom servitudes shall have to be registered against the property at the applicant's own cost.*

13. *Wherever any pipe crosses the Eskom services, the edge of the excavation shall not come within 10 meters of the Eskom services and structures. Any angles crossing should preferably be from 45º degrees to 90º.*

14. *Cathodic protection must be installed to prevent corrosion of the pipe.*

15. *Pipeline markers to be situated at 30 metre intervals and where the pipeline is crossing Eskom's servitude, the pipeline must be clearly marked.*

16. *The effective management and handling of waste is of crucial importance. No dumping shall be allowed within Eskom Distribution Servitudes. All unwanted waste (gaseous, liquid or solids) should be disposed of at a registered waste disposal site as stipulated under Section 20 of the Environmental Conservation Act (Act 73 of 1989). The applicant will adhere to all relevant environmental legislation. Any cost incurred by Eskom as a result of non-compliance will be charged to the applicant.*

17. *The use of explosives of any type within 500 metres of Eskom's services, shall only occur with Eskom's previous written permission. If such permission is granted the applicant must give at least fourteen working days prior notice of the commencement of blasting. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued in terms of the blasting process.*

18. *Any development, which necessitates the relocation of our services, will be to the account of the developer. If you decide on the option of relocation of the existing powerlines, the Customer Services, Regional Key Customer Executive (08600 37566) should be contacted in connection with costs.*

19. *Eskom will recover costs from the applicant where any damages of Eskom assets and or any penalties suffered by Eskom occur. The Applicant shall also accepts costs if:*

- *Eskom pylons subside or are damaged as a result of blasting activities.*
- *Eskom has to incur any costs to comply with statutory requirements because of the applicants or applicant's contractor work or the presence of the equipment or plant in the reserve area. Such proven costs shall be refunded on demand.*

Eskom Transmission

An e-mail was received from Eskom Transmission (dated: 14 September 2012; Appendix 8) indicating that they are not affected by the application.

Steve Tshwete Local Municipality

The town planners, Urban Dynamics Inc., informed Clean Stream Environmental Services on 17 October 2012 that the Steve Tshwete Local Municipality conditionally approved the proposed Botshabelo Rural Village.

The Council Resolution (dated: 12 October 2012; Appendix 8) was forwarded to Clean Stream Environmental Services. The following is indicated in the resolution:

1. *That an application to establish a township on a portion of the Remainder of the farm Toevlugt 320 JS to be known as Botshabelo Rural Village be approved by Council subject to the following:*

1.1 *That the proposed township be proclaimed only after a positive 'record of decision' has been issued by the Department of Economic Development, Environment and Tourism.*

1.2 *That the consultants be informed to submit a set of conditions of establishment for scrutiny and approval by Council.*

1.3 *That all the precautionary measures recommended in the geotechnical report be adhered to.*

1.4 *That the recommendations made by the respective government departments and relevant stakeholders be adhered to.*

2. *That concerns raised by the Department of Water Affairs be attended to.*

3. *That a traffic impact study be conducted and submitted to the South African Roads Agency.*

4. *That the Developer apply to Eskom for the provision of electricity.*

5. *That a suitable area, measuring not less than 120 m X 90 m, be made available for a soccer field.*

6. *That areas created for storm water not be zoned as 'public open space' but rather 'institutional' or 'community facility'.*

7. *That all areas identified as 'public open space' be of a reasonable size and suitable to enable proper park development.*

8. *That a refuse disposal facility be incorporated in the layout of the township.*

9. *That waste removal services be introduced after the township has been developed and there is occupation of at least 50% of the houses.*

10. *That if possible an alternative solution for sewer reticulation be investigated to avoid the challenges encountered with biological toilets.*

Department of Agriculture, Rural Development and Land Administration

A letter was received from the Department of Agriculture, Rural Development and Land Administration (dated: 10 October 2012; Appendix 8) regarding the proposed development. **The Department indicated that, from a natural resource viewpoint, the proposed development will not be supported on any of the proposed areas. The Department recommended that the development be moved to an existing urban area.**

The decision was based on the following findings:

AREA OF LOCALITY
The proposed area is situated outside the development area of the local municipality and zoned as a conservation area. Despite all efforts to minimise the impact of the proposed development, these activities will lead to additional impact on the area which needs to be preserved as a conservation area. Secondary impact due to all the additional activities will impact negatively on the area resulting in an impacted area larger than the 130 ha which is envisaged.

