BASIC ASSESSMENT REPORT: THE UTILIZATION OF A PORTION OF THE REMAINING EXTENT OF PORTION 24 OF THE FARM WONDERFONTEIN 428 JS FOR COMMERCIAL PURPOSES

Report prepared for: Real Time Investments 515 cc

Report dated: April 2016 (Version 1)

Report number: BA 2015/05

DARDLEA ref: 1/3/1/16/1N-48

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PROJECT INFORMATION SUMMARY

PROJECT TITLE	The utilization of a portion of the Remaining Extent of Portion 24 of the farm Wonderfontein 428 JS for commercial purposes.

CLIENT	Real Time Investments 515 cc
CONTACT DETAILS	P.O. Box 25928 East Rand 1462 011 – 740 6013

CONSULTANT	Clean Stream Environmental Services
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DARDLEA REFERENCE NO.	1/3/1/16/1N-48
CSES REFERENCE NO.	BA 2015/05

REPORT VERSION	Basic Assessment Report – Version 1
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DATE	

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LIST OF ABBREVIATIONS

COGTA	Department of Co-operative Governance and Traditional Affairs
CSES	Clean Stream Environmental Services - Coalfields
DAFF	Department of Agriculture, Forestry and Fisheries
DARDLEA	Department of Agriculture, Rural Development, Land and Environmental Affairs
DMR	Department of Mineral Resources
DWS	Department of Water and Sanitation
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMPr	Environmental Management Programme
HIA	Heritage Impact Assessment
I&AP	Interested and Affected Party
km	kilometer
mamsl	Meters above mean sea level
mm	millimeter
MBSP	Mpumalanga Biodiversity Sector Plan
MTPA	Mpumalanga Tourism and Parks Agency
NFEPA	National Freshwater Ecosystem Priority Areas
SAHRA	South African Heritage Resources Agency
SANRAL	South African National Roads Agency Limited
TRAC	Trans African Concessions

1. INTRODUCTION

Real Time Investments 515 cc intends to subdivide the Remaining Extent of Portion 24 of the farm Wonderfontein 428 JS into two portions, namely Portion A and Portion B. Portion A will be rezoned for mixed land use and Portion B will remain zoned for agricultural use.

The applicant proposes to use Portion A (once rezoned) for the display and sale of agricultural equipment (e.g. tractors, ploughs, etc.) and other ancillary uses. A workshop and offices will also be constructed as part of the development.

The site is located approximately 25 km south west of Belfast, at the junction of the N4 national road and the R104 provincial road.

The Minister of Environmental and Water Affairs listed in terms of Sections 24(2), 24(5), 24D and 44, read with section 47A(1)(b) 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 activity would involve the following listed activities as identified in terms of Section 24(2) and 24D of the National Environmental Management Act, 1998:

Listing	Activity	Description
Listing Notice 1 (GN R983), Listed Activity 24:	*The development of- (i) a road for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or (ii) a road with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres; but excluding- (a) roads which are identified and included in activity 27 in Listing Notice 2 of 2014; or (b) roads where the entire road falls within an urban area.*	Access to the site will be obtained from the R104 provincial road via a right of way servitude, which will extend across Portion B of the subdivided property. The right of way servitude will be 25 m wide.
Listing Notice 1 (GN R983), Listed Activity 27:	*The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.*	An area of approximately 11 ha of indigenous vegetation will be cleared for the proposed development.

In order to obtain environmental authorisation, a Basic Assessment must be conducted as described in Regulations 19 and 20 of the Environmental Impact Assessment Regulations 2014 as promulgated in terms of Section 24(5) and 44 of the National Environmental Management Act, 1998 (Act 107 of 1998).

The objective of the Basic Assessment process is to, through a consultative process:

a) Determine the policy and legislative context within which the activity is located and document how the proposed activity complies with and responds to the policy and legislative context;
b) Identify the alternatives considered, including the activity, location, and technology alternatives;
c) Describe the need and desirability of the proposed alternatives;
d) Through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage and cultural sensitivity of the sites and locations and the risk of impact of the proposed activity and technology alternatives on these aspects to determine: (i) the nature, significance, consequence, extent, duration and probability of the impacts occurring; and (ii) degree to which these impacts (aa) can be reversed; (bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed or mitigated.
e) Through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to: (i) identify and motivate a preferred site, activity and technology alternative; (ii) identify suitable measures to avoid, manage or mitigate identified impacts; and (iii) identify residual risks that need to be managed and monitored.

Clean Stream Environmental Services was appointed as independent environmental consultant to conduct the required Basic Assessment and compile the necessary documentation. This Basic Assessment Report (BAR) is compiled in accordance with Appendix 1 of the Environmental Impact Assessment Regulations, 2014 and indicates the environmental outcomes, impacts and residual risks of the proposed activity.

Diagram 1 provides a schematic description of the Basic Assessment process 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 Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA). 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.

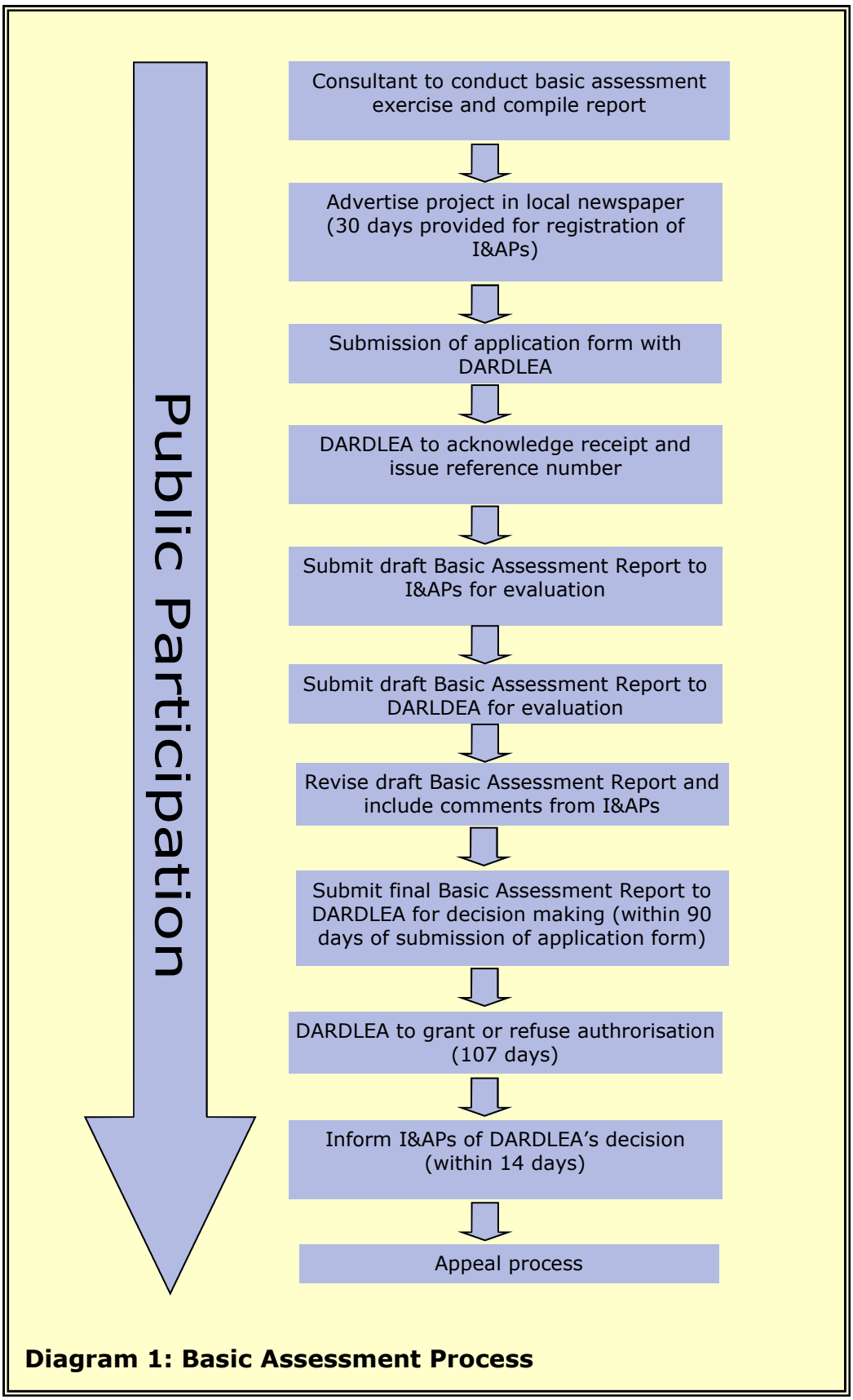

Diagram 1: Basic Assessment Process

2. DETAILS OF THE PROJECT APPLICANT AND ENVIRONMENTAL CONSULTANT

Name and address of applicant: Real Time Investments 515 cc P.O. Box 25928 East Rand 1462	
Contact Person:	Nicholas Ryan
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E-mail:	nicholas@chieftainafrica.com

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
Email:	adie@cleanstreamsa.co.za riana@cleanstreamsa.co.za

A copy of the 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 Description of the site, design, size and scale of the development

Real Time Investments 515 cc intends to subdivide the Remaining Extent of Portion 24 of the farm Wonderfontein 428 JS into two portions, namely Portion A and Portion B. Portion A will be rezoned for mixed land use and Portion B will remain zoned for agricultural use.

The applicant proposes to use Portion A (once rezoned) for the display and sale of agricultural equipment (e.g. tractors, ploughs, etc.) and other ancillary uses. A workshop and offices will also be constructed as part of the development.

The site is located approximately 25 km south west of Belfast, at the junction of the N4 national road and the R104 provincial road.

A copy of the motivation memorandum in support of an application for the rezoning of a portion of the Remaining Extent of Portion 24 (portion of Portion 23) of the farm Wonderfontein 428 JS is provided in Appendix 3.

According to Urban Dynamics (2015), the proposed site will be rezoned from 'Agricultural' to 'Mixed Use' in terms of Section 56(b)(1) of the Town Planning and Townships Ordinance, 1986 (Ordinance 15 of 1986).

In addition, an application for the subdivision of the said property in terms of the Subdivision of Agricultural Land Act, 1970 (Act 70 of 1970) is required to be submitted.

The said site is registered in the name of Real Time Investments 515 cc (Appendix 1). The overall property is 53.6771 ha in extent. Only 11.01 ha thereof will be rezoned.

Figure 3.1 provides an indication of the proposed subdivision plan and indicates the site boundaries.

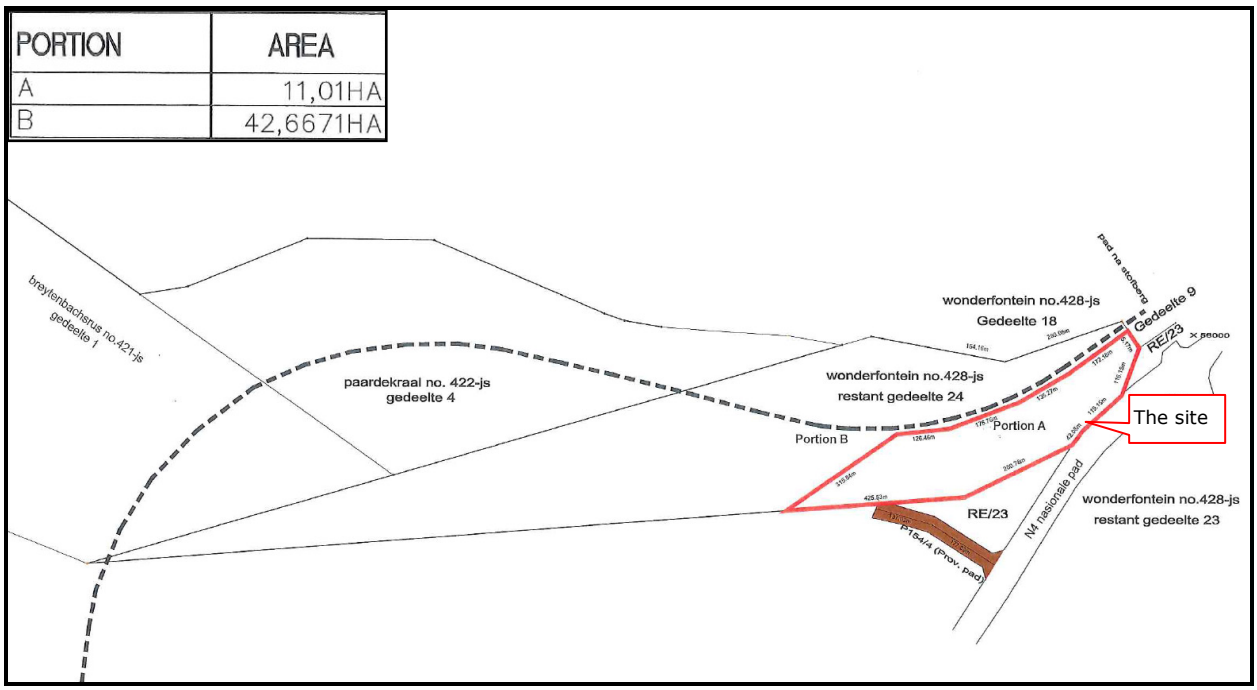


Figure 3.1: Proposed subdivision plan (taken from Urban Dynamics, 2015)

Figure 3.2 provides an indication of the proposed site development plan. The following infrastructure will be developed within the 11.01 ha area:

- Office and spares store (240m^2) with visitors parking;
- Workshop (1000m^2);
- Staff parking;
- Vehicle parking adjacent to the N4 National Road – this will consist of a 100m x 50m earthen platform.

According to the site development plan (Figure 3.2), access to the site was proposed from the gravel road located to the north east of the site.

No other infrastructure is proposed for the said site.

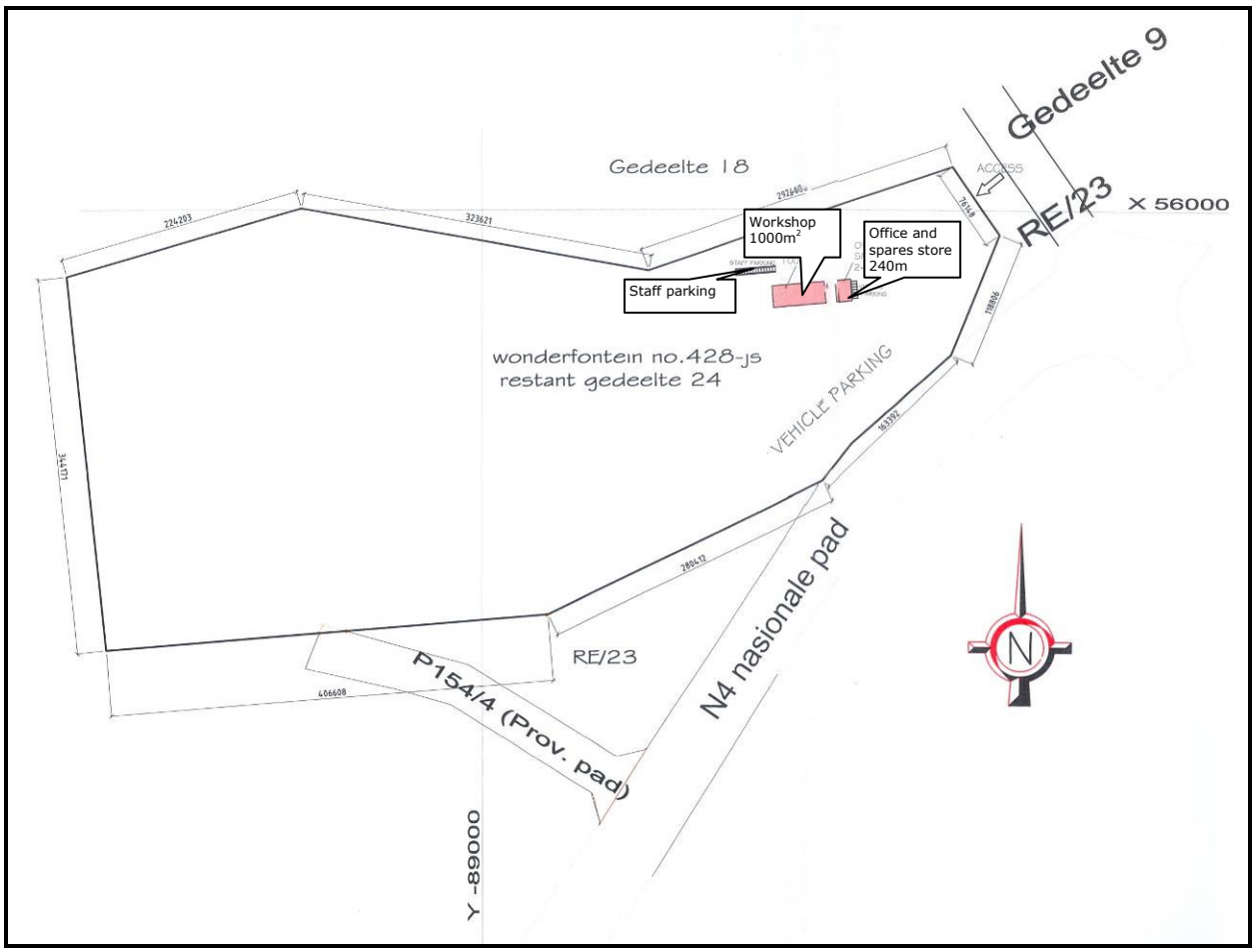


Figure 3.2: Proposed site development plan (designed by LMH Designs, 2015)

3.2 Need and desirability of the activity

Urban Dynamics (2015) indicated the following in terms of the need and desirability of the proposed project:

Need
'At present there is a growing need for commercial uses in the area situated next to the N4 highway close to Belfast. The particular need addressed here, is that of mixed use for the sale of agricultural equipment and trucks as well as ancillary uses'.

Desirability
'The subject site is situated in close proximity to a filling station. The site is also situated next to the N4 highway which provides excellent visibility of the commercial stand even though direct access to the site will not be from the N4. The area that will be utilised for commercial purposes is situated on a portion of the farm with low agricultural potential. The majority of the existing crop fields will remain'.

More information regarding the need and desirability of the proposed development is provided in Appendix 3.

3.3 Services required

3.3.1 Water

According to the project applicant, water will be obtained from the borehole located on site (see letter from G.A. Purchase (AP Geomatics); dated: 6 April 2016; Ref: AP11/16; Appendix 1). Water will only be required for two (2) persons who will be on site during the operational phase.

3.3.2 Electricity

According to the project applicant, electricity will be obtained from Eskom. An Eskom account is already in place.

3.3.3 Sewage

During the construction phase, the contractors will have to provide chemical toilets based on the number of construction personnel. The toilets must be provided as soon as construction commences.

According to the project applicant, only two persons will be on site during the operational phase. Ablution facilities (toilets) will be provided as part of the Office and Spares Store (Figure 3.2). A conservancy tank will be installed.

3.3.4 Waste management

During the construction phase, building rubble and a small amount of domestic waste will be generated. The contractor will have to provide adequate containers for the collection of waste. The applicant will have to ensure that the contractors remove the said building rubble and domestic waste to a licensed waste disposal site (e.g. Belfast Waste Disposal Site).

During the operational phase, domestic waste produced by the personnel will be placed in bins, which will be emptied on a regular basis and the contents thereof disposed at a licensed waste disposal site (e.g. Belfast Waste Disposal Site). The applicant/appointed contractors will be responsible for the removal of waste during the operational phase.

Any hazardous waste (e.g. soil contaminated with fuel/oil, paint tins, etc.) produced during the construction and/or operational phases will have to be collected in separate bins/skips and disposed at a suitable waste disposal facility by a company e.g. Enviroserv.

3.3.5 Storm water control measures

No formal storm water infrastructure (e.g. pipes, culverts, drains, etc.) are present on site. Storm water control measures would have to be implemented as part of the proposed development.

3.3.6 Access road

According to the site development plan (Figure 3.2), access to the site was proposed from the gravel road located to the north east of the site.

3.3.7 Fire fighting

All fire-fighting controls would have to be in accordance with the National Building Regulations, the SANS Code of Practice (related to Community Protection against Fire) and with "Red Book" standards.

3.4 Nature of the activity

The utilization of the said property for commercial purposes would involve the following listed activities as identified in terms of Section 24(2) and 24D of the National Environmental Management Act, 1998:

Listing	Activity	Description
Listing Notice 1 (GN R983), Listed Activity 24:	*The development of- (i) a road for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or (ii) a road with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres; but excluding- (a) roads which are identified and included in activity 27 in Listing Notice 2 of 2014; or (b) roads where the entire road falls within an urban area.*	Access to the site will be obtained from the R104 provincial road via a right of way servitude, which will extend across Portion B of the subdivided property. The right of way servitude will be 25 m wide.
Listing Notice 1 (GN R983), Listed Activity 27:	*The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.*	An area of approximately 11 ha of indigenous vegetation will be cleared for the proposed development.

In order to obtain environmental authorisation, a Basic Assessment must be conducted as described in Regulations 19 and 20 of the Environmental Impact Assessment Regulations, 2014 as promulgated in terms of Section 24(5) and 44 of the National Environmental Management Act, 1998 (Act 107 of 1998).

3.5 Applicable legislation, policies and/or guidelines

Table 3.1 provides an indication of legislation, policies and/or guidelines applicable to the said project. The list below merely serves to highlight key legislation and obligations and is thus not definitive or exhaustive.

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)	Department of Justice and Constitutional Development	To establish a Constitution with a Bill of Rights for the RSA. It sets out of a number of fundamental environmental rights (Section 24).
Development Facilitation Act, 1995 (Act 67 of 1995) and amendments	Department of Rural Development and Land Reform	To provide for planning and development.
Spatial Planning and Land Use Management Act, 16 of 2013	Department of Rural Development and Land Reform	To provide a framework for spatial planning and land use management
Environment Conservation Act, 1989 (Act 73 of 1989) and amendments	Department of Agriculture, Rural Development, Land and Environmental Affairs	To control environmental conservation.

Title of legislation, policy or guideline:	Administering authority:	Aim of legislation, policy or guideline
National Environmental Management Act, 1998 (Act 107 0f 1998) and amendments	Department of Agriculture, Rural Development, Land and Environmental Affairs	To provide for the integrated management of the environment.
National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004) and amendments	Department of Agriculture, Rural Development, Land and Environmental Affairs	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) and amendments	Department of Environmental Affairs	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) and amendments	Department of Environmental Affairs and Department of Agriculture, Rural Development, Land and Environmental Affairs	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.
National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) and amendments	Department of Environmental Affairs	To provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes; for the establishment of a national register of all national, provincial and local protected areas; for the management of those areas in accordance with national norms and standards; for intergovernmental co-operation and public consultation in matters concerning protected areas; and for matters in connection therewith.
Environmental Impact Assessment Regulations, 2014 (Government Gazette No. 33306 of 18 June 2010) and amendments	Department of Agriculture, Rural Development, Land and Environmental Affairs	Regulations pertaining to environmental impact assessments.
National Water Act, 1998 (Act 36 of 1998) and amendments	Department of Water and Sanitation	To control water management aspects.
National Veld and Forest Fire Act, 1998 (Act 101 of 1998) and amendments	Department of Agriculture, Forestry and Fisheries	To prevent and combat veld, forest and mountain fires throughout South Africa.
National Heritage Resources Act, 1999 (Act 25 of 1999) and amendments	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.
Alien and Invasive Species Regulations, 1 August 2014	Department of Environmental Affairs	Regulations regarding alien and invasive species.
List of Protected Tree Species under the National Forests Act, 1998 (Act No. 84 of	Department of Agriculture, Forestry and Fisheries	Provides a list of protected tree species.

Title of legislation, policy or guideline:	Administering authority:	Aim of legislation, policy or guideline
1998)		
Promotion of Access to Information Act, 2000 (Act 2 of 2000) and amendments	Department of Justice and Constitutional Development	To give effect to the constitutional right of access to any information held by the State and any information that is held by another person and that is required for the exercise or protection of any rights; and to provide for matters connected therewith.
Promotion of Administrative Justice Act, 2000 (Act 3 of 2000) and amendments	Department of Justice and Constitutional Development	The Act aims to make the administration (e.g. Government and Parastatals) effective and accountable to people for its actions.
Conservation of the Agricultural Resources Act, 1983 (Act 43 of 1989) and amendments	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.
Occupational Health and Safety Act, 1993 (Act 85 of 1993) and amendments	Department of Labour	To provide for the health and safety of persons at work and for the health and safety of persons in connection with the activities of persons at work and to establish an advisory council for occupational health and safety.
Health Act, 1977 (Act 63 of 1977) and amendments	Department of Health	To promote public health.
Mpumalanga Nature Conservation Act, 1998 (Act 10 of 1998) and amendments	Mpumalanga Tourism and Parks Agency	To control nature conservation.
National Building Regulations and Standards Act, 1977 (Act 103 of 1977) and amendments	Department of Trade and Industry	To provide for the promotion of uniformity in the law relating to the erection of buildings in the areas of jurisdiction of local authorities; for the prescribing of building standards; and for matters connected therewith.
South African Bureau of Standards' SANS 10400 X and 10400 XA	Department of Trade and Industry	The application of the National Building Regulations in terms of environmental sustainability and energy usage in buildings.
Various by-laws of the Emakhazeni Local Municipality, e.g.: o Waste management; o Noise.	Emakhazeni Local Municipality	To regulate land use with the Emakhazeni Local Municipal area.
The Emakhazeni Land Use Scheme, 2010	Emakhazeni Local Municipality	To regulate land use planning within the Emakhazeni Local Municipality
Integrated Development Plan for the Emakhazeni Local Municipality (2015/2016)	Emakhazeni Local Municipality	Broad spatial framework guidelines for the Emakhazeni Local Municipality.
Spatial Development Framework for the Emakhazeni Local Municipality (January 2015)	Emakhazeni Local Municipality	Spatially based policy guidelines whereby changes, needs and growth in the region can be managed to benefit the whole community.
Nkangala District Municipality Climate Change Response Strategy	Nkangala District Municipality	A strategy in response to climate change.
Nkangala District Municipality Integrated Waste Management Strategy	Nkangala District Municipality	A strategy dealing with waste.
National Protected Areas Expansion Strategy (NPAES, 2008)	Department of Environmental Affairs	To achieve cost-effective expansion of the protected area network that enhances ecological sustainability and resilience to climate change
National Biodiversity Framework (NBF, 2008)	Department of Environmental Affairs	To co-ordinate and align the efforts of the organisations and individuals involved in conserving and managing South Africa's biodiversity

4. DESCRIPTION OF ALTERNATIVES

This section provides an indication of the alternatives investigated in terms of the site, layout plan and service provision.

4.1 Proposed site and alternative sites

The project applicant purchased the said site in view of the following:

- The site is situated next to the N4 national road and R104 provincial road which provide excellent visibility of the commercial stand even though direct access to the site will not be from the N4 but from the R104 provincial road.
- The site is situated in close proximity to a filling station.
- The area that will be utilised for commercial purposes is situated on a portion of the farm with low agricultural potential.
- The property is large enough for the activity.
- The topography of the site is suitable for the activity. It is relatively flat, which will minimize the need for earthworks.
- Currently, the site is not utilized for agriculture, residential or any other purposes (i.e. other than for an Eskom substation and powerlines).
- Easy access to electricity as an existing Eskom substation and powerlines are located on site.
- A mixed land use area is located to the north east of the proposed development site. The proposed land use will thus be in line with the existing land use character of the surrounding area.

In view of this, no other sites were provided to Clean Stream Environmental Services for investigation.

No project option
More information with regards to the implication of the 'no project option' is provided in Section 4.4.

4.2 Alternative layout plans

Site development plan
Figure 3.2 provides an indication of the proposed site development plan. The following infrastructure will be developed within the 11.01 ha area:

- Office and spares store (240m^2) with visitors parking;
- Workshop (1000m^2);
- Staff parking;
- Vehicle parking adjacent to the N4 National Road – this will consist of a 100m x 50m earthen platform.

According to the site
development plan (Figure 3.2), access to the site was proposed from the gravel road located to the north east of the site.

No other infrastructure is proposed for the said site.

Access to site

The site development plan (Figure 3.2) indicates that access to the site will be obtained from the gravel road located to the north east of the proposed development site.

Basetsana Kgatle of WSP Group Africa (Pty) Ltd (referred to as Kgatle, 2015) was appointed to investigate access to the proposed development site.

Kgatle (2015) proposed that the development site gain access off the R104 provincial road with a right-of-way servitude of 25 m (Access 1; Figure 4.1). This access will be located more than 500m from the intersection with the N4 national road and is therefore acceptable from a traffic engineering point of view.

A copy of the letter to the Department of Public Works, Roads and Transport (dated: 28 October 2015; Appendix 7) requesting approval in-principle with regards to the proposed access to the development site from the R104 provincial road is provided in Appendix 7.

Figure 4.1 thus provides an alternative layout for the development in terms of site access.

4.3 Alternative services

The proposed site is located outside of town (i.e. Belfast) and thus not serviced by the Emakhazeni Local Municipality. The required services must thus be provided by the project applicant.

Water will be obtained from an existing borehole located on site (see letter from G.A. Purchase (AP Geomatics); dated: 6 April 2016; Ref: AP 11/16; Appendix 1). Electricity will be obtained from Eskom. A conservancy tank will be installed to deal with sewage generated.

Domestic waste will be disposed of by the applicant or an appointed contractor at a licensed waste disposal site (see Section 3.3.4).

4.4 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 project was exercised, it would mean that:

- The applicant would have to investigate alternative sites for the proposed business;
- The applicant would have to discard the business plans;
- The applicant would have to investigate other land uses for the site;
- The applicant would have to sell the property;
- Job opportunities created by the project applicant (construction phase: 10 employees; operational phase: 2 employees) would be lost.

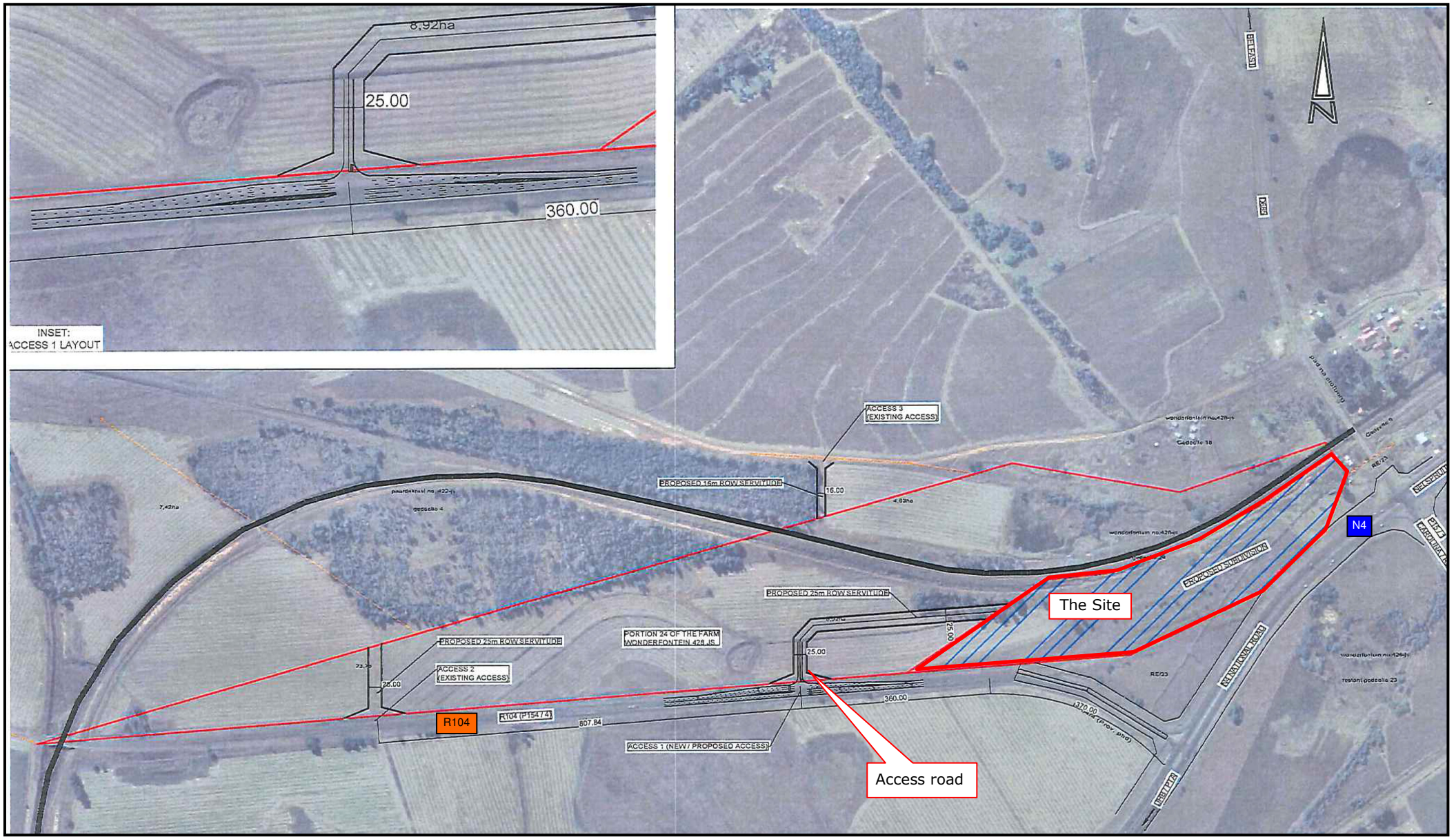


Figure 4.1: Access to site from R104 provincial road (taken from Kgatle, 2015)

5. BIOPHYSICAL DESCRIPTION OF THE SITE

5.1 Location of the site

Real Time Investments 515 cc intends to subdivide the Remaining Extent of Portion 24 of the farm Wonderfontein 428 JS into two portions, namely Portion A and Portion B. Portion A will be rezoned for mixed land use and Portion B will remain zoned for agricultural use.

The site is located approximately 25 km south west of Belfast, at the junction of the N4 national road and the R104 provincial road (Figure 5.1).

The co-ordinates for the centre of the site are:

Site	Latitude (S):			Longitude (E):		
24/428	25°	48‘	41.69“S	29 °	53‘	20.16“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	4	2	8	0	0	0	2	4

The said property falls under the jurisdiction of the Emakhazeni Local Municipality (MP314) and the Nkangala District Municipality.

5.2 Climate

5.2.1 Regional 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, besides also other features such as rivers and political boundaries;
- the interior plateau - use has been made of the change from BW to BS and from BS to C climates according to the Köppen classification.
- The site falls within Climatic Region H – The Highveld.

The climate is typical of the Highveld, with warm summers and cold winters with occasional severe frosts. Rainfall typically occurs as high-intensity short duration thunderstorms. The average frost period is 111 days per annum. The mean annual temperature is 22.5°C, with recorded extremes of -11°C and 34°C.

The site occurs in Mpumalanga and falls in the summer rainfall region, which is characterised 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.

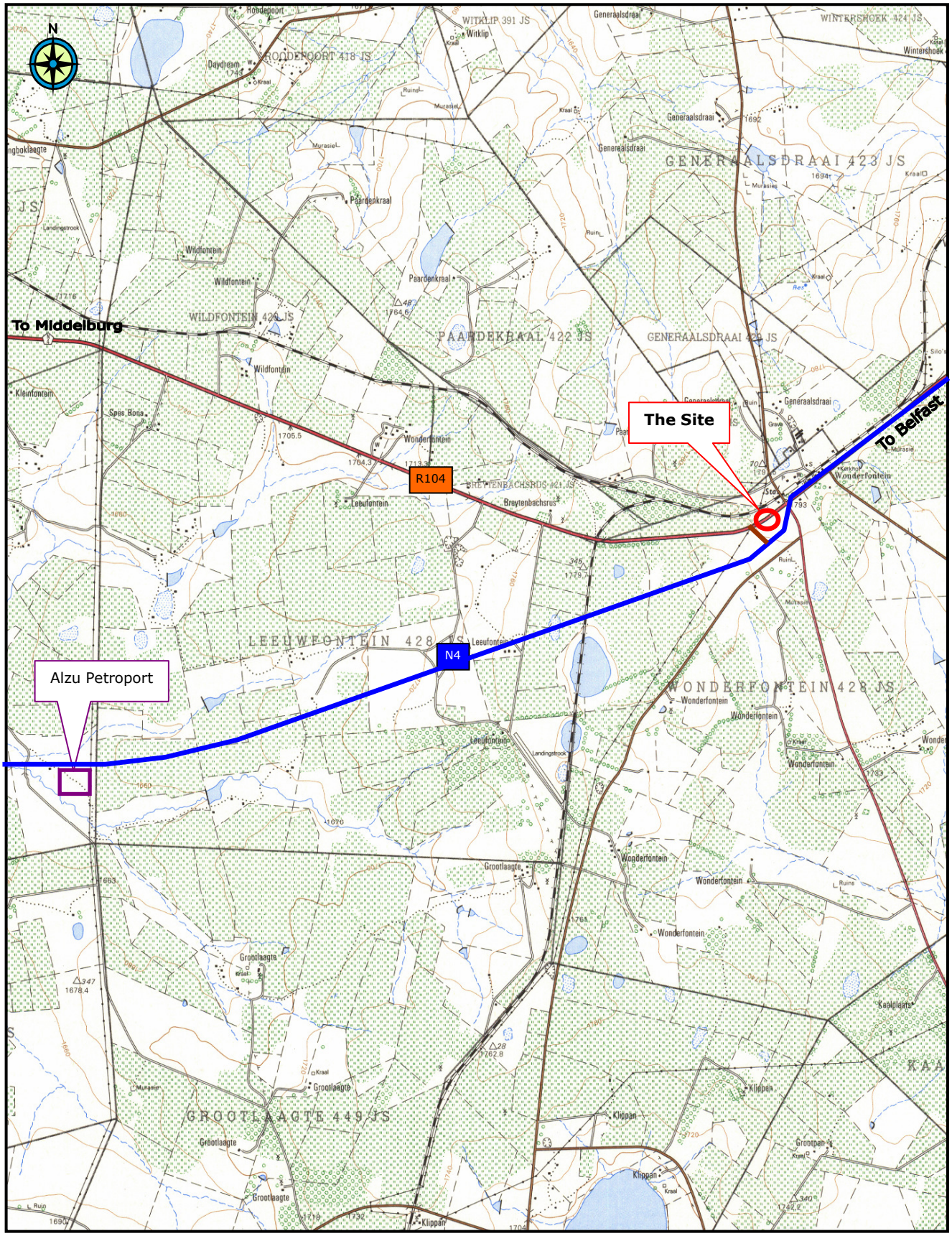


Figure 5.1: Location of site *(taken from 1: 50 000 2529 DD-not to scale)*

5.2.2 Mean monthly rainfall

The average number of days per month having rainfall depths in excess of 0.1mm, together with the average monthly depth of rainfall, are given in Table 5.1.

Table 5.1: Average monthly rainfall depths (mm) and days with rainfall of > 0.1mm.

Month	Average Depth	Average 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**

5.2.3 Mean annual rainfall

The maximum rainfall intensities recorded at the relevant weather stations are shown in Table 5.2.

Table 5.2: Maximum rainfall intensities.

24 Hour Rainfall Depths (mm)			
Maximum recorded	**1:50 Yr. Storm**	**1:100 Yr. Storm**	**1:200 Yr. Storm**
117	104	118	134

5.2.4 Mean annual evaporation

The mean monthly evaporation figures recorded at the relevant weather stations are given in Table 5.3. The data in the table was obtained using an 'A' Pan.

Table 5.3: Mean monthly evaporation figures

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 Average	1500	735	765

5.2.5 Mean monthly maximum and minimum temperatures

The average and actual maximum and minimum temperatures between the weather stations are given in Table 5.4.

Table 5.4: Mean monthly maximum and minimum temperatures (ºC)

Month	Daily Maximum	Daily Minimum	Highest Temperature	Lowest Temperature
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**

5.2.6 Prevailing wind direction

No wind data is available for Belfast according to the South African Weather Bureau. The wind pattern data for the Middelburg station is shown in Table 5.5.

Table 5.5: 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)

5.2.7 The incidence of extreme weather conditions

Being located on the Highveld, the area is prone to extreme weather 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.

5.2.8 Climate change

According to the Mpumalanga Biodiversity Sector Plan Handbook (Lotter *et. al.*, 2014), there has already been notable shifts in climate in terms of increased average temperatures in Mpumalanga. Heat waves are becoming more frequent while cold days, nights and frost are becoming less frequent.

In addition, spring events such as flowering, bird migration and egg-laying are happening earlier in the year. Altitudinal range shifts for species such as

the black mamba, red toad, black-bellied starling, yellow weaver, etc. have already been recorded.

Assuming moderate to high increases in greenhouse gas concentrations (e.g. carbon dioxide), regional modelling scenarios indicate that the north eastern interior of South Africa will experience higher minimum, average and maximum temperatures over the next few decades (Lotter *et. al.*, 2014). Higher temperatures will be accompanied by increased incidents of drought, rainfall increases along the escarpment and a shift in rainfall pattern.

5.3 Land use

5.3.1 Land ownership

The Remaining Extent of Portion 24 of the farm Wonderfontein 428 JS is registered to Real Time Investments 515 cc. A copy of the Deeds Office Property report is provided in Appendix 1.

5.3.2 Zoning of the site

The property is zoned as 'Agricultural'. The applicant (Real Time Investments 515 cc) intends to subdivide the Remaining Extent of Portion 24 of the farm Wonderfontein 428 JS into two portions, namely Portion A and Portion B (Figure 3.1). Portion A will be rezoned as 'Mixed Use' (i.e. for mixed land use) and Portion B will remain zoned 'Agricultural' (i.e. for agricultural use).

5.3.3 Size of the site

The property is 53.6771 ha in extent. However, only 11.01 ha will be rezoned as indicated in Figure 3.1.

5.3.4 Servitudes

Servitudes would be associated with the following infrastructure:

- Eskom substation - present on site;
- Eskom powerlines - extend across the said property;
- Transnet railway line - located along the northern boundary of the proposed development site.

No right-of-way servitude is registered in favour of or over the Remaining Extent of Portion 24 of the farm Wonderfontein 428 JS.

5.3.5 Land use and existing infrastructure

Figure 5.2 provides an aerial view of the site indicating the existing land uses and infrastructure.

The said site is currently vacant except for part of an Eskom substation, Eskom powerlines and a gravel road (Figures 5.2 and 5.3). A borehole is present as indicated in Figure 5.2 adjacent to a cleared area.

The gravel road provides access over the Transnet railway line (Figure 5.2) and joins up with the Transnet service road adjacent to the said railway line (Figures 5.2 and 5.3).

In the north eastern corner adjacent to the said site, an Eskom substation is located and Eskom powerlines extend across the site as indicated in Figures 5.2 and 5.3.

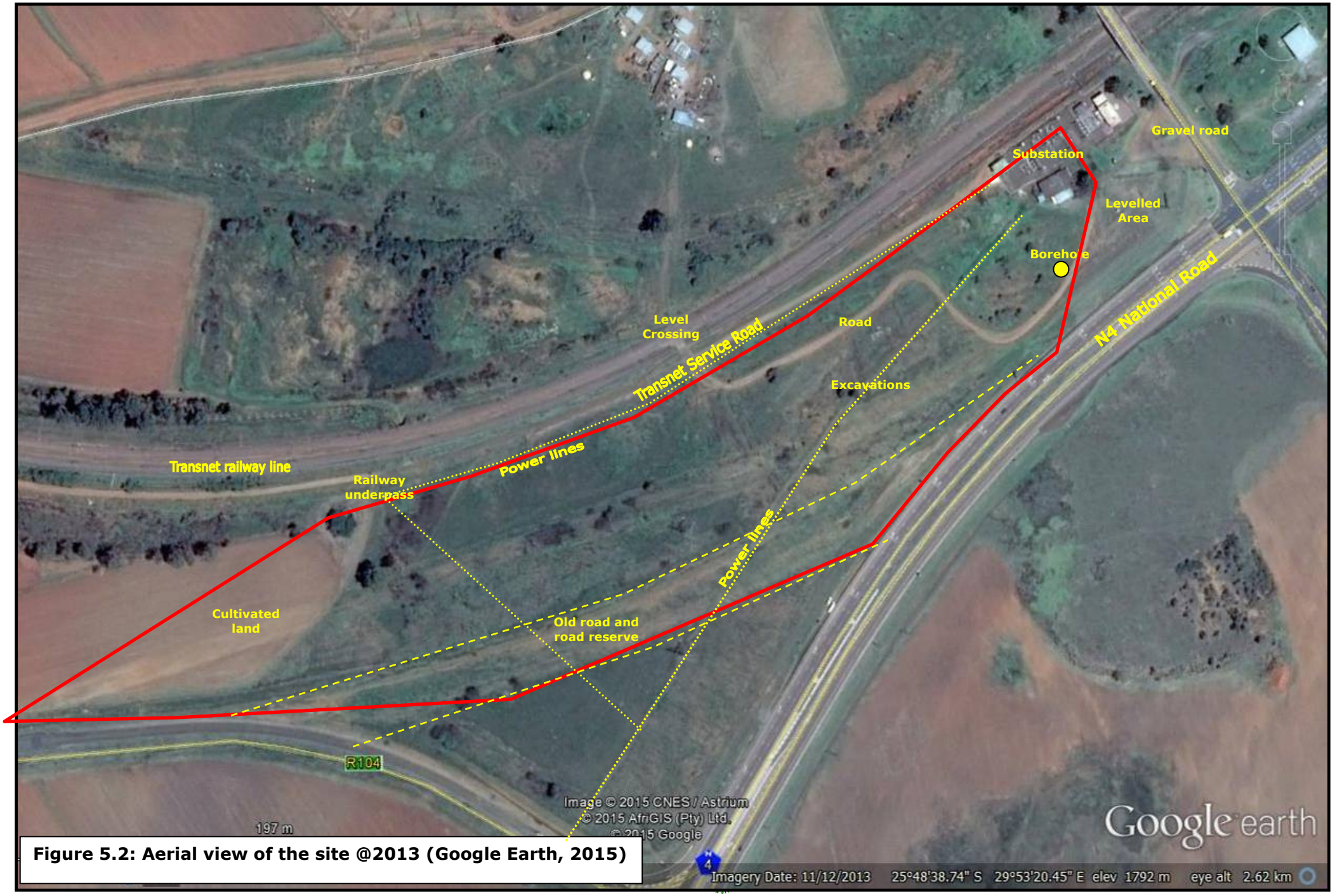


Figure 5.2: Aerial view of the site @2013 (Google Earth, 2015)

The site is flanked on the northern side by the Transnet railway line and service road as indicated in Figure 5.2. A railway underpass (Figure 5.2) is also present providing access to the other side of the railway line.

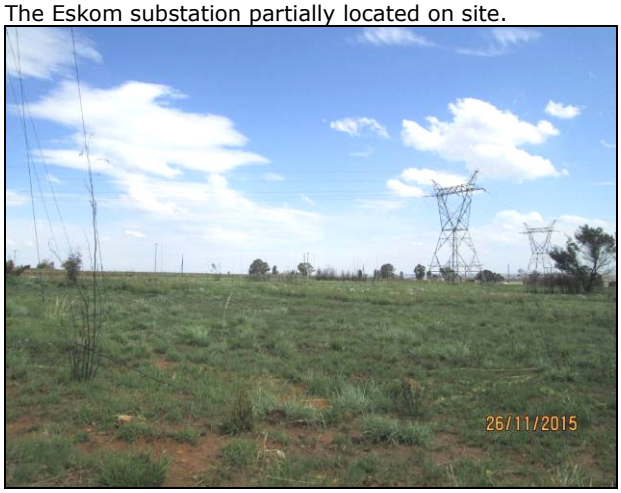
In the south western corner of the proposed development site, cultivated lands are present (Figures 5.2 and 5.3).

The central portion of the site is impacted in terms of excavations, furrows, dongas, etc. (Figures 5.2 and 5.3). From aerial views and the 1: 50 000 topographical map (Figure 5.1), it is evident that the R104 provincial road at one time extended through the proposed development site (Figure 5.2) and was decommissioned after the construction of the N4 national road.

A large section towards the north east (in close proximity of the borehole, Figure 5.2) has been levelled and now consists of barren soil as indicated in Figure 5.3.

The Eskom substation partially located on site.

The Transnet railway line and servitude road.



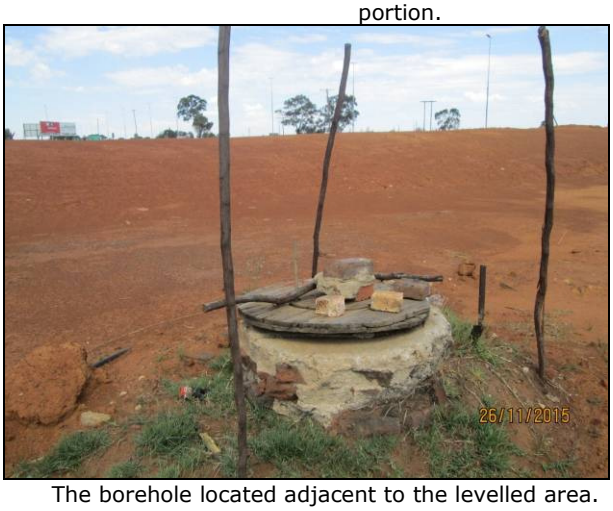
A view of the site looking in a south westerly direction.

A view of the cultivated lands in the south western portion of the site.

Figure 5.3: Photographic view of the site

A view of the excavation present in the central portion.

The barren area located in the north eastern portion.



The borehole located adjacent to the levelled area.

Figure 5.3: Photographic view of the site

5.3.6 Surrounding land uses

As already indicated, the site is bordered by the N4 national road to the southeast and the R104 provincial road to the southwest (Figure 5.2), while a railway line is located adjacent to the northern boundary (Figure 5.2).

The majority of the surrounding land is used for agricultural purposes (Figure 5.4). However, mixed land use is present to the north east of the proposed development site (indicated as urban in Figure 5.4) where the following businesses are present:

- Wonderfontein Station (Transnet);
- Puma Filling Station and George's shop;
- Thusong Service Centre, Emakhazeni Local Municipality;
- Wonderfontein Mill (Pty) Ltd.;
- Wonderfontein Boerevereniging;
- TWK Agriculture Ltd.;
- Aledlox Prop (Pty) Ltd;
- Biominerale Fosfate en Lekke.

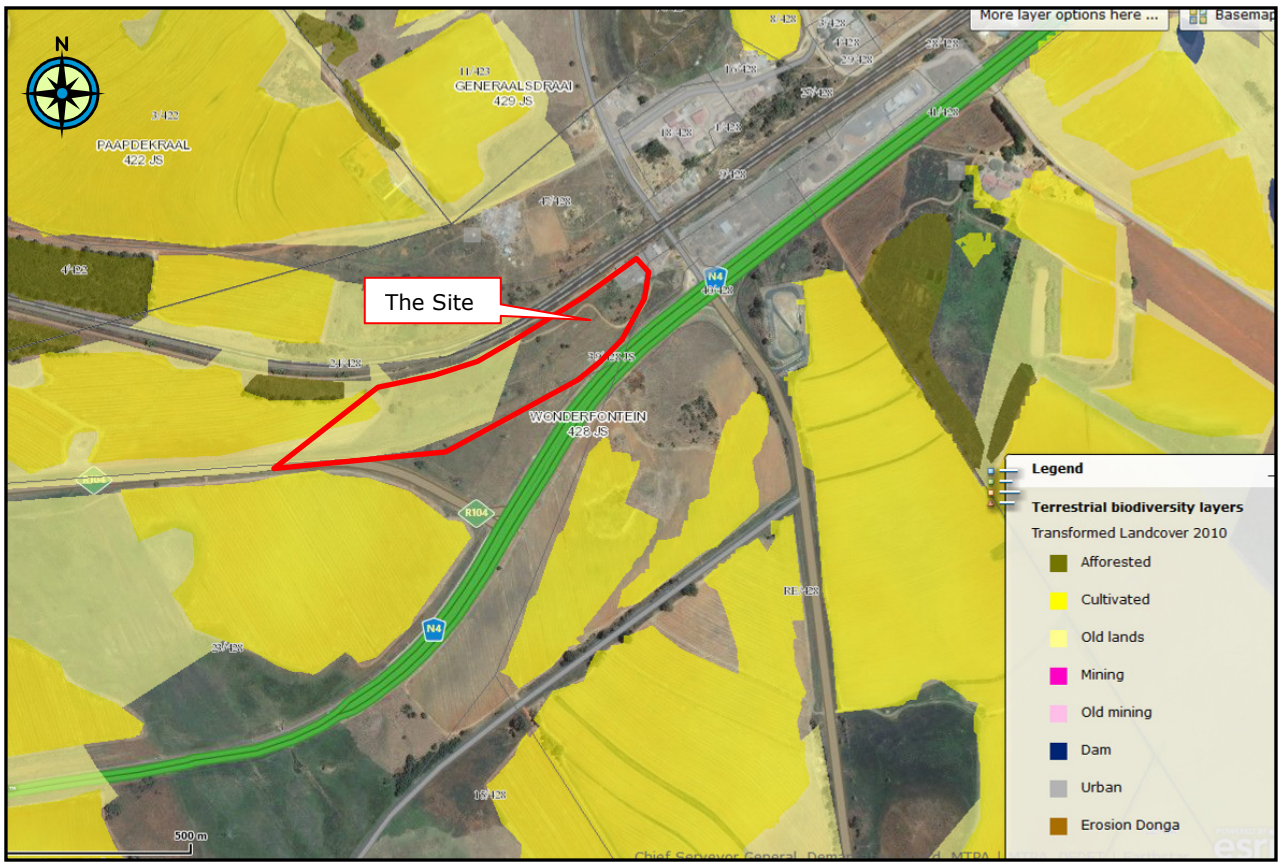


Figure 5.4: Land uses in the surrounding area (taken from MBSP, 2014)

5.4 Geology

According to the 1:250 000 Geological Series (2528 Pretoria map), the western part of the said site is underlain by the Rustenburg Layered Suite of the Bushveld Complex consisting mainly of gabbro while the eastern part is underlain by basalt (Figure 5.5).

The said site is not subject to undermining or dolomite related instabilities. In addition, no potentially unstable natural slopes are present on or in close proximity to the site.

5.5 Topography

The said site lies at approximately 1780 meters above mean sea level (mamsl). The site is fairly flat with a gentle slope in a southerly direction towards remnants of the R104 provincial road that extended through the said site and the junction between the R104 provincial road and the N4 national road.

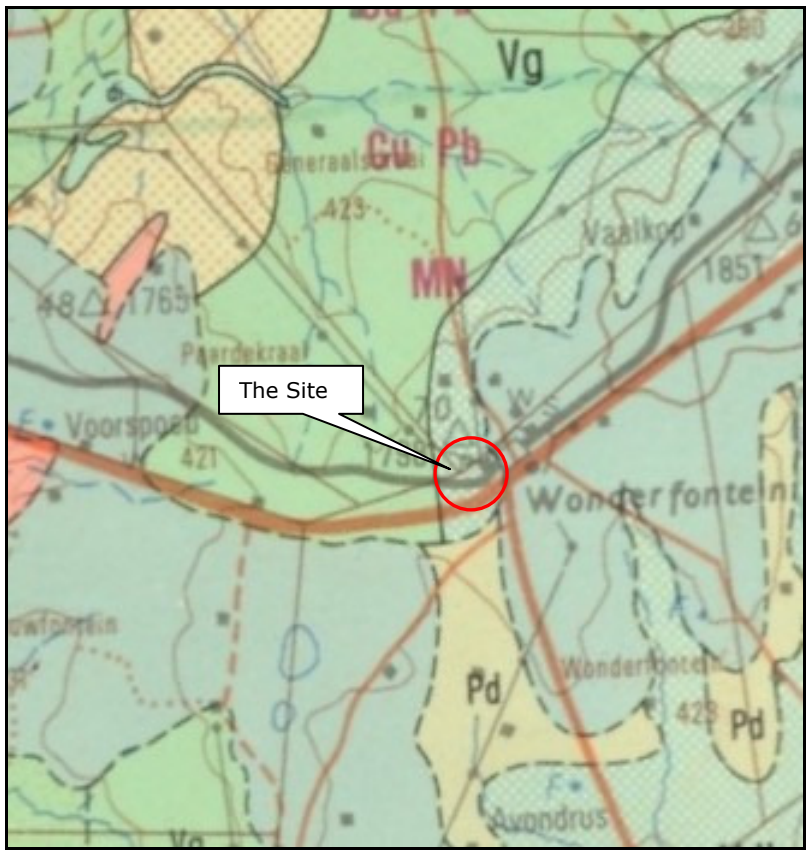


Figure 5.5: Geology of the site (taken from 2528 Pretoria 1:250 000 Geological Series)

The topography of the site and immediate surrounding area has been impacted in terms of:

- the Eskom substation and Eskom powerlines (Figure 5.2);
- a gravel road that provides access over the Transnet railway line and the Transnet service road adjacent to the said railway line (Figure 5.2);
- the Transnet railway line located on the northern side of the site (Figure 5.2);
- the cultivated lands located in the south western corner (Figure 5.2);
- excavations, furrows, dongas in the central portion of the site (Figure 5.2);
- remnants of the R104 provincial road that extended through the site (Figure 5.2);
- the levelling of a large section towards the north east of the site (Figure 5.2);
- the R104 provincial road and the N4 national road (Figure 5.2).

According to the AGIS Comprehensive Atlas of the Department of Agriculture, Forestry and Fisheries, the terrain type is level plains with some relief and plains with open low hills or ridges as indicated in Figure 5.6.