LAND CAPABILITY AGRICULTURE
Land capability for the proposed area is indicated as moderate agriculture potential arable land, class III.
Land capability classes are interpretive groupings of land units with similar potentials and continuing limitations or hazards. Land capability is a more general term than land suitability and more conservation oriented. It involves consideration of:
(i) The risks of land damage from erosion and other causes and
(ii) The difficulties in land use owing to physical land characteristics, including climate.

SOIL POTENTIAL

The soil potential was compiled by overlaying 3 factors which consist of the soil form association, soil depth and clay contents which plays a major role in the assessment of the capability of the soils and impacts on the type of commodities and management that will be used in the optimum utilization of the soil. Whenever a soil is indicated as a low potential soil a general assumption can be made that one of the 3 factors consisting of soil form association, soil depth and clay contents is marginalized which will then be addressed by different management styles or alternatively utilized in a different manner such as natural grazing and not suitable to be cultivated. These factors will also impact on the profitability of the crop that will be planted on the specific area.

SOIL FORM ASSOCIATION

Soil Description of some of the majority soils in the area:

Soils of the Hutton form (Hu)

A medium to high potential soil dependant on soil depth. The soil suitability is usually a class 1 and/or class 2 and has a good to excellent yield potential as rain fed and/or irrigation soils.

Soils of the Clovelly form (Cv)

Irrigation scheduling is important on these soils as the clay percentages are usually below 32 % influencing its water holding capacity. Chisel ploughing and liming is important in order to enhance faunal activity and retain a good soil structure.

Soils of the Glenrosa form (Gs)

Irrigation scheduling is important on these soils as the clay percentages are usually below 32 % therefore influencing its water holding capacity. Chisel ploughing and liming is important in order to enhance faunal activity and retain a good soil structure. Knowing the percentage base - saturation will enhance choosing the best crop suited to the area. Dependant on the depth, it usually is a medium potential soil.

SOIL DEPTH

The soil depth is subject to natural restrictive horizons as found within the profile of the soil type determining the effective depth for root development. In some cases the effective depth according to the soil form association is suitable for cultivation purposes, but due to management methods and implements used previously a manmade restrictive layer such as a plough layer is now present and must be eliminated by different management techniques.

RECOMMENDATION

It is therefore recommended that the proposed develop be moved to existing urban area's which is situated nearby the Botshabelo Nature Reserve. Existing urban development's within the Steve Tshwete Local Municipality is situated approximately 4 kilometers from the reserve. The natural resources must be seen as scarce resources which cannot be renewed and must be preserved and nurtured for our descendents. Our natural resources are experiencing immense pressures from all sectors e.g. mining, urban development, pollution etc.

9.4 Evaluation of Final Scoping Report

The final Scoping Report (dated: October 2012) will be made available to interested and affected parties, stakeholders and authorities for comment. Interested and affected parties will be notified by means of facsimile and email of the availability of the report for comment.

An electronic copy of the final Scoping Report will be available on the company website (www.cleanstreamsa.co.za) and on cd (on request).

The interested and affected parties will be requested to forward any comments on the report to the Department of Economic Development, Environment and Tourism (with a copy to the consultant) within 21 days.

Due to the few comments received (as indicated in this section), a hard copy of the document will not be made available at the Gerard Sekoto Public Library or the Botshabelo Historical Village. The said comments did not necessitate changes to the overall scoping report text.

The comments received on the draft Scoping Report as well as the final Scoping Report will be addressed and included as part of the Environmental Impact Report, which will be made available for review.

Report compiled by:

_____

Riana Janse van Rensburg

_____

Adie Erasmus *Pr. Sci. Nat.*

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Date

REFERENCES

Engeolab cc. 2011. **Report on a Geotechnical Investigation at Botshabelo.** Report compiled by: P.G. Hansmeyer. Report dated: August 2011.