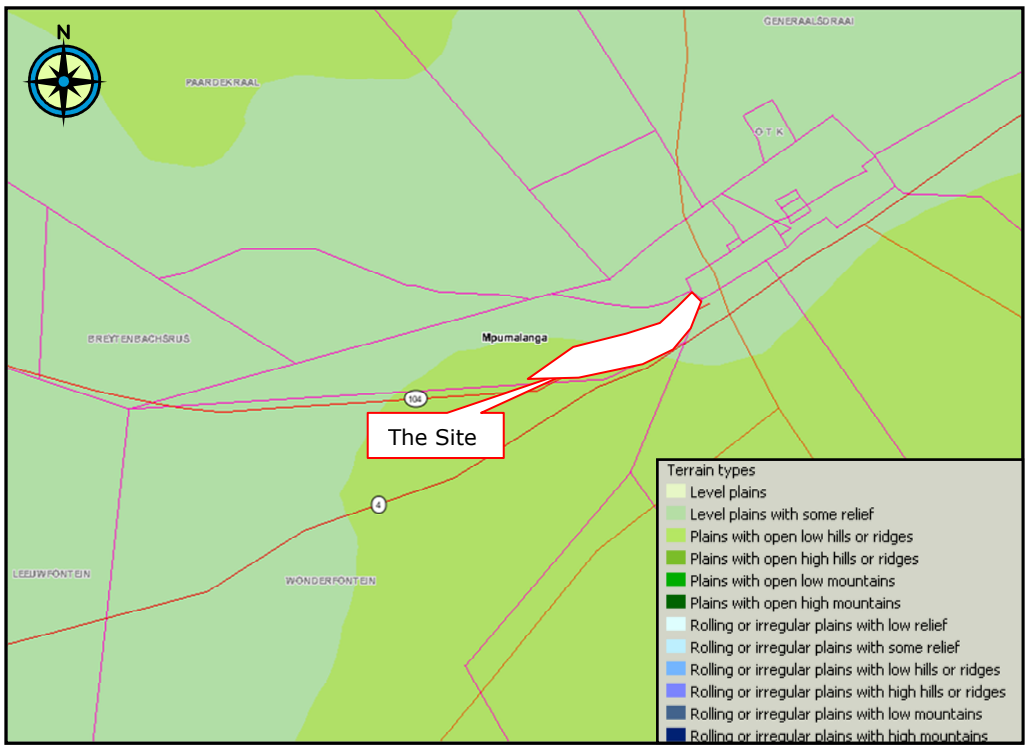


Figure 5.6: Terrain type of the proposed site (taken from Department of Agriculture, Forestry and Fisheries)

5.6 Soil

5.6.1 General

According to the AGIS Comprehensive Atlas of the Department of Agriculture, Forestry and Fisheries, the said site falls within the Ba20 land type (Figure 5.8), which is characterised by red, yellow and/or greyish plinthic soils of moderate fertility (Figure 5.7). Upland duplex and margalitic soils are rare.

The soil of the site and immediate surrounding area has been impacted in terms of:

- the Eskom substation and Eskom powerlines (Figure 5.2);
- a gravel road that provides access over the Transnet railway line and the Transnet service road adjacent to the said railway line (Figure 5.2);
- the Transnet railway line located on the northern side of the site (Figure 5.2);
- the cultivated lands located in the south western corner (Figure 5.2);
- excavations, furrows, dongas in the central portion of the site (figure 5.2);
- the R104 provincial road that extended through the site (Figure 5.2);
- the levelling of a large section towards the north east of the site (Figure 5.2);
- the R104 provincial road and the N4 national road (Figure 5.2).

However, no soil erosion was noted on site.

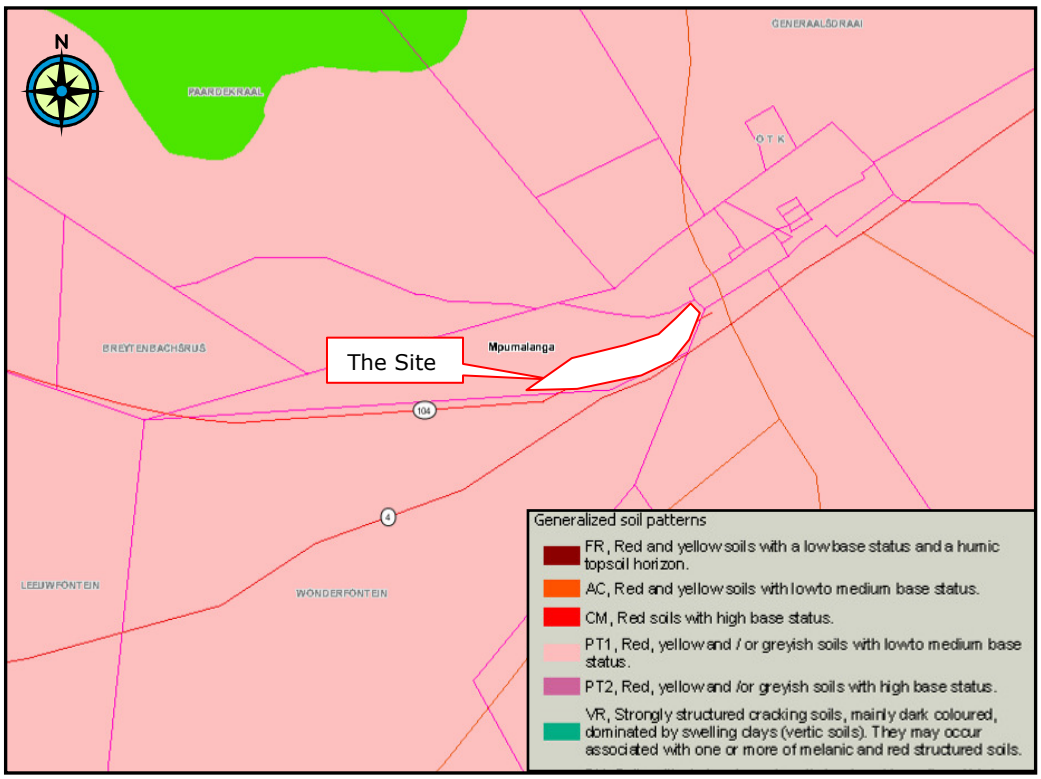


Figure 5.7: Generalized soil patterns (taken from Department of Agriculture, Forestry and Fisheries)

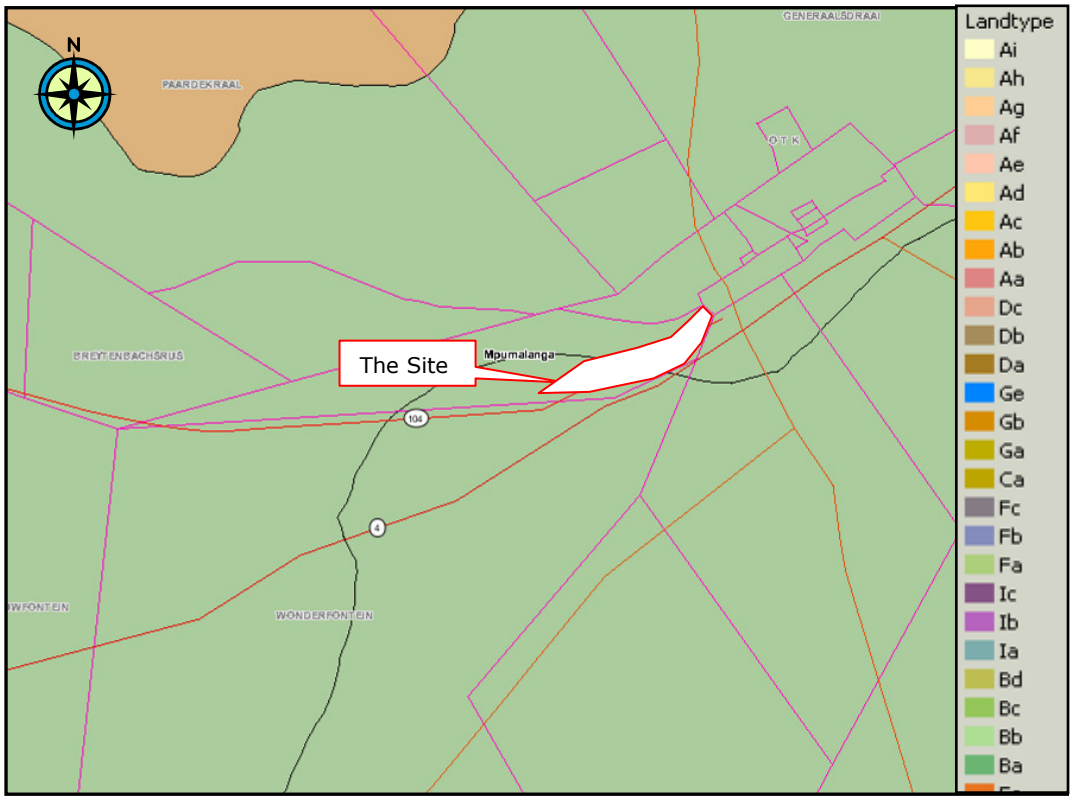


Figure 5.8: Land type of the proposed site (taken from Department of Agriculture, Forestry and Fisheries)

5.6.2 Soil survey

An agricultural potential assessment of the site was undertaken by Chris Viljoen of Viljoen and Associates (referred to as Viljoen, 2015). This assessment included a soil survey. A copy of the said report is provided in Appendix 4 and should be consulted with regards to methodology used.

Viljoen (2015) indicated that the dominant soil (according to the Taxonomical Soil Classification System of South Africa) is Mispah soils (Figure 5.9 and Figure 5.10a).

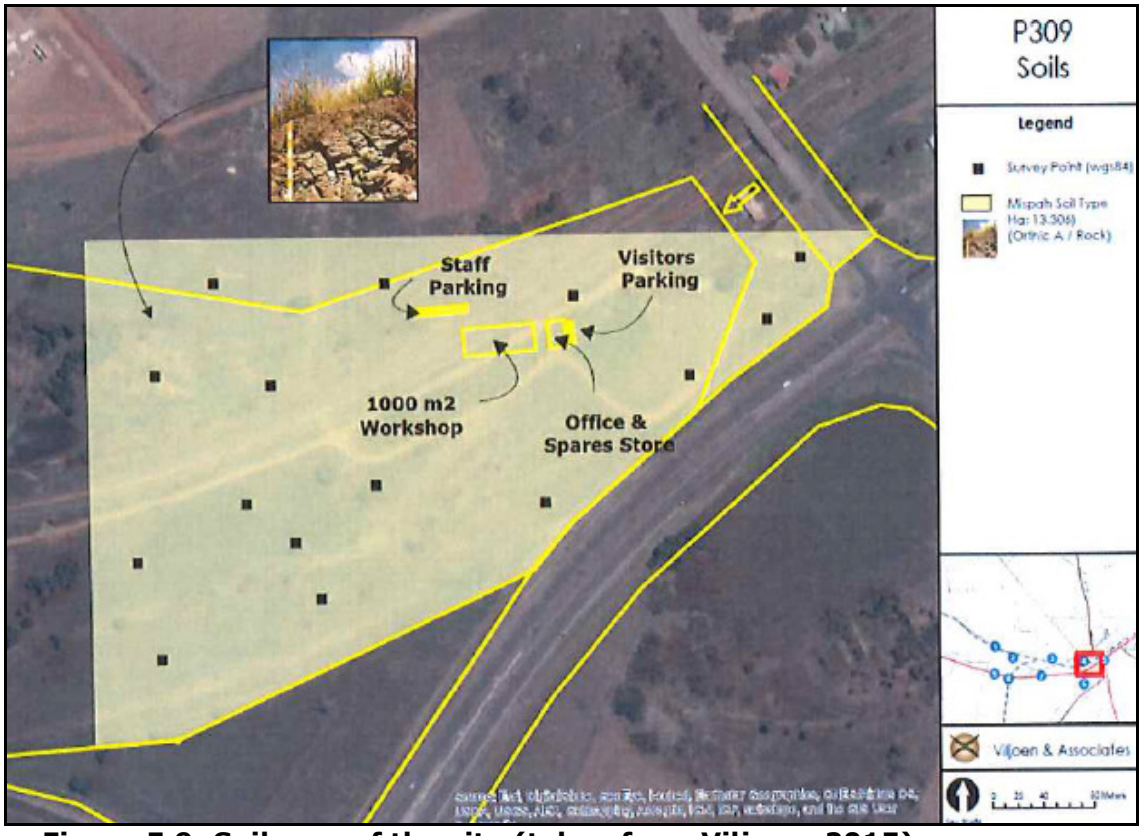


Figure 5.9: Soil map of the site (taken from Viljoen, 2015)

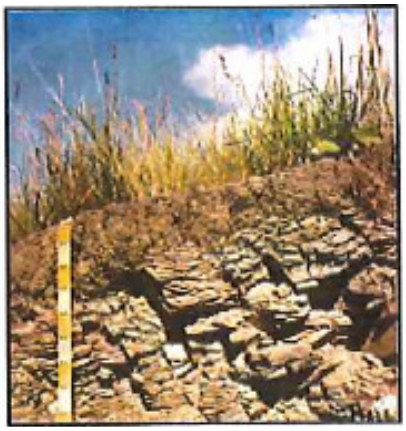


Figure 5.10a: Photographic view of the diagnostic horizons of the Mispah soil type (taken from Viljoen, 2015)

The effective depth of the Mispah soils is <300mm inclusive of the Orthic A – horizons (Viljoen, 2015). The Mispah soil is characterised by neutral pH

values (5.3 and 7.2) and low electrical conductivity values (<250mS/m). The orthic A-horizon is typically characterised by a low dense structure and texture distribution of approximately 65% sand, 20% silt and 15% clay with drainage properties in order of 10mm/h. The dominant clay mineral in the orthic A-horizon is kaolinite (1:1 layer silicate), with a low buffer capacity due to the low cation exchange capacity (<10cmol+/kg).

Grobler (2016) indicated that the soils of the proposed development site are characterised by orthic A-horizons located on yellow-brown apedal B-horizons, with ferricrete, soft plintic horizons or unknown rock material below the B-horizon. The yellow-brown apedal B-horizons generally become drier (yellower) with depth.

Figure 5.10b: Illustrates examples of distinct yellow colours in the yellow-brown apedal B-horizon (left) and multi-colourness in the orthic A-horizon (right), recorded within the study area (taken from Grobler, 2016).

The orthic A-horizons occasionally contained multi-colourness. The lighter to darker matrix colour changes noted were based on differences in organic material content (Figure 5.10b). Red mottles (with an occurrence of less than 1%) were recorded in one or two instances in the orthic horizon only, but were regarded as negligible and not sufficient to signify wetland conditions (Grobler, 2016).

5.6.3 Agricultural potential/land capability

In terms of land capability, the proposed site is indicated according to the Department of Agriculture, Fisheries and Forestry as high potential arable land (Figure 5.11).

Looking at grazing capacity, Figure 5.12 indicates the site as transformed rangeland.

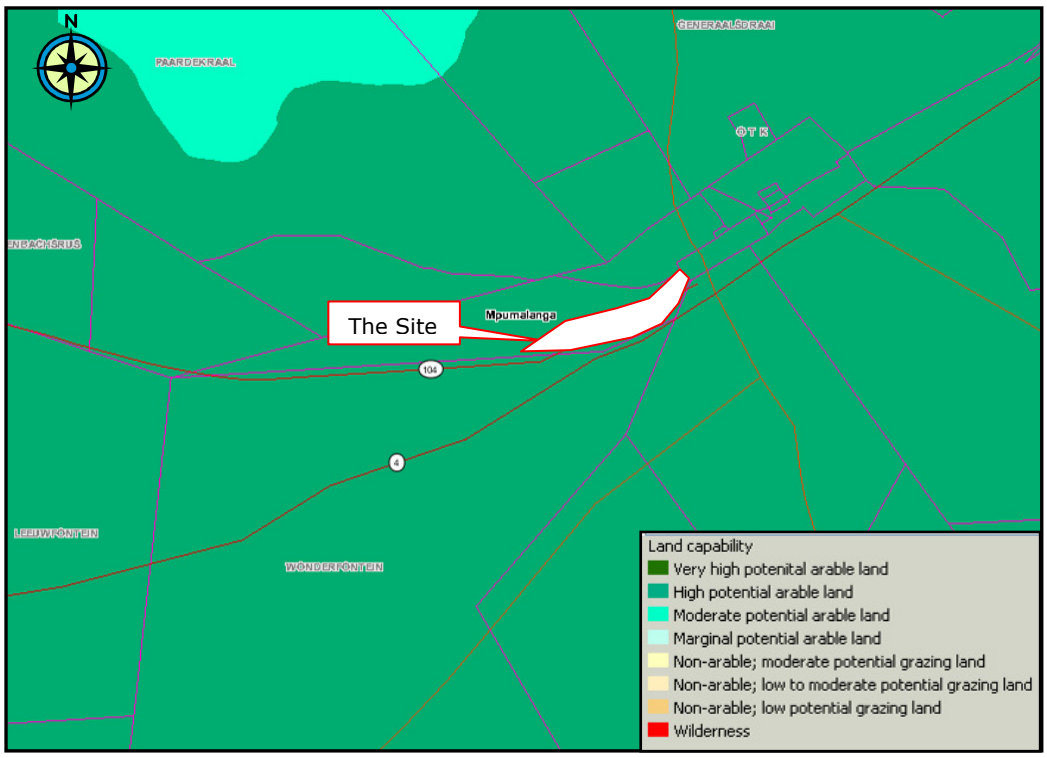


Figure 5.11: Land capability of the proposed site (taken from Department of Agriculture, Forestry and Fisheries)

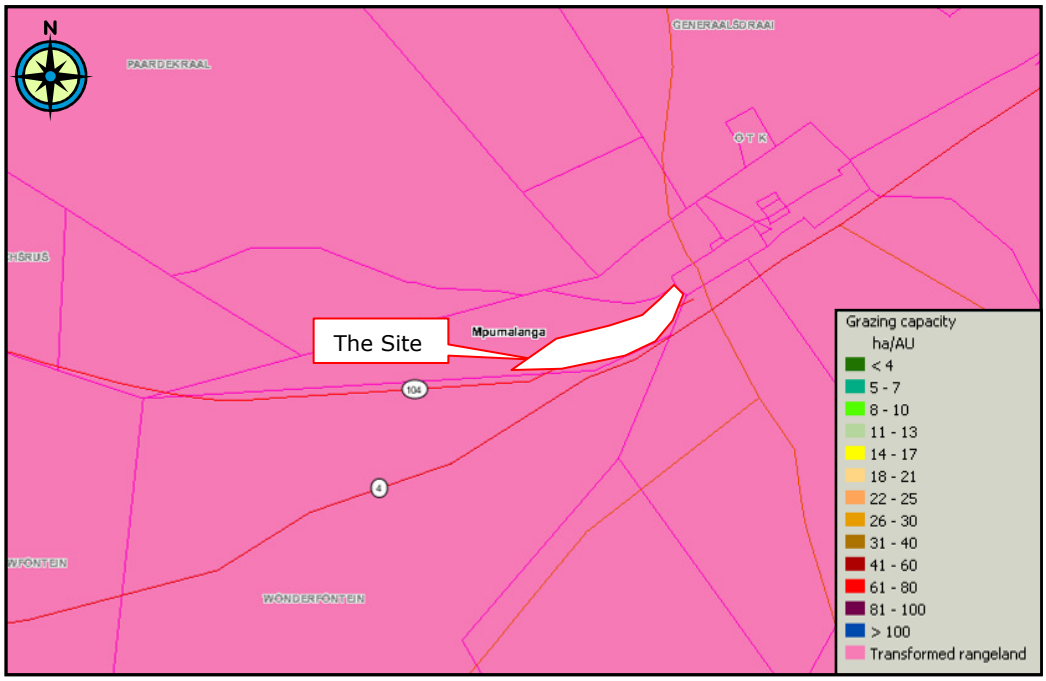


Figure 5.12: Grazing capacity of the proposed site (taken from Department of Agriculture, Forestry and Fisheries)

An agricultural potential assessment of the site was undertaken by Chris Viljoen of Viljoen and Associates (referred to as Viljoen, 2015). A copy of the said report is provided in Appendix 4 and should be consulted with regards to methodology used.

Table 5.6 provides an indication of the agricultural potential as determined by Viljoen (2015). According to Viljoen (2015), the Mispah soils have a low dry land agricultural potential and a low irrigation agricultural potential.

Table 5.6: Agricultural potential of site (taken from Viljoen, 2015)

SOIL TYPE	**AGRICULTURAL POTENTIAL**	
	DRY LAND *(650 mm/y rainfall)*	**IRRIGATION** *(> 10-15 mm/week 33 – 1500 kPa plant available water)*
Mispah	Low	Low

In the south western corner of the proposed development site, cultivated lands are present (Figure 5.2). The rest of the site has not been cultivated for many years as indicated in Figure 5.15a and b.

5.7 Natural vegetation

5.7.1 Regional vegetation and conservation status

According to 'The vegetation of South Africa, Lesotho and Swaziland', the study area falls within the Mesic Highveld Grassland bioregion, specifically the **Eastern Highveld Grassland** (veld type Gm12; Figure 5.13) (Mucina & Rutherford, 2006). The vegetation type was previously referred to by Low and Rebelo (1998) as Moist Sandy Highveld Grassland (38) and by Acocks (1953) as Bankenveld (61) and North-Eastern Sandy Highveld (57).

This grassland extends from the eastern side of Johannesburg towards Belfast and then southwards to Bethal, Ermelo and Piet Retief.

This vegetation type is characterized by short dense grassland, dominated by the usual highveld grass composition (*Aristida, Digitaria, Eragrostis, Themeda,* etc.*)* with small, scattered rocky outcrops with wiry, sour grasses and some woody species (*Acacia caffra, Celtis africana, Parinari capensis*, etc.).

Approximately 44% of the Eastern Highveld Grassland has already been transformed by cultivation, urban sprawl, mining, 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**.

Vulnerable (VU) ecosystems - being ecosystems that have a high risk of undergoing significant degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems or endangered ecosystems.

The stated purpose of listing 'threatened ecosystems' is primarily to reduce the rate of ecosystem degradation and species extinction.

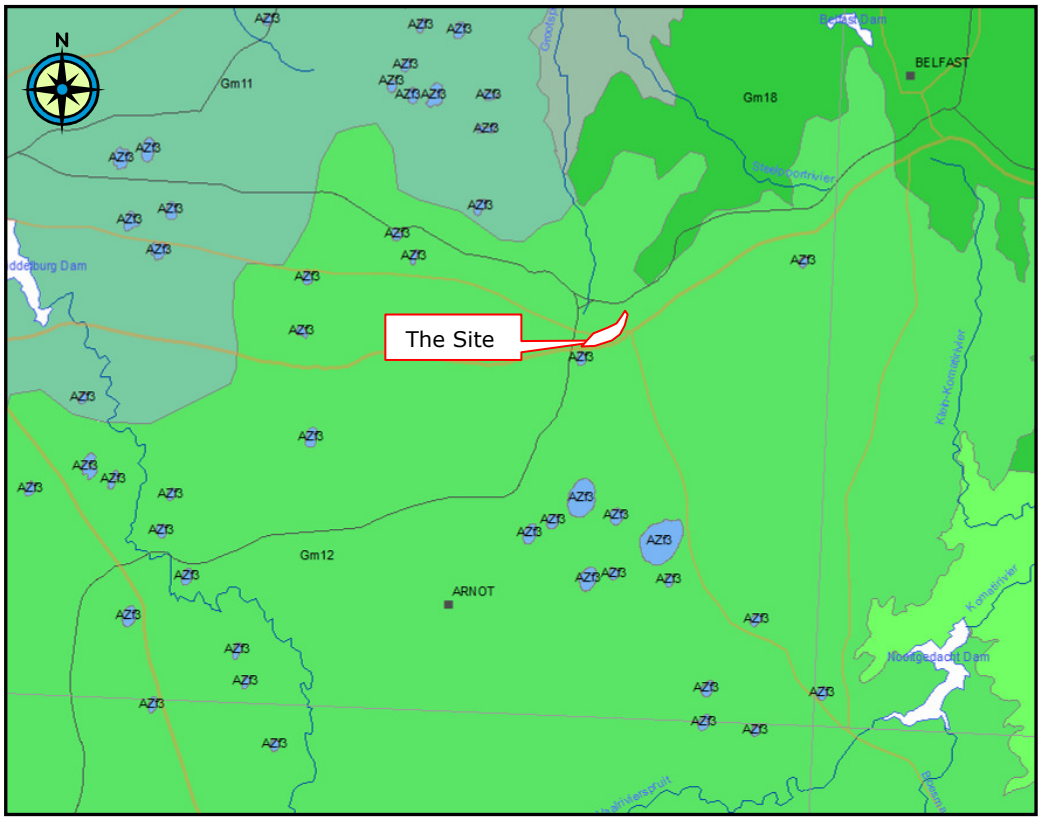


Figure 5.13: Vegetation type (taken from Mucina and Rutherford, 2006)

The Mpumalanga Biodiversity Sector Plan (MBSP, 2013) is a biodiversity planning tool that provides the most recent spatial biodiversity information to inform land-use and development planning (Lotter *et al*., 2014). The main mapping categories used in the MBSP (in descending order of importance in terms of meeting conservation targets), are:

- Protected Areas;
- Critical Biodiversity Areas (Irreplaceable and Optimal);
- Ecological Support Areas;
- Other Natural Areas;
- Modified (Heavily Modified and Moderately Modified-old lands).

According to the Mpumalanga Biodiversity Sector Plan (MBSP, 2013), the site is classified as **- Protected Area Buffer, Critical Biodiversity Area (CBA) Irreplaceable, Other Natural Areas, Moderately and Heavily Modified (Old Lands)** (Figure 5.14).

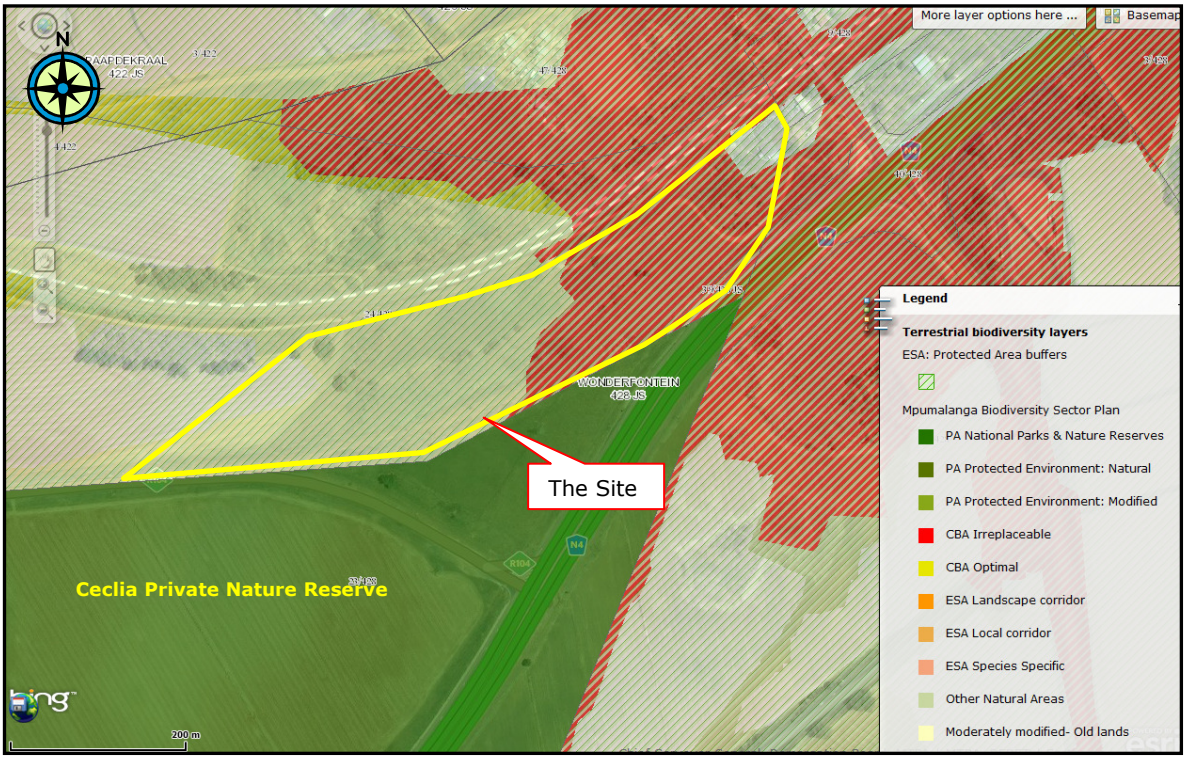


Figure 5.14: Terrestrial biodiversity assessment (taken from Mpumalanga Biodiversity Sector Plan, 2013)

According to the Mpumalanga Biodiversity Sector Plan (2013), the area to the south of the proposed development site is the Cecilia Private Nature Reserve (Figure 5.14). This private nature reserve was proclaimed in 1956 (Administrators Notice 226 of 1956) and was 559.54 ha in extent. In view of this, the site is indicated to be located within a **'Protected Area Buffer'.** However, the said 'nature reserve' has been cultivated (Figure 5.4) and is not managed as such (M. Lotter (MTPA), pers. comm). In addition, it was discovered that a mining right (for coal mining) has been issued for the said area.

As indicated in Figure 5.4, the majority of the surrounding land is used for agricultural purposes (i.e. cultivated land).

In view of the above-mentioned, the proposed development site does not fall within a buffer zone of a protected area.

5.7.2 Vegetation found on site and surrounds

Figure 5.15a, 5.15b and 5.15c provide aerial views of the state of the onsite vegetation in 2003, 2012 and 2013.

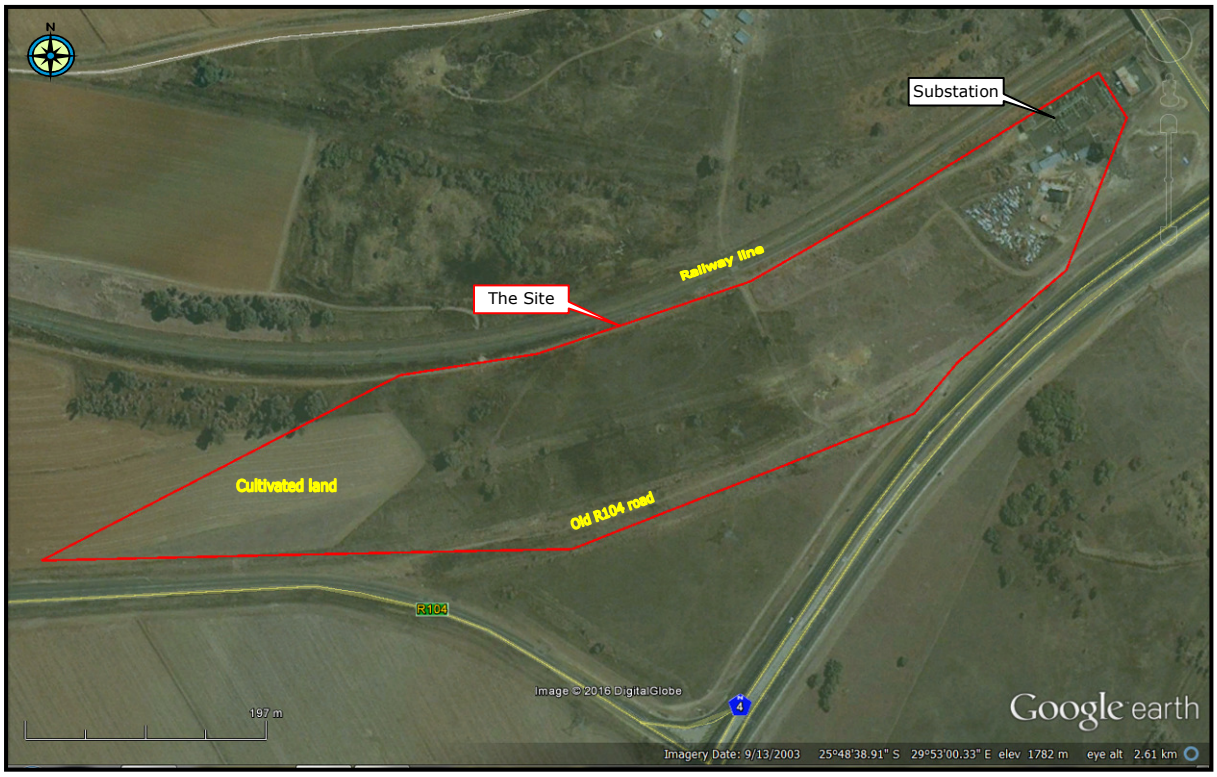


Figure 5.15a: Aerial view of onsite vegetation in 2003

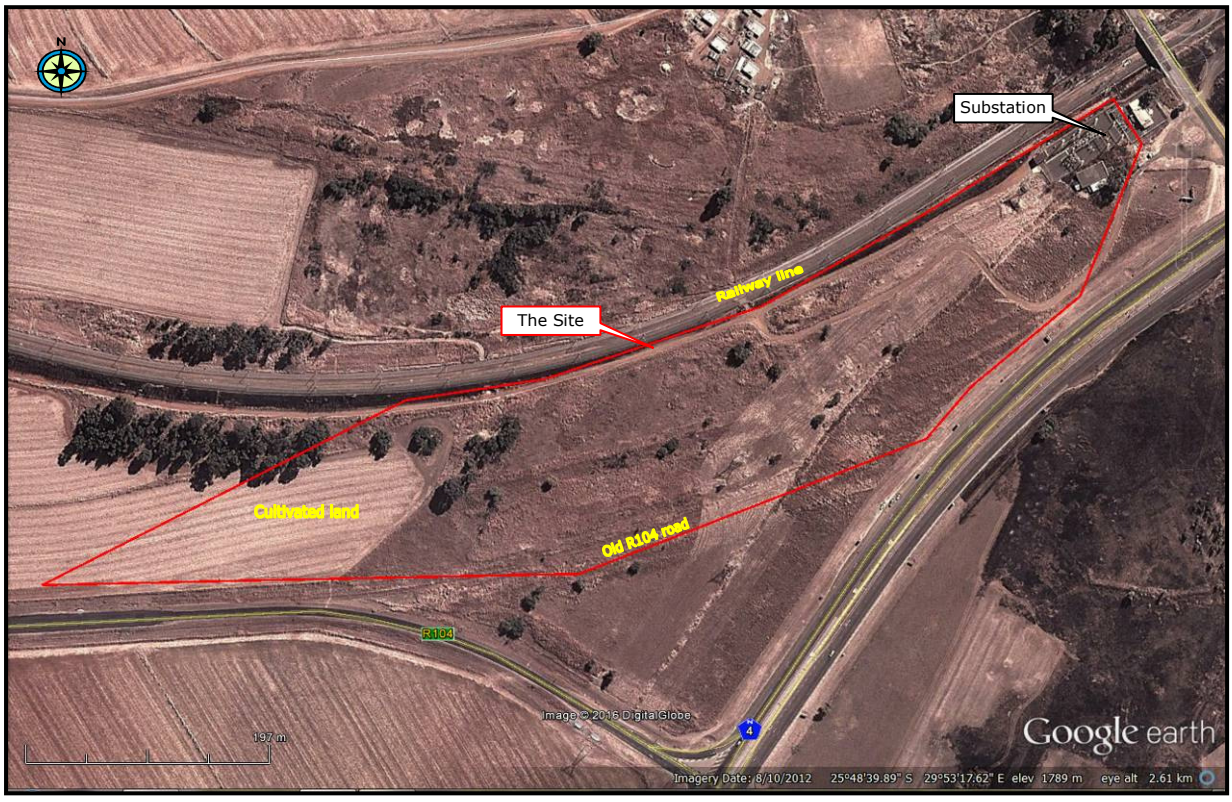


Figure 5.15b: Aerial view of onsite vegetation in 2012

Figure 5.15c: Aerial view of onsite vegetation in 2013

From the above-mentioned aerial views, it is apparent that the onsite vegetation was impacted by various activities, e.g. part of the R104 provincial road extended through the site, the construction of the onsite gravel road, the construction of the Eskom substation and Eskom powerlines, cultivation of lands, excavations, dongas, etc. The onsite vegetation is therefore not pristine and has been disturbed as seen on site.

Patches of indigenous Eastern Highveld Grassland vegetation are mostly present in the western and central portions of the proposed development site as evident in Figure 5.15c and 5.16.

Here *Cymbopogon validus* (gaint turpentine grass) is dominant which has very little grazing value. *Pogonarthria squarossa* (herringbone grass) and *Cynodon dactylon* (kweekgrass) were also noted. Other plant species noted include: *Wahlenbergia* cf. *undulata*, *Berkheya setifera*, *Peucedanum* sp., *Vernonia oligocephala*. Figure 5.16 provides a photographic view of the onsite vegetation.

Grobler (2016) indicated that hygrophyte species (*Scirpus burkei* - common to uncommon in localised patches; *Kylinga* sp. - rare; *Eragrostis gummiflua* - uncommon and *Helichrysum aureonitens* - uncommon to rare) were recorded in localised areas in the western portion of the proposed development site. The presence of these species however, did not overlap with hydromorphic soil features, while no obligate hydrophyte species were identified (Grobler, 2016).

Grobler (2016) indicated that recorded patches of hygrophyte and possibly facultative wetland species are regarded as areas of moist grassland habitat and do not qualify as wetland habitat based on available information.

The south western section of the study area was transformed into a cultivated maize land (Figure 5.2; Figure 5.15c) with no signs of stress or stunted maize plants as would be expected when cultivation of a terrestrial crop species, such as maize, occurs in a wetland area (Grobler, 2016). A section of the eastern portion of the site comprises mostly bare ground (area levelled) where no vegetation is present (Figure 5.3).

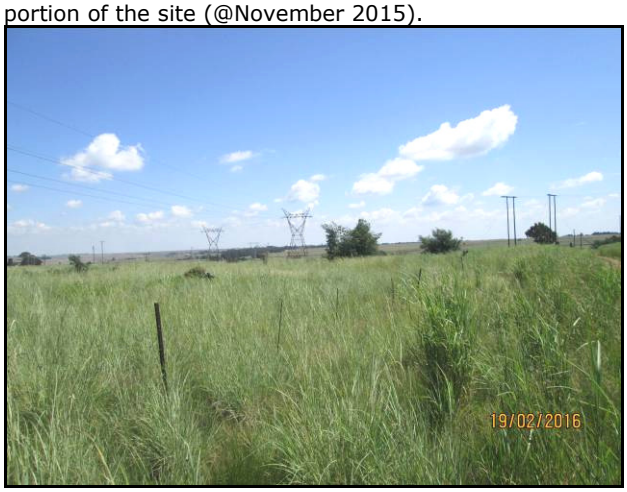
Within the remaining grassland areas, the following plant species were noted indicating disturbance:

- Castor oil plant (*Ricinus communis*);
- Kikuyu (*Pennisetum clandestinum*);
- Wattle (*Acacia dealbata/mearnsii*);
- Prickly pear (*Opuntia ficus-indica*);
- Khakiweed (*Tagetes minuta*).

Clumps of trees (*Acacia* sp., *Eucalyptus* sp.) are also present on site (Figure 5.15c).

A view of the agricultural lands in the south western portion of the site (@November 2015).

A view of the vegetation on site @ November 2015.



A view of the vegetation present on site @ February 2015.

Figure 5.16: Photographic view of the onsite vegetation

The majority of the surrounding land is used for agricultural purposes (Figure 5.4) with very little natural vegetation remaining.

In view of the above-mentioned, the proposed development site is not seen as a Critical Biodiversity Area Irreplaceable as indicated in the Mpumalanga Biodiversity Sector Plan (2013). The proposed development site should be classified as Moderate and Heavily Modified.

5.7.3 Plant Species of Conservation Concern

The term 'Species of Conservation Concern' refers to the IUCN threatened and Near Threatened categories as well as the South African Red List categories (i.e. Critically Rare, Rare and Declining).

A list of Species of Conservation Concern, which historically occurred in the area (quarter degree square 2529DD), was obtained from the PRECIS Database (South African National Biodiversity Institute) and PlantDat database (Mpumalanga Tourism & Parks Agency). Only 2 plant Species of Conservation Concern were recorded for this quarter degree square as indicated in Table 5.7.

Table 5.7: Plant Species of Conservation Concern recorded for quarter degree square: 2529DD

Latin Name	Common Name and Description	Habitat	Status
Khadia carolinensis	Perennial, succulent	Well-drained, sandy loam soils among rocky outcrops, or at the edges of sandstone sheets, Highveld Grassland	Vulnerable
Miraglossum davyi	Perennial herb, succulent	The plants grow in open, gentle sloping grassland of high altitudes on sand or heavy black loam soils in areas that are prone to very low temperatures, frost and even snow in winter.	Vulnerable

However, habitat for *Khadia carolinensis* and *Miraglossum davyi* (Table 5.7) does not occur on site.

5.7.4 Protected plant species

In addition to the IUCN categories, the following legislation affords protected status to selected indigenous plant species:

- National Forests Act (Act 84 of 1998),
- NEMA Biodiversity Act (Act 10 of 2004, as amended in 2007), and
- Mpumalanga Nature Conservation Act (No.10 of 1998).

National Forests Act (Act 84 of 1998)

The National Forests Act lists 47 tree species that may not be removed or damaged without a license from the National Department of Agriculture.

None of the 47 tree species listed in Schedule A of this Act occurs within the study area or its immediate surroundings.

NEMA Biodiversity Act (Act 10 of 2004, as amended in 2007)
The intention of the Biodiversity Act is to protect plant species (e.g. cycads, yellow arum lily, protea, etc.) that are directly threatened in terms of their utilisation. The destruction, collection or trading of any species listed in this Act requires a permit.

As indicated in Section 5.7.3, no habitat for plant species of conservation is present on site.

Mpumalanga Nature Conservation Act (No.10 of 1998)
A number of plant species are protected in the Mpumalanga Province under the Mpumalanga Nature Conservation Act, 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. A permit has to be obtained prior to their removal.

No protected plant species or trees were noted on site. As indicated in Section 5.7.3, no habitat for plant species of conservation is present on site.

5.7.5 Invader or exotic species

Declared Weeds and Invaders are subject to the Conservation of Agricultural Resources Act (Act 43 of 1983) as amended in 2001. In terms of this Act, landowners are legally responsible for the control of alien plant species on their properties.

In addition, a number of plant species are listed as alien invasive species in terms of the Alien Invasive Species (AIS) Regulations, as defined in the National Environmental Management Biodiversity Act (Act no. 10 of 2014). The AIS regulations place each declared alien invasive plant species into one of four categories and stipulates measures for the eradication of plants in each of the four categories.

Table 5.8 provides an indication of the alien invasive plant species noted on site.

Table 5.8: Declared alien invasive plant species

Latin name	Category
Acacia dealbata/mearnsii (*Wattle*)	Category 2
*Opuntia ficus-indica (*Prickly pear*)*	Category 1b
Pennisetum clandestinum (Kikuyu)	Proposed declared invader
Pinus pinaster (Cluster Pine)	Category 1b*
Ricinus communis (Castor oil plant)	Category 2

*Category 1b Listed Invasive Species are those species listed as such by notice in terms of section 70(1)(a) of the Act (NEM: Biodiversity Act) as species which must be controlled.

5.8 Animal life

As already indicated, the site is bordered by the N4 national road to the southeast and the R104 provincial road to the southwest (Figure 5.2), while a railway line is located adjacent to the northern boundary (Figure 5.2).

As indicated in Section 5.7.2, the onsite vegetation was impacted by various activities e.g. part of the R104 provincial road extended through the site, the

construction of the gravel road onsite, the construction of the Eskom substation and Eskom powerlines, cultivation of lands, excavations, dongas, etc. The onsite vegetation is therefore not pristine and has been disturbed as seen on site.

In addition, the majority of the surrounding land is used for agricultural purposes (Figure 5.4) providing very little habitat for animal species.

It is therefore highly unlikely that large animal species would permanently inhabit the site. The grassland vegetation present on site would provide habitat for small mammals, reptiles, frogs, birds, etc.

5.9 Surface water

5.9.1 Catchment

The proposed site falls within the X11G quaternary catchment of the Komati River and under the jurisdiction of the Inkomati Usuthu Catchment Management Agency (IUCMA).

The Ecological Sensitivity of the X11G quaternary catchment is Moderate according to the Department of Water and Sanitation. According to the Mpumalanga Biodiversity Sector Plan Freshwater Biodiversity Assessment (2013), the proposed development site falls within an Ecological Support Area (ESA): Important subcatchment (Figure 5.17).

It should be noted that the MBSP Freshwater Biodiversity Assessment (2013) includes information obtained from the National Freshwater Ecosystem Priority Areas (NFEPA) and threatened freshwater ecosystems databases (National Biodiversity Assessment, 2011).

Figure 5.17: Freshwater biodiversity assessment (taken from Mpumalanga Biodiversity Sector Plan, 2013)

5.9.2 Floodline

No natural surface water environments (e.g. rivers, streams, dams, wetland, etc.) are located on site (Figure 5.1). The site will therefore not be affected by the 1:50 or 1:100 year floodlines.

The closest surface water environments are:

- a pan approximately 390m north-northeast (Figure 5.18) and
- a wetland approximately 290m west-southwest of the proposed development site (Figure 5.18).

5.9.3 Surface water runoff

The site is fairly flat with a gentle slope in a southerly direction towards remnants of the R104 provincial road that extended through the said site and the junction between the R104 provincial road and the N4 national road.

The surface water runoff of the said site has already been impacted in terms of the infrastructure present on site (i.e. Eskom substation, Eskom powerlines, gravel road, etc., Figure 5.2) and immediate surrounding area (i.e. Transnet railway line and associated infrastructure, N4 national road, etc., Figure 5.2).

The central portion of the site is impacted in terms of excavations, furrows and dongas resulting in the ponding of water during periods of rainfall.

A railway underpass is present near the north western corner of the site that could result in surface water runoff from the higher lying areas flowing onto the site.

5.9.4 Wetlands

Retief Grobler of Imperata Consulting cc (referred to as Grobler, 2016) was appointed to confirm the presence or absence of wetland habitat within the proposed development site. A copy of the report is provided in Appendix 5. The said report should be consulted with regards to the methodology used in this assessment.

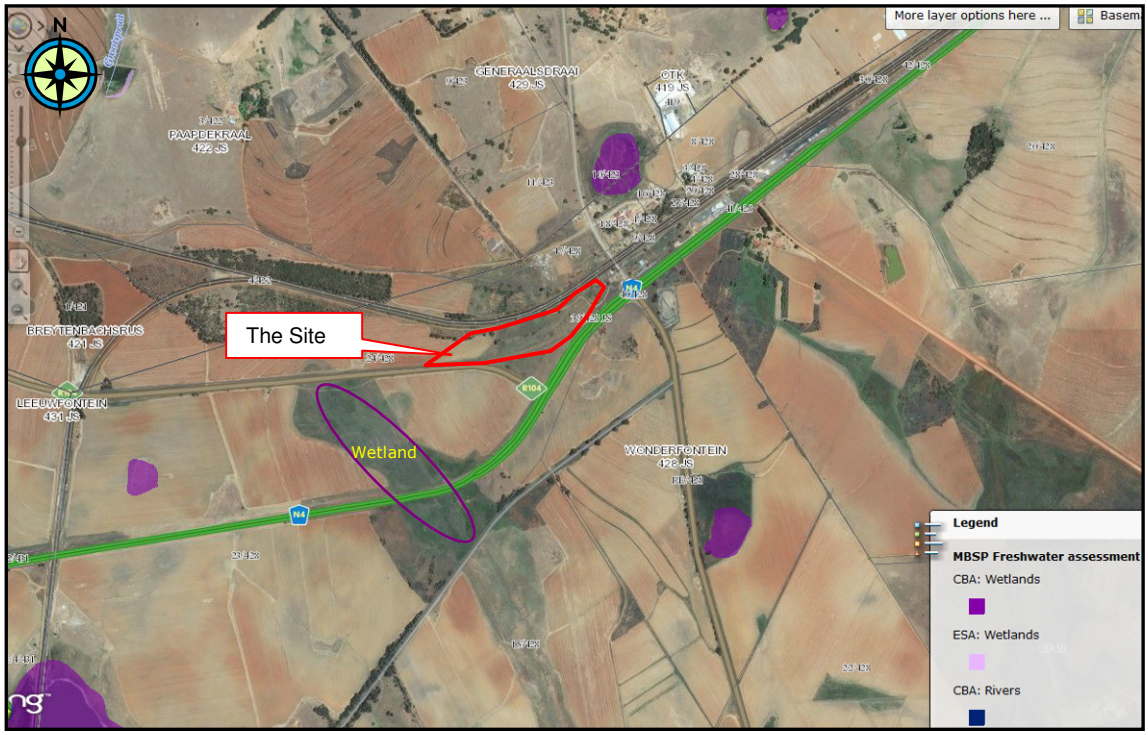


Figure 5.18: The proposed development site in relation to nearby wetlands (taken from Mpumalanga Biodiversity Sector Plan, 2013)

Grobler (2016) reported the following findings in terms of the assessment of the said site:

- Topographical map 2529DD (Arnot) does not include any drainage lines or rivers within the proposed development site or its immediate surroundings.
- A pan wetland is, however, present approximately 390m north-northeast of the site (Figure 5.18), as indicated on the topographical map.
- Neither the Mpumalanga Highveld Wetlands shapefile layer (SANI 2014) nor the 2013-14 South African National Land Cover dataset (GTI 2015) indicate the presence of wetland areas within the proposed development site.
- The Mpumalanga Highveld Wetlands dataset does indicate the presence of wetland habitat approximately 390m north-northeast of the site and approximately 290m west-southwest of the proposed development site.
- None of the available datasets indicate wetland habitat within the proposed development site. This was also confirmed by results from the site survey based on plant and soil data obtained at different sample points (Figure 2 of Appendix 5).

It should be noted that the wetland, approximately 290 m west-southwest of the proposed development site, corresponds to the wetland highlighted by

Trans African Concessions (Pty) Ltd. "as being high in biodiversity and contains red listed plant species" (see Section 6.3.6).

Grobler (2016) indicated that the site is disturbed with excavations, berms, trenches and several linear infrastructure features, which constrained the investigation of soil and plant wetland indicators.

No distinct signs of hydromorphic indicators were recorded as indicated in Section 5.6.

Grobler (2016) indicated that hygrophyte species (*Scirpus burkei* - common to uncommon in localised patches; *Kylinga* sp. - rare; *Eragrostis gummiflua* - uncommon and *Helichrysum aureonitens* - uncommon to rare) were recorded in localised areas in the western portion of the proposed development site. The presence of these species however, did not overlap with hydromorphic soil features, while no obligate hydrophyte species were identified (Grobler, 2016). Recorded patches of hygrophyte and possibly facultative wetland species are regarded as areas of moist grassland habitat and do not qualify as wetland habitat based on available information (Grobler, 2016).

The western-most section of the study area was transformed into a cultivated maize land with no signs of stress or stunted maize plants as would be expected when cultivation of a terrestrial crop species, such as maize, occurs in a wetland area (Grobler, 2016).

In summary, no wetland habitat was identified within the study area, but wetlands are present within a 500m radius around the study area (Figure 5.18).

5.10 Groundwater

As indicated in Section 5.9, no wetlands are present on site indicating the presence of a shallow groundwater table. No indication of seepage was noted on site.

Ponding of water during periods of heavy rainfall does take place within the central portion of the site as a result of the excavations, trenches, etc.

A borehole is present on site as indicated in Figure 5.19. No information regarding the groundwater (quality and quantity) is however available.

Figure 5.19: View of borehole

5.11 Air quality

The air quality of the site and immediate surrounding area is predominately governed by agricultural practices and mining activities.

Activities in the surrounding area that could potentially impact on the air quality of the site include the following:

- Dust generated as a result of vehicles utilizing the adjacent and onsite gravel roads (Figure 5.2).
- Emissions from vehicles travelling on the various roads in the area (i.e. N4 national road, R104 provincial road, gravel roads).
- Dust as a result of surrounding agricultural (ploughing, seeding, harvesting, etc.) and mining activities;
- Smoke emitted from veld fires.

5.12 Noise

As already indicated, the site is bordered by the N4 national road to the southeast and the R104 provincial road to the southwest (Figure 5.2), while a railway line is located adjacent to the northern boundary (Figure 5.2).

The majority of the surrounding land is used for agricultural purposes (Figure 5.3). However, mixed land use is present to the north east of the proposed development site (Figure 5.4).

In general, the ambient noise level of the site and immediate surrounding area is relatively high. The major contributing factor to the ambient noise level of the site would be as a result of the vehicles using the nearby road (N4 national road, R104 provincial road, the gravel roads) and the use of the Transnet railway line.

5.13 Sites of archaeological and cultural interest

5.13.1 Cultural Heritage Impact Assessment

Dr Anton van Vollenhoven, an accredited archaeologist, of Archaetnos Culture and Cultural Resource Consultants (referred to as Van Vollenhoven, 2016), visited the proposed site in order to determine the need for a Heritage Impact Assessment. A copy of the report is provided in Appendix 6.

Van Vollenhoven (2016) indicated that the entire site has been disturbed by recent human activities. The chances of finding any heritage related features (e.g. graves, artefacts, etc.) are thus extremely slim.

It was further indicated that all possible signs of heritage resources would have been demolished as a result of the disturbance of the site. It is therefore very unlikely that any archaeological or cultural historical site or occurrence will be disturbed as a result of the proposed development.

Van Vollenhoven (2016) indicated that an additional Heritage Impact Assessment (HIA) is therefore not needed for this project and that the applicant could apply for exemption from having to conduct a Heritage Impact Assessment.

A letter (dated: 19 January 2016; Appendix 6) was forwarded to the Mpumalanga Provincial Heritage Resources Agency requesting exemption from conducting a Heritage Impact Assessment. To date, no response from this Agency has been received.

5.13.2 Palaeontological sensitivity

According to the palaeontological map supplied by the South African Heritage Resources Agency (SAHRA, 2014) a palaeonotological study is not required for the said site (Figure 5.20).

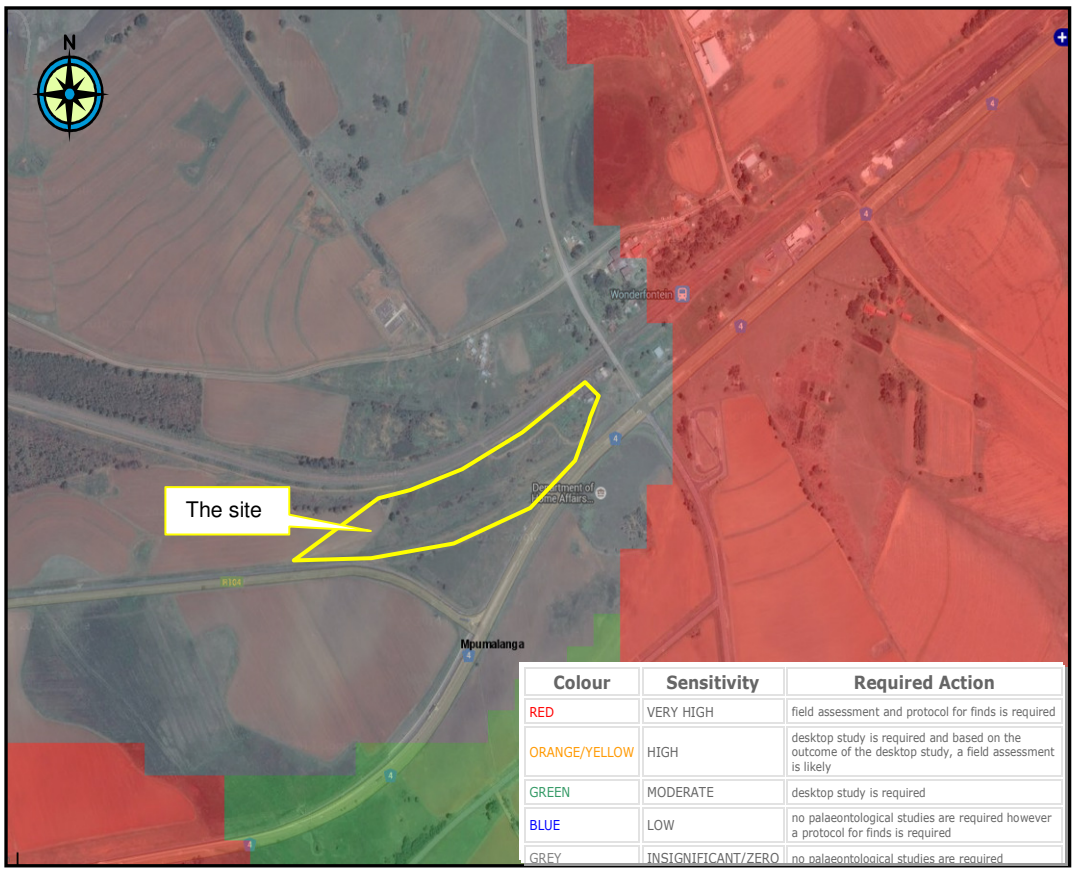


Figure 5.20: Requirement for palaeontological study (taken from SAHRA, 2014)

5.14 Sensitive landscapes

No sensitive landscapes (wetlands/seepage areas, etc.) are present on the said site as indicated in Section 5.9.

No heritage resources (e.g. graves, historic buildings, etc.) are present as indicated in Section 5.13.

5.15 Visual aspects

As already indicated, the site is bordered by the N4 national road to the southeast and the R104 provincial road to the southwest (Figure 5.2), while a railway line is located adjacent to the northern boundary (Figure 5.2). The majority of the surrounding land is used for agricultural purposes (Figure 5.4).

The site is fairly flat with a gentle slope in a south westerly direction towards the R104 provincial road. The said site is highly visible from the R104 provincial road, the N4 national road, the railway line and the immediate surrounding area.

The visual aspect of the said site has already been impacted in terms of the infrastructure present on site (i.e. Eskom substation, Eskom powerlines, gravel road, excavations, etc. Figure 5.2) and immediate surrounding area

(i.e. Transnet railway line and associated infrastructure, N4 national road, etc., Figure 5.2).

5.16 Traffic

The site is bordered by the N4 national road to the southeast and the R104 provincial road to the southwest (Figure 5.2), while a railway line is located adjacent to the northern boundary (Figure 5.2).

Currently access is obtained from the gravel road located to the north east of the proposed development site (Figure 5.2).

A gravel road extends across the proposed development site providing access over and adjacent to the railway line (Figure 5.2). This road is mostly used by Eskom and Transnet personnel.

The proposed development site is not accessed from the R104 provincial road or the N4 national road (Figure 5.2).

5.17 Sense of place

As already indicated, the site is bordered by the N4 national road to the southeast and the R104 provincial road to the southwest (Figure 5.2), while a railway line is located adjacent to the northern boundary (Figure 5.2).