Lotter, M.C. & Ferrar, A.A. 2006. **Mpumalanga Biodiversity Conservation Plan CD-ROM.** Mpumalanga Parks Board, Nelspruit.

Mucina, L. & Rutherford, M. C. (eds). 2006. **The Vegetation of South Africa, Lesotho and Swaziland.** *Strelitzia 19*. South African National Biodiversity Institute, Pretoria.

Urban Dynamics Town and Regional Planners. 2011. **Motivating Memorandum in Support of an Application for the Establishment of Botshabelo Rural Village on a Portion of the Remaining Extent of the Farm Toevlugt 302-JS, Nkangala District.** Report dated: September 2011.

Engeolab cc. 2011. **Report on a Geotechnical Investigation at Botshabelo.** Report dated: August 2011.

APPENDIX 1:

APPLICATION FORM

- Letter to the Department of Economic Development, Environment and Tourism (dated: 29 May 2012; Ref: EIA 2011/01) with regards to the submission of the application form – signed by Ms. M. Seshweni (Environmental Impact Assessment)
- Copy of application form.

APPENDIX 2:

CURRICULUM VITAE

- Mrs. A. Erasmus *Pr. Sci. Nat.*
- Ms. R. van Rensburg
- List of reports compiled by Clean Stream Environmental Services

APPENDIX 3:

TOWNPLANNING MEMORANDUM

- Urban Dynamic Town and Regional Planners. 2011. **Motivating Memorandum in Support of an Application for the Establishment of Botshabelo Rural Village on a Portion of the Remaining Extent of the Farm Toevlugt 302-JS, Nkangala District.** Report dated: September 2011.

APPENDIX 4:

GEOTECHNICAL REPORT

- Engeolab cc. 2011. **Report on a Geotechnical Investigation at Botshabelo.** Report compiled by: P.G. Hansmeyer. Report dated: August 2011.

APPENDIX 5:

ADVERTISING OF THE PROJECT

- The advertisement published in the Middelburg Observer – 22 June 2012.
- A copy of the on-site notice (dated: 22 June 2012) – English.
- Printout of company website page www.cleanstreamsa.co.za – New Projects – Notices.
- Printout of company website page www.cleanstreamsa.co.za – New Projects – Background Information Documents.
- E-mail (dated: 30 July 2012) from Clean Stream Environmental Services to the Department of Economic Development, Environment and Tourism.

APPENDIX 6:

BACKGROUND INFORMATION DOCUMENT

APPENDIX 7:

CORRESPONDENCE WITH THE AUTHORITIES AND INTERESTED AND AFFECTED PARTIES

- Letter from the Department of Economic Development, Environment and Tourism (dated: 20 June 2012; Ref: 17/2/3 N-167) to Clean Stream Environmental Services (CSES).
- E-mail from CSES (dated: 10 July 2012) to:
  - Department of Mineral Resources (M. Mokonyane);
  - Department of Water Affairs (M. Mudau);
  - Mpumalanga Tourism and Parks Agency (A. Hoffman, M. Lotter, F. Krige);
  - Department of Agriculture, Rural Development and Land Administration (J. Venter);
  - Steve Tshwete Local Municipality (M. Mahamba, P. Ndlovu);
  - Department of Rural Development and Land Reform (G. Mathonsi);
  - Mpumalanga Provincial Heritage Authority (B. Moduka);
  - Department of Culture, Sports and Recreation (S. Singh);
  - Department of Agriculture, Rural Development and Land Administration (E. van Jaarsveld);
  - Department of Agriculture, Forestry and Fisheries (D. Cindi);
  - Department of Public Works (M. Mokgohloa);
  - Nkangala District Municipality (G. Mathalise).
- E-mail from CSES (dated: 12 July 2012) to the South African Heritage Resources Agency.
- E-mail from CSES (dated: 19 July 2012) to Birdlife South Africa.
- E-mail from CSES (dated: 30 July 2012) to Botlalo Mining and Energy Resources (Pty) Ltd.
- E-mail from CSES (dated: 10 July 2012) to:
  - Wildlife and Environment Society of South Africa (L. Betha);
  - Middelburg Birding Club (H. Hoffman);
  - Endangered Wildlife Trust (U. Franke);
  - Middelburg Chamber of Commerce and Industry (A. Ott);
  - Telkom (J. Kruger);
  - J. Dyason (councilor);
  - Eskom (E. Lennox, A. Pretorius);
  - South African National Road Agency Limited (M. Yorke-Hart);
  - Middelburg Distriks Landbou Unie (J. Schmall);
  - Middelburg Aeroclub;
  - SA Civil Aviation.
- E-mail from CSES (dated: 10 July 2012) to the Mpumalanga Wetland Forum (G. Cowden).
- E-mail from G. Cowden (dated: 20 August 2012) to all the Mpumalanga Wetland Forum members.
- E-mail from CSES (dated: 12 July 2012) to the Simon van der Stel Foundation.
- Letter from Mpumalanga Agriculture (dated: 20 August 2012) to CSES.
- E-mail from Eskom (dated: 25 July 2012) to CSES.
- E-mail from Birdlife South Africa (dated: 20 July 2012) to CSES.
- E-mail from the SA Civil Aviation Authority (dated: 11 July 2012) to CSES.
- Letter from the SA Civil Aviation Authority (dated: 12 April 2012) to Urban Dynamics.