The majority of the surrounding land is used for agricultural purposes (Figure 5.4). However, mixed land use is present to the north east of the proposed development site (Figure 5.21) where the following businesses are present:

- Wonderfontein Station (Transnet);
- Puma Filling Station and George's shop;
- Thusong Service Centre, Emakhazeni Local Municipality;
- Wonderfontein Mill (Pty) Ltd.;
- Wonderfontein Boerevereniging;
- TWK Agriculture Ltd.;
- Aledlox Prop (Pty) Ltd;
- Biominerale Fosfate en Lekke.

The proposed land use will thus be in line with the existing land use character of the surrounding area.

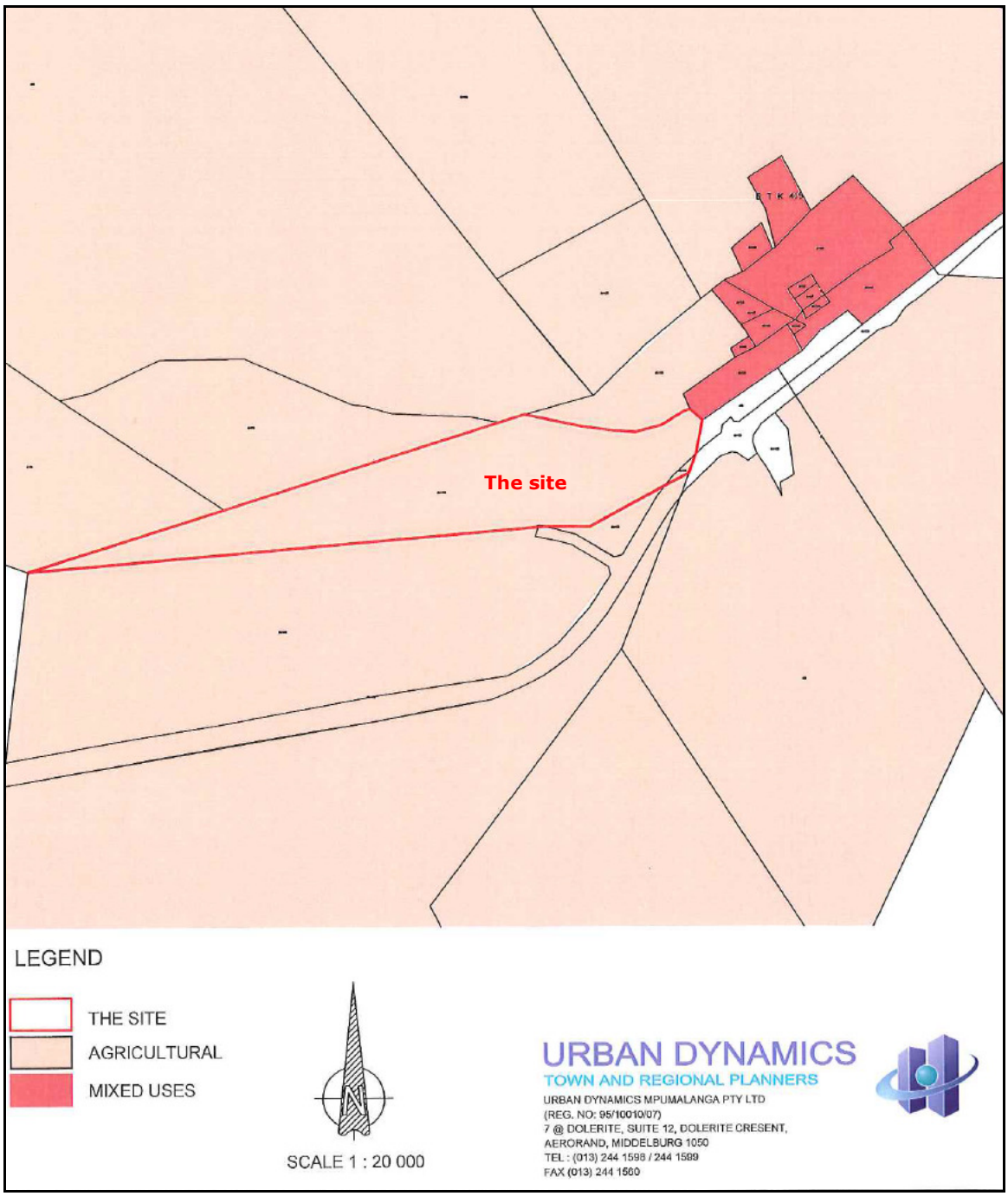


Figure 5.21: Wonderfontein area zoned for mixed land uses (taken from Urban Dynamics, 2015)

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, 2014, was placed in the local newspaper, Middelburg Observer, on Friday, 11 December 2015. A copy of the advert is provided in Appendix 8.

6.1.2 On-site advertising

Notices according to the Environmental Impact Assessment Regulations, 2014, were displayed at the following locations:

- On-site - next to the Transnet service road extending through the site (A1; Figure 6.1 - Photo 1);
- On the boundary fence adjacent to the R104 provincial road (placed next to town planning notice) (A3; Figure 6.1 – Photo 2);
- At the nearby Thusong Service Centre (A3; Figure 6.1 – Photo 3);
- At the nearby Puma filling station and shop (A3; Figure 6.1 - Photo 4).

A copy of the notice was also loaded onto the company website: www.cleanstreamsa.co.za.

A copy of the notice is provided in Appendix 8.

It should be noted that the A1 notice is 594 mm x 841 mm and the A3 notices 416mm x 295mm (A3) in size.

No alternative sites were identified for the proposed development. No notices were thus placed on alternative sites.

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, 11 December 2015:

- Copy of the notice;
- Background Information Document (BID; Appendix 9).

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

A copy of the webpage printouts is provided in Appendix 8.

6.1.4 Feedback from the advertising process

Only one person registered within the 30 day registration period as an interested and affected party in terms of the advertising process (site and newspaper advertising):

NAME	COMMENT
Claire Threadingham (Private Projects) – email dated: 12 January 2016 (Appendix 8)	Requested to be registered as an I&AP

There was thus no need for a public meeting.

Photo 1: Onsite - next to the Transnet service road extending through site.

Photo 2: On boundary fence adjacent to the R104 provincial road.

Photo 3: At the nearby Wonderfontein Thusong Service Centre.

Photo 4: At the nearby Puma filling station and shop.

Figure 6.1: A view of the notices displayed on site.

6.2 Directly affected landowner/user

The proposed development site is located on the Remaining Extent of Portion 24 of the farm Wonderfontein 428 JS (Figure 5.1) which is registered in the name of the applicant, Real Time Investments 515 cc. A copy of the Deeds Office Property report is provided in Appendix 1.

Users of the Transnet service road that extends across the property (Figure 5.2) could be impacted in terms of the proposed project. In addition, Eskom powerlines extend across the site (Figure 5.2). As indicated in Section 6.1.2, a notice was displayed onsite next to the said road in order to inform interested and affected parties of the proposed project. Section 6.3 and Section 6.4 provides further details regarding interested and affected parties identified and informed of the proposed project.

6.3 Identified local authorities/government departments and stakeholders

Table 6.1 provides an indication to which local authorities/government departments and stakeholders Background Information Documents (BIDs; Appendix 9) were forwarded in order to inform them of the proposed project and to obtain their issues of concern.

Table 6.1: Identified local authorities/government departments and stakeholders who received BIDs

AUTHORITY/ STAKEHOLDER	CONTACT PERSON	CORRESPONDENCE SENT	COMMENTS
Department of Agriculture, Forestry and Fisheries (DAFF)	F. Mashabela	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	None.
Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA) - Directorate: Land Use and Soil Management – Ermelo	J. Venter	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	None.
Department of Co-operative Governance and Traditional Affairs (COGTA)	M. Loock	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	None.
Department of Mineral Resources	S. Mathavela	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	None.
Department of Rural Development and Land Reform (Commission on Restitution of Land Rights)	N.D. Nkambule	Email (dated: 14 December 2015; Appendix 10) requesting if any land claims registered against property.	None.
Department of Public Works, Roads and Transport	B. Viljoen	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	Yes. See Section 6.3.1.
Department of Water and Sanitation (DWS)	M. Lubambo	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	Yes. See Section 6.3.2.
Emakhazeni Local Municipality	N. Singh	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	None.
Eskom Distribution (Land & Rights)	M. Moloko; T. Ludere	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	Yes. See Section 6.3.3.
Eskom Transmission	E. Lennox, N. Maake,L. Motsisi	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	Yes. See Section 6.3.4.
Mpumalanga Tourism and Parks Agency (MTPA) – Land Advisory Unit	K. Narasoo	Email (dated: 14 December 2015; Appendix 10) with BID	None.

AUTHORITY/ STAKEHOLDER	CONTACT PERSON	CORRESPONDENCE SENT	COMMENTS
		forwarded.	
Nkangala District Municipality	S. Links	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	None.
South African National Roads Agency (SANRAL)	M. Yorke-Hart	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	Yes. See Section 6.3.5.
South African Heritage Resources Agency (SAHRA)	J. Lavin (SAHRA website)	Loaded BID onto SAHRA website (print out from SAHRIS website dated: 14 December 2015; Appendix 10)	None.
Trans African Concessions (TRAC)	R. Nkosi	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	Yes. See Section 6.3.6.
Transvaalse Landbou Unie	D. du Plessis	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	None.
Traditional Leader	K. Mahlangu (representing Traditional Leader and local community)	Facsimile sent (dated: 14 December 2015; Appendix 10) with BID forwarded.	None.

6.3.1 Department of Public Works, Roads and Transport

A completed comment sheet (dated: 14 December 2015; Appendix 11) was received from B. Viljoen of the Department of Public Works, Roads and Transport. The following was indicated by the Department:

- No access onto road (R104) P154-4 closer than 500 metres from the N4;
- Apply for all services within/over road R104 (P154-4) – building restriction of 95m.

6.3.2 Department of Water and Sanitation

An email (dated: 15 December 2015; Appendix 11) was received from M. Lubambo of the Department of Water and Sanitation – Mpumalanga Region. The following was indicated by the Department:

- The site falls within the jurisdiction of the Inkomati Usuthu Catchment Management Agency with respect to water related issues. They can be contacted at 013 – 753 9000 and request Water Quality Management section.

Subsequently, Mr Lubambo forwarded (email dated: 15 December 2015; Appendix 11) a copy of the Clean Stream email to the Inkomati Usuthu Catchment Management Agency for their information. To date, no comment has been received.

6.3.3 Eskom Distribution (Land & Rights)

An email (dated: 23 December 2015; Appendix 11) and a letter from Eskom Distribution (Land & Rights) (dated: 23 December 2015; Ref: LD-INV/E/TL/187/2015; Appendix 11) were received indicating that the proposed

project will affect the existing Eskom Distribution's lines – Kraal-Arnot 11kV, Kraal-Raleigh 11kV and Grootlaagte Trac-Wonderfontein Trac 132kV.

The following was indicated by Eskom:
'Eskom Distribution will raise no objection to the proposed subdivision of the remaining extent of portion 24 of the farm Wonderfontein 428 JS into two portions, provided Eskom's rights and services are acknowledged and respected at all times'.

Eskom indicated that there is a 9 meter building and tree restriction on either side of the centre line of 11 kV powerlines and 15.5 metres for 132kV powerlines, which must be adhered to in all future developments and/or construction. It was further indicated that Eskom's rights are protected by Wayleave Agreements and Notarial Deeds of Servitude respectively. A number of other conditions were also specified by Eskom (see Appendix 11), which must be noted and adhered to by the applicant.

The applicant must complete Annexures D and E (Appendix 11) and return the completed forms to Eskom should the applicant accept the conditions.

6.3.4 Eskom Transmission

An e-mail from Eskom Transmission (dated: 15 December 2015; Appendix 11) indicated that Eskom Transmission will not be affected by the development.

6.3.5 South African National Roads Agency

A completed comment sheet (dated: 14 December 2015; Appendix 11) was received from M. Yorke-Hart of the South African National Roads Agency (SANRAL). It was indicated that the following issues must be resolved with SANRAL:

- *"Building line restrictions wrt the N4 and the R33/N4 interchange;*
- *Outdoor advertising restrictions pertaining to National Roads;*
- *The extent of dust generation and control during construction and operation;*
- *It is noted that you have listed a traffic impact assessment in your BID."*

An email (dated: 15 December 2015; Appendix 11) was subsequently sent by Clean Stream requesting SANRAL to indicate if the proposed development site would be impacted by the N4 upgrade. M. Yorke-Hart indicated that he had forwarded the said email to Carla Davis of TRAC for input regarding the said issue.

6.3.6 Trans African Concessions (Pty) Ltd

An email (dated: 14 December 2015; Appendix 11) was received from R. Nkosi of Trans African Concessions (Pty) Ltd. (TRAC). The following was indicated by TRAC: *'The proposed site is located close to the N4, but also close to a wetland that was high in biodiversity and contained red listed plant species. This was determined during our recent 'Search and Rescue' efforts for the current construction activities on that section of the N4. TRAC will forward you're a detailed comment if needs be, once more info is available. However you are advised to consider the involvement of a botanist should your activities be too close to the wetland in that farm or should it be on virgin ground in that wetland'.*

An email (dated: 15 December 2015; Appendix 11) was received from Carla Davis of TRAC regarding the query if the N4 upgrade would impact on the proposed development site. The following was indicated: *'As far as I am aware the layout does not change at the R104 intersection. There are some changes at the Wonderfontein intersection (widening and lengthening of the acceleration lane for vehicles turning right from Carolina (R36))'.*

6.4 Adjacent landowners/users

Figure 6.2 provides an indication of the adjacent landowners/users in relation to the proposed site.

In order to determine the registered owners of the various properties, a Deeds Search was conducted 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.

The adjacent landowners were informed of the proposed development through the advertising process as indicated in Section 6.1 and the distribution of Background Information Documents. A copy of the Background Information Document is provided in Appendix 9.

Comments received from the adjacent landowners in response to the advertising and distribution of the Background Information Document are indicated below.

Table 6.2 provides an indication to which adjacent landowner/user Background Information Documents (BIDs; Appendix 9) were forwarded in order to inform them of the proposed project and to obtain their issues of concern.

Table 6.2: Identified adjacent land owners/users who received BIDs

PROPERTY (FIGURE 6.2)	LANDOWNER/ CONTACT PERSON	CORRESPONDENCE SENT	COMMENTS
WONDERFONTEIN 428 JS			
Remaining Extent (RE)	Johan Steele Familie Trust (Johan Steele)	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	Yes. See Section 6.4.1.
Portion 23	JMS Steele (Johan Steele)		
Remaining Extent (RE)	Danie van Wyk	Email (dated: 17 February 2016; Appendix 10) with BID forwarded.	Yes. See Section 6.4.2.
Portion 1	Wonderfontein Mill (Pty) Ltd. (Christoff Greyn)	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	Development of site would have positive impact on their business.
Portion 4 and Portion 8	Wonderfontein Boerevereniging and TWK Agriculture Ltd. (Gawie Janse van Rensburg)	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	None.
Portion 9	Transnet (Tshilidzi Mavulwana)	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	None.

PROPERTY (FIGURE 6.2)	LANDOWNER/ CONTACT PERSON	CORRESPONDENCE SENT	COMMENTS
Portion 18	Aledlox Prop (Pty) Ltd. (Edgar Kock)	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	None.
Portions 16 and 47	Emakhazeni Local Municipality (Jane Nkalane – Thusong Service Centre Manager)	Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	None.
	Puma Filling Station and George's Shop (John)	Discussion while putting up notices (dated: 11 December 2015)	Wanted to know if diesel tanks would form part of development. Otherwise no issues.
GENERAALSDRAAI 423 JS			
Portion 9, 10 and 11	EC Britz (Biominerale Fosfate en Lekke)	Hand delivered BID (date: 11 December 2015) and email (dated: 14 December 2015; Appendix 10) with BID forwarded.	Indicated to applicant that the adjacent property belongs to Van Wyk. He indicated that the extension of the N4 could impact on property i.e. 30m into the property. No immediate issues.
BREYTENBACHSRUS 421 JS			
Portion 1	JE Brisley	Telephonic conversation with Mrs. Brisley on 14 December 2015. Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	Applicant bought property from Mr. Brisley. Can't do anything with it as it is so rocky. No issues.
PAARDEKRAAL 422 JS			
Portion 4	JE Brisley	Telephonic conversation with Mrs. Brisley on 14 December 2015. Email (dated: 14 December 2015; Appendix 10) with BID forwarded.	Applicant bought property from Mr. Brisley. Can't do anything with it as it is so rocky. No issues.

6.4.1 JMS Steele and Johan Steele Familie Trust (Figure 6.2)

Portion 23 of the farm Wonderfontein 428 JS (Figure 6.2), located to the southwest of the proposed development site belongs to JMS Steele. The majority of the Remaining Extent of the farm Wonderfontein 428 JS (Figure 6.2), located to the southeast of the development site, belongs to the Johan Steele Familie Trust.

Mr. J. Steele was telephonically contacted on 14 December 2015 with regards to the proposed project. Mr. Steele telephonically indicated the following:

- Client needs to determine his property boundaries;
- Portion with building on belongs to him but Mr. D. van Wyk wants to use the building;
- Other portion belongs to Mr. D. van Wyk;
- The mine gave them the properties;
- Properties need to be sorted out.

A Background Information Document (Appendix 9) was emailed (email dated: 14 December 2015; Appendix 10) to Mr. Steele in order to obtain further comment regarding the proposed development. To date, no further comment has been received.

6.4.2 Danie van Wyk (Figure 6.2)

Mr. van Wyk was telephonically contacted on 17 February 2016 with regards to the proposed project. Mr. van Wyk indicated that the portion of the Remaining Extent of the farm Wonderfontein 428 JS, located to the northwest of the N4 national road (Figure 6.2), is in the process of being registered in his name. This property was given to him by a mining company.

A Background Information Document (Appendix 9) was emailed (email dated: 17 February 2016; Appendix 10) to Mr. van Wyk in order to obtain further comment regarding the proposed development. Mr van Wyk was requested to indicate the exact location of his properties. To date, no further comment has been received.

6.5 Department of Agriculture, Rural Development, Land and Environmental Affairs

The project was registered with the Department of Agriculture, Rural Development, Land and Environmental Affairs on 17 March 2016 (see cover letter and application dated: 16 March 2016; Appendix 1). Clean Stream Environmental Services requested a date for a meeting and site visit.

Subsequently, a letter (dated: 30 March 2016; Ref: 1/3/1/16/1N-48; Appendix 1) was received from the Department acknowledging receipt of the application form. It was indicated that CSES may proceed with the Basic Assessment process.

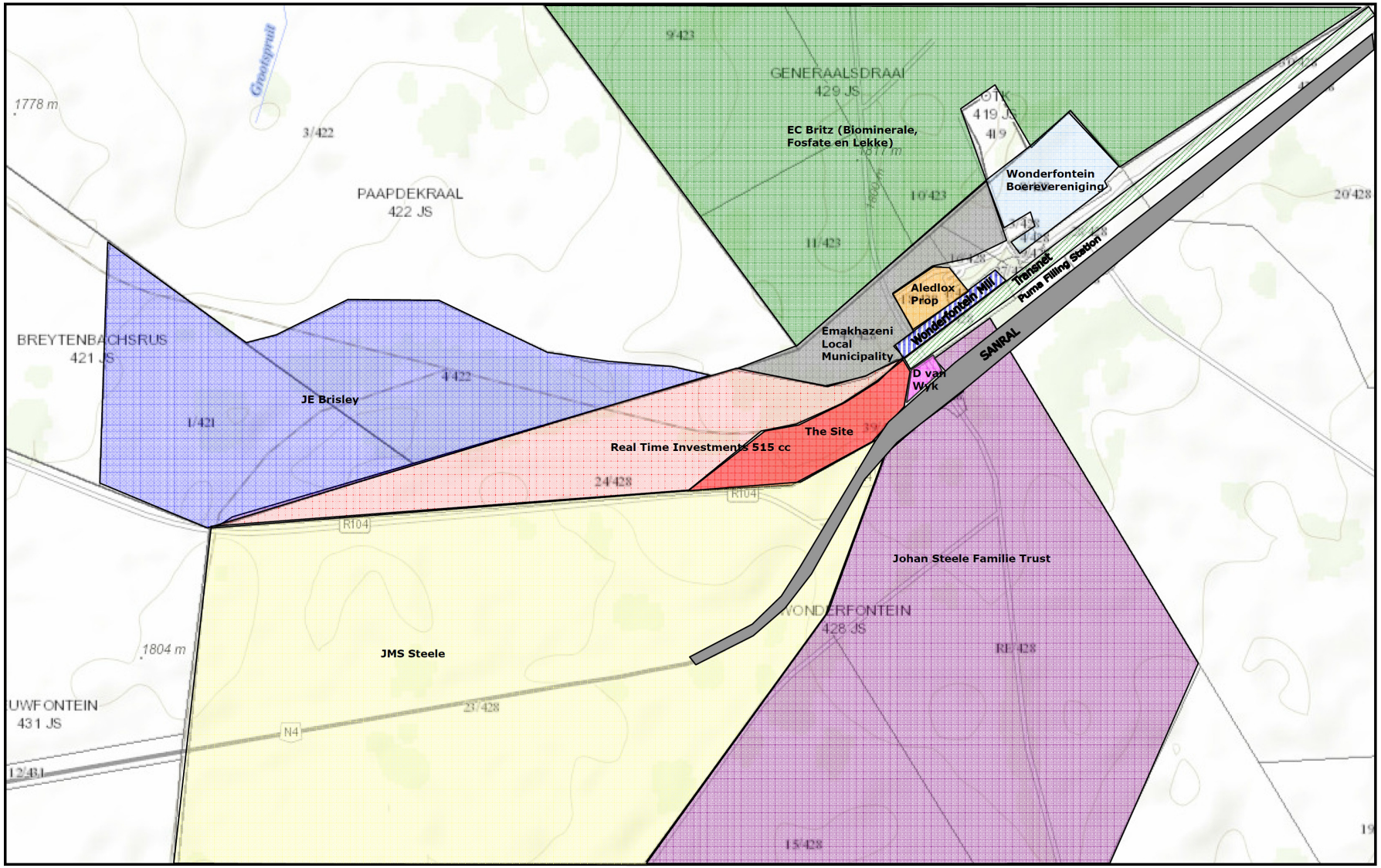


Figure 6.2 : Surrounding landowners

6.6 Summary of issues of concern

Table 6.3 provides a summary of the issues of concern raised by the interested and affected parties as well as in which section of this report the issues are addressed.

Table 6.3: Summary of issues of concern raised by Government Departments, Stakeholders and I&APs

COMMENTS	ISSUE	ADDRESSED IN SECTION
Department of Public Works, Roads and Transport	• No access onto road (R104) P154-4 closer than 500 metres from the N4; • Apply for all services within/over road R104 (P154-4) – building restriction of 95m.	Noted. See Section 4.2. Section 8.
Department of Water and Sanitation.	• The site falls within the jurisdiction of the Inkomati Usuthu Catchment Management Agency with regards to water related issues.	Noted. See Section 5.9.
Eskom Distribution (Land & Rights)	• The proposed project will affect the existing Eskom Distribution lines – Kraal-Arnot 11 kV, Kraal-Raleigh 11 kV and Grootlaagte Trac –Wonderfontein Trac 132 kV. • Will raise no objections to the proposed subdivision of the remaining extent of portion 24 of the farm Wonderfontein 428 JS into two portions, provided Eskom's rights and services are acknowledged and respected at all times. • There is a 9 meter building and tree restriction on either side of the centre line of 11 kV powerlines and 15.5 metres for 132 kV powerlines, which must be adhered to in all future developments and/or construction. • Eskom's rights are protected by Wayleave Agreements and Notarial Deeds of Servitude respectively. • Conditions specified by Eskom must be noted and adhered to by the applicant. • Applicant to complete Annexures D and E and return to Eskom should the applicant accept the conditions.	Section 7. Noted. Section 8. Noted. Section 8. Noted. Section 8. Noted. Section 8. Noted. Section 8.
Eskom Transmission	• Eskom Transmission will not be affected by the development.	Noted.
South African National Roads Agency (SANRAL)	• Building line restrictions wrt the N4 and the R33/N4 interchange; • Outdoor advertising restrictions pertaining to National Roads; • The extent of dust generation and control during construction and operation; • It is noted that you have listed a traffic impact assessment in your BID.	Noted. Section 8. Noted. Section 8. Section 7 and Section 8. See Section 4.2 with regards to feedback from the traffic engineer.
Trans African	• The proposed site is located close to the	The said wetland

COMMENTS	ISSUE	ADDRESSED IN SECTION
Concessions (Pty) Ltd (TRAC)	N4, but also close to a wetland that was high in biodiversity and contained red listed plant species. This was determined during our recent 'Search and Rescue' efforts for the current construction activities on that section of the N4. TRAC will forward you're a detailed comment if needs be, once more info is available. However you are advised to consider the involvement of a botanist should your activities be too close to the wetland in that farm or should it be on virgin ground in that wetland'. • The N4 layout does not change at the R104 intersection. There are some changes at the Wonderfontein intersection (widening and lengthening of the acceleration lane for vehicles turning right from Carolina (R36)).	will not be impacted. No wetlands are present on site – see Section 5.9 and Section 7. Noted.
JMS Steele and Johan Steele Familie Trust (Johan Steele)	• Client needs to determine his property boundaries; • Portion with building on belongs to him but Mr. D. van Wyk wants to use the building; • Other portion belongs to Mr. D. van Wyk; • The mine gave them the properties; • Properties need to be sorted out.	Figure 6.2, Section 8 and Section 9. Noted. Noted. Noted. Figure 6.2, Section 8 and Section 9.
Danie van Wyk	• The portion of the Remaining Extent of the farm Wonderfontein 428 JS, located to the northwest of the N4 national road (Figure 6.2), is in the process of being registered in his name. This property was given to him by a mining company.	Noted. Figure 6.2.
Wonderfontein Mill (Pty) Ltd. (Christoff Greyn)	• Development of site would have positive impact on their business.	Noted.
Puma Filling Station and Shop (John)	• Wanted to know if diesel tanks would form part of development.	Diesel tanks will not form part of the proposed development. Section 3.1
EC Britz (Biominerale Fosfate en Lekke)	• Indicated to the applicant that the adjacent property belongs to Van Wyk. • The extension of the N4 could impact on property i.e. 30m into the property.	Noted. See Section 6.4.2 and Figure 6.2. See Section 6.3.6.
JE Brisley	• Applicant bought property from Mr. Brisley. • Can't do anything with it as it is so rocky. • No issues.	Noted. Noted. See Section 5.6.2. Noted.

6.7 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	F Mashabela
Department of Agriculture, Rural Development, Land and Environmental Affairs - Directorate: Land Use and Soil Management – Ermelo	J Venter
Department of Co-Operative Governance and Traditional Affairs	M Loock
Department of Mineral Resources	S Mathavela
Department of Rural Development and Land Reform	ND Nkambule
Department of Public Works, Roads and Transport	B Viljoen
Department of Agriculture, Rural Development, Land and Environmental Affairs	The Director
Inkomati Usuthu Catchment Management Agency	T. Rasiuba; S. Shabangu; M. Mashaba
Other Organisations	
Eskom Distribution	T Ludere; M. Moloko
Mpumalanga Tourism and Parks Agency (MTPA)	K Narasoo
South African National Roads Agency (SANRAL)	M Yorke-Hart
South African Heritage Resources Agency (SAHRA)	J Lavin
Trans African Concessions (TRAC)	R Nkosi, C. Davis
Transvaalse Landbou Unie	D du Plessis
Local Municipality and Municipal Councillor	
Emakhazeni Local Municipality	N. Singh; Jane Nkalane
Nkangala District Municipality	S Links
Traditional Leader	K. Mahlangu (representative)
Surrounding Landowners	
Property (Figure 6.2)	**Landowner/Contact person**
Wonderfontein 428 JS	
Remaining Extent (RE)	Johan Steele Familie Trust (Johan Steele)
Portion 23	JMS Steele (Johan Steele)
Remaining Extent (RE)	Danie van Wyk
Portion 1	Wonderfontein Mill (Pty) Ltd.

INTERESTED AND AFFECTED PARTY LIST	
	(Christoff Greyn)
Portion 4 and Portion 8	Wonderfontein Boerevereniging and TWK Agriculture Ltd. (Gawie Janse van Rensburg)
Portion 9	Transnet (Tshilidzi Mavulwana)
Portion 18	Aledlox Prop (Pty) Ltd. (Edgar Kock)
Portions 16 and 47	Emakhazeni Local Municipality (Jane Nkalane – Thusong Service Centre Manager)
	Puma Filling Station and George's Shop (John)
Generaalsdraai 423 JS	
Portion 9, 10 and 11	EC Britz (Biominerale Fosfate en lekke)
Breytenbachsrus 421 JS	
Portion 1	JE Brisley
Paardekraal 422 JS	
Portion 4	JE Brisley

7. ENVIRONMENTAL IMPACT DESCRIPTION AND EVALUATION

7.1 Introduction

This section of the report describes and evaluates the potential impact of the proposed development on the environment. The impact of the development has to be assessed in terms of the following development phases:

- **Planning and design phase**
- **Construction phase**
- **Operational phase**
- **Decommissioning phase**

7.2 Evaluation of impacts

The evaluation of impacts is conducted in terms of the following criteria:

- **Nature of impact**

- **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

- **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 and 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

It must be noted that many of the potential negative consequences can be mitigated successfully. It is however, 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.

7.3 Planning and design phase

The planning and design phase involved mostly office work and site surveys with regards to the design of the layout plan, the Basic Assessment Report and the specialist studies. It also involves obtaining the necessary authorisations for the said development.

No actual construction took place on site.

7.4 Construction phase

As indicated in Section 3.1 and Figure 3.2, the following infrastructure will be developed within the 11.01 ha area:

- Office and spares store (240m^2) with visitors parking;
- Workshop (1000m^2);
- Staff parking;
- Vehicle parking adjacent to the N4 National Road – this will consist of a 100m x 50m (5000m^2) earthen platform.

Based on the above-mentioned, an area of ±7000m^2 will initially be disturbed in terms of the said infrastructure.

Access to the site will be obtained from the R104 provincial road with a right-of-way servitude of 25 m (Access 1; Figure 4.1) as proposed by Kgatle (2015). The construction of this access road would impact on an area of approximately 16 500m^2 (i.e. 25m x 660m).

At this stage, no other infrastructure is proposed for the said site. Overall, the proposed project would impact on an area of 23 500m^2 (2.35 ha).

The construction phase would involve the following:

- clearing of vegetation and levelling of the site;
- construction of office and spares store, workshop and parking
  - excavation of the required foundations and service trenches (including the excavation of conservancy tank);
  - installation of the services (i.e. water supply, electrical connections and sewer infrastructure);
  - laying of the required foundations;
  - building of the outer structures;
  - installation of the required internal fittings;
- construction of the earthen platform for equipment display;
- construction of the new access road;
- revegetation of the surrounding area impacted by the construction activities.

Section 7.7 provides further details with regards to potential impacts identified.

7.5 Operational phase

The operational phase would involve the following:

- The utilization of the site for the display and sale of agricultural equipment (e.g. tractors, ploughs, etc.) and other ancillary uses.

Section 7.7 provides further details with regards to potential impacts identified.

7.6 Decommissioning phase

If required, this phase would involve the decommissioning of the facilities constructed as part of this project (see Section 7.4).

The decommissioning phase will not be discussed in detail. It is recommended that at the time of decommissioning, a specific Environmental Management Programme (EMPr) be compiled which specifically addresses this phase. This EMPr would have to address issues such as the removal of building rubble and the rehabilitation of the site. Soil conservation measures would also have to be implemented.

7.7 Identification of potential impacts

The following tables provide an indication of the environmental features that will be impacted (directly and indirectly) during the construction, operational and decommissioning phases of the proposed project as indicated above.

ENVIRONMENTAL FEATURE(S)	PREDICTED IMPACT CONSTRUCTION PHASE **AREA TO BE IMPACTED:** • The development of the infrastructure (as indicated in Figure 3.2) and the access road (Figure 4.1) would impact on an area of 23 500m^2 (2.35ha). • The long term development of the overall rezoned site would impact on an area of 11.01 ha.	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)	PREDICTED IMPACT OPERATIONAL PHASE	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)	PREDICTED IMPACT PHASE: DECOMMISSIONING PHASE	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)
TOPOGRAPHY	• The site is fairly flat with a gentle slope in a southerly direction towards the R104 provincial road and the N4 national road junction. The topography has already been impacted as indicated in Section 5.5. • In general, the construction activities (e.g. removal of vegetation, sloping of the site, construction of buildings, etc.) would directly impact on the topography and would result in changed runoff patterns and an increased risk of soil erosion if mitigation measures are not implemented.	SITE	LONG	DEFINITE	MEDIUM NEGATIVE	LOW NEGATIVE	• Direct impact on topography will continue in terms of the presence of infrastructure, which in turn will impact upon the surface water runoff from the site if mitigation measure are not implemented.	SITE	LONG	DEFINITE	MEDIUM NEGATIVE	LOW NEGATIVE	During decommissioning, the buildings and associated infrastructure will be demolished and removed from site. The site will be top soiled and shaped to conform to the original slope of the area, which will have a positive impact on the runoff from the site.	SITE	LONG	DEFINITE	LOW POSITIVE	LOW POSITIVE
GEOLOGY	• The western part of the site is underlain by the Rustenburg Layered Suite of the Bushveld Complex consisting mainly of gabbro, while the eastern part is underlain by basalt. • The direct impact on geology will depend on the depth of the excavations required for the buildings and associated infrastructure (including conservancy tank). The possible impact on the underlying geology cannot be mitigated.	SITE	PERMANENT	DEFINITE	LOW NEGATIVE	LOW NEGATIVE	• NONE. No further impact since no further construction would take place.						NONE. No further impact since no further construction would take place.					
SOILS/ AGRICULTURAL POTENTIA/LAND CAPABILITY	• According to Viljoen (2015), the agricultural potential of the site is low with Mispah soils dominant. These soils are effectively <300 mm in depth (Viljoen, 2015). • The site is indicated as transformed rangeland. • Only a small section in the western portion of the site is currently cultivated. • The construction activities will thus impact on an area of low agricultural potential of which only a very small area is currently used for cultivation purposes.	SITE	LONG	DEFINITE	LOW NEGATIVE	LOW NEGATIVE	The said area will no longer be available for any agricultural activities due to the presence of the infrastructure.	SITE	LONG	DEFINITE	LOW NEGATIVE	LOW NEGATIVE	The removal of any polluted soil and proper rehabilitation of the site after decommissioning will have a positive impact on the soil.	SITE	LONG	PROBABLE	MEDIUM POSITIVE	MEDIUM POSITIVE
	• The soil of the site has already been impacted upon as indicated in Section 5.6. • During construction, the soil will be directly impacted in terms of soil structure, nutritional and chemical values when the vegetation and topsoil are removed, the site is sloped and the buildings, associated infrastructure and platform are constructed. • The soil will also be impacted in terms of stockpiling of topsoil, subsoil, overburden and rocks. • Soil erosion and sediment transport may take place as a result of vegetation clearing (extent will depend on the area cleared at any one time) and the stockpiling of topsoil, subsoil and overburden.	SITE	LONG	DEFINITE	MEDIUM NEGATIVE	LOW NEGATIVE	• Direct impact on soil i.t.o. soil structure, nutritional and chemical values and soil compaction will continue due to the presence of the infrastructure. • The various stockpiles will be removed and the stockpiling areas top soiled, levelled and rehabilitated/grassed on completion of the construction phase. This should have a positive impact on the soils (reduced soil erosion risk) during the operational phase of the project.	SITE	LONG	HIGHLY PROBABLE	MEDIUM NEGATIVE	LOW NEUTRAL	The decommissioning activities will have an initial negative impact on the soil of the site in terms of disturbance (physical and biological properties). The removal of any polluted soil and proper rehabilitation of the site after decommissioning will however, have a positive impact on the soil (reduced soil erosion risk).	SITE	SHORT	PROBABLE	LOW NEUTRAL	LOW NEUTRAL
	Soil pollution may occur if: • the construction vehicles are not maintained/repaired resulting in oil leaks and fuel spills; • waste management measures are not implemented, • proper ablution and sanitation facilities are not provided for the site workers to use on site. • contaminated soil is used to construct the earthen platform.	SITE	SHORT	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	Soil pollution could occur if: • waste management measures are not implemented; • vehicles and equipment displayed leak oil/fuel onto the earthen platform; • the sewer infrastructure (including conservancy tank) is not properly installed and maintained or does not have sufficient capacity.	SITE	LONG	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	Soil pollution may occur if: • The vehicles are not maintained/repaired resulting in oil leaks and fuel spills; • Waste management measures are not implemented; • Proper sanitation and ablution facilities are not provided for use by site workers.	SITE	LONG	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE

ENVIRONMENTAL FEATURE(S)	PREDICTED IMPACT CONSTRUCTION PHASE AREA TO BE IMPACTED: • The development of the infrastructure (as indicated in Figure 3.2) and the access road (Figure 4.1) would impact on an area of 23 500m^2 (2.35ha). • The long term development of the overall rezoned site would impact on an area of 11.01 ha.	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)	PREDICTED IMPACT OPERATIONAL PHASE	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)	PREDICTED IMPACT PHASE: DECOMMISSIONING PHASE	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)
LAND USE / SENSE OF PLACE	▪ The site is bordered by the N4 national road to the southeast and the R104 provincial road to the southwest, while a railway line is located adjacent to the northern boundary. ▪ The majority of the surrounding land is used for agricultural purposes. ▪ Mixed land use (e.g. filling station, Wonderfontein Mill, Thusong Service Centre, etc.) is present to the north east of the proposed site. ▪ The construction activities should not impact on the land use (currently vacant except for Eskom infrastructure) and general sense of place since the proposed activity is in line with the existing land use character.	SITE	SHORT	PROBABLE	LOW NEUTRAL	LOW NEUTRAL	▪ The site is bordered by the N4 national road to the southeast and the R104 provincial road to the southwest, while a railway line is located adjacent to the northern boundary. ▪ The majority of the surrounding land is used for agricultural purposes. ▪ Mixed land use (e.g. filling station, Wonderfontein Mill, Thusong Service Centre, etc.) is present to the north-east of the proposed site. ▪ The proposed mixed land use will be in line with the existing land use character of the surrounding area.	SITE	LONG	PROBABLE	LOW NEUTRAL	LOW NEUTRAL	The decommissioning of the buildings and associated infrastructure and rehabilitation of the site would allow for a different land use on site. The impact will depend on the land use in the area at the said time.	SITE	LONG	PROBABLE	LOW NEUTRAL	LOW NEUTRAL
NATURAL VEGETATION	▪ The natural vegetation of the site has been impacted by past activities as indicated in Section 5.7.2 and is therefore not pristine. ▪ The development of the site will impact on disturbed Eastern Highveld Grassland vegetation (initially: 2.35ha; long term: 11.01 ha) which occurs in patches in the western and central portions of the site and is invaded to varying degrees by alien plant species (as a result of disturbance that has taken place) in the remainder of the site. ▪ No habitat for plant species of conservation concern is available on site as indicated in Section 5.7.3. ▪ The development will also impact on an area mostly devoid of plant growth (previously levelled) and a cultivated land. ▪ In view of the current state of the natural vegetation, the said site cannot be viewed as a Critical Biodiversity Area (CBA) – Irreplaceable. It is rather seen as Moderate to Heavily Modified.	SITE	PERMANENT	DEFINITE	LOW NEGATIVE	LOW NEGATIVE	▪ No further direct impact on vegetation since no further construction activities will take place.						NONE. No further impact on vegetation since no further construction activities will take place.					
	▪ Alien plants could be introduced into areas disturbed by construction that are not rehabilitated.	SITE	SHORT	PROBABLE	LOW NEGATIVE	LOW NEGATIVE	▪ Alien plants could spread to adjacent properties if planted for landscaping purposes.	LOCAL	LONG	PROBABLE	LOW NEGATIVE	LOW NEGATIVE	Alien plants could be introduced into areas rehabilitated as part of the decommissioning phase. This could impact on the vegetation of the surrounding area.	SITE	LONG	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE
ANIMAL LIFE	▪ It is not anticipated that the development will have a significant impact on animal life since the onsite vegetation has been impacted by various activities and the surrounding area is cultivated as indicated in Section 5.8. ▪ Disturbed Eastern Highveld grassland vegetation is however present on site, which could provide habitat for small mammals, reptiles, frogs, birds, etc. The construction activities could impact on any animal life (e.g. small mammals/birds) that might be present on site during construction.	SITE	LONG	PROBABLE	LOW NEGATIVE	LOW NEGATIVE	▪ No further direct impact on animal life expected since the area will be fenced and all operational activities will take place within the said site.						No further direct impact on animal life expected since the area will be fenced and all decommissioning activities will take place within this fenced off area.					

ENVIRONMENTAL FEATURE(S)	PREDICTED IMPACT CONSTRUCTION PHASE **AREA TO BE IMPACTED:** • The development of the infrastructure (as indicated in Figure 3.2) and the access road (Figure 4.1) would impact on an area of 23 500m^2 (2.35ha). • The long term development of the overall rezoned site would impact on an area of 11.01 ha.	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)	PREDICTED IMPACT OPERATIONAL PHASE	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)	PREDICTED IMPACT PHASE: DECOMMISSIONING PHASE	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)
SURFACE WATER/SENSITIVE LANDSCAPES	▪ The construction activities will not impact on any surface water environments (wetlands, river, stream). As indicated in Section 5.9.4, Grobler (2016) confirmed that no wetland is present on site. ▪ The nearby off site wetlands (pan 390m north-northeast and wetland 290m west-southwest, Figure 5.18) will not be impacted (directly or indirectly) by the proposed construction activities. ▪ In general, the removal of the vegetation and the earthworks required during the construction phase would result in changed runoff patterns, which could result in soil erosion if proper storm water control measures are not implemented.	SITE	SHORT	HIGHLY PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	▪ No direct impact expected since no surface water environments (e.g. wetlands/ stream/rivers) are present on site. The off site wetlands will not be indirectly impacted by the operational activities. ▪ The buildings and associated infrastructure will continue to impact on the surface water runoff of the site if not properly managed. If not well managed, increased runoff could impact on the constructed earthen platform, the Eskom substation/powerlines and the Transnet service road. The R104 provincial road, N4 national road and railway line have been built-up and should not be impacted.	SITE	LONG	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	During the decommissioning phase, building rubble and any polluted soil will be removed from the site and disposed of accordingly. The said area will then be rehabilitated in order to establish a vegetation cover and prevent soil erosion. This would result in clean runoff from the site.	SITE	LONG	PROBABLE	LOW POSITIVE	LOW POSITIVE
	Surface water runoff may be polluted if: • the construction vehicles are not maintained/repaired resulting in oil leaks and fuel spills; • waste management measures are not implemented, • proper ablution and sanitation facilities are not provided for the site workers to use on site.	SITE	SHORT	PROBALBE	MEDIUM NEGATIVE	LOW NEGATIVE	Indirect pollution of surface water runoff could take place if: ▪ the sewage system (including conservancy tank) does not have sufficient capacity and is not maintained; ▪ proper waste management measures are not implemented; ▪ vehicles and equipment displayed leak oil/fuel onto the earthen platform; ▪ runoff water from the workshop is contaminated with oil, etc. and is not contained.	SITE	LONG	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	Surface water runoff may be polluted if the heavy vehicles are not maintained/repaired resulting in oil leaks and fuel spills and if waste management measures (including removal of contaminated soil) are not implemented.	SITE	SHORT	PROBALBE	MEDIUM NEGATIVE	LOW NEGATIVE
GROUNDWATER	Indirect pollution of the groundwater could take place if: • Construction vehicles are not maintained/repaired resulting in oil leaks and fuel spills; • Proper ablution and sanitation facilities are not provided for the site workers to use on site; • proper waste management measures are not implemented. However, no shallow groundwater table or wetlands/streams/rivers are present on site reducing this potential impact.	SITE	SHORT	IMPROBALBE	MEDIUM NEGATIVE	LOW NEGATIVE	Indirect pollution of groundwater could take place if: • the sewage system (including the conservancy tank) does not have sufficient capacity and is not maintained; • proper waste management measures are not implemented; • runoff water from the workshops and earthen platform is contaminated and not contained. However, no shallow groundwater table or wetlands/streams/rivers are present on site reducing this potential impact.	SITE	LONG	IMPROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	Groundwater may be polluted if the heavy vehicles are not maintained/repaired resulting in oil leaks and fuel spills and if waste management measures (including removal of contaminated soil) are not implemented. However, no shallow groundwater table or wetlands/streams/rivers are present on site reducing this potential impact.	SITE	SHORT	IMPROBALBE	MEDIUM NEGATIVE	LOW NEGATIVE
	• Groundwater will be abstracted using the onsite borehole of which the current yield and quality is not known as indicated in Section 5.10. • Due to the small size of the initial project (Figure 3.2), it is unlikely that the abstraction of groundwater for the said construction activities will impact on the groundwater.	SITE	SHORT	IMPROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	• During the initial phase of the project (i.e. where only 2 persons will be on site), it is unlikely that the abstraction of groundwater will impact on the groundwater of the site • However, in the long term if the overall rezoned site is developed and water is abstracted from the borehole it could impact on the water supply of the site and surrounding landowners/users. The impact would however, depend on the volume of water abstracted.	SITE	LONG	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	The abstraction of groundwater for the decommissioning activities (e.g. dust suppression) could impact on the groundwater of the site if this is not managed. The impact would depend on the volume of water abstracted.	SITE	SHORT	IMPROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE

ENVIRONMENTAL FEATURE(S)	PREDICTED IMPACT CONSTRUCTION PHASE **AREA TO BE IMPACTED:** • The development of the infrastructure (as indicated in Figure 3.2) and the access road (Figure 4.1) would impact on an area of 23 500m^2 (2.35ha). • The long term development of the overall rezoned site would impact on an area of 11.01 ha.	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)	PREDICTED IMPACT OPERATIONAL PHASE	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)	PREDICTED IMPACT PHASE: DECOMMISSIONING PHASE	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)
SITES OF ARCHAEOLOGICAL/ CULTURAL INTEREST	NONE. No sites of archaeological/cultural interest are known to be present on site (van Vollenhoven, 2016). In addition, the palaeontological sensitivity is insignificant/zero as indicated in Section 5.13.2.						NONE. No sites of archaeological/cultural interest are known to be present on site (van Vollenhoven, 2016). In addition, the palaeontological sensitivity is insignificant/zero as indicated in Section 5.13.2.						NONE. No sites of archaeological/cultural interest are know to be present on site (van Vollenhoven). In addition, the palaeontological sensitivity is insignificant/zero as indicated in Section 5.13.2.					
AIR QUALITY	▪ Dust generation and vehicle emissions due to construction activities and use of heavy machinery could impact on site workers and traffic on the R104 provincial road and N4 national road. The extent of the impact would depend on the area cleared, time of year, wind direction and velocity. ▪ The air quality of the site and surroundings could be impacted in terms of odours if: o the chemical toilets used during construction are not maintained; o proper waste management measures are not implemented.	SITE	SHORT	HIGHLY PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	• The air quality of the site and surroundings could be impacted in terms of odours if: o the sewer system (including conservancy tank) does not have capacity and is not maintained; o proper waste management measures are not implemented. • Dust could be created from: o the earthen platform if this area is not properly compacted and managed; o The access road if this area is not paved and managed; resulting in dust generation that could impact on nearby road users (e.g. N4 national road; R104 provincial road). This would however depend on weather conditions.	LOCAL	SHORT	HIGHLY PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	Dust generation and vehicle emissions due to decommissioning activities and use of heavy machinery could impact on site workers and road users. The extent of the impact would depend on the time of year, wind direction and velocity.	SITE	SHORT	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE
VISUAL	▪ The site is bordered by the N4 national road, the R104 provincial road and a railway line. The majority of the surrounding land is used for agricultural purposes and mixed land use. The site is fairly flat. ▪ The construction activities will be highly visible from the R104 provincial road, N4 national road, railway line and immediate surrounding area. ▪ The site should thus be kept neat and tidy during the construction phase in order to reduce the potential visual impact.	SITE	SHORT	DEFINITE	MEDIUM NEGATIVE	LOW NEGATIVE	▪ The site is bordered by the N4 national road, the R104 provincial road and a railway line. The majority of the surrounding land is used for agricultural purposes and mixed land use. The site is fairly flat. ▪ The operational activities will be highly visible from the R104 provincial road, N4 national road, railway line and immediate surrounding area. ▪ The use of billboards and other advertising boards during the operational phase could have a visual impact on the nearby road users and immediate surrounding land owners/users	SITE	SHORT	DEFINITE	MEDIUM NEGATIVE	LOW NEGATIVE	Building rubble and any polluted soil will be removed from the site and disposed of accordingly. The said area will then be rehabilitated in order to establish a vegetation cover and prevent soil erosion. If the site is rehabilitated properly it could have a positive impact in terms of visual aspects, depending on whether the site is visible from the surrounding area at that time.	SITE	LONG	PROBABLE	LOW POSITIVE	LOW POSITIVE
NOISE	▪ In general, the ambient noise level of the site is relatively high, being located adjacent to the N4 national road, R104 provincial road and railway line. ▪ Heavy machinery used during the construction phase will contribute to increased ambient noise levels in the immediate area, which could impact on the construction workers and the immediate surrounding land users. The impact would however, be a short term impact.	SITE	SHORT	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	▪ In general, the ambient noise level of the site is relatively high, being located adjacent to the N4 national road, R104 provincial road and railway line. ▪ In view of the above-mentioned, it is not anticipated that the proposed activity of displaying vehicles and equipment on site and the use of the workshop will impact on the ambient noise level of the immediate surrounding area.	SITE	LONG	IMPROBABLE	LOW NEGATIVE	LOW NEGATIVE	In general, the use of heavy machinery for decommissioning activities would impact on the surrounding area in terms of noise.	SITE	SHORT	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE
TRAFFIC	▪ All construction activities will take place on site and will not directly impact on traffic. ▪ The delivery of building material during the construction period could lead to a slight increase in traffic on the local road network (i.e. N4 national road, R104 provincial road and gravel road). The deliveries would however, not occur on a continuous basis.	SITE	SHORT	PROBABLE	LOW NEGATIVE	LOW NEGATIVE	• The proposed activity could lead to a slight increase in traffic on the R104 provincial road, since access to the site will be gained from the R104 provincial road as recommended by Kgatle (2015).	LOCAL	LONG	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	Building rubble and other waste would have to be removed from site. This could lead to a slight increase in traffic on the road network. Impact on traffic after decommissioning will however,	SITE	SHORT	PROBABLE	LOW NEGATIVE	LOW NEGATIVE

ENVIRONMENTAL FEATURE(S)	PREDICTED IMPACT CONSTRUCTION PHASE **AREA TO BE IMPACTED:** • The development of the infrastructure (as indicated in Figure 3.2) and the access road (Figure 4.1) would impact on an area of 23 500m^2 (2.35ha). • The long term development of the overall rezoned site would impact on an area of 11.01 ha.	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)	PREDICTED IMPACT OPERATIONAL PHASE	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)	PREDICTED IMPACT PHASE: DECOMMISSIONING PHASE	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)
	▪ The construction of the new access road off the R104 provincial road could impact on the traffic utilizing this road. The impact should however, be of short duration. Mitigation measures in terms of road safety would have to be implemented.	SITE	SHORT	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	• The development could impact on existing traffic utilising the R104 provincial road in terms of accidents if the access road was not constructed as recommended by Kgatle (2015).	SITE	LONG	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	depend on the intended end land use.					
INTERESTED AND AFFECTED PARTIES	▪ The proposed development site belongs to the project applicant and therefore no other landowner will be impacted in terms of the development of the said site in the short term and/or long term. ▪ However, the adjacent landowner (Mr. D. van Wyk) could be impacted upon if the site boundary is not surveyed and a fence erected before construction activities commence. Further impact could take place if access to the development site is obtained using the gravel road over this property.	SITE	SHORT	PROBABLE	MEDIUM NEGATIVE	LOW NEUTRAL	▪ The proposed development site belongs to the project applicant and therefore no other landowner will be impacted in terms of the proposed operational activities in both the short and/or long term. ▪ However, the adjacent landowner (Mr. D. van Wyk) would be impacted upon if the site boundary was not determined before construction, and infrastructure/building was erected on his property. Further impact could take place if access to the development site is obtained using the gravel road over this property and not the proposed access road.	SITE	LONG	PROBABLE	MEDIUM NEGATIVE	LOW NEUTRAL	The impact of the decommissioning of the development in terms of interested and affected parties will depend on: • The landowner at the said time, • the character of the area at that time, • the intended end land use.	SITE	LONG	HIGHLY PROBABLE	LOW NEUTRAL	LOW NEUTRAL
	▪ 10 job opportunities would be provided during the construction phase.	SITE	SHORT	DEFINITE	MEDIUM POSITIVE	MEDIUM POSITIVE	▪ Between 2 – 5 job opportunities would be provided during the operational phase. The proposed development would also have a positive impact in terms of the local economy in the area, making farming equipment more easily available to farmers in the area.	REGIONAL	LONG	DEFINITE	MEDIUM POSITIVE	MEDIUM POSITIVE						
	▪ Contractors working on site could be directly impacted upon if the necessary safety and occupational health measures are not adhered to.	SITE	SHORT	HIGHLY PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	▪ The employees working on site could be directly impacted upon if the necessary safety and occupational health measures are not adhered to, especially when working with/moving the vehicles and farming equipment on display.	SITE	LONG	HIGHLY PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE						
	▪ An Eskom substation and Eskom powerlines are located on site. Eskom and its clients could be impacted if the powerlines are damaged in any way by the construction and the stipulated conditions are not adhered to.	LOCAL	SHORT	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	▪ Eskom and its clients could be impacted if the Eskom substation and powerlines are damaged in any way during the operational phase and the stipulated conditions are not adhered to.	LOCAL	SHORT	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE						
	▪ Transnet railway line and service road could be impacted upon if construction activities extend beyond the boundary of the site resulting in impacts on this infrastructure.	SITE	SHORT	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	· Transnet railway line and service road could be impacted if the operational activities extend beyond the boundaries of the site resulting in impacts on this infrastructure.	SITE	LONG	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE						
	• SANRAL, TRAC, the Department of Public Works, Roads and Transport and road users (N4 national road, R104 provincial road) could be impacted upon if the building line and advertising restrictions pertaining to the N4 national road and R104 provincial road are not adhered to.	SITE	SHORT	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE	• SANRAL, TRAC, the Department of Public Works, Roads and Transport and road users (N4 national road, R104 provincial road) could be impacted upon if the building line and advertising restrictions pertaining to the N4 national road and R104 provincial road are not adhered to.	SITE	LONG	PROBABLE	MEDIUM NEGATIVE	LOW NEGATIVE						

ENVIRONMENTAL FEATURE(S)	PREDICTED IMPACT CONSTRUCTION PHASE AREA TO BE IMPACTED: • The development of the infrastructure (as indicated in Figure 3.2) and the access road (Figure 4.1) would impact on an area of 23 500m^2 (2.35ha). • The long term development of the overall rezoned site would impact on an area of 11.01 ha.	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)	PREDICTED IMPACT OPERATIONAL PHASE	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)	PREDICTED IMPACT PHASE: DECOMMISSIONING PHASE	EXTENT	DURATION	PROBABILITY	SIGNIFICANCE (PRE-MITIGATION)	SIGNIFICANCE (POST MITIGATION)
	• Other impacts in terms of the natural environment, noise, visual, traffic, etc. are indicated in the above-mentioned sections.						• Other impacts in terms of the natural environment, noise, visual, traffic, etc. are indicated in the above-mentioned sections.											

7.8 'No project' impacts

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 project was exercised, it would mean that:

- The applicant would have to investigate alternative sites for the proposed business;
- The applicant would have to discard the business plans;
- The applicant would have to investigate other land uses for the site;
- The applicant would have to sell the property;
- The proposed job opportunities (construction phase: 10 employees; operational phase: 2 employees) would be lost.

7.9 Cumulative impacts

Initially, the proposed project would impact on an area of 2.35 ha. In the long term, the development of the overall rezoned property would impact on an area of 11.01 ha.

This would add to a cumulative impact on:

- soil; and
- natural vegetation

if mitigation measures are not implemented during both the construction and operational phases.

8. ENVIRONMENTAL MANAGEMENT PROGRAMME

8.1 Definition and objectives

The Environmental Management Programme (EMPr) was compiled in accordance with Appendix 4 of the Environmental Impact Assessment (EIA) Regulations, 2014 as well as the Western Cape Guideline for Environmental Management Plans (Lochner, 2005).

According to the Western Cape Guideline, an Environmental Management Programme (EMPr) can be defined as:

> *An environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation and decommissioning of a project are prevented; and that the positive benefits of the projects are enhanced.*

According to the EIA Regulations, 2014, an EMPr must include-
(d) A description of the impact management objectives, including management statements, identifying the impacts and risks that need to be avoided, managed or mitigated as identified through the environmental impact assessment process for all phases of the development including -
(i) planning and design;
(ii) pre-construction and construction activities;
(iii) operation or undertaking of the activity;
(iv) rehabilitation of the environment; and
(v) closure, where relevant.

This section therefore provides an indication of the mitigation measures to be implemented by the site operator (and site workers) in order to reduce the potential impacts identified (see Section 7).

8.2 Contact details

An EMPr must include -
(a) details of-
(i) the EAP who prepared the environmental management programme; and
(ii) the expertise of that person to prepare an environmental management programme, including a curriculum vitae.

The contact details and expertise of the environmental consultant are provided in Section 2 of this report.

The applicant will be responsible for the implementation of the EMPr. The contact details are provided in Section 2.

8.3 Description of the proposed project

An EMPr must provide -
(b) a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description.
(c) a map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers.

A detailed description of the proposed development and aspects covered by the EMPr is provided in Section 3 of this report.

Section 5 provides a description of the biophysical environment of the site.

As indicated in Section 5.14, no sensitive environments (wetlands, streams, rivers) are present on site. A wetland is located 290 m west-southwest of the site (Grobler, 2016) as indicated in Figure 8.1 but will not be directly or indirectly impacted by the proposed activity.