- E-mail from the Simon van der Stel Foundation (dated: 25 July 2012) to CSES.
- E-mail from the Simon van der Stel Foundation (dated: 31 July 2012) to CSES.
- E-mail from M. Kent (dated: 2 August 2012) to CSES.
- E-mail from M. van der Merwe/Middelburg Aeroclub (dated: 11 July 2012) to CSES.
- E-mail from M. van der Merwe (dated: 11 July 2012) to CSES.
- Facsimile from CSES (dated: 13 August 2012) to Mr. S. Mabena.
- Facsimile from CSES (dated: 13 August 2012) to Major Gysman.
- E-mail from CSES (dated: 13 August 2012) to:
    - P. Steenkamp;
    - V. Louw;
    - M. Heyns;
    - S. Bester.
- E-mail and letter from P. Steenkamp (dated: 16 August 2012) to CSES.
- Letter from R. Glintzer (not dated) to CSES.
- E-mail from S. Adams (dated: 18 July 2012) to CSES.
- E-mail from CSES (dated: 11 July 2012) to:
    - N. van der Walt;
    - L. van der Merwe;
    - M. Snyman;
    - J. Pieters;
    - R. Masondo;
    - K. Hesselman;
    - P. Haarhoff;
    - M. Glintzer;
    - R. Glintzer;
    - S. Adams.
- Facsimile from CSES (dated: 11 July 2012) to CSES.

APPENDIX 8:

EVALUATION OF DRAFT SCOPING REPORT

- Letter from Clean Stream Environmental Services (dated: 10 September 2012; Ref: EIA 2011/01) to the Department of Economic Development, Environment and Tourism (DEDET).
- Letter from DEDET (dated: 23 October 2012; Ref: 17/2/3 N-167) to CSES.
- Letter from Clean Stream Environmental Services (CSES) (dated: 10 September 2012; Ref: EIA 2011/02) to the Department of Water Affairs.
- Letter from CSES (dated: 10 September 2012; Ref: EIA 2011/02) to the Mpumalanga Tourism and Parks Agency.
- Letter from CSES (dated: 10 September 2012; Ref: EIA 2011/02) to the Steve Tshwete Local Municipality.
- Letter from CSES (dated: 10 September 2012; Ref: EIA 2011/02) to the Botshabelo Community Development Trust.
- Copy of the notice displayed at the library and the register.
- Copy of the advert placed in the Middelburg Observer on 14 September 2012.
- www.cleanstreamsa.co.za web page printouts.
- Example of the e-mails from CSES (dated: 11 September 2012) forwarded to the various I&APs.
- Letter from Eskom Distribution (dated: 12 September 2012) to CSES.
- E-mail from Eskom Transmission (dated: 14 September 2012) to CSES.
- Steve Tshwete Local Municipality council resolution (dated: 12 October 2012).
- Letter from the Department of Agriculture, Rural Development and Land Administration (dated: 10 October 2012) to CSES.