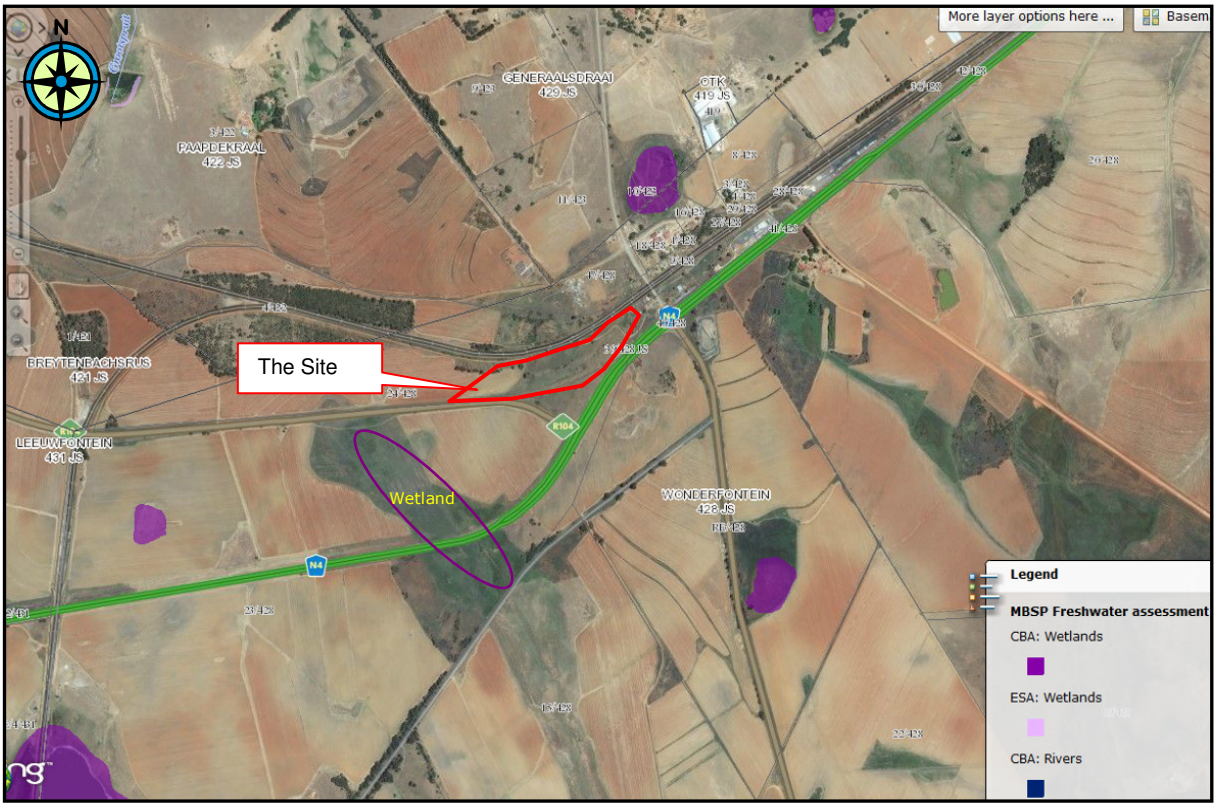


Figure 8.1: Sensitive landscapes

8.4 Phases of the development and timeframe

8.4.1 Planning and design phase and pre-construction activities

The planning and design phase involved mostly office work and site surveys with regards to the design of the layout plan, the Basic Assessment Report and the specialist studies. It also involves obtaining the necessary authorisations for the said development.

No actual work (construction or pre-construction activities) took place on site. Therefore, no mitigation measures need to be implemented.

8.4.2 Construction phase

As indicated in Section 3.1 and Figure 3.2, the following infrastructure will be developed within the 11.01 ha area:

- Office and spares store (240m^2) with visitors parking;
- Workshop (1000m^2);
- Staff parking;
- Vehicle parking adjacent to the N4 National Road – this will consist of a 100m x 50m earthen platform.

Based on the above-mentioned, an area of ±7000m^2 will initially be disturbed in terms of the said infrastructure.

Access to the site will be obtained from the R104 provincial road with a right-of-way servitude of 25 m (Access 1; Figure 4.1) as proposed by Kgatle (2015). The construction of this access road would impact on an area of approximately 16 500m^2 (i.e. 25m x 660m).

At this stage, no other infrastructure is proposed for the said site. Overall, the proposed project would impact on an area of 23 500m^2 (2.35 ha).

The construction phase would involve the following:

- clearing of vegetation and levelling of the site;
- construction of office and spares store, workshop and parking
    - excavation of the required foundations and service trenches (including the excavation of conservancy tank);
    - installation of the services (i.e. water supply, electrical connections and sewer infrastructure);
    - laying of the required foundations;
    - building of the outer structures;
    - installation of the required internal fittings;
- construction of the earthen platform for equipment display;
- construction of the new access road;
- revegetation of the surrounding area impacted by the construction activities.

Section 7.7 provides further details with regards to potential impacts identified. Mitigation and management measures are indicated in Section 8.5.

Construction timeframe:

6 – 12 months

8.4.3 Operational phase

The operational phase would involve the utilization of the site for the display and sale of agricultural equipment (e.g. tractors, ploughs, etc.) and other ancillary uses.

Section 7.7 provides further details with regards to potential impacts identified. Mitigation and management measures are indicated in Section 8.5.

Operational timeframe:
Unknown.

8.4.4 Decommissioning and rehabilitation phase

This phase would involve the decommissioning of the buildings and infrastructure already constructed on site at that particular date, if ever required. This phase will not be discussed in detail. It is recommended that at the time of decommissioning, a specific Environmental Management Programme (EMPr) be compiled which specifically addresses this phase. This EMPr would have to address issues such as the removal of building rubble, ripping of the soil, the sowing of seed and the maintenance of the vegetation until it is established. Soil conservation measures would also have to be implemented.

8.5 Mitigation and management measures to be implemented

An EMPr must include -
(f) a description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (d) and (e) will be achieved, and must, where applicable, include actions to -
(i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;
(ii) comply with any prescribed environmental management standards or practices;
(iii) comply with any applicable provisions of the Act regarding closure, where applicable; and
(iv) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable.

8.5.1 Construction site office

Impact management objective:

1) *To ensure that an appropriate site is selected for the construction site office and that the site office is managed in an environmentally responsible manner with the least impact on the natural environment and site workers.*

Mitigation and management measures:

a. A suitable site must be selected, demarcated and fenced for the construction site office within the demarcated site boundaries.
b. It is recommended that the construction site office be located near the existing gravel road for easy access. Permission must be obtained from

8.5.1 Construction site office

Mr. D. van Wyk for the use of the gravel road across his property during the construction phase.

c. No overnight accommodation may be provided on site.
d. Chemical toilets must be provided for use by the site workers. These must be serviced on a regular basis. No long drop toilets may be allowed.
e. Potable water must be made available to site workers.
f. The waste management measures as indicated in Section 8.5.6 must be implemented.
g. An area for the parking of construction vehicles and other vehicles should be clearly demarcated. When not in use, all vehicles should be parked within this area. The demarcated parking area should be located within or in close proximity to the construction site office.
h. As far as practically possible, vehicles must not be serviced/repaired on site. However, should it not be possible to take the vehicle to a service centre in town for repair, the contractor must ensure that the vehicles are serviced/repaired on a cement slab and that drip trays are utilized. Waste oil, filters, etc. must be properly disposed of (see Section 8.5.6).

8.5.2 General construction principles

Impact management objective:

1) *To ensure that the activities that occur during the construction phase have the least impact on the surrounding natural environment, site workers and adjacent landowners/users.*

Mitigation and management measures:

a. All construction activities must be limited to the said site. The areas identified for the construction of buildings and infrastructure should be properly demarcated and the footprint kept as small as possible.
b. No unnecessary removal of vegetation should take place outside of the demarcated area.
c. Appropriate herbicides may be used on cleared areas, provided that they break down upon contact with the soil.
d. An area must be selected (within the property) and demarcated for the stockpiling of spoil (e.g. rocks, soil, etc.).
e. The water quality of the borehole must be tested before construction commences to determine the baseline water quality at the said date.
f. No members of the general public should be allowed at the construction site.
g. The rights and conditions of Eskom (Appendix 11) with regards to the substation and powerlines must be respected and adhered to at all times.
h. The building line restriction with regards to the N4 national road and R104 provincial road must be adhered to.
i. No construction/spoiling/storing activities will be allowed near the Eskom substation and/or powerlines without prior consent from Eskom.

8.5.2 General construction principles

j. No construction/spoiling/storing activities will be allowed near the Transnet railway line or adjacent service road.

k. Contractors will be informed to keep to low speeds along the gravel roads to reduce the amount of dust.

l. Dust suppression measures must be implemented during dry and windy periods to prevent air-borne dust deposition on the remaining natural vegetation, adjacent properties, the R104 provincial road and the N4 national road.

m. Should any animals (e.g. reptiles or mammals) be found during the construction phase, a specialist should be contacted immediately to ensure the safe removal of the specimen(s).

n. The applicant/contractor must appoint a Safety Officer and Environmental Control Officer (ECO) in order to ensure compliance with the relevant legislation.

o. Sufficient fire extinguishers must be provided as required by legislation.

p. All machinery used during the construction phase must be properly muffled and maintained so as to reduce noise generation to a minimum.

q. If archaeological remains are exposed during the construction phase, the construction must be terminated immediately and the Provincial Heritage Resources Authority (SAHRA) must be notified in this regard. A qualified archaeologist must be requested to investigate the occurrence. The applicant must take note of the requirements in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999).

r. If any graves are discovered during construction, the discovery must be reported to the SA Police Service and/or SAHRA or an archaeologist must be called in to handle the matter.

s. If any palaeontological material is exposed during digging, excavating, drilling or blasting SAHRA must be notified. All construction activities must be stopped and a palaeontologist must be called to determine proper mitigation measures.

t. All pollution incidents must be reported to the Department of Agriculture, Rural Development, Land and Environmental Affairs and the Department of Water and Sanitation within 24 hours of occurrence.

8.5.3 Rehabilitation of the environment after construction

Impact management objective:

1) *To ensure that the areas disturbed due to construction activities are properly rehabilitated and maintained.*
2) *To control the growth of declared weeds and/or invader plants.*

Mitigation and management measures:

a. Before construction, topsoil must be removed and stockpiled in a demarcated area on the property for rehabilitation of the area surrounding the buildings. The topsoil layer generally has a high organic content and carries the seed bank. It is invaluable for post-development rehabilitation.

8.5.3 Rehabilitation of the environment after construction
b. Once construction has been completed, all temporary structures, excess materials, equipment and waste must be removed from site. c. All residual stockpiles must be removed to spoil or spread on site as directed by the ECO. d. The disturbed areas must be top soiled and re-vegetated (i.e. rehabilitated) as soon as possible in order to prevent soil erosion and the establishment of alien vegetation. e. Proper stormwater control measures and erosion control must be implemented to prevent erosion of the newly rehabilitated areas during heavy rainfall. f. If soil erosion is noted, appropriate remediation measures must be implemented. g. For rehabilitation purposes, a seed mix comprising of grass species indigenous to the area should be used. The planting of any alien plant species as part of landscaping should be prohibited. h. Kikuyu grass (*Pennisetum clandestinum*) is a proposed declared Invader that is highly invasive. It is therefore recommended that this species is not used for rehabilitation of the area. i. The regulations in terms of Alien Invasive Species, the Conservation of Agricultural Resources Act, 1983 and the Mpumalanga Nature Conservation Act, 1998 (Act 10 of 1998) with regards to declared alien species must be noted and complied with. j. Regular site inspections will be conducted to identify any declared weeds and/or invader plants. If identified, the plants will be eradicated using appropriate methods. k. It is advisable to consult the latest edition of 'A guide to the use of herbicides' or contact the National Department of Agriculture, Forestry and Fisheries with regards to the latest information pertaining to the application of herbicides. If pesticides or herbicides are to be used, the product should be chosen responsibly. Storage, administering and disposal must be done according to the prescribed methods. l. A post-construction audit must be conducted to ensure that any shortcomings are identified and addressed.

8.5.4 General operational principles
Impact management objective: 1) *To ensure that the activities that occur during the operational phase have the least impact on the natural environment, site workers, adjacent landowners/users and road users.*
Mitigation and management measures: a. The proposed development must comprise of the infrastructure and operated as indicated in Section 3. b. All operational activities must be limited to the said site. c. The borehole must be clearly demarcated and protected. d. The borehole must be registered with the Department of Water and

8.5.4 General operational principles

Sanitation.

e. Groundwater quality must be tested on a quarterly basis as the water will be used for human consumption.
f. The rights and conditions of Eskom (Appendix 11) with regards to the substation and powerlines must be respected and adhered to at all times.
g. The rights of Transnet must be respected with regards to the railway line and adjacent service road.
h. The waste management measures provided in Section 8.5.6 of this report to be implemented.
i. The following measures to minimize **water use** during the operational phase must be implemented:
    - *Regular maintenance of the water infrastructure to minimize water wastage;*
    - *High pressure washers to be used during cleaning to minimise water use;*
    - *Harvested stormwater to be used for landscape irrigation;*
    - *Water meter to be installed at the borehole in order to monitor abstraction rate.*

8.5.5 Soil management

Impact management objective:

1) *To ensure that the activities that occur during the construction phase have the least impact on the soils in terms of soil quality, structure and erosion potential.*

Mitigation and management measures:

a. Before construction, the areas identified for the buildings, infrastructure and display platform should be properly demarcated and the footprint kept as small as possible.
b. If possible, construction should take place during the dry season to prevent soil erosion.
c. Before construction, topsoil must be removed and stockpiled in a demarcated area on site for rehabilitation of the area surrounding the buildings. The topsoil layer generally has a high organic content and carries the seed bank. It is invaluable for post-development rehabilitation.
d. Any stockpile, which is likely to remain for 12 months or more, must be vegetated.
e. An area must be selected on the property and demarcated for the stockpiling of spoil (e.g. rocks, soil, etc.).
f. All residual stockpiles must be removed to spoil or spread on site as directed by the ECO.
g. Appropriate soil conservation and storm water management measures to be provided in order to prevent soil erosion and loss of topsoil.

8.5.5 Soil management
Temporary soil berms (not exceeding 0.5m in height) should be placed at convenient intervals to minimize the speed and erosion potential of any storm water flowing across the gradient of the site. These berms should be removed in a phased manner prior to the landscaping of the site. h. Topsoil stockpiles must be located on a flat area and must not be higher than 2 m.
Impact management objective: *2) To reduce potential soil and surface water run-off pollution as a result of construction and operational activities.*
Mitigation and management measures: a. The waste management measures as indicated in Section 8.5.6 must be implemented during both the construction and operational phases. b. Regular maintenance of the sewage infrastructure (including conservancy tank) to reduce the potential for blockages and leaks and thus prevent potential soil pollution. c. The display and maintenance of vehicles/equipment must be limited to demarcated areas (i.e. the display platform and workshop). d. Vehicles and equipment to be washed in a designated area fitted with a collection and separation system. e. Possible polluted water from the workshop, etc. must be contained and may not be released into the surrounding area. f. Material Safety Data Sheets must be available on site for all potentially hazardous materials stored and used (especially in workshop). g. If any soil or surface water contamination is noted, appropriate remediation measures must be implemented immediately. An environmental incident report must be completed indicating the date of the incident, description of incident and action taken. The Department of Agriculture, Rural Development, Land and Environmental Affairs and the Department of Water and Sanitation must be informed of the event within 24 hours. A copy of the environmental incident report must be kept on file at the site office.
Impact management objective: *3) To ensure that the activities that occur during the operational phase do not lead to soil erosion.*
Mitigation and management measures: a. Run-off water from the buildings to be dispersed on the ground using a pre-cast concrete shoe or small concrete/paved apron and then dispersed onto the grassed area. b. Surface runoff volumes to be reduced and infiltration encouraged by maximising permeable surfaces. c. Storm water to be spread out across the property and not concentrated at any one low point. d. Monitor for erosion and intervene and/or rehabilitate where necessary.

8.5.6 Waste management

Impact management objective:

1) *To ensure the proper storage, management and disposal of waste during the construction and operational phases.*

2) *To reduce potential soil, surface water and groundwater pollution as a result of waste management activities during construction and operation.*

Mitigation and management measures:

General/building waste

a. Proper waste management measures must be implemented at the site.
b. No waste may be burnt, buried or dumped on site or the surrounding area.
c. Waste skips to be provided for placement of general waste, building rubble, etc.
d. Promote source separation through the provision of waste bins clearly marked for recycling and general waste. These bins should be emptied on a regular basis and disposed of accordingly (i.e. sent for recycling, taken to licensed waste disposal site, etc.).
e. Design and implement strategies to increase recycling rates and reduce disposal to landfill.
f. Continue to seek opportunities for recycling and reuse.
g. The applicant will have to ensure that the contractor removes the building rubble and any domestic waste to a licensed waste disposal site during the construction phase.
h. Waste and building rubble not to be placed on the soil stockpiles resulting in the contamination of the soil.
i. Building rubble must be disposed of at a site specifically earmarked for that purpose. No building rubble is to be disposed of in a haphazard way in the area surrounding the development site.
j. During the construction phase, cement/concrete should be mixed in either demarcated areas or on metal sheeting or conveyor belts. If mixed in demarcated areas, these areas will have to be ripped and the cement/concrete removed on completion of construction activities.
k. Site workers must be instructed to collect windblown rubbish which may collect in the surrounding area on the said site. This will assist with the overall visual appearance of the site.
l. The applicant/contractor must ensure that all site workers receive appropriate training with regards to the overall waste management measures to be implemented for the said site.
m. Continually reduce resource waste by applying the waste hierarchy (i.e. waste avoidance, reduction, reuse, recycling and disposal).
n. Site workers must be aware of the importance of the implementation of the waste management measures.

8.5.6 Waste management

Hazardous waste management

a. Proper storage facilities must be provided for the storage of oils, grease, fuels, etc. to be used during the construction or operational phases.
b. Collection containers (e.g. drip trays) must be placed under all dispensing mechanisms for hydrocarbons or hazardous liquid substances to ensure that potential contamination from leaks/spillage is reduced.
c. No hazardous substance is to be disposed of on site.
d. No bins containing organic solvents, paint tins or bins containing thinning agents may be cleaned on site, unless containers for liquid disposal are provided. The tins must be collected and rinsed at a central waste collection point, where it poses no threat to surface or ground water.
e. All spills of chemicals or hydrocarbons (oil, grease, diesel, petrol, etc.) should be cleaned with the use of suitable absorbent materials such as drizit or oclanzorb. Appropriate soil remediation measures should be implemented where soil has been contaminated with oil.
f. Contaminated soil generated as a result of fuel, oil, etc. spills will be disposed of in a specially marked drum located at the site office. An approved waste contracting firm (e.g. Enviroserv) will collect the drum and dispose of the contaminated soil at an appropriate waste disposal site.
g. Contaminated soil/fuel that cannot be removed will be treated in situ with an appropriate remedial agent. In this instance, the services of an expert may be required.
h. Waste oils collected on site should be stored in drums in a designated, bunded area and removed by an approved recycling contractor and disposed of at an appropriate licensed waste disposal facility.
i. In all instances where a firm is contracted to collect waste (e.g. Enviroserv, Wastetech, Oilkol, etc.), the site operator will ensure that the correct documentation is completed and filed for future reference.
j. Certificates of hazardous waste disposal (waybills) are to be kept for auditing purposes.
k. Records of environmental related incidents should be maintained.
l. The applicant must ensure that all workers receive relevant training with regards to the handling of hazardous substances and the potential health risks thereof.
m. The contractor and/or applicant will be responsible for establishing an emergency procedure for dealing with spills.

8.5.7 Interested and affected parties

Impact management objective:

1) *To ensure that site workers are not impacted upon in terms of the construction work being performed.*

8.5.7 Interested and affected parties
Mitigation and management measures: a. The applicant/contractors must ensure that the necessary protective gear (PPE) is worn at all times and that signs are erected to warn workers to use hearing protection as well as any other hazards. b. The applicant/contractor must adhere (at all times) to the requirements of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), the Construction Regulations, 2014 and any other applicable legislation. c. For safety purposes, excavations must not be undertaken until such time as all required materials are available and services can be laid. d. Excavations should be closed as soon as is practically possible. e. If blasting is required, the requirements of the Explosives Act, 2003 (Act 15 of 2003) must be put in place in order to prevent any impact on site workers, etc.
Impact management objective: *2) To reduce the potential impact on the directly adjacent landowner, Mr. D. van Wyk.*
Mitigation and management measures: a. The site boundary must be determined and fenced before construction takes place. b. Permission to be obtained from Mr. Van Wyk for access across his property during the construction phase.
Impact management objective: *3) To ensure that the potential impacts on adjacent landowners/users and road users are minimized during the construction and operational phase.*
Mitigation and management measures: a. The proposed development must be constructed and operated as indicated in Section 3 of this document. b. All construction and operational management principles as indicated in this EMPr must be implemented. c. The waste management measures as indicated in Section 8.5.6 must be implemented. d. No uncontrolled, unsupervised fires will be allowed on the site. e. No welding equipment, oxy-acetylene torches and other bare flames may be used where it could constitute a fire hazard. f. The applicant must have an adequate fire fighting system on site. g. The rights and conditions of Eskom to be respected and adhered to with regards to the power lines and substation. h. The rights of Transnet to be respected with regards to the railway line and service road. i. The building line restrictions with regards to the N4 national road to be

8.5.7 Interested and affected parties

adhered to.

j. The building line restriction of 95m with regards to the R104 provincial road to be adhered to.

k. No access onto the R104 provincial road closer than 500 m from the N4.

l. The access road to be constructed as recommended by Kgatle (2015).

m. Outdoor advertising restrictions pertaining to the N4 national road to be adhered to.

n. The following measures will be implemented to reduce dust:

- *The applicant to ensure that the dust deposition levels on site and on the adjacent properties do not exceed 600 mg/m^2/day over a 30-day average as specified in the National Dust Control Regulations (GN 827; 1 November 2013).*

Restriction Areas	***Dustfall rate (D) (mg/m^2/day, 30-days average)***	***Permitted frequency of exceeding dust fall rate***
Residential area	*D < 600*	*Two within a year, not sequential months.*
Non-residential area	*600 < D < 1200*	*Two within a year, not sequential months.*

- *Internal roads and working aprons to be paved where possible.*
- *The display platform to be paved/cemented if feasible.*
- *Dust suppression measures to be implemented at the platform (e.g. vegetative cover/watering.*
- *Grass cover to be left or planted where possible to reduce dust.*
- *Employees and customers to be informed to keep to low speeds along the gravel road to reduce the amount of dust.*

o. It is recommended that the applicant establish formal contact with the adjacent landowners/users. The adjacent landowners/users must be provided with contact numbers with whom complaints or concerns can be discussed.

p. A complaints register must be kept on site. Any complaints received with regards to the development must be recorded in the complaints register.

8.6 Implementation and monitoring of the EMPr

An EMPr must include -

(g) the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);

(h) the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);

(i) an indication of the persons who will be responsible for the implementation of the impact management actions;

(j) the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;

(k) the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);

(l) a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;

The implementation of the Environmental Management Programme (EMPr) as part of the daily construction and operational activities is crucial and requires commitment from all levels of management and the on-site workers. The successful implementation of an EMPr has the following advantages:

- Meeting legal obligations;
- Contributes to environmental awareness;
- Can facilitate the prevention of environmental degradation;
- Can minimize impacts when they are unavoidable;
- Can ensure good environmental performance and improve community relations.

An approved contractor should be appointed to do the necessary construction on the said site. The contractor and site workers must be aware of their environmental responsibilities. Penalty clauses, in terms of the environment, must be built into the contracts and must be implemented. Monitoring of the environmental management programme must take place on a regular basis in order to ensure compliance.

The contractor must inform all site workers of their environmental responsibility during the construction phase. Measures to protect the environment and mitigation measures formulated in this EMPr must be implemented by the contractor and the site workers. The contractor must thus ensure that the site workers are aware of the Environmental Authorisation and this EMPr and understand the contents thereof.

In order to achieve the above-mentioned, the contractor and site workers should undergo basic environmental awareness training with regards to the contents of this EMPr. Environmental awareness training is critical for the contractor and site workers to understand how they can play a role in achieving the objectives specified in the EMPr. The contractor must ensure that the site workers undergo the necessary environmental awareness training (see Section 8.7.1) before commencing with activities on the site.

This section must be completed on acceptance of the appointment.

MANAGEMENT ACCOUNTABILITY		
Accountability	**Title**	**Name**

MANAGEMENT DECLARATION

I, the undersigned in my capacity as designated above hereby undertake to ensure that the conditions and recommendations in terms of the Environmental Authorisation and Environmental Management Plan (EMPr) are implemented and assume responsibility and accountability in this respect.

I further understand that officials from eMakhazeni Local Municipality, Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA) and Department of Water and Sanitation (DWS) may (at any time) conduct an inspection of the development in order to ensure compliance with the conditions and recommendations in the EMPr.

CONTRACTOR

……
Name and Designation

……
Signature:

……
Date:

EMPLOYER

……
Name and Designation:

……
Signature:

……
Date:

8.6.1 Environmental Awareness Plan (EAP)

An EMPr must include -
(m) An environmental awareness plan describing the manner in which-
- *(i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and*
- *(ii) risks must be dealt with in order to avoid pollution or the degradation of the environment.*

It is recommended that the employees receive basic environmental awareness training. In order to ensure proper training, the applicant must develop and implement an Environmental Awareness Plan (EAP). This section provides an overview of what the proposed EAP will contain and how it will be implemented.

The following components would form an essential part of an Environmental Awareness Plan (EAP): -

- Development of an environmental policy;
- Identification of environmental impacts/risks and mitigation measures;
- Environmental training, awareness and competence;
- Environmental communication and reporting.

Development of an environmental policy
The applicant would have to compile an Environmental Policy (if they do not have one already), which is a one page statement setting out certain principles in terms of their environmental performance.

The environmental policy should indicate the following:
- The applicant's commitments in terms of the environment;
- Identify environmental impacts as a result of the activities taking place on site;
- Actions to be taken to minimize/mitigate the environmental impacts.
- Signature of management.

In order to ensure effective environmental management, it is important that the Environmental Policy is known and understood by all employees. It should thus be displayed at the offices, workshop and security access.

An Environmental Policy Template is provided to assist the applicant in the compilation of their Environmental Policy. A number of templates are also available on the internet.

Environmental Policy Template (taken from Richmond upon Thames, 2012)

*[*Insert company name here*] believe that we have a responsibility to care for and protect the environment in which we operate. We are fully committed to improving environmental performance across all of our business activities, and will encourage our business partners and members of the wider community to join us in this effort.*

*[*Insert company name here*] recognises our key impacts to be in the areas of [for example]:*

- *energy use*
- *raw material use*
- *waste generation*
- *emissions to air/water*
- *water use*
- *transport*
- *procurement*

We will strive to:

- *Adopt the highest environmental standards in all areas of operation, meeting and exceeding all relevant legislative requirements.*
- *Assess our organisational activities and identify areas where we can minimise impacts.*
- *Minimise waste through careful and efficient use of all materials and energy.*
- *Purchase sustainable products wherever feasible [e.g. recycled, FSC or low environmental impact products and energy from renewable sources].*
- *Train employees in good environmental practice and encourage employee involvement in environmental action.*
- *Reduce risks from environmental, health or safety hazards for employees and others in the vicinity of our operations.*
- *Adopt an environmentally sound transport strategy.*
- *Aim to include environmental and ethical considerations in investment decisions where appropriate.*
- *Assist in developing solutions to environmental problems.*
- *Continually assess the environmental impact of all our operations.*

*[*Insert company name here*] have developed a series of action plans to supplement each of our environmental policy objectives. These can be found* [in an appropriate place*].*

*[*Insert company name here*] will periodically review performance and publish these results [*in an appropriate manner*].*

Signed _____

Identification of environmental impacts / risks and mitigation measures

Environmental impacts/risks in terms of the development are indicated in Section 7 of this document while mitigation measures to be implemented are provided in Section 8.

Activities or work procedures that could have a significant impact on the environment have thus been identified and mitigation measures proposed in order to avoid pollution or the degradation of the environment.

This information must be communicated to the employees and thus forms the basis for developing an Environmental Awareness Plan (EAP) in order to ensure effective environmental management.

Environmental training, awareness and competence

Training is necessary in order to advance the competency of employees in implementing the Environmental Policy and the EMPr and to ensure effective overall environmental management.

The applicant must inform all his employees of their environmental responsibilities in terms of this Environmental Management Programme (EMPr). Measures to protect the environment and mitigation measures formulated in this EMPr must thus be implemented by the applicant and employees.

In addition, job specific training must be conducted that will be appropriate to the activity and the responsibility of the individual employees. Ad-hoc training will be undertaken as required.

Through training/awareness, the applicant will also make his employees aware of:

- the importance of conformance with the environmental policy and the requirements of the EMPr;
- the significant environmental impacts, actual or potential, of their work activities and the environmental benefits of improved personal performance;
- their roles and responsibilities in achieving conformance with the environmental policy and the requirements of the EMPr, including emergency preparedness and response requirements; and
- the potential consequences of departure from the specific operating procedures and/or mitigation measures specified in the EMPr.

Environmental training and development needs of employees will be identified on a regular basis through:

- Identification of significant environmental impacts;
- Analysis of non-conformance and incident reports;
- Audit reports.

Environmental communication and reporting

Environmental communication and reporting form an integral part of an Environmental Awareness Plan. It is important to maintain effective communication internally and to ensure that external communication (e.g. with government departments or adjacent landowners) is maintained.
In general, environmental communication and reporting will aim to:

- Ensure that employees understand the environmental policy and objectives;
- Ensure that information is communicated and readily accessible to the relevant parties;
- Improve feedback of operational and environmental performance to management;
- Ensure effective and constructive communication with relevant government departments and adjacent landowners (if applicable);

- Ensure that records are kept of environmental communication and interaction.

The following are some of the topics that should be discussed with new employees:

- Time of commencement and completion of duties;
- Cleaning of workplace and the importance thereof;
- Safety clothing and its importance and correct use;
- Procedure to follow in case of illness and injury;
- Annual leave and when due;
- Importance of instructions;
- Late for work and leaving workplace without permission;
- Emergency procedures;
- Environmental awareness;
- Training and its importance;
- Alcohol and drug abuse;
- Medical fitness;
- Disciplinary procedures.

The following topics should form part of the environmental awareness discussions to be held with the employees:

- NO-GO areas;
- Water;
- Fauna and flora;
- Smoking and fires;
- Dust;
- Noise;
- Waste management.

Various signs (including the Environmental Policy) should be displayed on site to remind site workers of the basic environmental principles and inform them of the 'DO'S' and 'DON'TS'.

The applicant must conduct regular inspections to check on site conditions and to provide training when necessary to ensure that the mitigation measures are being implemented and that the environment is carefully looked after.

8.6.2 Site documentation and record keeping

The following documentation must be available (at all times) at the site office:

- A copy of the Basic Assessment Report and Environmental Management Programme;
- A copy of the Environmental Authorisation;
- A copy of the Environmental Policy;
- A copy of site audit reports;
- A copy of any other permits/approvals and/or service agreements from other authorities.

The documents should be kept as hard copies as well as in electronic format.

Complaints Register
A complaints register must be kept at the site office. Any complaints received with regards to the project must be recorded in the complaints register. The following information must be recorded:

- Date complaint recorded;
- Nature of complaint;
- Details of complainant (name, address, telephone number, etc.);
- Manner in which complaint was dealt with;
- Date when complaint was reported to the Department of Agriculture, Rural Development, Land and Environmental Affairs and the Department of Water and Sanitation.

Emergency numbers
Emergency numbers (e.g. manager, police, fire department, ambulance, etc.) must be prominently displayed at the site office.

Contact details of adjacent landowners/users must also be kept on file.

Other legislation
The following should also be displayed at the site office:

- Occupational Health and Safety Act, 1993 (Act 85 of 1993) as amended;
- Basic Conditions of Employment Act, 1997;
- Summary of the Employment Equity Act.

Supplementary documentation
The following supplementary documentation should be kept at the site office:

- Site instructions;
- Emergency preparedness and response procedures;
- Incident reports;
- Training records;
- Site inspection, monitoring and auditing reports.

During the course of the development, the applicant and employees must also comply with all other relevant legislation.

8.6.3 Auditing and corrective action

Environmental audits identify existing and potential environmental problems and determine what action is needed to comply with legal requirements and the Environmental Management Programme (EMPr). Subsequent audits then confirm that corrective actions have been taken and assess the effectiveness of such actions.

Construction phase:
The applicant must appoint an Environmental Control Officer (ECO) who will have the responsibility of monitoring and reporting on compliance with the conditions of the Environmental Authorisation as well as monitoring and reporting on the implementation of the EMPr.

The ECO must be appointed before the commencement of construction and must remain employed until all rehabilitation measures as well as site clean-up are completed.

The ECO will be responsible to:

- Monitor and audit the construction activities on a weekly basis;

- Keep a record of each site inspection and the findings thereof;
- Make a register of the environmental monitoring and auditing results available for inspection at the construction site office;
- Keep records relating to the compliance and non-compliance with the conditions of the Environmental Authorization;
- Make these records available to the Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA) within seven (7) working days of the date of the written request by the Department for such records.

A good approach to facilitate legal enforceability of the EMPr during the construction phase is to integrate the EMPr into the tender and contract document (i.e. between the project applicant and the contractors) as a set of environmental specifications. The contractor will thus be informed prior to being appointed of his environmental responsibilities.

Penalties in terms of the environment should be implemented upon non-compliance. This will ensure that the project applicant does not sit with an environmental liability at the end of the contract.

A post-construction audit should be conducted prior to the contractors leaving site.

There are several levels at which corrective action can be affected, namely verbal instructions, written instructions and contract notices.

Level 1: The problem is discussed with the contractor and a solution is worked out together. The discussion is minuted for record purposes and the solution implemented.

Level 2: When a more serious infringement is observed, the contractor is notified in writing and given a deadline by which the issue must be rectified. Costs to be borne by the contractor.

Level 3: The contractor will be ordered to suspend all or part of the work until such time as the problem is rectified or remedial measures put in place. Costs to be borne by the contractor and no extension of time will be granted.

Level 4: Breach of contract and/or termination of employment. The applicant may also institute legal proceedings against the contractor.

An example of a penalty schedule is provided below.

PENALTY SCHEDULE

Level	Description	Penalty	Offences
1	Minor offence	R1000 first offence R2000 second offence And R1000/per day that offence continues beyond notification of offence	• Littering; inadequate or inappropriate on-site waste management or sanitation • Uncontrolled noise and dust nuisance Poaching on site • Inadequate soil / water protection controls for fuel storage & dispensing areas, vehicle parking areas
2	Moderate offence	R5000 first offence R10 000 second offence And R5000 per day that the offence continues beyond notification of offence	• Trespassing onto neighbours properties • Removal of indigenous trees marked for conservation purposes without the permission of the ECO, or trees in demarcated sensitive environmental zones • Disposal of any form of waste to a non-approved dump site • Any illegal /non-permitted abstraction or use of water from a natural resource • The withholding of pertinent information or provision of false information to the ECO or Project Manager
3	Significant offence	R30 000 first offence R50 000 second offence And R30 000 per day that the offence continues beyond notification of offence	• Non-compliance with any risk or safety management requirements • Significant spillage of hazardous materials • Use of natural materials not sourced from a legally permitted source • Construction or use of roads/access across rivers, streams or wetlands that has not been authorized by the Project Manager and ECO
4	Serious offence	Up to R500 000 or total cost of rehabilitating damaged environment	• Any serious pollution event or accident • Any serious encroachment into demarcated sensitive environmental zones, by accident or on purpose • Any serious stormwater damage that could have been avoided through appropriate management interventions

In addition to the schedule of penalties, a portion of the Retention on all contracts could be apportioned to compliance with the EMPr.

<u>Operational phase:</u>
The applicant will be responsible for auditing and corrective action during the operational phase of the development.

9. ENVIRONMENTAL IMPACT STATEMENT

9.1 Introduction

Real Time Investments 515 cc intends to subdivide the Remaining Extent of Portion 24 of the farm Wonderfontein 428 JS into two portions, namely Portion A and Portion B. Portion A will be rezoned for mixed land use and Portion B will remain zoned for agricultural use.

The applicant proposes to use Portion A (once rezoned) for the display and sale of agricultural equipment (e.g. tractors, ploughs, etc.) and other ancillary uses. A workshop and offices will also be constructed as part of the development.

The site is located approximately 25 km south west of Belfast, at the junction of the N4 national road and the R104 provincial road. The site is bordered by the N4 national road to the southeast and the R104 provincial road to the southwest, while a railway line is located adjacent to the northern boundary.

The majority of the surrounding land is used for agricultural purposes. However, mixed land use is present to the north east of the proposed development site. The proposed land use will thus be in line with the existing land use character of the surrounding area.

As indicated in Section 4, only one site was investigated as the project applicant had purchased the said site in view of its excellent visibility from the N4 national road. Access to the said site was initially indicated as from the gravel road to the northeast of the site. However, no right-of-way servitude was registered across the adjacent property (Mr. D. van Wyk). Kgatle (2015) therefore recommended a new access road from the R104 provincial road as indicated in Figure 4.1.

9.2 Services

As the site is located outside of town (Belfast), the project applicant must provide services (water, electricity, sewage, etc.) as indicated in Section 3.

Groundwater will be used during the construction and operational phases since no municipal services are present in the area. Due to the small size of the initial project (Figure 3.2), it is unlikely that the abstraction of groundwater for the said construction and operational activities will impact on the groundwater. However, in the long term if the overall site is developed and water is abstracted from the borehole, it could impact on the water supply of the site and surrounding landowners/users. The impact would depend on the volume of water abstracted.

Of importance is the registration of the onsite borehole with the Department of Water and Sanitation as well as the monitoring (quantity and quality) of the borehole prior to commencement of the project in order to determine if the said water can be used for human consumption and the borehole can provide the required quantity. During the operational phase the said borehole must be monitored on a quarterly basis.

9.3 Public participation

The public participation process followed is described in Section 6 of this report.

No objections were received from government departments, stakeholders, adjacent landowners or the surrounding community.

Eskom Distribution indicated that the proposed project will affect the existing Eskom Distribution's lines – Kraal-Arnot 11kV, Kraal-Raleigh 11kV and Grootlaagte Trac-Wonderfontein Trac 132kV. Eskom further indicated that there is a 9 meter building and tree restriction on either side of the centre line of 11 kV powerlines and 15.5 metres for 132 kV powerlines. A number of conditions were specified by Eskom, which must be noted and adhered to by the applicant in order to prevent any impact on the servitudes associated with the powerlines. The applicant must complete Annexures D and E (Appendix 11) and return the completed forms to Eskom should the applicant accept the conditions.

Eskom Transmission will not be affected by the development.

The **Department of Public Works, Roads and Transport** indicated that there is a 95 m building restriction adjacent to the R104 provincial road. The applicant would have to apply for all services within/over this road. In addition, no access onto the site will be allowed from the R104 provincial road closer than 500 metres from the N4. Kgatle (2015) proposed that the development site gain access off the R104 provincial road with a right-of-way servitude of 25 m (Access 1; Figure 4.1). This access will be located more than 500m from the intersection with the N4 national road and is therefore acceptable from a traffic engineering point of view.

A copy of the letter to the Department of Public Works, Roads and Transport (dated: 28 October 2015) requesting approval in-principle with regards to the proposed access to the development site from the R104 provincial road is provided in Appendix 7. Mitigation measures would have to be implemented to ensure that the general road users (R104 provincial road) are not impacted during the construction and operation of the new access road.

The **South African National Roads Agency** indicated that there are building line restrictions and advertising restrictions pertaining to the N4 national road. The applicant would have to adhere to the building line and advertising restrictions as indicated by SANRAL.

The extent of dust generation and control during both the construction and operational phases was also raised as an issue. Mitigation measures with regards to dust are provided in Section 8 of this report.

According to **Trans African Concessions (Pty) Ltd,** the proposed site is located close to a wetland with a high biodiversity value. TRAC recommended that a botanist be appointed. A wetland specialist was appointed to determine whether any wetlands are present on site (see Section 5.9.4). According to Grobler (2015), no wetland habitat was identified on site, but wetlands are present within a 500m radius around the study area (Figure 5.18). The wetland identified by TRAC is located approximately 290 m west-southwest of

the site (Figure 5.18) and will not be directly or indirectly impacted by the proposed development.

During the public participation process, Mr. EC Britz (a surrounding landowner) indicated that the extension of the N4 national road could impact on the said development property. Ms. C. Davis of TRAC was contacted regarding the N4 upgrade and the potential impact thereof on the said site. According to Ms. Davis, the layout of the R104 provincial road and N4 national road intersection (i.e. adjacent to the site) will not change. Some widening and lengthening of the Wonderfontein intersection (east of the site) will take place. This should not impact on the proposed development.

In order to prevent an impact on the adjacent landowner (Mr. D. van Wyk), the exact site boundaries must be surveyed prior to construction activities taking place. This is in view of the fact that the site boundary was questioned.

The owner of the nearby Puma Filling Station wanted to know if the development will include diesel tanks. Diesel tanks will not form part of the development as indicated in Section 3.

Mr. C. Greyn (Wonderfontein Mill) indicated telephonically that the proposed development will have a positive impact on other business in the area.

As indicated in Section 10, the identified authorities, stakeholders and landowners/users will be provided with an opportunity to comment on the Basic Assessment Report. Any additional comments will be included and addressed in an updated version of the Basic Assessment Report, which will be submitted to the Department of Agriculture, Rural Development, Land and Environmental Affairs for decision making.

9.4 Environmental features

The environmental features of the site and surrounding area are described in Section 5 of this report.

No sensitive environments (river/streams/wetlands), threatened plants or animal species or sites of archaeological/palaeontological importance are present on the site.

The proposed development is not expected to have a direct impact of high significance on the natural environment in terms of geology, topography, soil, land use, surface water, groundwater, vegetation, animal life, air quality and noise. The negative impacts that are expected to occur are generally associated with construction activities and would be of short duration. Potential impacts during the construction and operational phases can be managed through the implementation of basic mitigation measures as provided in the EMPr (Section 8).

Section 7 of the Basic Assessment Report provides an indication of the potential impacts on the environment while Section 8 provides mitigation measures to be implemented in order to reduce the said impacts.

An agricultural potential assessment (which included a soil survey) of the site was undertaken by Chris Viljoen of Viljoen and Associates (referred to as

Viljoen, 2015). Viljoen (2015) indicated that the dominant **soil** is Mispah soils. The Mispah soils have a low dry land agricultural potential and a low irrigation agricultural potential. Only the south western corner of the site is currently cultivated. The proposed development will thus have a low impact in terms of the agricultural potential of the area.

From the aerial views and site visits, it is apparent that the onsite vegetation was impacted by various activities e.g. part of the R104 provincial road extended through the site, the construction of the gravel road onsite, the construction of the Eskom substation and Eskom powerlines, cultivation of lands, excavations, dongas, etc. The onsite vegetation is therefore not pristine and has been disturbed.

The long term development of the site will impact on approximately 11.01 ha of **Eastern Highveld Grassland**, which has been classified as Vulnerable. Initially, only 2.35 ha would be impacted. The impact on the vegetation is estimated to be low due to the past impacts on the vegetation as indicated in Section 5.7.

In terms of the Mpumalanga Biodiversity Sector Plan (MBSP, 2013), the site is classified as **-** Protected Area Buffer, Critical Biodiversity Area (CBA) Irreplaceable, Other Natural Areas, Moderately and Heavily Modified (Old Lands). The area to the south of the proposed development site (south of the N4 national road) was proclaimed as a nature reserve (Cecilia Private Nature Reserve) in 1956 (Administrators Notice 226 of 1956). In view of this, the said site is indicated to be located within a 'Protected Area Buffer'.

However, this 'nature reserve' has been cultivated and is not managed as such. It was also discovered that a mining right (for coal mining) has been issued for the said area. The proposed development site should therefore not be classified as being located within a 'Protected Area Buffer' or 'Critical Biodiversity Area'.

It is not anticipated that the development will have a significant impact on **animal life** since the site and surrounding area have been impacted by human activity.

The proposed development will not directly impact on any **surface water environments** or the 1: 100 year floodline. No wetlands, streams, drainage areas, etc. are present on or adjacent to the site. In addition, no perched water table is known to be present on the site. The closest surface water environment is a wetland, located ±290 m west-southwest of the site, which will not be impacted.

Conclusion and recommendation:

Based on the findings of this Basic Assessment Report, it is felt that the proposed development could be approved subject to the implementation of the mitigation measures proposed in the Environmental Management Programme (EMPr) provided in Section 8 of this report.

Regular monitoring and auditing of the activities should take place during both the construction and operational phases to ensure that the mitigation measures are implemented. Also of importance would be the implementation of water and energy saving measures in order to reduce the carbon and water footprints of the business.

In addition, the business must be managed in such a way that it is environmentally sustainable, acceptable to the community and complies with the objectives of the National Environmental Management Act, 1998 (Act 107 of 1998).

The proposed development would have a positive impact in terms of supporting the local economy and would provide much need employment opportunities.

In view of the findings of this Basic Assessment, the following listed activities can be approved.

Listing	Activity	Description
Listing Notice 1 (GN R983), Listed Activity 24:	*The development of- (i) a road for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or (ii) a road with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres; but excluding- (a) roads which are identified and included in activity 27 in Listing Notice 2 of 2014; or (b) roads where the entire road falls within an urban area.*	Access to the site will be obtained from the R104 provincial road via a right of way servitude, which will extend across Portion B of the subdivided property. The right of way servitude will be 25 m wide. The access road will be developed as per the recommendation of Kgatle (2015).
Listing Notice 1 (GN R983), Listed Activity 27:	*The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.*	Initially an area of 2.35 ha of indigenous vegetation will be impacted. The long term development of the site will impact on approximately 11.01 ha of indigenous vegetation (i.e. disturbed Eastern Highveld Grassland).

The following conditions should be included in the Environmental Authorisation:

- *The management and monitoring measures as indicated in Section 8 (EMPr) of the Basic Assessment Report must be implemented.*
- *The onsite borehole to be registered with the Department of Water and Sanitation.*

10. EVALUATION OF BASIC ASSESSMENT REPORT

10.1 Availability of Basic Assessment Report

The Basic Assessment Report (dated: April 2016) will be submitted to the Department of Agriculture, Rural Development, Land and Environmental Affairs for evaluation purposes. A hard copy of the document will also be forwarded to the following authorities for evaluation (30-day period):

- Department of Water and Sanitation;
- Emakhazeni Local Municipality;
- Mpumalanga Tourism and Parks Agency.

A hard copy and electronic copy of the Basic Assessment 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 Basic Assessment Process (refer to Section 10.2).

The various departments, stakeholders and interested and affected parties will be requested to forward any comments on the report to the consultant within the 30-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 an updated version of Basic Assessment Report.

A hard copy of the Basic Assessment Report (dated: April 2016) will be made available at the Thusong Service Centre (eMakhazeni Local Municipality, Wonderfontein) for evaluation purposes. An electronic version will also be made available on the company website (www.cleanstreamsa.co.za) and on compact disc (cd) (on request).

The updated version of the Basic Assessment Report (incorporating comments from I&APs) will be submitted to the Department of Agriculture, Rural Development, Land and Environmental Affairs for final decision making.

10.2 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	F Mashabela
Department of Agriculture, Rural Development, Land and Environmental Affairs - Directorate: Land Use and Soil Management – Ermelo	J Venter
Department of Co-Operative Governance and Traditional Affairs	M Loock
Department of Mineral Resources	S Mathavela

INTERESTED AND AFFECTED PARTY LIST	
Department of Rural Development and Land Reform	ND Nkambule
Department of Public Works, Roads and Transport	B Viljoen
Department of Agriculture, Rural Development, Land and Environmental Affairs	The Director
Inkomati Usuthu Catchment Management Agency	T. Rasiuba; S. Shabangu; M. Mashaba
Other Organisations	
Eskom Distribution	T Ludere; M. Moloko
Mpumalanga Tourism and Parks Agency (MTPA)	K Narasoo
South African National Roads Agency (SANRAL)	M Yorke-Hart
South African Heritage Resources Agency (SAHRA)	J Lavin
Trans African Concessions (TRAC)	R Nkosi, C. Davis
Transvaalse Landbou Unie	D du Plessis
Local Municipality and Municipal Councillor	
Emakhazeni Local Municipality	N. Singh; Jane Nkalane
Nkangala District Municipality	S Links
Traditional Leader	K. Mahlangu (representative)
Surrounding Landowners	
Property (Figure 6.2)	**Landowner/Contact person**
Wonderfontein 428 JS	
Remaining Extent (RE)	Johan Steele Familie Trust (Johan Steele)
Portion 23	JMS Steele (Johan Steele)
Remaining Extent (RE)	Danie van Wyk
Portion 1	Wonderfontein Mill (Pty) Ltd. (Christoff Greyn)
Portion 4 and Portion 8	Wonderfontein Boerevereniging and TWK Agriculture Ltd. (Gawie Janse van Rensburg)
Portion 9	Transnet (Tshilidzi Mavulwana)
Portion 18	Aledlox Prop (Pty) Ltd. (Edgar Kock)
Portions 16 and 47	Emakhazeni Local Municipality (Jane Nkalane – Thusong Service Centre Manager)
	Puma Filling Station and George's Shop (John)
Generaalsdraai 423 JS	
Portion 9, 10 and 11	EC Britz (Biominerale Fosfate en lekke)
Breytenbachsrus 421 JS	
Portion 1	JE Brisley
Paardekraal 422 JS	
Portion 4	JE Brisley

10.3 Comments received

This section will be completed after the completion of the above-mentioned evaluation period.

REFERENCES

- AGIS Agriculture Potential Atlas. 2015. [**www.agis.agric.za/agismap_atlas]**
- Council for Geoscience. **1: 250 000 Geological Series Map, 2528 Pretoria.**
- Grobler, LER. 2016. **Wonderfontein Wetland Habitat Scan Assessment - Mpumalanga Province.** Report prepared by: Imperata Consulting. Report dated: 1 March 2016.
- Kgatle, B. 2015. **Proposed Subdivision and Accesses for Portion 24 Farm Wonderfontein 428-JS (Approval in-principle).** Report prepared by: WSP Group Africa (Pty) Ltd. Report dated: 28 October 2015. Report number: 20856.
- **List of Ecosystems that are Threatened and in Need of Protection**. (General Notice No. 1002 of 2011). *Government Gazette* 34809: 3-541, 9 December 2011. Government Printing Works, Pretoria.
- Lotter, M.C., Lechmere-Oertel, R. & Cadman, M. 2014. **Mpumalanga Biodiversity Sector Plan Handbook.** Mpumalanga Tourism & Parks Agency, Nelspruit.
- Mpumalanga Tourism and Parks Agency. 2013. **Mpumalanga Biodiversity Sector Plan Map, 2013.**
- Mucina, L. & Rutherford, M. C. (eds). 2006. **The Vegetation of South Africa, Lesotho and Swaziland.** *Strelitzia 19*. South African National Biodiversity Institute, Pretoria.
- Mucina, L., Rutherford, M.C. & Powrie, L.W. (eds). 2005. **Vegetation Map of South Africa, Lesotho and Swaziland, 1: 1 000 000 scale sheet maps.** South African National Biodiversity Institute, Pretoria.
- **National Environmental Management Act 1998 (Act No. 107).** Republic of South Africa, Cape Town.
- **National List of Protected Tree Species under the National Forests Act, 1998 (Act No. 84 of 1998)**. (General Notice No. 734 of 2011). *Government Gazette* 34595: 13-15, 16 September 2011. Government Printing Works, Pretoria.
- **National Water Act, 1998 (Act No 36 of 1998).** Republic of South Africa, Cape Town.
- **South African Heritage Resources Information System (SAHRIS).** 2015. [www.sahra.org.za/sahris].
- Urban Dynamics Town and Regional Planners. 2015. **Motivating Memorandum. In Support of an Application for the Rezoning of a Portion of the Remainder of Portion 24 of the Farm Wonderfontein 428 JS.** Report dated: November 2015.

- Van Vollenhoven, AC. 2016. **Letter for HIA Exemption Request: Wonderfontein Portion 24.** Report prepared by: Archaetnos Culture & Cultural Resource Consultants cc. Report dated: 18 January 2016.

- Viljoen, C. 2015. **Report on: Portion 24 Farm Wonderfontein 428 JS Agricultural Potential Assessment.** Report prepared by: Viljoen & Associates. Report dated: March 2015. Report number: P309

APPENDIX 1:

APPLICATION FORM

- Cover letter (dated: 16 March 2016; Ref: BA 2015/05) from Clean Stream Environmental Services (CSES) to the Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA) regarding submission of application form.
- Copy of the application form.
- Letter from DARDLEA (dated: 30 March 2016; Ref: 1/3/1/16/1N-48) regarding submission of application form.
- Letter from G.A. Purchase (AP Geomatics) (dated: 6 April 2016; Ref: AP 11/16) regarding the position of the borehole.

APPENDIX 2:

CURRICULUM VITAE

- Mrs. A. Erasmus *Pr. Sci. Nat.*
- Ms. R. Janse van Rensburg
- List of projects

APPENDIX 3:

TOWNPLANNING MEMORANDUM

- Urban Dynamics Town and Regional Planners. 2015. **Motivating Memorandum. In Support of an Application for the Rezoning of a Portion of the Remainder of Portion 24 of the Farm Wonderfontein 428 JS.** Report dated: November 2015.

APPENDIX 4:

AGRICULTURAL POTENTIAL

- Viljoen, C. 2015. **Report on: Portion 24 Farm Wonderfontein 428 JS Agricultural Potential Assessment.** Report prepared by: Viljoen & Associates. Report dated: March 2015. Report number: P309

APPENDIX 5

WETLAND SCAN

- Grobler, LER. 2016. **Wonderfontein Wetland Habitat Scan Assessment - Mpumalanga Province.** Report prepared by: Imperata Consulting. Report dated: 1 March 2016.

APPENDIX 6:

HERITAGE IMPACT ASSESSMENT

- Van Vollenhoven, AC. 2016. **Letter for HIA Exemption Request: Wonderfontein Portion 24.** Report prepared by: Archaetnos Culture & Cultural Resource Consultants cc. Report dated: 18 January 2016.
- E-mail from Clean Stream Environmental Services (dated: 19 January 2016) to Mr. B. Moduka (Mpumalanga Provincial Heritage Resources Agency).
- Letter from Clean Stream Environmental Services (dated: 19 January 2016; Ref: BA 2015/05) to Mr. B. Moduka (Mpumalanga Provincial Heritage Resources Agency).
- Printout of the SAHRIS webpage: 19 January 2016.

APPENDIX 7:

ACCESS TO SITE

- Kgatle, B. 2015. **Proposed Subdivision and Accesses for Portion 24 Farm Wonderfontein 428-JS (Approval in-principle).** Report prepared by: WSP Group Africa (Pty) Ltd. Report dated: 28 October 2015. Report number: 20856.

APPENDIX 8

ADVERTISING OF THE PROJECT

- A copy of the advertisement published in the Middelburg Observer, 11 December 2015.
- A copy of the on-site notice.
- 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: 12 January 2016) from Ms. C. Threadingham (Private Projects).

APPENDIX 9:

BACKGROUND INFORMATION DOCUMENT

APPENDIX 10:

CORRESPONDENCE WITH THE AUTHORITIES AND INTERESTED AND AFFECTED PARTIES

- E-mail from Clean Stream Environmental Services (CSES) (dated: 14 December 2015) to:

AUTHORITY/ STAKEHOLDER	CONTACT PERSON
Department of Public Works, Roads and Transport	Viljoen, B
Wonderfontein Mill (Pty) Ltd.	Greyn, C
Transvaalse Landbou Unie	Du Plessis, D
Aledlox Prop (Pty) Ltd.	Kock, E
Emakhazeni Local Municipality	Nkalane, J
Landowner	Brisley, JE
Landowner	Steele, J
Eskom Transmission	Lennox, E / Maake, N / Motsisi, L
Nkangala District Municipality	Links, S
Department of Co-Operative Governance and Traditional Affairs	Loock, M
Department of Water and Sanitation	Lubambo, MJ
Eskom Distribution	Ludere, T / Moloko, M
Department of Agriculture, Forestry and Fisheries	Mashabela, F
Department of Mineral Resources	Mathavhela, S
Transnet	Mavulwana, T
Mpumalanga Tourism and Parks Agency	Narasoo, K
Trans African Concessions	Nkosi, R
Landowner	Britz, P
Emakhazeni Local Municipality	Singh, N
Department of Agriculture, Rural Development, Land and Environmental Affairs - Directorate: Land Use and Soil Management – Ermelo	Venter, J
South African National Roads Agency (SANRAL)	Yorke-Hart, M

- E-mail from CSES (dated: 14 December 2015) to the Department of Rural Development and Land Reform.
- Webpage printout (dated: 14 December 2015): South African Heritage Resources Information System (SAHRIS).
- Facsimile from CSES (dated: 14 December 2015) to Mr. K. Mahlangu (representative of the Traditional Leader).
- E-mail from CSES (dated: 14 December 2015) to Mr. GP Janse van Rensburg (landowner).
- E-mail from CSES (dated: 17 February 2016) to Mr. DS van Wyk (landowner).

APPENDIX 11:

COMMENT RECEIVED

- Completed comment sheet (dated: 14 December 2015) from Mr. B. Viljoen to CSES.
- E-mail (dated: 15 December 2015) from MJ Lubambo to CSES.
- E-mail (dated: 15 December 2015) from MJ Lubambo to Department of Water and Sanitation officers.
- E-mail (dated: 23 December 2015) from H. Ludere to CSES.
- Letter (dated: 23 December 2015; Ref: LD-INV/E/TL/187/2015) from T. Ludere to CSES.
- E-mail (dated: 15 December 2015) from L. Motsisi to CSES.
- Completed comment sheet (dated: 14 December 2015) from M. Yorke-Hart to CSES.
- E-mail (dated: 15 December 2015) from C. Davis to CSES.
- E-mail (dated: 14 December 2015) from R. Nkosi to CSES.